

Arkansas Union

University of Arkansas-Fayetteville

Programming and Concept Design Final Report

February 05, 2010

Project Credits

Planning Study - Phase 1



Perry Dean Rogers | Partners Architects
Architectural Services



Brailsford & Dunlavey
Facilities Planning



Rolf Jensen & Associates
Building Code & Fire Protection Consultants

Planning Study - Phase 2

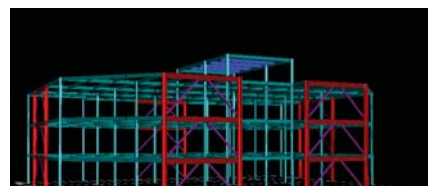
All of the above, PLUS:



Amirmoez Foster Hailey Johnson
Architectural Services



Henderson Engineers, Inc.
MEP Engineering Consulting



Engineering Consultants, Inc.
Structural Engineering Consulting

University of Arkansas Union - Building Committee



Jerrid Freeman, Director, Arkansas Union
Stacey Doran, Associate Director, Arkansas Union
Nianzer Anderson, Associate Director, AU Ops & reservations
Susan Adkins, Associate Director, UITs
David Martinson, Business Affairs
James Milner, Facilities
Peggy Boyles, Dir. Of Development, VCSA
Craig Edmonston, Director, IMRS
Ashley Tull, Associate Dean, Campus Life
Alberta Bailey, Mullins Library
Bill Zemke, Chartwell's
Lynne Williams, Student Affairs
Gary Smith, Director, Transportation & Parking
Jay Huneycutt, FM Planning
Jill Anthes, FM Planning
Todd Furgason, FM Planning
Carter Ford, President, Arkansas Student Government
Jong Shin, Arkansas Student Government
Randy Alexander, Student Affairs

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1.0

Executive Summary

Executive Summary

1.0 Executive Summary

In May 2008, Perry Dean was hired to conduct a concept design and programming exercise for the Arkansas Union at the University of Fayetteville-Arkansas. The study was divided into two major phases, with a pause between them for reflection.

The first phase involved Perry Dean, Brailsford & Dunlavey, and Rolf Jensen Associates. Perry Dean led programming and design workshops to create a vision for what the Union might become. B&D conducted on-line surveys and on campus workshops to review the existing building program and to determine what the building program should be to best serve the student population. RJA conducted full code, life-safety, and fire protection assessments of the Union.

The second phase involved the aforementioned consultants, and added Amirmoez Foster Hailey Johnson, Engineering Consultants Inc., and Henderson Engineering, Inc. Perry Dean continued with detailed programming efforts. AFHJ, ECI, and HEI conducted detailed facility assessments of both the Union and the Fieldhouse in regard to architecture, structure, and building systems, respectively.

This report has been completed as of February 2010, and is reflective of the contribution of a number of people enumerated on the Project Credits page. We wish to thank everyone for their time, energy, and invaluable input.

2.0 Project Justification

As the University of Arkansas looks forward to its sesquicentennial anniversary in 2021, they have established a goal of 25,000 students. This represents significant growth, and the Student Union is one of the physical facilities that will need to be updated in response to this growth.

Several key initiatives were established in 2006 by an initial planning study undertaken by the Union administration. Additional initiatives have emerged through the course of this study. A quick summary is as follows:

- Address the need for additional meeting room and office space.
- Offset the departure of the bookstore to another site on campus, both from a financial and a programmatic standpoint.
- Increase opportunities for recreation.
- Provide greater outreach opportunities to the community.
- Provide more retail space.
- Reinforce improvements to the “Golden Mile”, Garland Avenue, which divides/connects the Union East and West.
- Meaningfully engage the adjacent Fieldhouse.
- Incorporate information technology group.

The design recommendations respond to these initiatives and other comments received by the design team through the programming and concept design process.

3.0 Program

Working in concert with Brailsford & Dunlavey, facilities programmers, Perry Dean utilized three primary tools to identify the program requirements for a renovated and expanded Arkansas Union:

- Student Surveys
- Demand Analysis
- Database Comparison (peer institutions)

Student Surveys were conducted in the form of an online survey soliciting the student body, and in the form of on-site workshops and meetings. B&D conducted demand analysis comparing the survey feedback to the available program area. In the case of the database comparison to peer institutions, the target 2021 population of 25,000 students was used as a basis for determining peers.

The result was a target program addressing the initiatives outlined in the project justification, as well as the feedback gathered in the programming process.

4.0 Project Kickoff Meetings

Perry Dean led a series of Project Kickoff Meetings. The focus of this exercise was to outline the mission of the Arkansas Union, determine how the building supported or detracted from this mission, and ascertain how this impacted the program.

The mission of the Arkansas Union is as follows:

The Arkansas Union seeks to support unique and diverse programs, provide professional services, and satisfy the ever-changing needs of students, faculty, staff, alumni, and guests.

It goes on to identify three service areas:

1. Facilities - Offer a welcoming and inviting facility that provides a functional and exciting “Woo Pig Sooie” atmosphere for all Union constituents.
2. Services - Promote student admission and retention by offering services, conveniences and amenities, while also serving the larger U of A community.
3. Program Support - Support departments and organizations in promoting the growth and development of students through civic, cultural, educational, social, and recreational programs.

The design team considers this mission statement to be the foundation, the litmus test, of all of the recommendations that follow as part of this report.

Executive Summary

5.0 On Campus Design Charrette

Perry Dean set up a “satellite office” on-campus in the bridge link that connects the Union East and West. Over a four day span, four members of Perry Dean’s office actively worked on physical models, 3d computer models, drawings, program diagrams, and other exercises. A board entitled “Your Ideas” collected the thoughts of passers-by. The design team hosted classes from the schools of interior design and architecture for discussions about the process, as well as innumerable conversations with individual students. UA television appeared and recorded a story on the project.

This was an invaluable exercise for the design team for several reasons.

1. We were able to work and live in the building for four days, experiencing first hand how it works, and how it does not work.
2. We had one-on-one contact with students, faculty, administration, and staff who happened to pass through the Union and engage us in conversation about the planning and design process.
3. We collected additional thoughts and observations beyond those previously documented in the online survey and other data collection methods.

This Charrette brought the design team closer to the building, the occupants, and the students.

6.0 Planning Projects

Based on everything that the design team heard in the project justification, programming, project kickoff meetings, and the on campus design charrette, eight (8) planning projects were identified in response. These projects are summarized on the following page, and form the basis of the design team recommendations.

7.0 Sustainability

Sustainability or “green design” are fundamental tenets of the University of Arkansas FAMA requirements. Requests for Proposals include language requiring that projects are either compliant with the USGBC LEED or Green Globes benchmarking tools.

As such, the project is off on the right foot. The renovation of Union East and West, and the Fieldhouse, is inherently more sustainable than new construction to replace these facilities. Less embedded energy is required for a renovation of these buildings than wholesale replacement. In addition, the design team has worked with the users and FAMA to identify appropriate sustainable measures for the project.

Appendices

Detailed backup information about the facility assessment findings, cost estimates, financial modeling, and meeting minutes documenting the course of conversation with the building committee and design team can be found in the appendices.

Executive Summary

Narrative Project Summary

Following please find a summary of the (8) planning options that have been identified as part of the concept design and programming effort. Please refer to the diagrams at the right for reference.

- **Option 1: Lounge Concourse**

The main concourse connecting the two halves of the Union from east-to-west is to be renovated in total bringing a new vitality to the building. In addition, as the first major renovation project in either proposed financing model, we have included holistic MPE/FP upgrades for code purposes.

- **Option 2: Alltell Ballroom Renovation / Expansion to Fieldhouse**

Renovate the existing Alltell Ballroom. Renovate the fieldhouse for the purpose of changing it into a ballroom, with the lower floor being utilized for meeting rooms and event support space.

- **Option 3: NOT USED**

- **Option 4: Retail Arcade**

Redevelop the Garland Avenue facade of the original Union. Consolidate retail functions along the north-south direction as a complement to the east-west lounge concourse. More 24-hour programs are to be clustered on the main floor connection to the Union East. Standard “business-

hour” operations to be located at the lower floors.

- **Option 5: Landscape Improvements**

Redevelop the landscape and plaza area flanking the Union East to the north and south. This will help to open up the connection to the lower Garland Avenue level, making it less chasm-like, while engaging the upper plaza shared with Mullins Library.

- **Option 6: Retail Arcade Extension**

The logical extension of the east-west connection initiated with Option 4 is to connect the Fieldhouse to the north, and the headhouse of the parking garage to the south. This will allow visitors parking in the garage to move freely between the three structures along Garland Avenue.

- **Option 7: Union East Frontage Improvements**

Create a stronger connection to the plaza shared with Mullins Library by opening up the facade at the upper and lower floors. Shift more active programs to these areas of the building.

- **Option 8: New Union West Entrance**

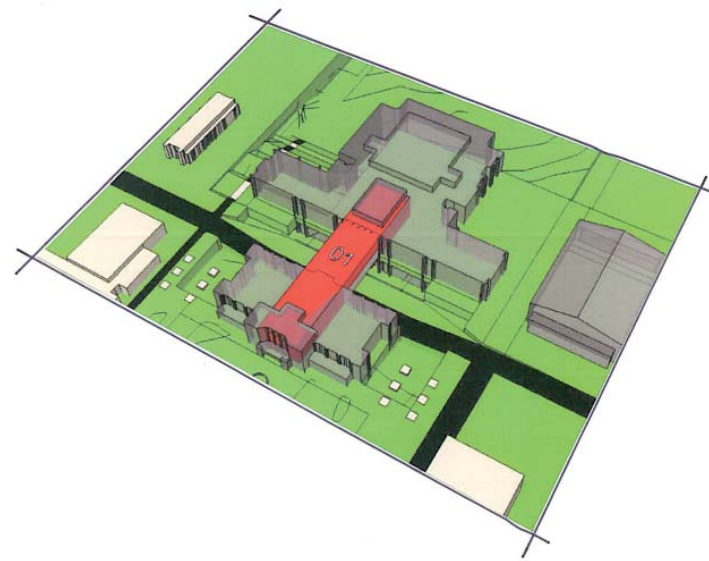
Create a stronger connection to visitors approaching from the west. Give a new visual expression to the west facade,

- **Option 9: Recreation Program**

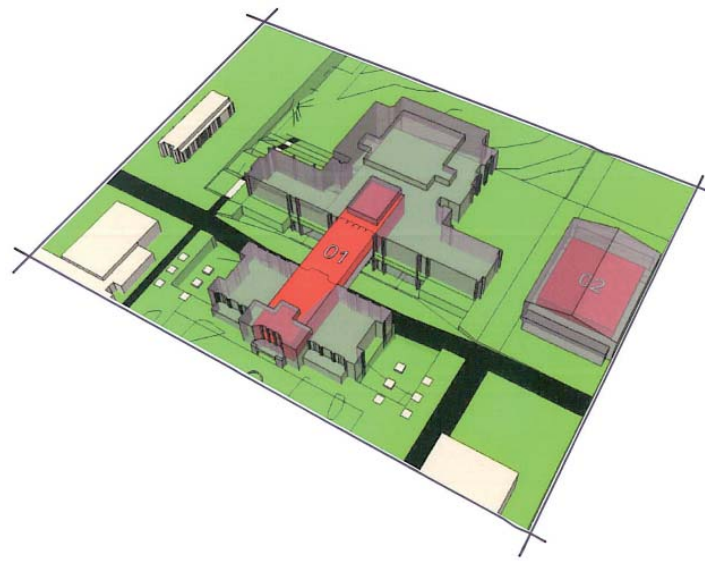
Take advantage of underutilized space at the lower floors of Union West to add a new program

component of recreation. This is envisioned as a satellite recreation program focused on fitness, personal training, small classes, sports massage, and a more spa-like environment.

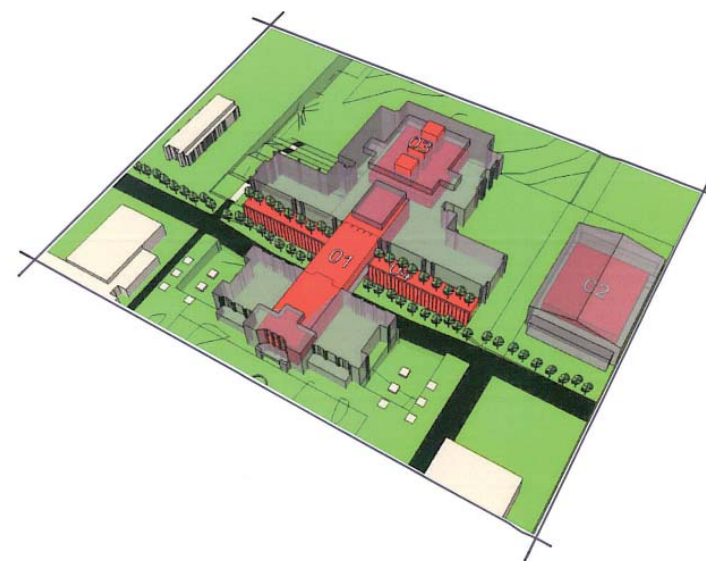
Executive Summary



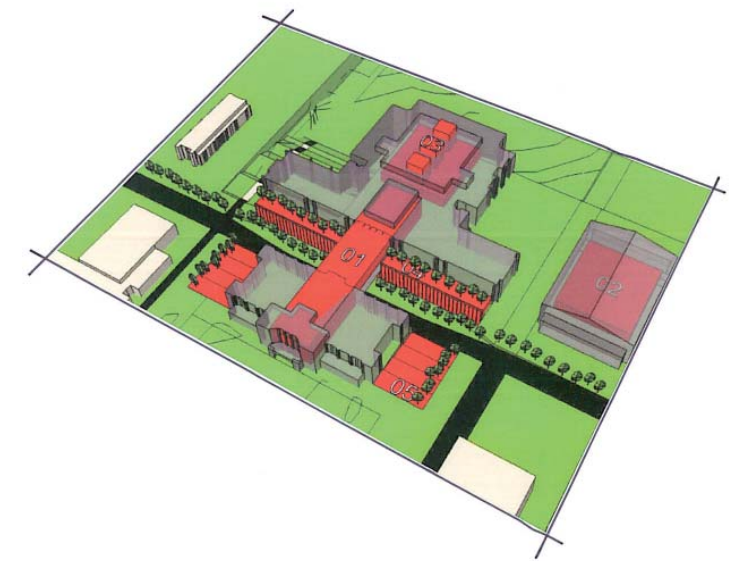
Option 1
Lounge Concourse



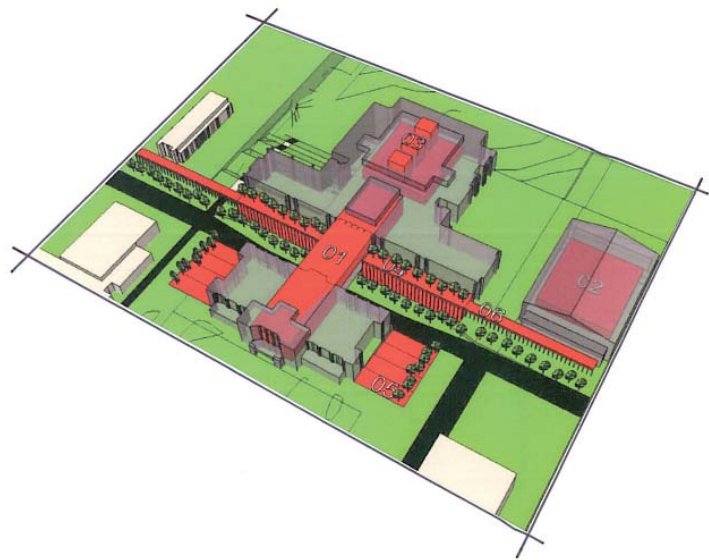
Option 2
*Alltell Ballroom Renovation/
Expansion to Fieldhouse*



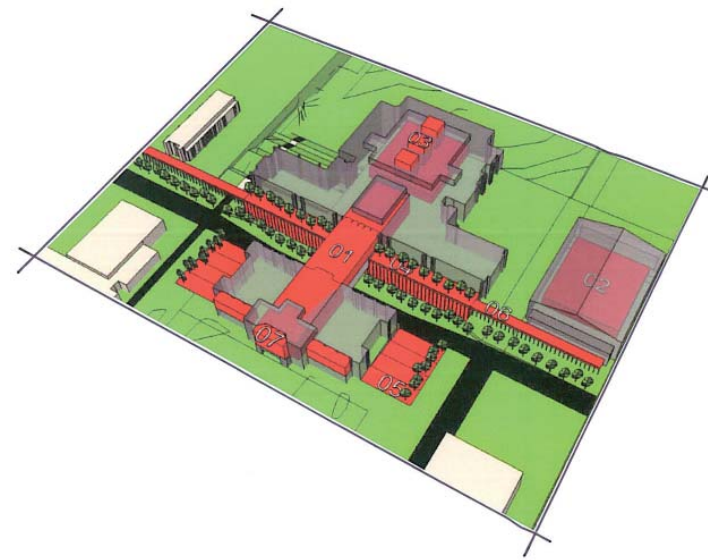
Option 4
Retail Arcade



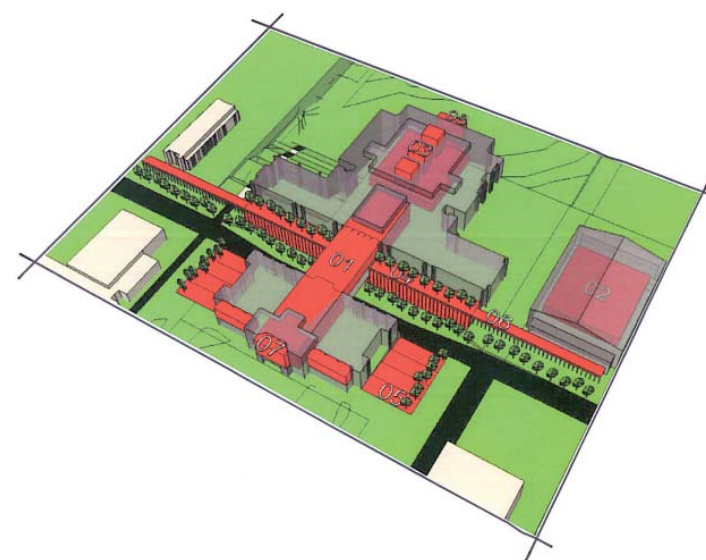
Option 5
Landscaping Improvements



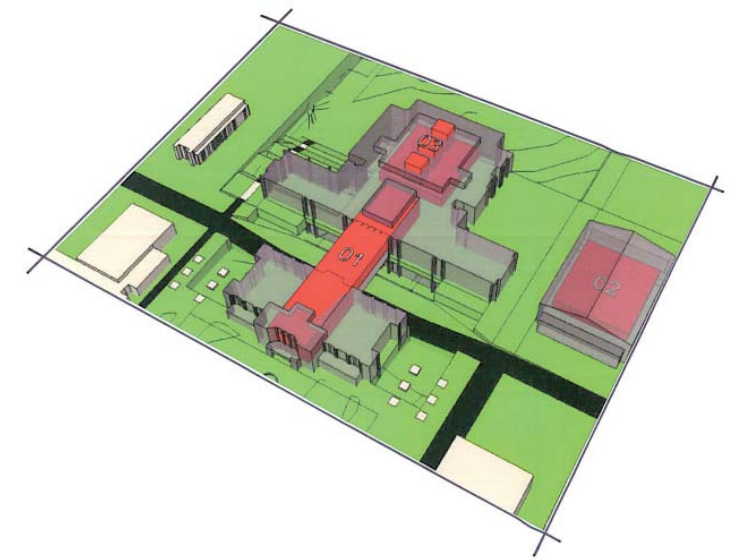
Option 6
Retail Arcade Extension



Option 7
Union East Frontage Improvements



Option 8
New Union West Entrance



Option 9
Recreation Program

2.0

Project Justification

Project Justification: Expanded 2006 Master Plan

Overview

As the University of Arkansas looks forward to its sesquicentennial anniversary in 2021, they have established a goal of 25,000 students. This represents significant growth, and the Student Union is one of the physical facilities that will need to be updated in response to this growth.

Several key initiatives were established in 2006 by an initial planning study undertaken by the Union administration. Additional initiatives have emerged through the course of this study. A quick summary is as follows:

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2006 Master Plan Overview

The University of Arkansas has a goal to reach 25,000 enrolled students by its 150 year anniversary in 2021. To prepare for this growth, as many of its departments and services are already feeling staff and space limitations based on service demands, the Union began preparations for a Master Plan in 2006. The Arkansas Union Master Plan, generated at that time, has identified 5 **Key Planning Goals**:

1. Greater Functionality
2. Additional Meeting Space
3. A Larger Ballroom
4. More Office Space
5. More Retail Services Space

Additionally, two **Institutional Considerations** have been cited as worthy of attention:

1. Improvements to the “Golden Mile”, the stretch of Garland Avenue from North West quad to Brough Commons. A more inviting presence along this stretch could give both the Union and the University enhanced marketing ability.
2. Use of the current Field House for Union programs such as the Alltel Ballroom.

The Brailsford & Dunlavey Report affords an opportunity to test and refine the planning goals of the Master Plan. On the following page the Demand-Based Model (DBP) for 25,000 student institutions is reproduced, identifying typical assignable square-footage allocations for the full range of Union

programs. While Key Planning Goal 1 (Greater Functionality) is not directly a part of the DBP scope, Key Planning Goals 2 through 4 are all confirmed, to varying degrees. The Target Program List further defines spatial requirements, by translating assignable square footage into gross square footage, allowing for service space (corridors, storage, stairs, restrooms, etc.) that are required though not necessarily “usable”.

The Planning Projects generated by PDR|P and documented in this Report offer strategies to address not only the Key Planning Goals and Institutional Considerations, but also the **Capital Projects List** included in the 2006 Master Plan. The Capital Projects List was compiled to help guide the future of the Arkansas Union. While it is acknowledged that this list will have additions, deletions, and changes, it serves as a guide and compass for the future of the Union from a facilities perspective, and is reproduced here:

1. Connection of the 6th floors with a “green roof”
2. Artwork & sculpture additions
3. Alltel Ballroom renovation
4. Connections Lounge renovations
5. Addition of seating levels in Living Room carpeted area
6. Lighting & HVAC upgrades
7. Firefighters upgrade to 3 elevators
8. Smart meeting rooms
9. Replace stairwell to A6th floor

10. Flooring replacement
11. Alter ceiling and flooring topography in all public hallways
12. New department and store entrances
13. Stairwell rails replacement (with glass) in Union West
14. Addition of wood accents to cement walls in Union West
15. Expand loading dock

Project Justification: DBP translates to Program

Demand-Based Model (DBP)

DBP Model (Enrollment - 25,000)

Activity	Priority Category	Peak Accommodation	Space Type	Peak Demand	Space Allocation Based on Prioritization of Demand		
1 Computer lab	first	75% to 85%	Sq. Ft.	11,070	8,300	to	9,400
2 Convenience store/small grocery market	second	55% to 65%	Sq. Ft.	1,140	600	to	700
3 Food Service/Dining - Lunch	second	55% to 65%	Sq. Ft.	23,030	12,700	to	15,000
4 Food Service/Dining - Dinner	second	55% to 65%	Sq. Ft.	16,900	9,300	to	11,000
5 Quiet lounge	third	40% to 50%	Sq. Ft.	5,970	2,400	to	3,000
6 Copy/print center	third	40% to 50%	Sq. Ft.	4,750	1,900	to	2,400
7 Social/TV lounge	third	40% to 50%	Sq. Ft.	7,690	3,100	to	3,800
8 Coffeehouse	third	40% to 50%	Sq. Ft.	4,860	1,900	to	2,400
9 Bowling	fourth	25% to 35%	Lanes	50	13	to	18
10 Game Room (pool tables, ping pong, video games)	fourth	25% to 35%	Sq. Ft.	9,650	2,400	to	3,400
11 Food Service/Dining - Breakfast	fourth	25% to 35%	Sq. Ft.	6,201	1,600	to	2,200
12 Multipurpose theater/auditorium space	fourth	25% to 35%	Sq. Ft.	2,540	600	to	900
13 Small study rooms	fifth	10% to 20%	Sq. Ft.	4,140	400	to	800
14 Razorback Shop (logo apparel)	fifth	10% to 20%	Sq. Ft.	1,890	200	to	400
15 Large/special event programming space	fifth	10% to 20%	Sq. Ft.	2,560	300	to	500
1 COMBINED 1: (Lounges: Quiet, Social/TV lounge)				10,720	4,300		5,400
2 AGGREGATE 2: (Largest Demand of Food Service Categories)				23,030	12,700		15,000



3.0 Program

Program: Overview

Overview

Working in concert with Brailsford & Dunlavey, facilities programmers, Perry Dean utilized three primary tools to identify the program requirements for a renovated and expanded Arkansas Union:

- Student Surveys
- Demand Analysis
- Database Comparison (peer institutions)

Student Surveys were conducted in the form of an online survey soliciting the student body, and in the form of on-site workshops and meetings. B&D conducted demand analysis comparing the survey feedback to the available program area. In the case of the database comparison to peer institutions, the target 2021 population of 25,000 students was used as a basis for determining peers.

The result was a target program addressing the initiatives outlined in the project justification, as well as the feedback gathered in the programming process.

Process

Student Surveys

As part of the market analysis, Brailsford & Dunlavey (B&D) used an Internet-based survey instrument for students designed to yield statistically reliable quantitative market demand data. The survey results provided information on the character, quality, and amount of facilities for which demand exists. In addition, the results will be sorted and cross-tabulated by various demographic groups, allowing us to analyze different usage patterns.

Demand Analysis

The survey data was subsequently entered into B & D's proprietary Demand-Based Programming (DBP) model to analyze overall demand. The goal of DBP is to quantify space requirements for different activities, with spaces being tested for breadth (frequency) and depth (duration) of usage.

Database Comparison

Drawing on its Student Center statistical database, B & D compared departmental square footages across the board. For the purpose of this study, only student centers serving campuses with a student population of approximately 25,000 were considered, as this figure represents the University of Arkansas's 2021 target.

Preliminary Conclusions

The following preliminary conclusions were drawn from the B & D Report, and they formed the basis for both the Project Justification and the target program

for the Arkansas Union.

- **Food Service:**
No re-sizing recommended, but it is acknowledged that access and visibility are an issue that needs to be addressed.
- **Alltel Ballroom:**
Undersized relative to B & D database averages. The size and quality of the existing ballroom could be equally improved.
- **Conf./Mtg. Space:**
Size consistent with B & D database, but survey suggests increased need.
- **Lounge Spaces:**
Larger than B & D database averages. Reconfiguring rather than resizing is the key here.
- **Computer Lab:**
Undersized relative to database averages. Overall size could double (or even triple) to meet peak demand based on survey feedback.
- **Coffeehouse:**
Size consistent with B & D database.
- **Convenience Store:**
Size consistent with B & D database.
- **Recreation:**
While no such space currently exists, demand suggests a need for approximately 2,500 SF.

Program: Gap Analysis

Feb. 10, 2009

Arkansas Union
Target Programs

		<i>Current ASF</i>	<i>Target ASF</i>	<i>Net Change</i>
Group 1:	Food Service	22,586	22,586	none
Group 2:	Ballroom	7,292	11,000	+3,800 ASF
Group 3:	Conf/Mtg. Rooms	10,460	10,460	none
Group 4:	Bookstore	3,435	3,435	none
Group 5:	Retail	8,680	8,680	none
Group 6:	Theater/Auditorium	5,282	5,282	none
Group 7:	Recreation/Ent.	0	3,500	+3,500 ASF
Group 8:	Lounge Spaces	11,300	11,300	none
Group 9:	Academic	3,036	10,000	+7,000 ASF
Group 10:	Student Orgs.	4,609	9,200	+4,600 ASF
Group 11:	Admin. Offices	13,848	13,848	none
Group 12:	Multicultural Centers	2,731	2,731	none
Group 13:	Special/Misc.	1,312	4,300	+3,000 ASF
		94,571	116,322*	+21,751 ASF

* Current Arkansas Union is roughly 200,000 GSF, implying a 50% building efficiency. Thus, overall target program translates into roughly 232,000 GSF. Net change is **44,000 GSF**.

Program: Tabular

Department	Contact	Current Location(s)	Current Sq Ft	Total Sq Ft Needed	Additional Space Criteria	General Notes
First Floor						
Center for Educational Access	A. Jannarone	Union DSTU 101, 103-4, 116	2,170 sq ft	3,000 sq ft	Two offices, two testing centers	Must meet/exceed ADA requirements
PMC Mailing Services	P. Bellard	Union POST 105C, 105DA, 105F, MAIL 105, 105A-B, 105D, 105G-H	2,752 sq ft	2,752 sq ft	n/a	Relocated within Union West
Second Floor						
University Bookstore	Ali Sadeghi	Union BKST 216, 216C-J	9,631 sq ft	0 sq ft	n/a	To be relocated outside the Union
Razorback Shop	Ali Sadeghi	Union BKST 201, 201A, 201C-F	3,736 sq ft	3,736 sq ft	n/a	
Computer Service Center		Union BKST 216A	749 sq ft	0 sq ft	n/a	To be relocated outside the Union
T	Stew Kyle	Union ARKU 213, 213A, 213B	379 sq ft	0 sq ft	n/a	To be relocated outside the Union
Campus Card Office	Kelley Line	Union ARKU 212, 427	740 sq ft	740 sq ft	n/a	Relocated within Union West
UA Computer Store		Union BKST 214, 216A-B	1,696 sq ft	0 sq ft	n/a	To be relocated outside the Union
Union Hair Care	David Furr	Union ARKU 207	487 sq ft	487 sq ft	n/a	Relocated within Union West
First Security Bank	Courtney	Union ARKU 208A-E	481 sq ft	481 sq ft	n/a	Relocated within Union West
Chartwells Dining	Bill Zemke	Union ARKU 209, 218-223, 225	5,874 sq ft	5,874 sq ft	n/a	Servery to be untouched; Chartwell's offices to be reconfigured on current floor
Third Floor						
University Bookstore	Ali Sadeghi	Union BKST 323, 323A-E	5,864 sq ft	0 sq ft	n/a	To be relocated outside the union
Union Market	Bill Zemke	Union ARKU 307-318, 320	9,376 sq ft	9,376 sq ft	n/a	Possible upgrades
Student Technology Center	Susan Adkins	Union ARKU A350	632 sq ft	11,000 sq ft	n/a	Includes MMRC
Computer Lab (Group Space)	Susan Adkins	Union ARKU A354	3,039 sq ft	0 sq ft	group lab space and break out rooms. smart team rooms.	Combined with Student Technology center (above)
RZ's and TV Room	Bill Zemke	Union A345, 345A, A346, A346A, A347, A348, A348A	4,368 sq ft	500 sq ft	n/a	Dedicated RZ's space to be service kiosk only; seating combined with general lounge space
Fourth Floor						
Union Theatre	Jerrid Freeman	Union ARKU 324, 424, 424A, 425, 425B	4,360 sq ft	4,360 sq ft	n/a	
Theatre Lounge	Mary Coonley	Union ARKU 402A	930 sq ft	930 sq ft	n/a	Possible upgrades
Anne Kittrell Art Gallery	Mary Coonley	Union ARKU 426	1,307 sq ft	1,307 sq ft	n/a	Relocated to Union East
Multicultural Center	Cedric Kenner	Union ARKU 404, 406-413	3,556 sq ft	5,000 sq ft	1,444 sq ft	Includes African and Latin American Studies
UP Video Theatre	Mary Coonley	Union ARKU 423	826 sq ft	826 sq ft	n/a	Possible upgrades
Red Lounge	Bill Zemke	Union ARKU A355, A355A, A356, A356A	1,385 sq ft	0 sq ft		Relocation to Union East; combine with general lounge space

Program: Tabular

Department	Contact	Current Location(s)	Current Sq Ft	Total Sq Ft Needed	Additional Space Criteria	General Notes
Fifth Floor						
Alltel Ballroom	Jerrid Freeman	Union ARKU 520, 526, 526B	7,292 sq ft	11,000 sq ft	3,708 sq ft	Relocate to Fieldhouse
Meeting Rooms	Jerrid Freeman	Union ARKU A698, 301, 305, 401, 503-516, 519, A640	10,491 sq ft	20,000 sq ft	1,562 sq ft per meeting rm. Double amount of rooms	Continue to use Alltell Ballroom space in Union West; additional meeting room space in lower level of Fieldhouse
Sixth Floor						
Associated Student Government		Union RSOS A669-A675	777 sq ft	777 sq ft	n/a	
Registered Student Organizations		Union RSOS A643, A645-A652, A657-A661	3,146 sq ft	3,146 sq ft	n/a	
Office of Greek Life	Parice Bowser	Union A689A, A694A, A695	342 sq ft	680 sq ft	338 sq ft	2 offices, 1 reception area, lockable files
First Year Experience/Orientation	S. Burkhalter	Union A680-A682, A688-A693A	1,192 sq ft	1,432 sq ft	2 offices	
Off Campus Connections	Sylvia Scott	Union ARKU 630-32	720 sq ft	960 sq ft	2 offices	
University Career Development Center	B. Batson	Union ARKU 607-11, 613-626	4,104 sq ft	4,104 sq ft	n/a	
Union Administration Office	Jerrid Freeman	Union ARKU 634-35, 641-654	2,527 sq ft	2,527 sq ft	n/a, possible storage for departments and recycling	
Chartwells Catering Services	Bill Zemke	Union ARKU 636-640	425 sq ft	425 sq ft	n/a	May relocate to Fieldhouse
Associate Vice Chancellor for Student Affairs	Daniel Pugh		600 sq ft	600 sq ft	n/a	
Student Activities	Mary Coonley	Union ARKU A677, A683-A686	1,519 sq ft	1,759 sq ft	240 sq ft	2 offices
UA Productions	Scott Flanagan	Union ARKU A678, A679	304 sq ft	1,000 sq ft	696 sq ft	No extras, just more space
University Ombuds	Sue Theiss	Union ARKU 628, 629	650 sq ft	770 sq ft	50 sq ft	1 office
KXUA Radio	Steve Wilkes	Union RSOS A653-655	217 sq ft	217 sq ft	n/a	May be relocated to become more visible
Center for Leadership and Community Engagement	P. Mulroney	Union ARKU A644, A644A, A644B, A663-A665, A665A, A665B, A667-8	2,006 sq ft	2,600 sq ft	594 sq ft	Wider space, 10 staff offices, 7 additional offices
Associate Dean of Campus Life	Ashley Tull	Union SADE A658	78 sq ft	200 sq ft	122 sq ft	add desk and meeting table
Program to be Incorporated						
Game Room	Jerrid Freeman	Does not currently exist	n/a	2,000 sq ft	2,000 sq ft	For SGA
Information Desk	Jerrid Freeman	Does not currently exist	n/a	400 sf ft	n/a	
Vending	Jerrid Freeman	Does not currently exist	n/a	400 sf ft	n/a	
Judicial Affairs	Aisha Kenner	ADMN 325	674 sq ft	1,000 sq ft	326 sq ft	4 offices, 1 reception
Student Support Services	Taj Cobbs	Currently located in Gregson Hall	n/a	2,000 sq ft	2,000 sq ft	
Intramural and Recreational Sports	C. Edmonston	Not currently located within Arkansas Union	n/a	20,000 sq ft	20,000 sq ft	Program to emphasize group exercise/fitness
Student Accounts / Cashier's Office	Jean Shook	Currently located in two separate buildings	n/a	2,500 sq ft	2,500 sq ft	
Veterans Resource & Information Center	Erika Gamboa		n/a	1,000 sq ft	1,000 sq ft	

4.0

Project Kickoff Meetings

Project Kickoff Meetings: Overview

Phase 1 of the Arkansas Union Planning Study kicked off with the Project Launch Meetings, held on January 10. The Arkansas Union Mission was identified, and subsequent discussions focussed on the the ways in which future renovation and expansion projects can help support it.

NOTE: The full minutes from the Project Launch Meetings can be seen in Appendix B.



ARKANSAS UNION MISSION

The Arkansas Union seeks to support unique and diverse programs, provide professional services, and satisfy the ever-changing needs of students, faculty, staff, alumni, and guests.

- **Facilities** - Offer a welcoming and inviting facility that provides a functional and exciting “Wooo Pig Sooovie” atmosphere for all Union constituents
- **Services** - Promote student admission and retention by offering services, conveniences and amenities, while also serving the larger University of Arkansas community
- **Program Support** - Support departments and organizations in promoting the growth and development of students through civic, cultural, educational, social, and recreational programs

Project Kickoff Meetings: Talking Points

Ways in which the existing building supports the Arkansas Union mission:

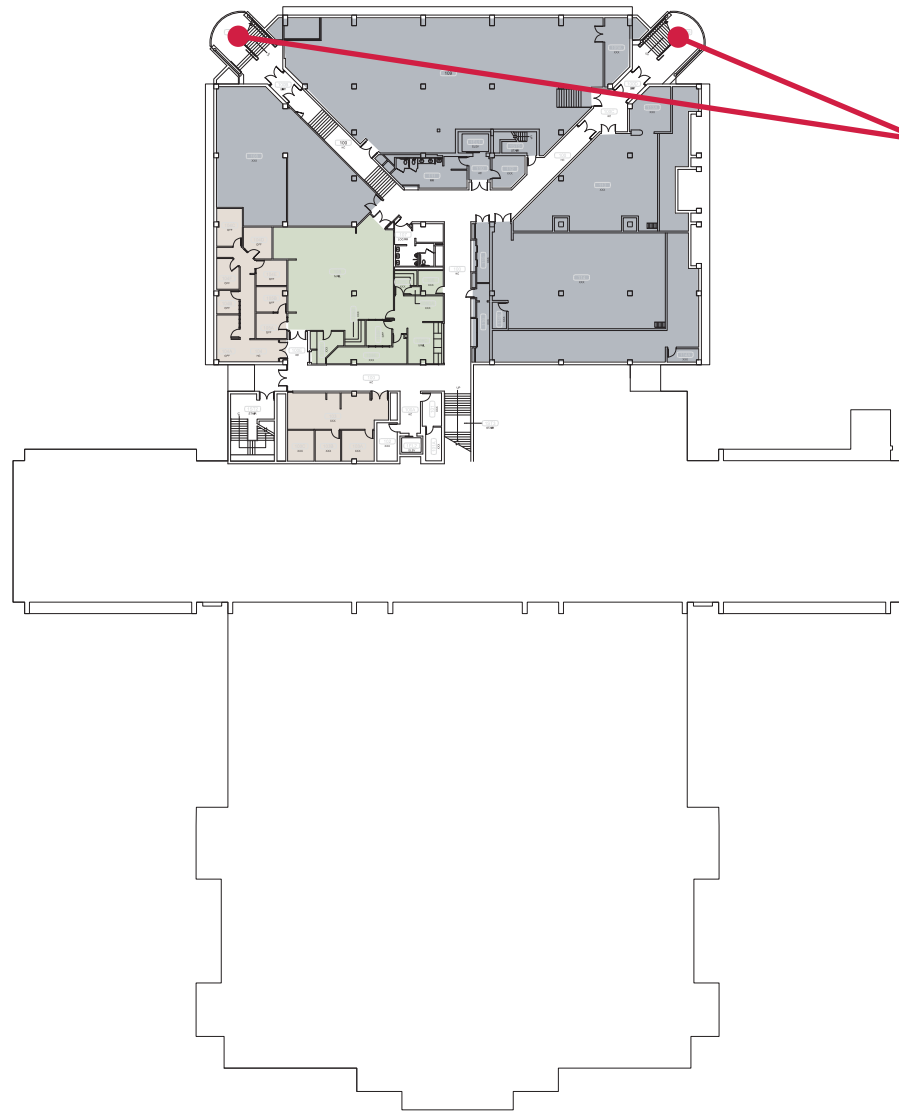
- Auditorium can also be used as large classroom, offering a wide range of Program Support.
- Computer Lab and Technology Center are extremely popular, and offer a broad variety of Services for students and faculty alike.
- The east facade of the 1998 addition (Union East) has a scale that supports a potentially strong relationship with the Central Quad.
- Proximity of the Union to the Transportation Hub offers potential synergy, which could be strengthened to become a greater asset.
- Potential synergy with the redevelopment of Garland Avenue, particularly pedestrian circulation to and from housing and the business school.

Ways in which the existing building does not support the Arkansas Union mission:

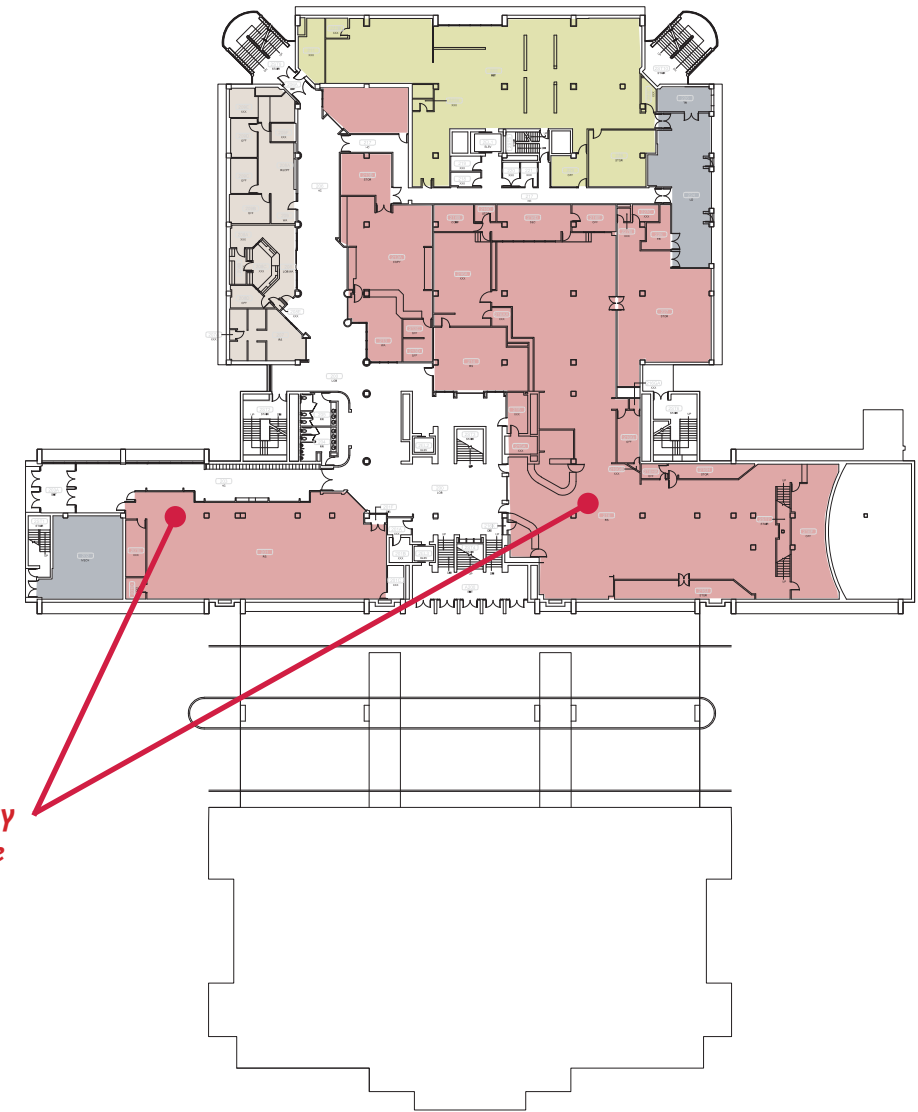
- Wayfinding is challenging, both inside and around the exterior of the building; curb appeal is limited.
- Visibility of activities and functions is hampered by the lack of transparency. The building does not allow activities to be seen and accessed vicariously.
- The Connection Lounge is more of a corridor than a space. Many of the upper floor lounge spaces similarly feel more like wide hallways than lounges.
- The presence of the building from down-slope is weak; there is no apparent destination advertised on the west side.
- Union East does not connect very strongly to the Central Quad (shared with Mullins Library) from the inside-out.

Any strategies for renovation and expanding the Arkansas Union must reinforce the positive features of the building, while correcting those aspects deemed as deficient.

Project Kickoff Meetings: Existing Plans



Separate entrances on the west side are without visual hierarchy; singular entrance could provide memorable Union identity feature



Retail spaces face inward, missing opportunity to "announce" themselves to Garland Avenue and take advantage of pedestrian traffic

PROGRAM CODE:	
ENTERTAINMENT/RECREATION	STUDENT GOVERNMENT
RETAIL	ADMINISTRATION/OFFICES
DINING	INFORMATION
KITCHEN/SERVERY	STUDENT ORGANIZATIONS
MEETING/BALLROOM	POST OFFICE
LOUNGE	CIRCULATION
	BUILDING SERVICES

EXISTING FIRST FLOOR

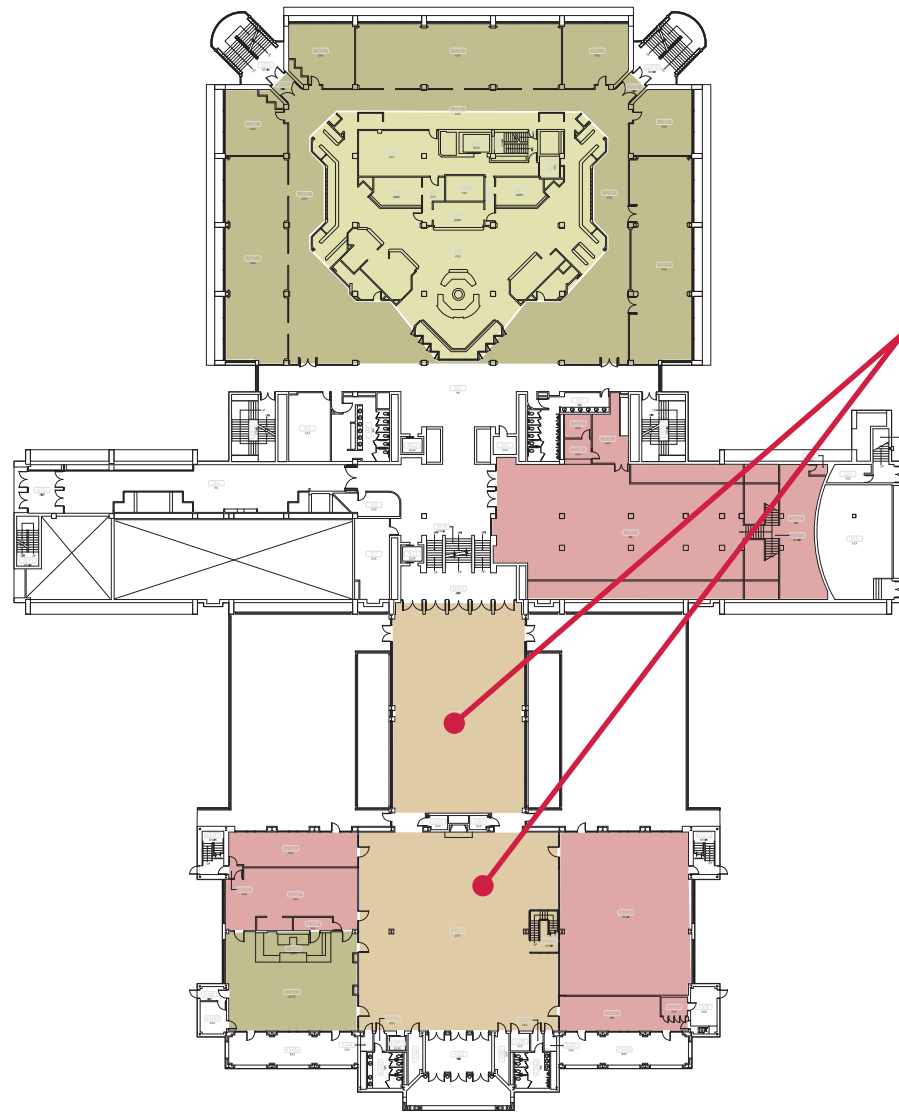
ARKANSAS UNION BUILDING
7 JANUARY 2009
0 25 50 100 ft.

PROGRAM CODE:	
ENTERTAINMENT/RECREATION	STUDENT GOVERNMENT
RETAIL	ADMINISTRATION/OFFICES
DINING	INFORMATION
KITCHEN/SERVERY	STUDENT ORGANIZATIONS
MEETING/BALLROOM	POST OFFICE
LOUNGE	CIRCULATION
	BUILDING SERVICES

EXISTING SECOND FLOOR

ARKANSAS UNION BUILDING
7 JANUARY 2009
0 25 50 100 ft.

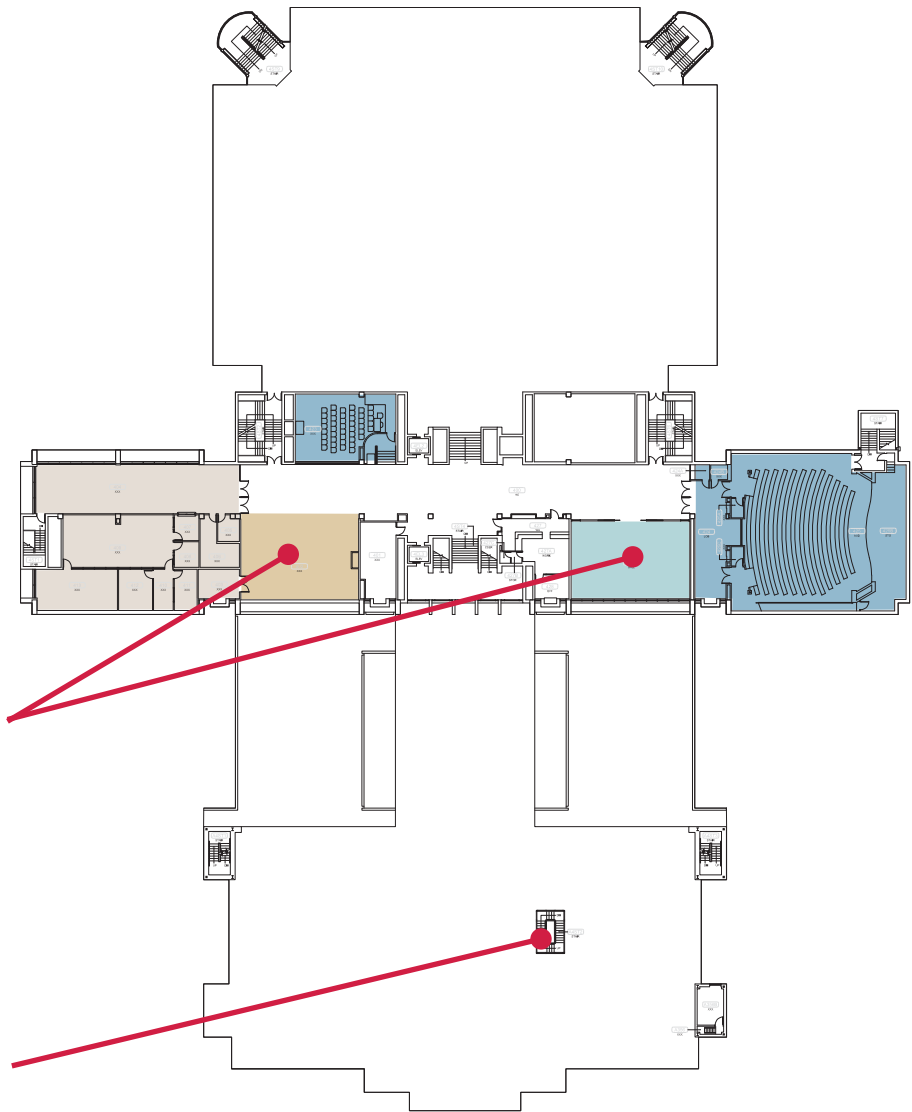
Project Kickoff Meetings: Existing Plans



Connection Lounge functions more as corridor than destination space; synergy with Living Room is hampered by location of fireplace

Important public spaces like the Kittrell Art gallery and the 4th Floor Lounge are not easily located by casual building users

Main Union East stair is neither open nor accessible enough to facilitate connection to Floor A6



PROGRAM CODE:	
ENTERTAINMENT/RECREATION	STUDENT GOVERNMENT
RETAIL	ADMINISTRATION/OFFICES
DINING	INFORMATION
KITCHEN/SERVERY	STUDENT ORGANIZATIONS
MEETING/BALLROOM	POST OFFICE
LOUNGE	CIRCULATION
	BUILDING SERVICES

EXISTING THIRD FLOOR

ARKANSAS UNION BUILDING

7 JANUARY 2009

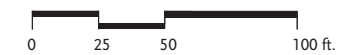


PROGRAM CODE:	
ENTERTAINMENT/RECREATION	STUDENT GOVERNMENT
RETAIL	ADMINISTRATION/OFFICES
DINING	INFORMATION
KITCHEN/SERVERY	STUDENT ORGANIZATIONS
MEETING/BALLROOM	POST OFFICE
LOUNGE	CIRCULATION
	BUILDING SERVICES

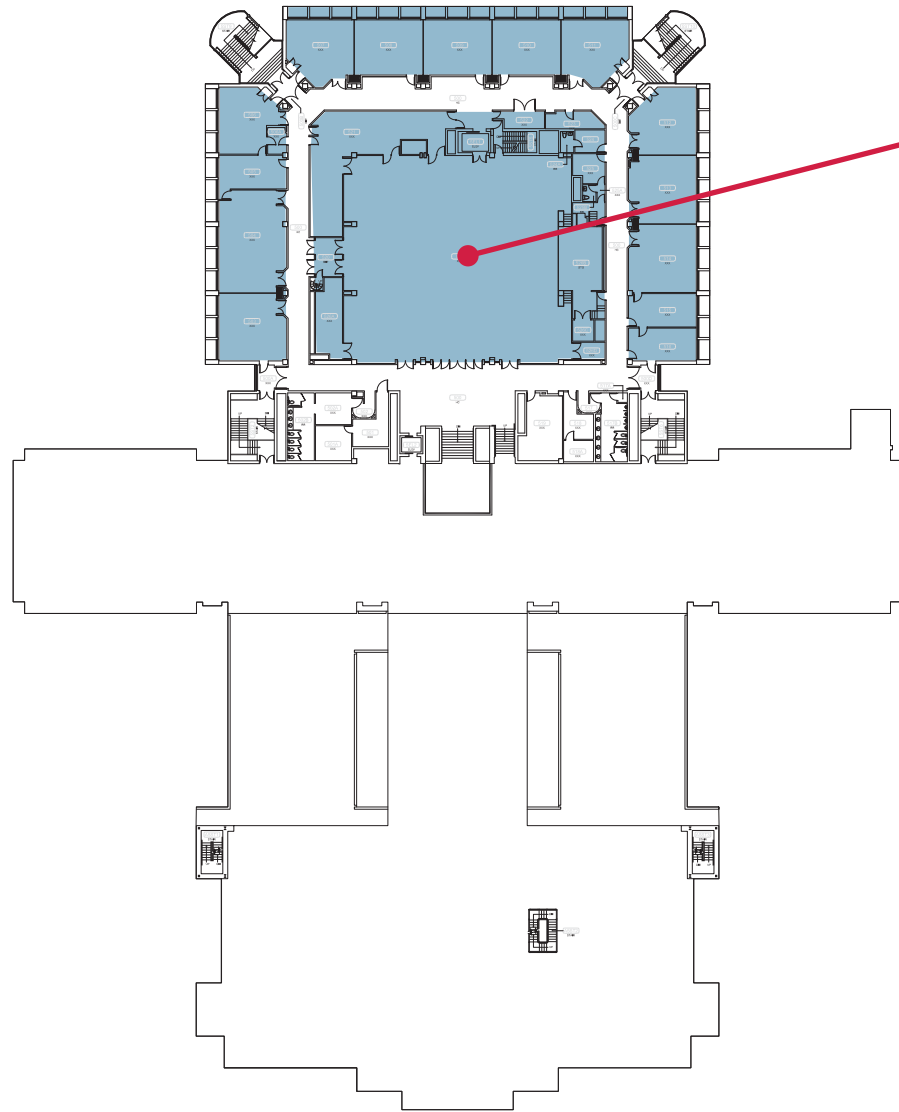
EXISTING FOURTH FLOOR

ARKANSAS UNION BUILDING

7 JANUARY 2009



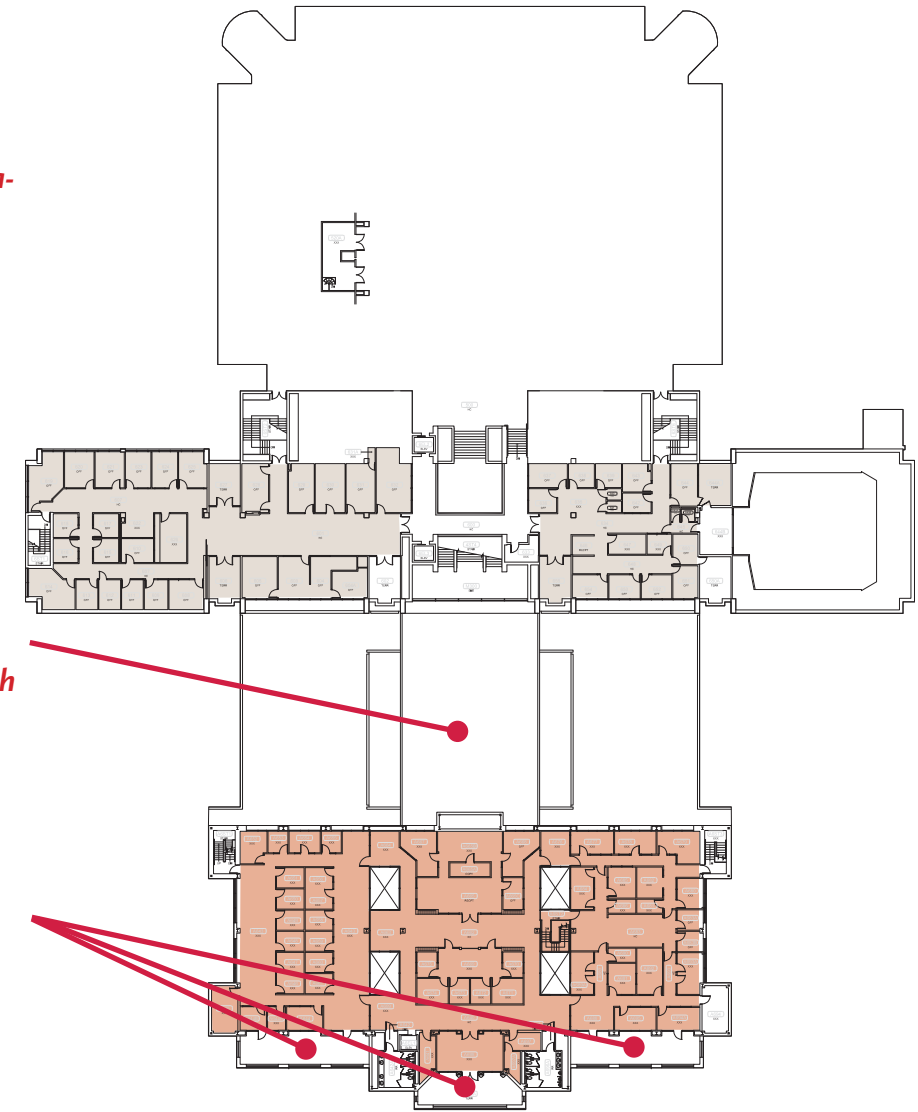
Project Kickoff Meetings: Existing Plans



The Alltell Ballroom needs to be enlarged, yet cannot increase its footprint in its current location (or anywhere else in the Union facility)

Floor 6 (Union West) and Floor A6 (Union East) are not currently connected, even though they share a similar floor elevation

Valuable frontage is occupied by non-public functions, denying an important opportunity for the Union East to strengthen its relationship with the Central Quad



PROGRAM CODE:	
ENTERTAINMENT/RECREATION	STUDENT GOVERNMENT
RETAIL	ADMINISTRATION/OFFICES
DINING	INFORMATION
KITCHEN/SERVERY	STUDENT ORGANIZATIONS
MEETING/BALLROOM	POST OFFICE
LOUNGE	CIRCULATION
	BUILDING SERVICES

EXISTING FIFTH FLOOR

ARKANSAS UNION BUILDING

7 JANUARY 2009



PROGRAM CODE:	
ENTERTAINMENT/RECREATION	STUDENT GOVERNMENT
RETAIL	ADMINISTRATION/OFFICES
DINING	INFORMATION
KITCHEN/SERVERY	STUDENT ORGANIZATIONS
MEETING/BALLROOM	POST OFFICE
LOUNGE	CIRCULATION
	BUILDING SERVICES

EXISTING SIXTH FLOOR

ARKANSAS UNION BUILDING

7 JANUARY 2009



Project Kickoff Meetings: Next Steps

At the conclusion of the Project Kickoff Meetings, the following were identified as key issues for study going forward:

- ***External Perception of the Building***

In addition to being the “living room” of the University of Arkansas, the Union is part of the tapestry of the campus and the larger community. The Union needs a strong, memorable identity, particularly for the sake of campus visitors.

- ***Project Funding***

Identification of potential funding sources (naming rights, revenue-generating programs, etc.) It is roundly acknowledged that the Union, no matter how the financial model is developed, needs to maintain a “student-centered” focus.

- ***Phasing & Associated Timeline***

Phasing consideration is critical, given that financial and functional restrictions would preclude the full scope of this Report’s recommendations from being preiated in a single, concentrated effort. All design solutions proposed by PDR|P will be documented such that they can potentially be constructed in distinct phases, as funds and need allow.

- ***Code Assessments***

The most successful outcome of any Union expansion/renovation endeavor is one which life-safety issues and building systems are improved while also supporting the larger agenda. While building system evaluations are not a part of this particular phase of the study, code evaluations are and can be seen (along with a Design team overview and list of recommendations) at the conclusion of this Report.

- ***Known Internal Planning Issues***

Movement through the current facility is circuituous, and wayfinding is difficult, even for experienced users. Additionally, the interior of the Union can feel like several different buildings. The Design Team will need to ensure that proposed solutions increase spatial cohesion and clarity of use.

5.0

On-Campus Design Charrette

On-Campus Design Charrette: Overview

Following the Project Kickoff Meetings, Perry Dean Rogers | Partners commenced work on a series of preliminary design solutions for the Union, in preparation for the on-campus **Design Charrette**. A “charrette” is typically an intense period of design activity (a brainstorming session) in which work is quickly generated and presented as a means of fostering dialogue among a project’s main constituents. The Design Charrette planned for the Arkansas Union Study was envisioned as a combination of structured and unstructured workshops which would take place within the space of the Union itself, so as to directly engage students, faculty and staff in the design process. To this end, PDR|P project team set up shop in the Connection Lounge for two days, employing a full array of design tools (computer renderings, free-hand drawings, a large-scale interior model) to communicate ideas and intentions.

The Design Charrette took place on February 10th and 11th, with a presentation to the Building Committee on the 12th. The following pages document the event.



typical in-house PDR|P Design Charrette



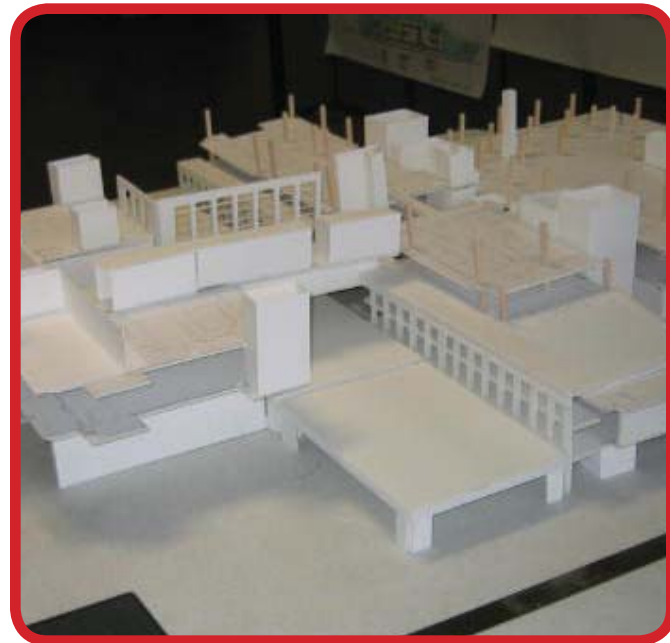
On-Campus Design Charrette: Event



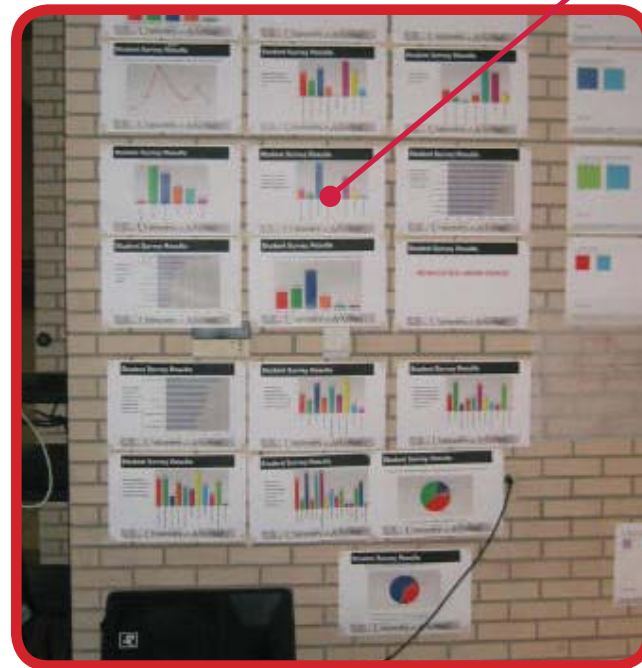
discussion with Interior Design students

projected computer modeling

large-scale interior model of Union



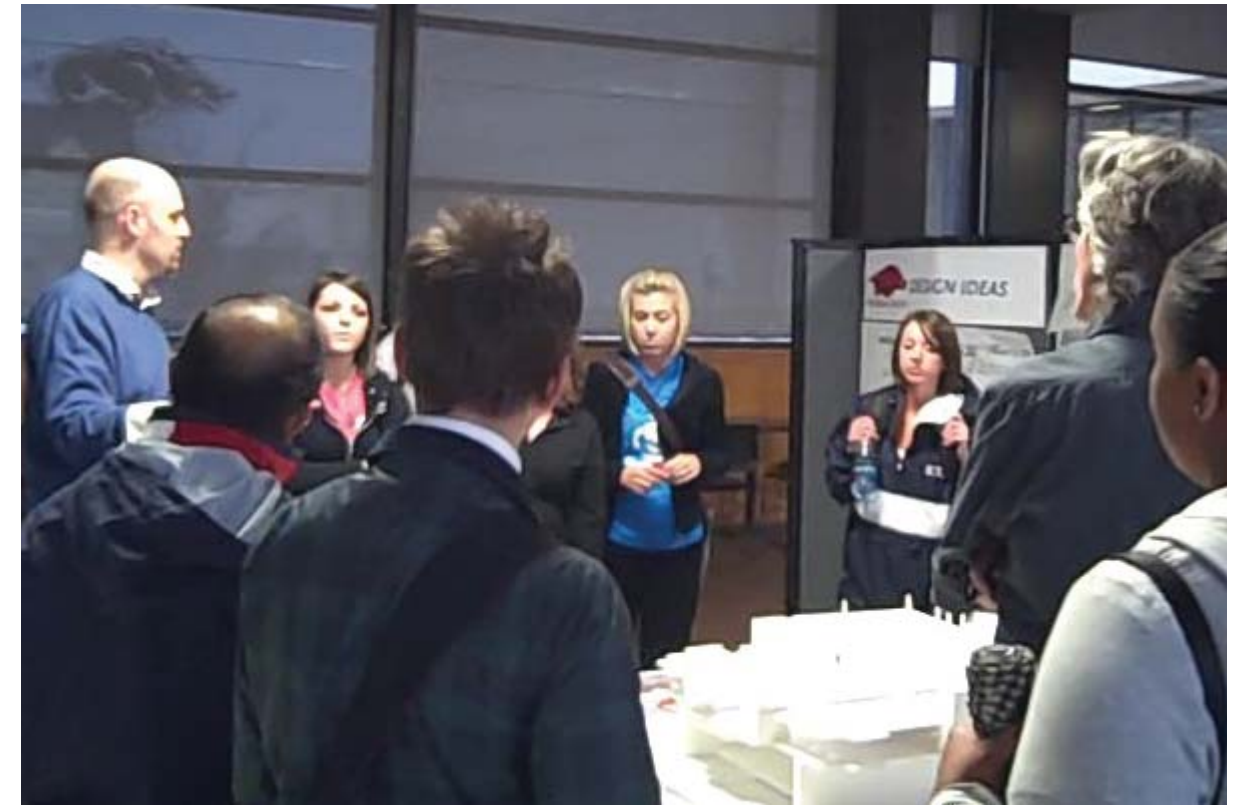
student survey results



early sketches



On-Campus Design Charrette: Event



UATV interview

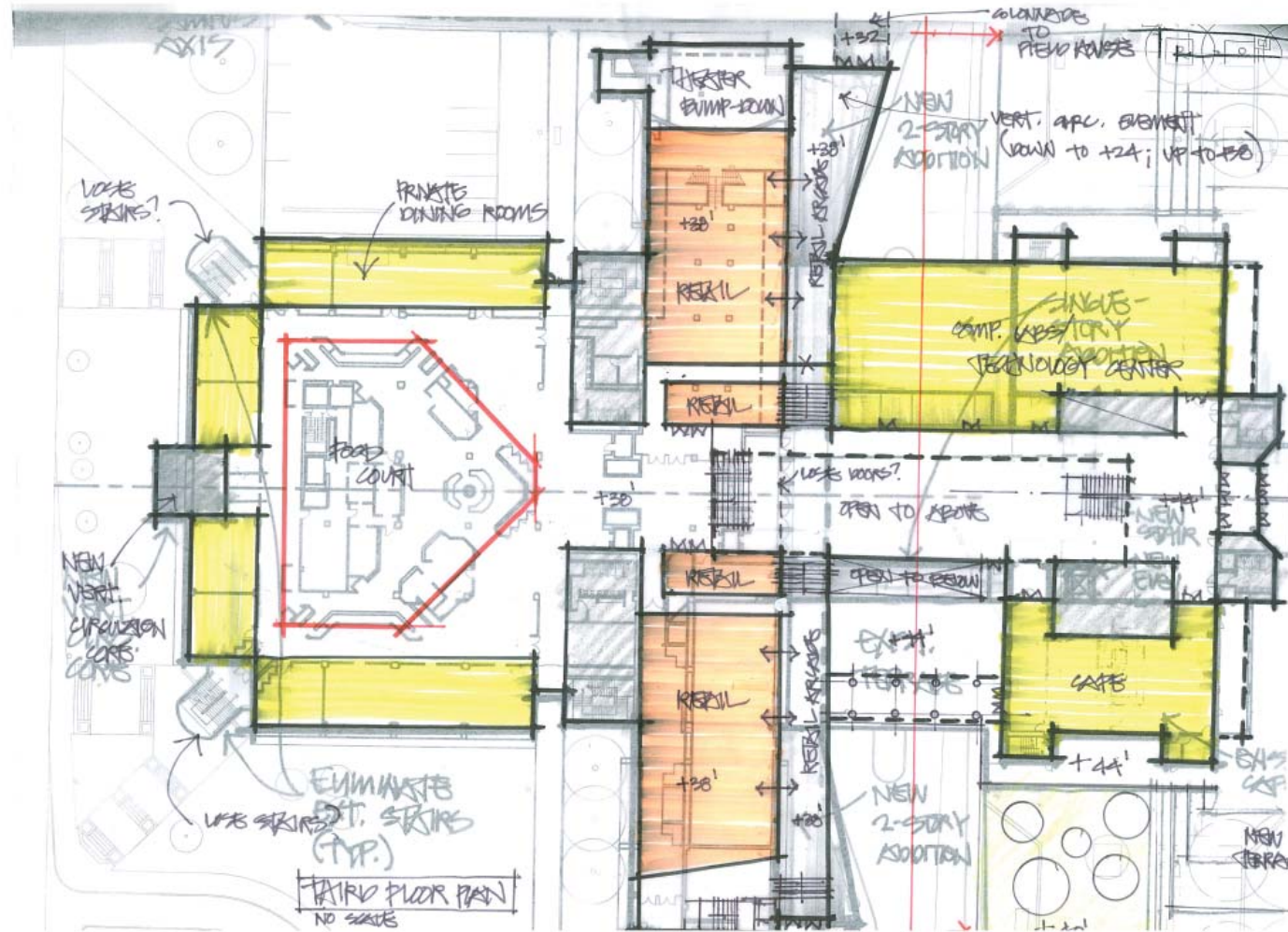


comments sheet

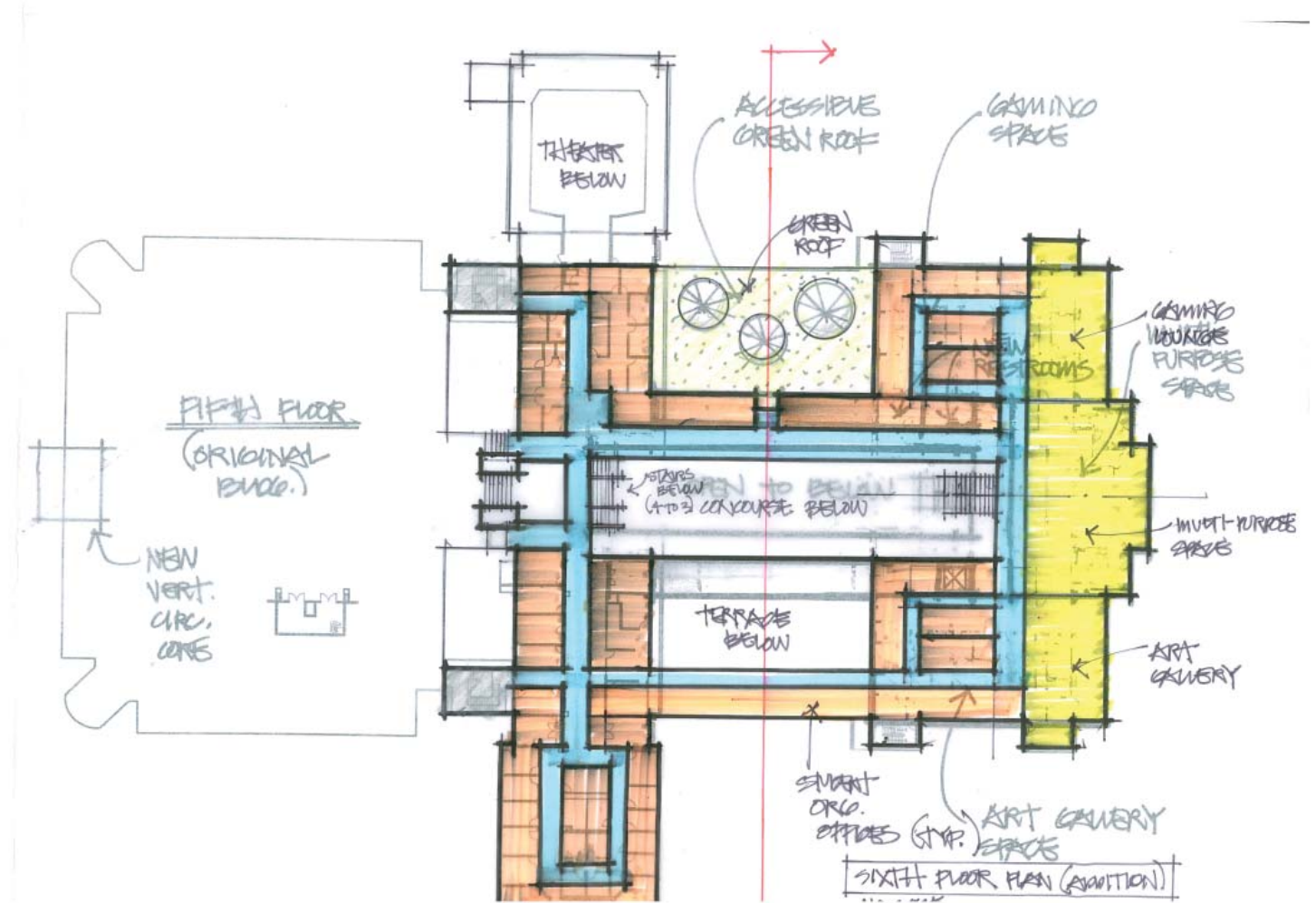


program blocks

On-Campus Design Charrette: Concepts

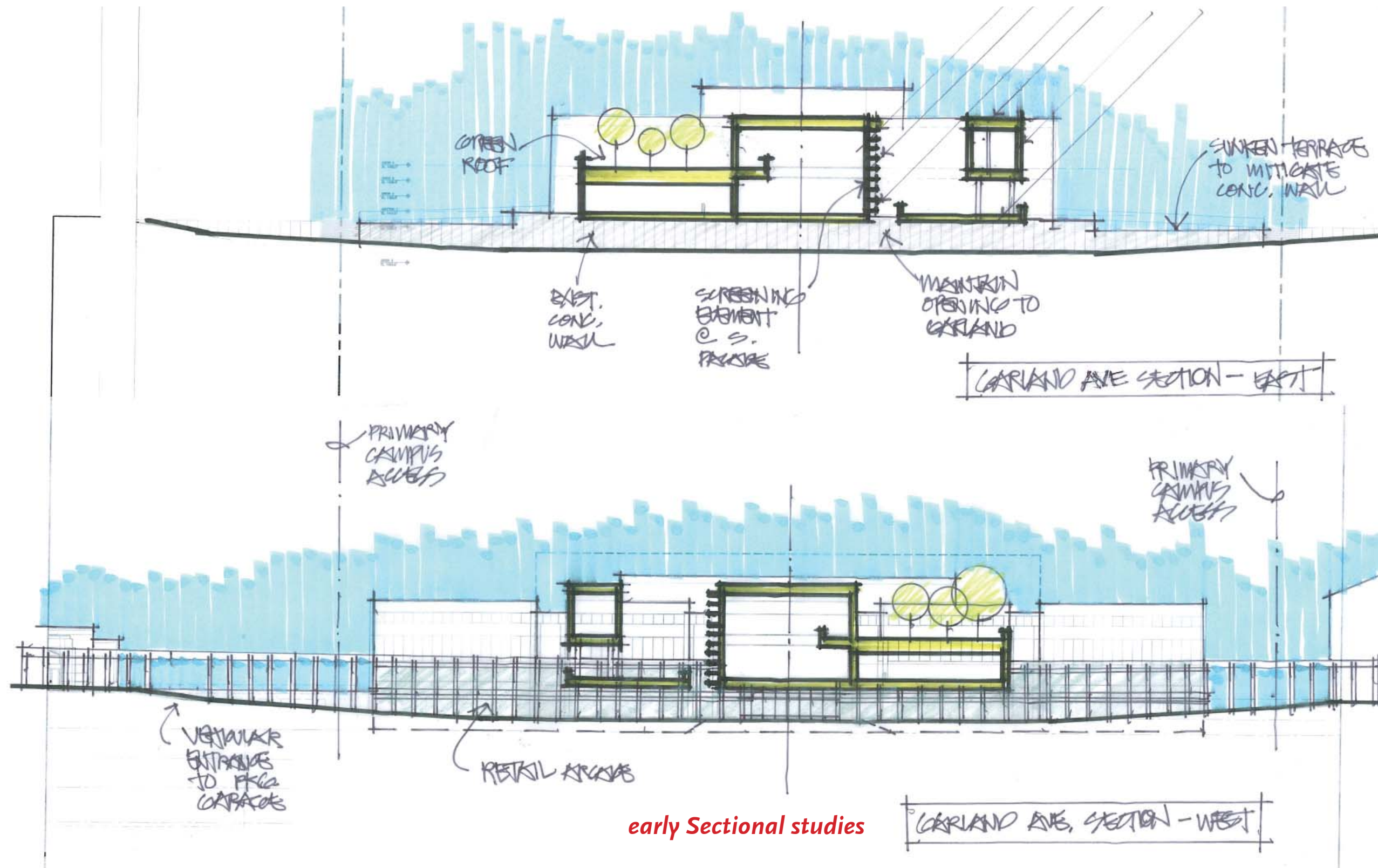


early Plan Diagram study

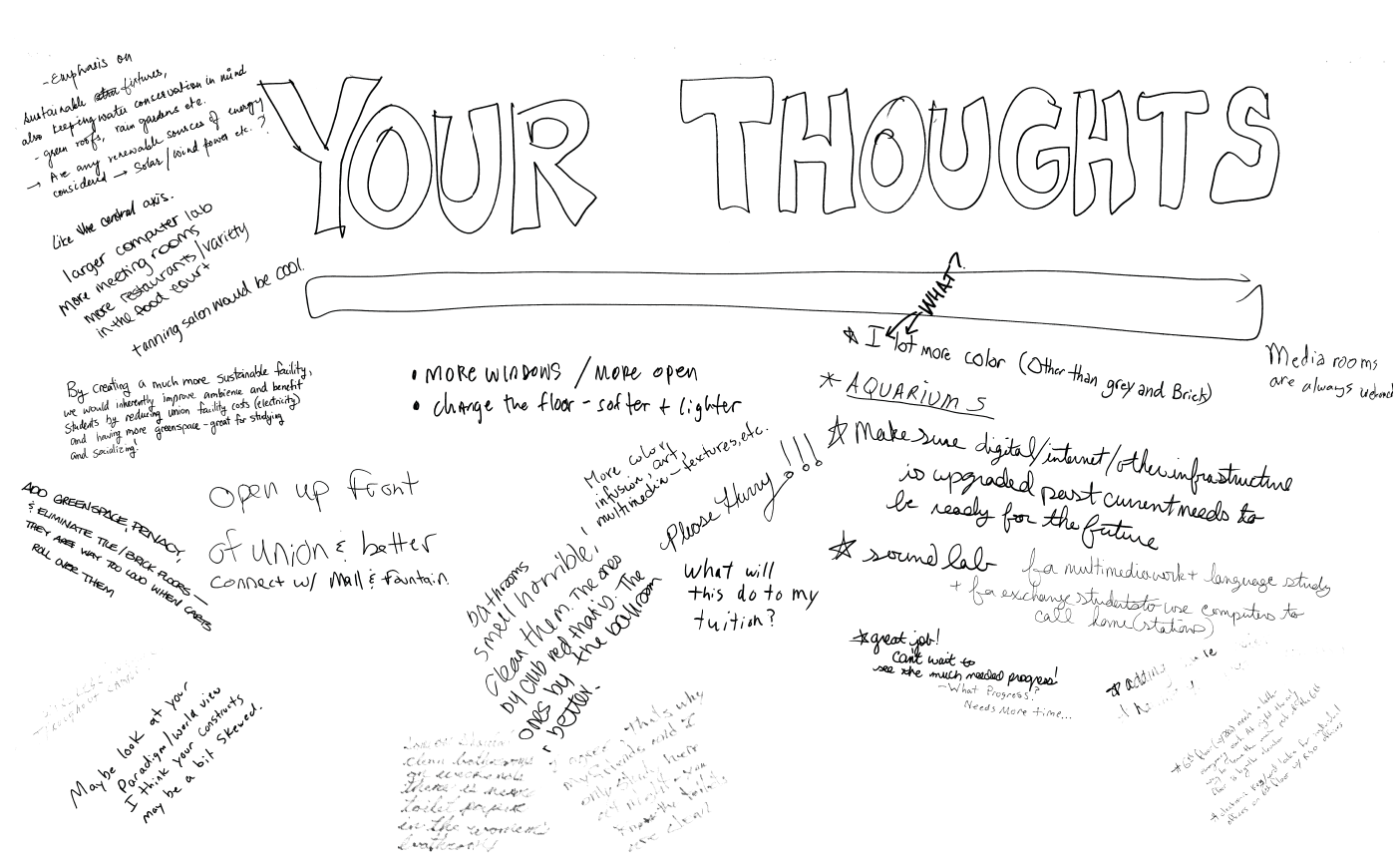


early Plan Diagram study

On-Campus Design Charrette: Concepts



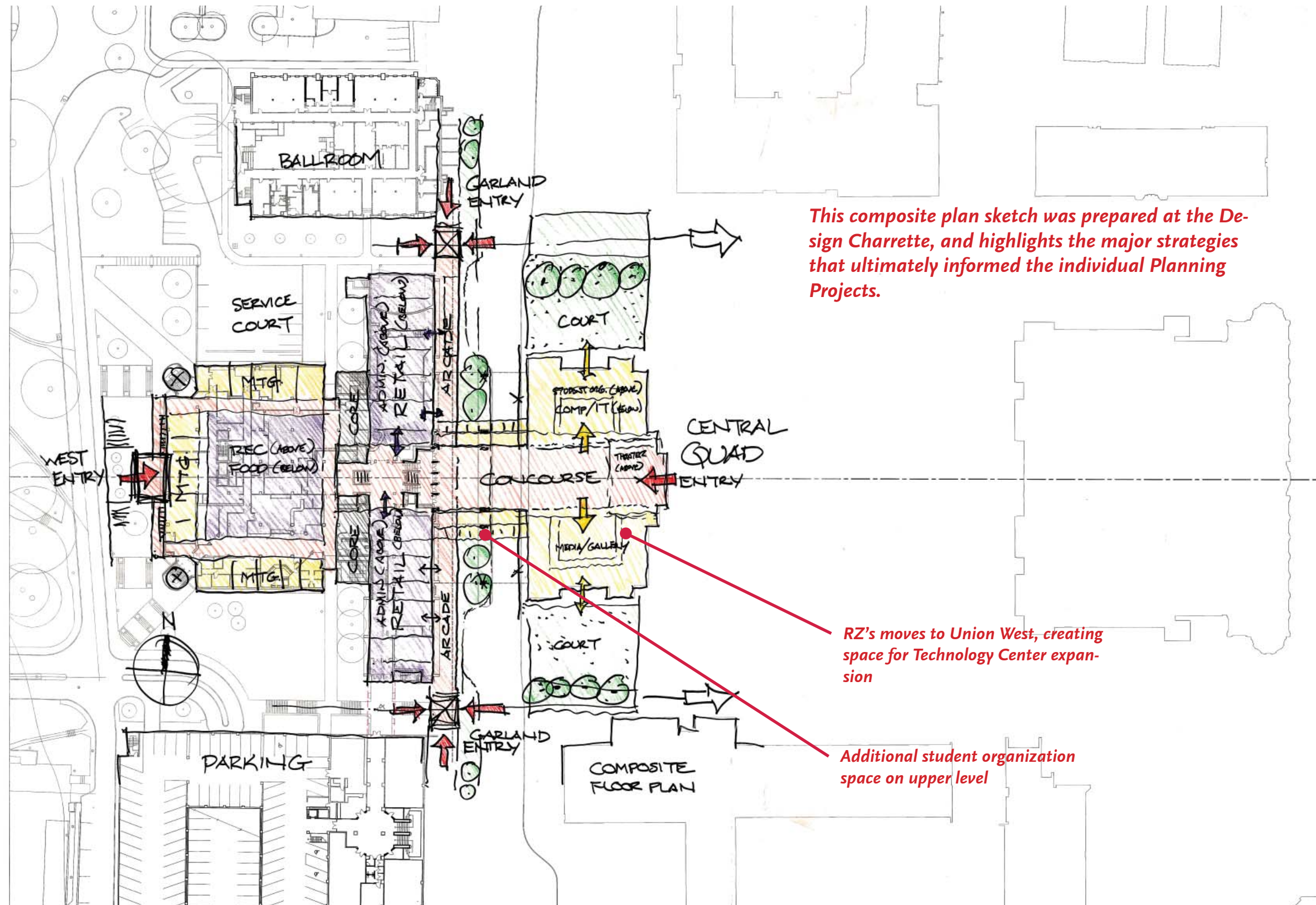
On-Campus Design Charrette: Student/Faculty/Staff Comments



The sheet above was posted on the wall during the On-Campus Design Charrette, in order to better document the desires and concerns of the Arkansas Union user population

Open up front of Union & better connect with mall and fountain... **Add green space, privacy & eliminate tile/brick floors - they are way too loud when carts roll over them...** **Wireless internet throughout campus...** I agree, that's why my friends and I only study here at night - you know the toilets are clean... What will this do to my tuition?... **More color infusion, art, multi-media, textures, etc...** Please hurry!!!... **More windows/more open; change the floor (softer and lighter)...** Media rooms are always welcome... By creating a much more sustainable facility, we would inherently improve ambience and benefit students by reducing Union facility costs (electricity) and having more green space - great for studying and socializing!... Tanning salon would be cool... **Larger computer lab, more meeting rooms, more restaurants / variety in the Food Court...** Green roofs, gardens, etc... Are there any renewable sources of energy considered (solar/wind power, etc.)?... **Like the central axis...** **A lot more color (other than grey and brick)...** **Aquariums!**... Someone should clean bathrooms on weekends; there is never any toilet paper in the women's bathroom... **Make sure digital/internet/other infrastructure is upgraded past current needs to be ready for the future...** Emphasis on sustainable fixtures, also keeping water conservation in mind... Great job, can't wait to see the much-needed progress!... **Sound lab for multi-media work and language study, and for exchange students to use computers to call home...** **Add more color, have the spaces connect...** **6th floor needs a better emergency exit. At night the only way to leave the main part of the 6th floor is by the elevator...** Electronic key card locks...

On-Campus Design Charrette: Comprehensive Planning Strategy

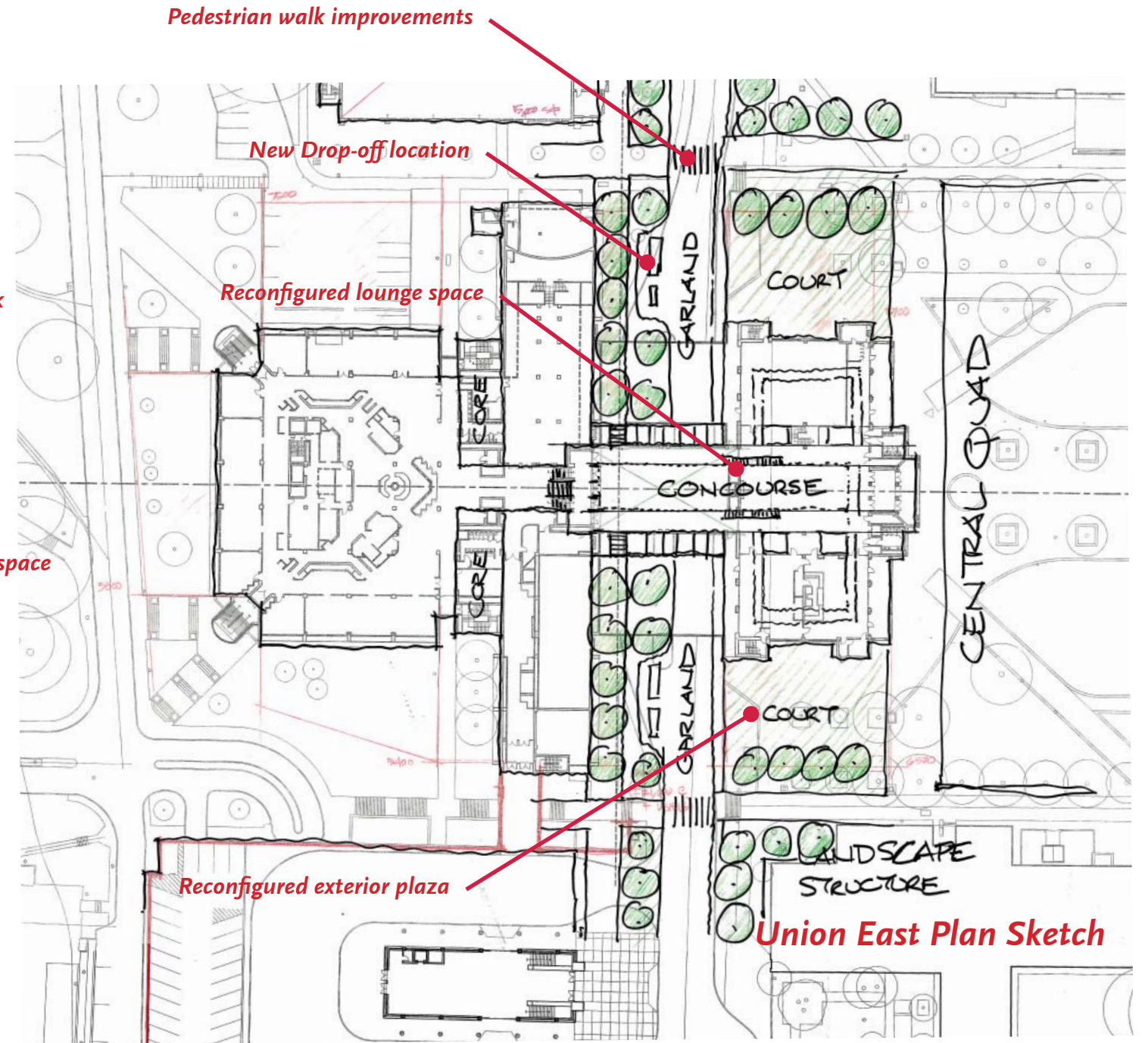
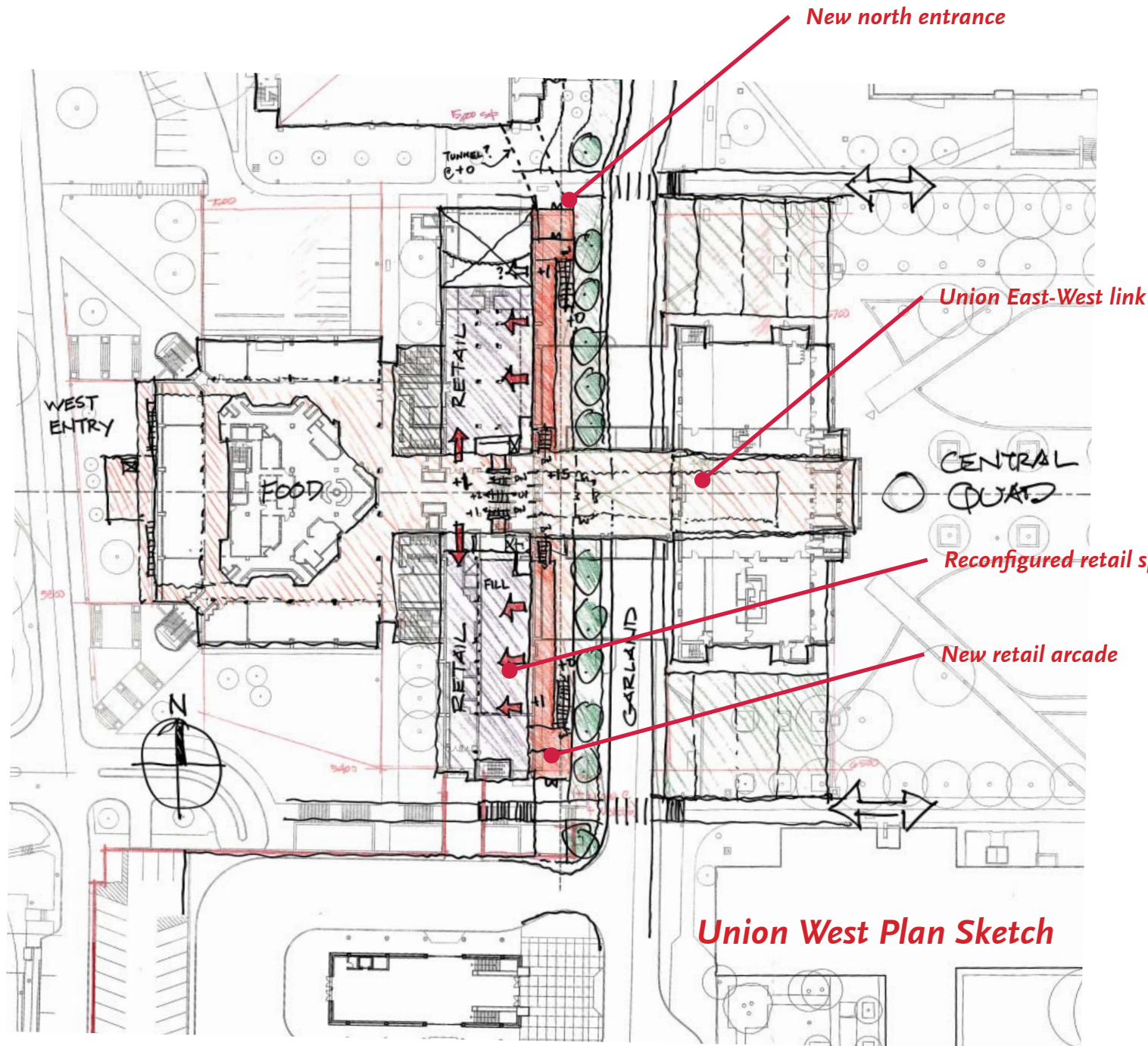


This composite plan sketch was prepared at the Design Charrette, and highlights the major strategies that ultimately informed the individual Planning Projects.

RZ's moves to Union West, creating space for Technology Center expansion

Additional student organization space on upper level

On-Campus Design Charrette: Explanatory Sketches



6.0 Planning Projects

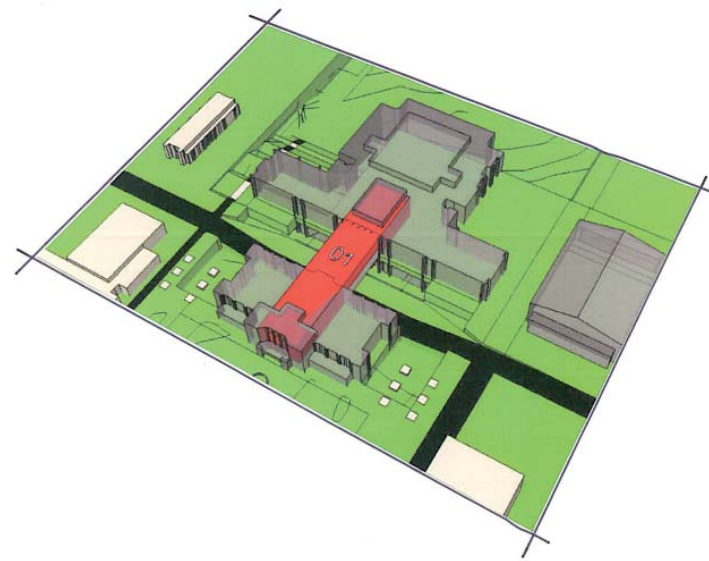
Planning Projects: Overview

Following the On-Campus design Charrette, Perry Dean Rogers | Partners Architects presented 8 Planning Projects to the Arkansas Union Building Committee. In the aggregate, these Projects respond to the full breadth of programmatic goals expressed in the Arkansas Union Master Plan, the Brailsford & Dunlavey Report, the Project Launch Meeting brainstorming sessions, and through conversations with University of Arkansas students, faculty and staff. Taken individually, these Projects begin to suggest a phasing strategy by which the Union can fulfill its overall needs incrementally. The 8 Planning Projects are listed below, and described in greater visual/verbal detail in the pages to follow:

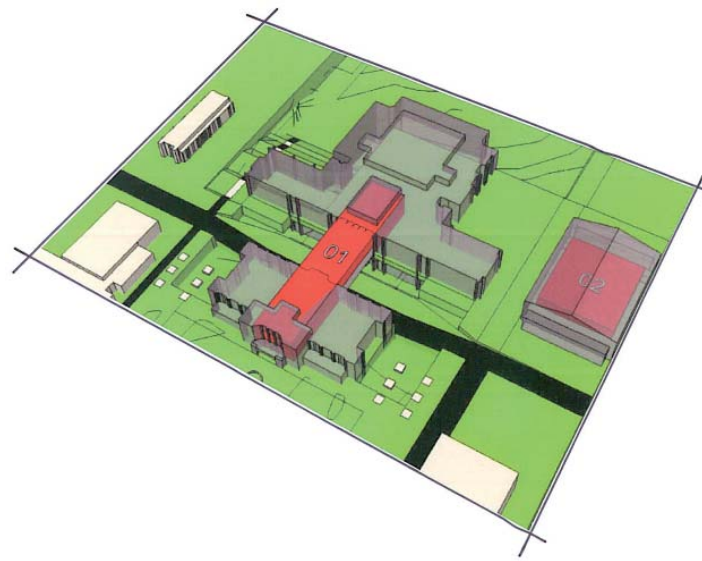
Project	Title	Scope
01	<i>Lounge Concourse</i>	Living Room and Connection Lounge are joined and expanded vertically. Program addition directly joins the Union East and Union West at Level A6. Terraces above Garland Avenue are removed.
02	<i>Ballroom to Fieldhouse</i>	Alltell Ballroom and related functions are moved to the current Fieldhouse, and expanded in size. Portions of the Fieldhouse not used for Ballroom program are reconfigured for related programming (meeting rooms, support space etc.) Underground link to Union West is considered for food service transactions.
04	<i>Retail Arcade</i>	Floors 2 & 3 of Union West are expanded to the east, creating a new interior pedestrian arcade, upon which existing retail spaces will be reconfigured to open onto. Project 04 will work in concert with landscaping improvements to Garland Avenue.

Project	Title	Scope
05	<i>Landscaping Improvements</i>	Existing plaza north and south of Union East will be reconfigured and planted to create user-friendly exterior space and extend the Central Quad to Garland Avenue.
06	<i>Retail Arcade Extension</i>	Exterior colonnades “extend” the retail Arcade north and south, to offer protected access to/from Fieldhouse and Transportation Hub, as well as providing visual termination to campus walk system.
07	<i>Union East “Front Door” Improvements</i>	Current student organization offices along east side of Floor A6 (Union East) are relocated, and replaced by spaces offering a greater degree of public usefulness, such as an art gallery and a multi-use performance space. Project includes east facade improvements.
08	<i>West Entrance</i>	The two exterior stairs on the west side of Union West would be removed, and a new singular enclosed entrance would be built on the Union’s central axis, containing a grand stair and an elevator.
09	<i>Recreation</i>	Underutilized space at the lower floors of Union West are renovated to accommodate recreation programs, spa, sports massage, personal training, and fitness rooms.

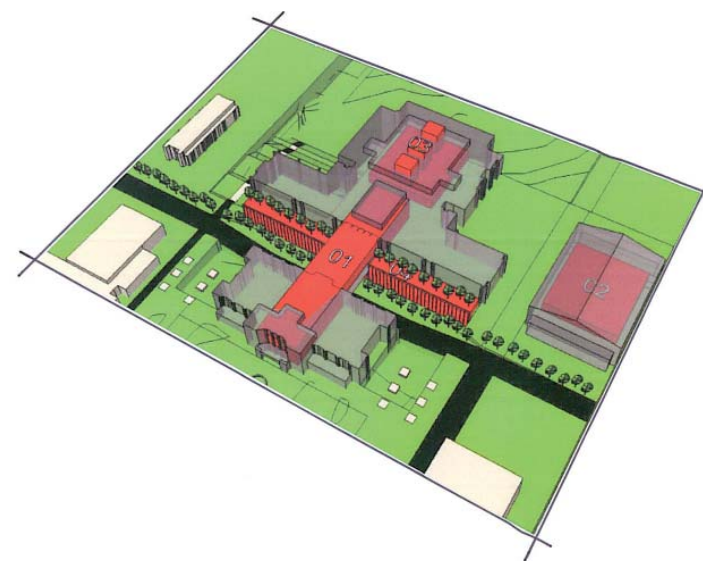
Planning Projects: Overview



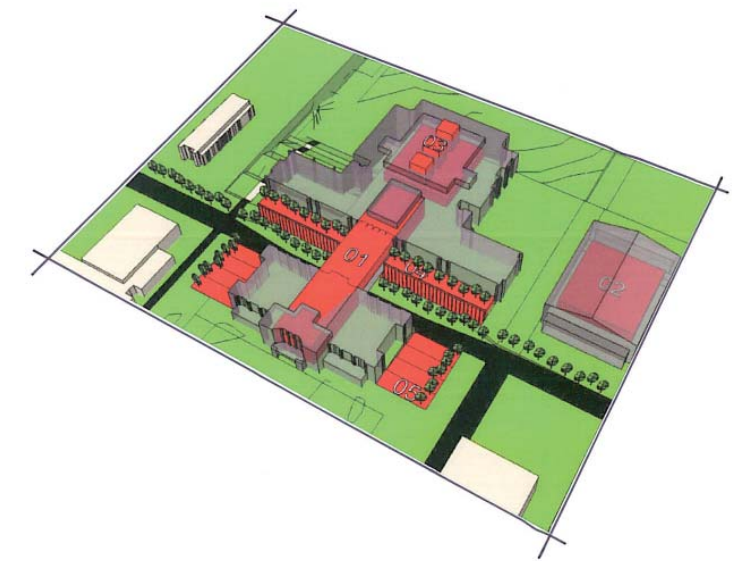
Option 1
Lounge Concourse



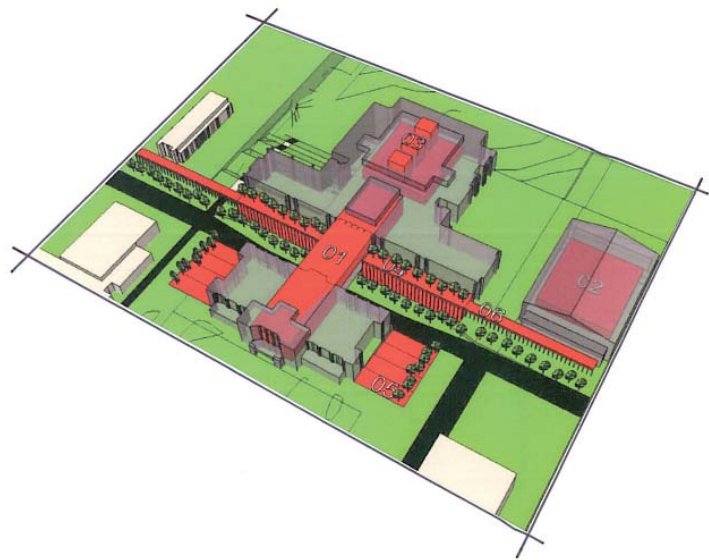
Option 2
*Alltell Ballroom Renovation/
Expansion to Fieldhouse*



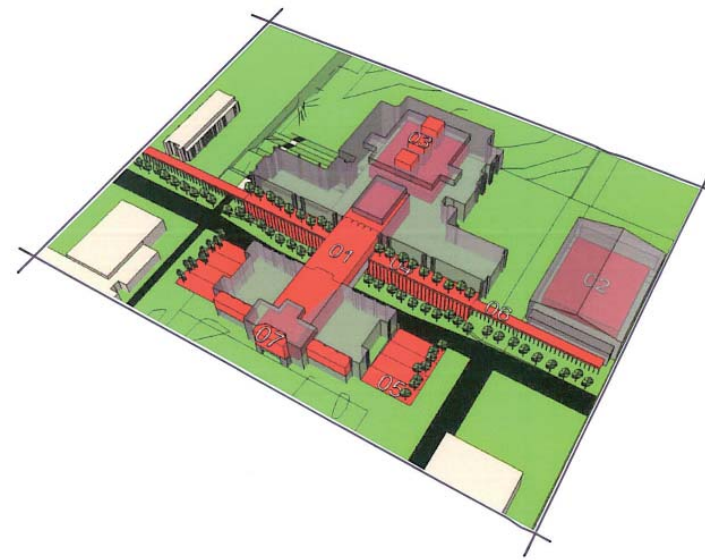
Option 4
Retail Arcade



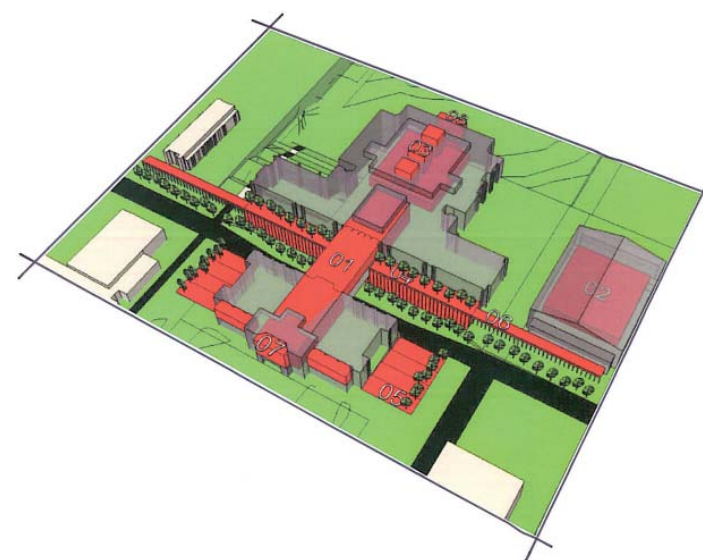
Option 5
Landscaping Improvements



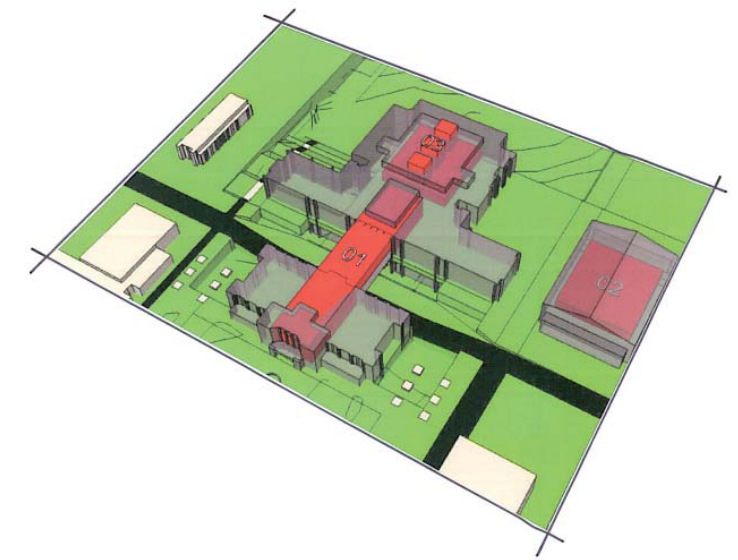
Option 6
Retail Arcade Extension



Option 7
Union East Frontage Improvements

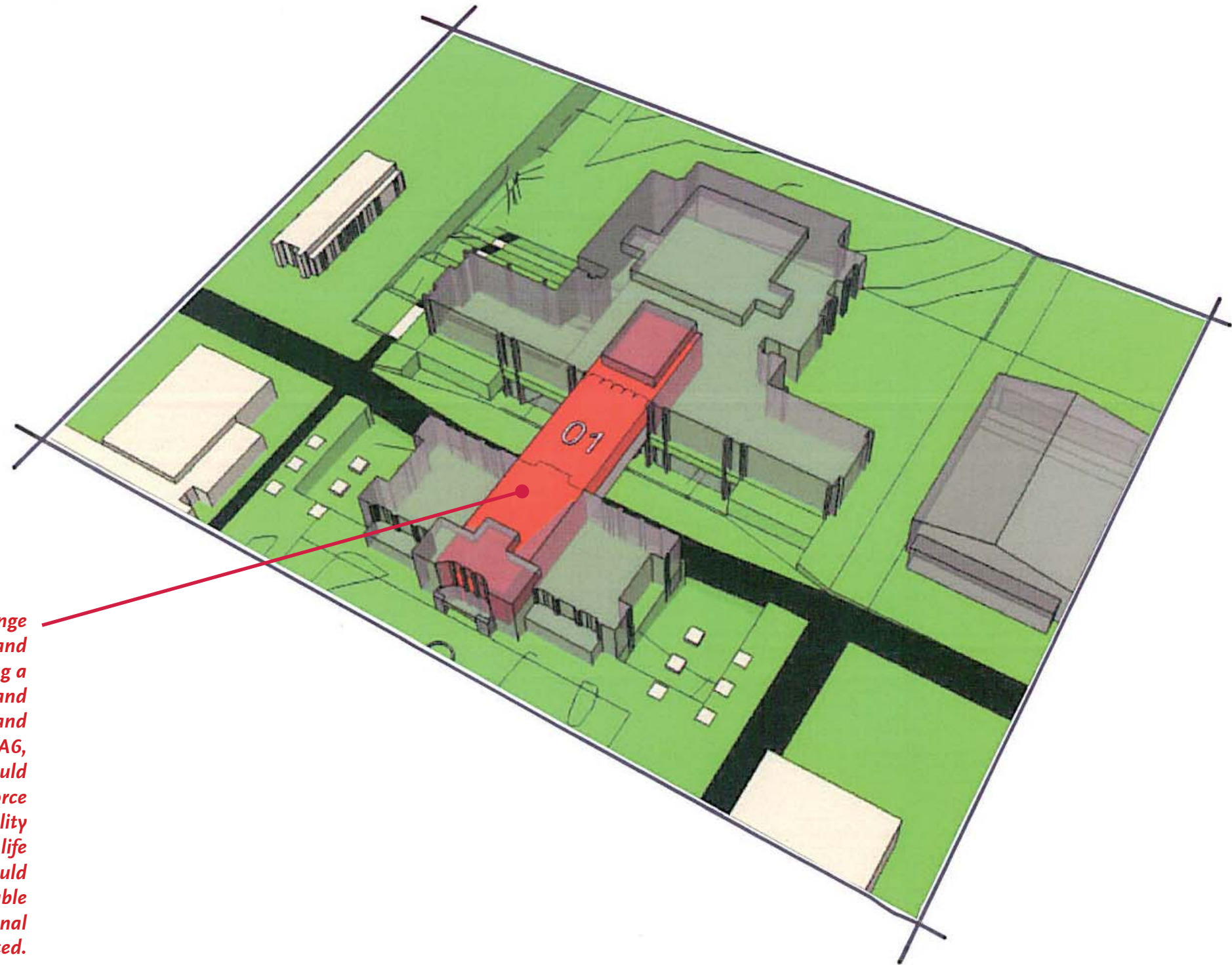


Option 8
New Union West Entrance



Option 9
Recreation Program

Planning Projects: Option 01 Lounge Concourse - CONCEPT



Reconfiguring the Living Room and the Connection Lounge into a singular space would create a more identifiable and usable “hub” for the Arkansas Union, as well as providing a needed link between the 6th floors of the Unions East and West. Lounge spaces would be upgraded, a more visible and celebratory stair would replace the current one to Floor A6, finishes would be replaced throughout, and glass rails would be installed at the main stairs in the Union West to reinforce the feeling of openness. Elevators within core of facility would be upgraded to meet applicable building and life safety codes. Existing terraces above Garland Avenue would be removed to render Union West street frontage more viable for improvements. Approximately 5,000 SF of additional student organization space would be created.

Planning Projects: Option 01 Lounge Concourse - INSPIRATIONS



New York Times Building, 2007

Renzo Piano Building Workshop, FXFowle Architects

The 14th floor cafeteria of the New York Times Building shows how color and materiality can be used to create programmatic separation in a large volume. In this case, circulation and dining (lounge) spaces are subtly defined such that the vast space maintains a high degree of openness. The resultant space efficiently integrates pedestrian traffic yet still feels and functions very much like a “room.”

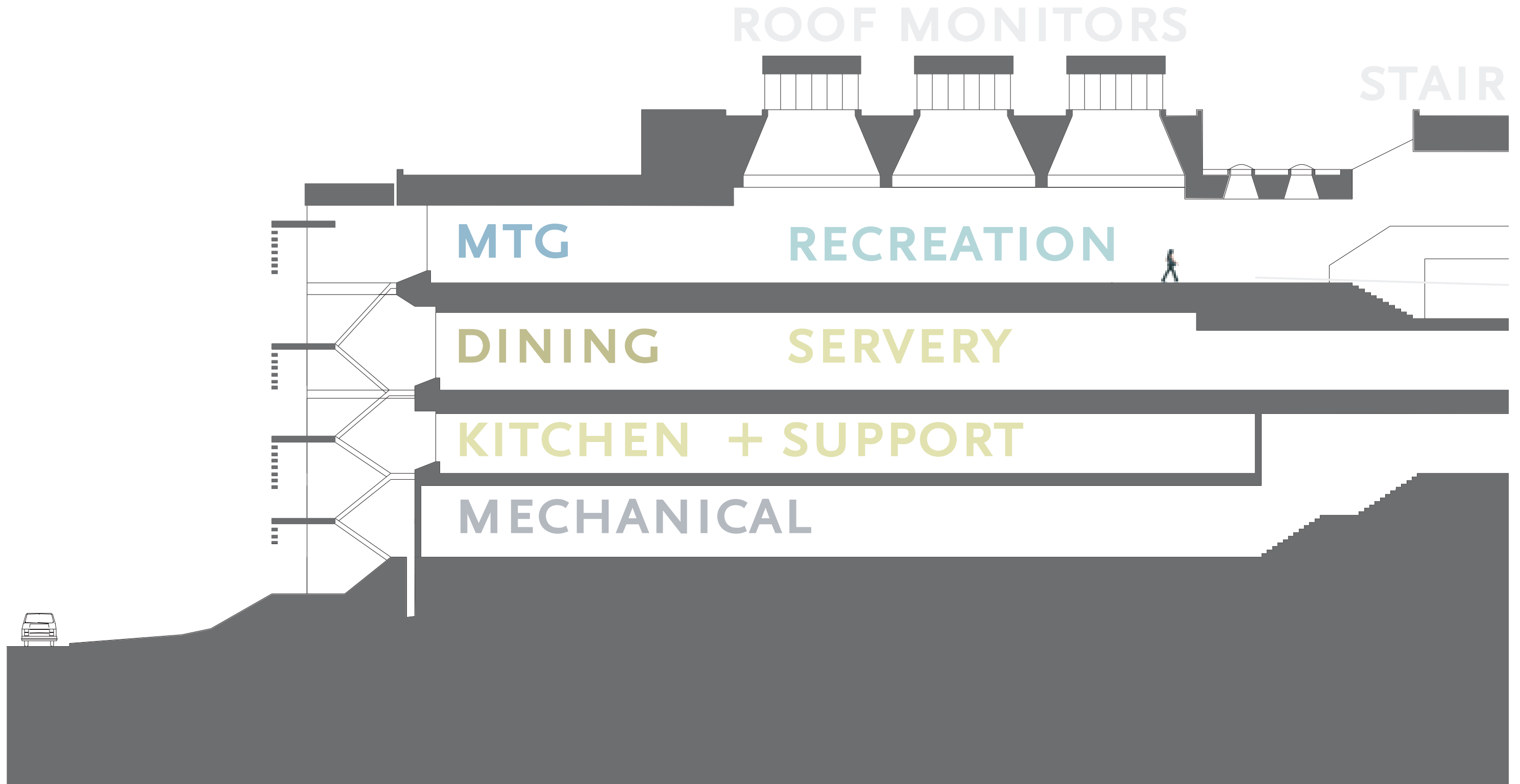


Lavin-Bernick Center for University Life Tulane University, 2006

Vincent James & Associates, Architects

The main entry lobby of this renovated student center also provides flexible lounge space. Large expanses of glass, both on exterior and interior walls, create a sense of transparency that allows the facility to “advertise” its activities, both to users and casual passers-by.

Planning Projects: Option 01 Lounge Concourse - SPATIAL POSSIBILITIES



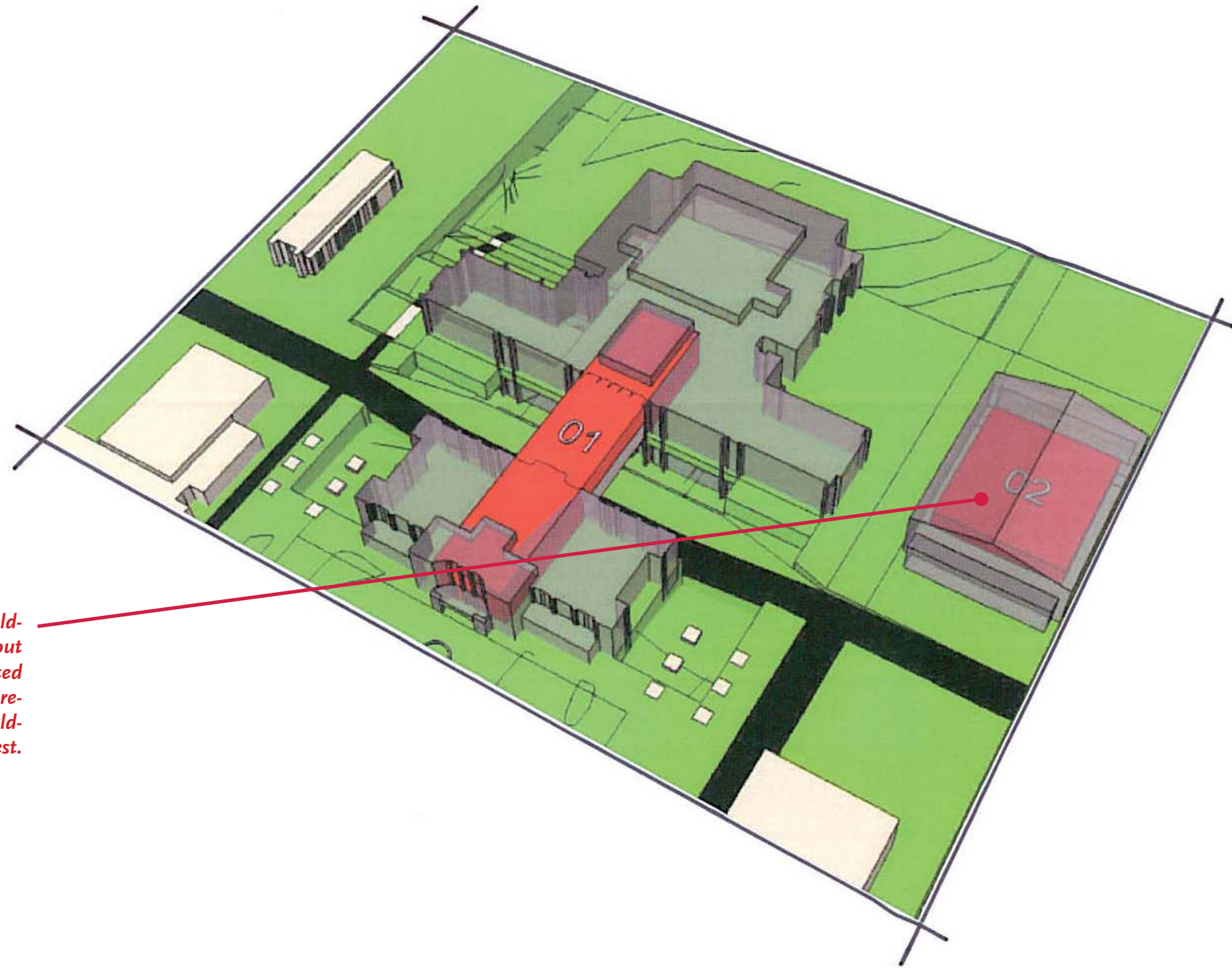


current state of Union Living Room



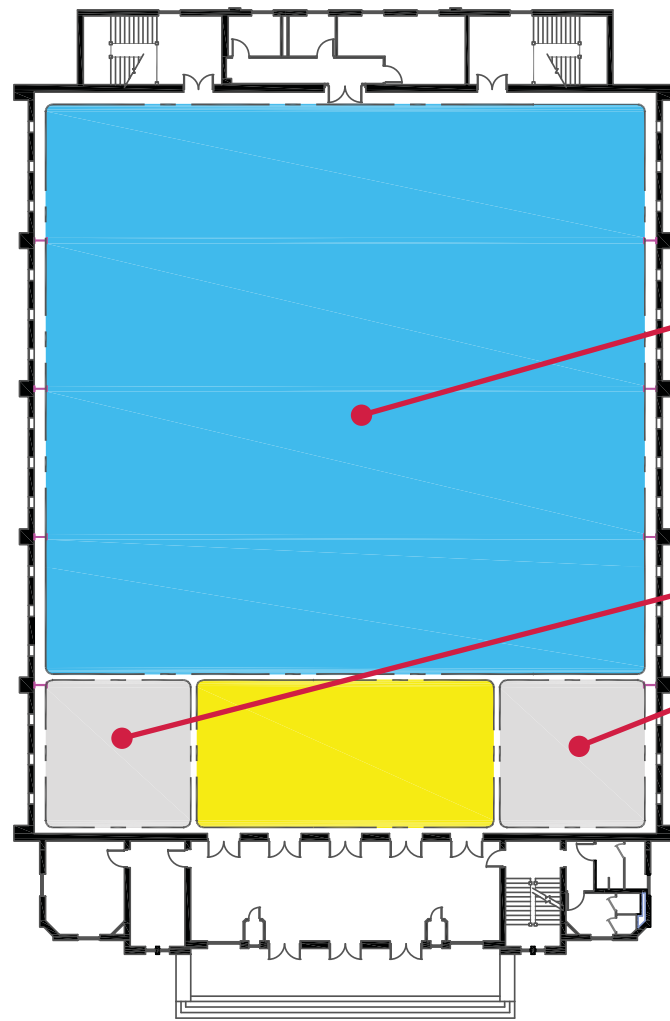
Living Room study model

Planning Projects: Option 02 Alltell Ballroom and Fieldhouse Renovation



The Alltell Ballroom would be relocated to the current Fieldhouse. Upgraded restrooms and a new foyer would fill out the Main Level, while ancillary functions would be located on the Lower Level. A new underground link would be created to allow for food service transactions between the Fieldhouse and the Union West.

Planning Projects: Option 02 Alltel Ballroom and Fieldhouse Renovation

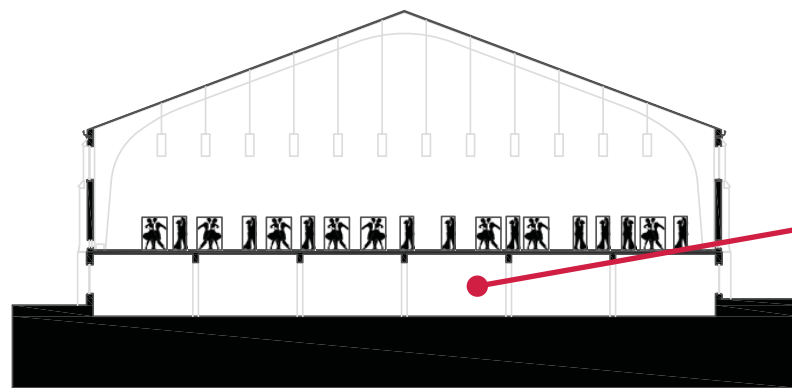


roughly 11,000 SF appropriated for Ballroom usage

New restrooms flanking a new Entry Foyer

NOTE: Locating the Alltel Ballroom in the current Fieldhouse would also require a new elevator, as well as an underground link to the Union West.

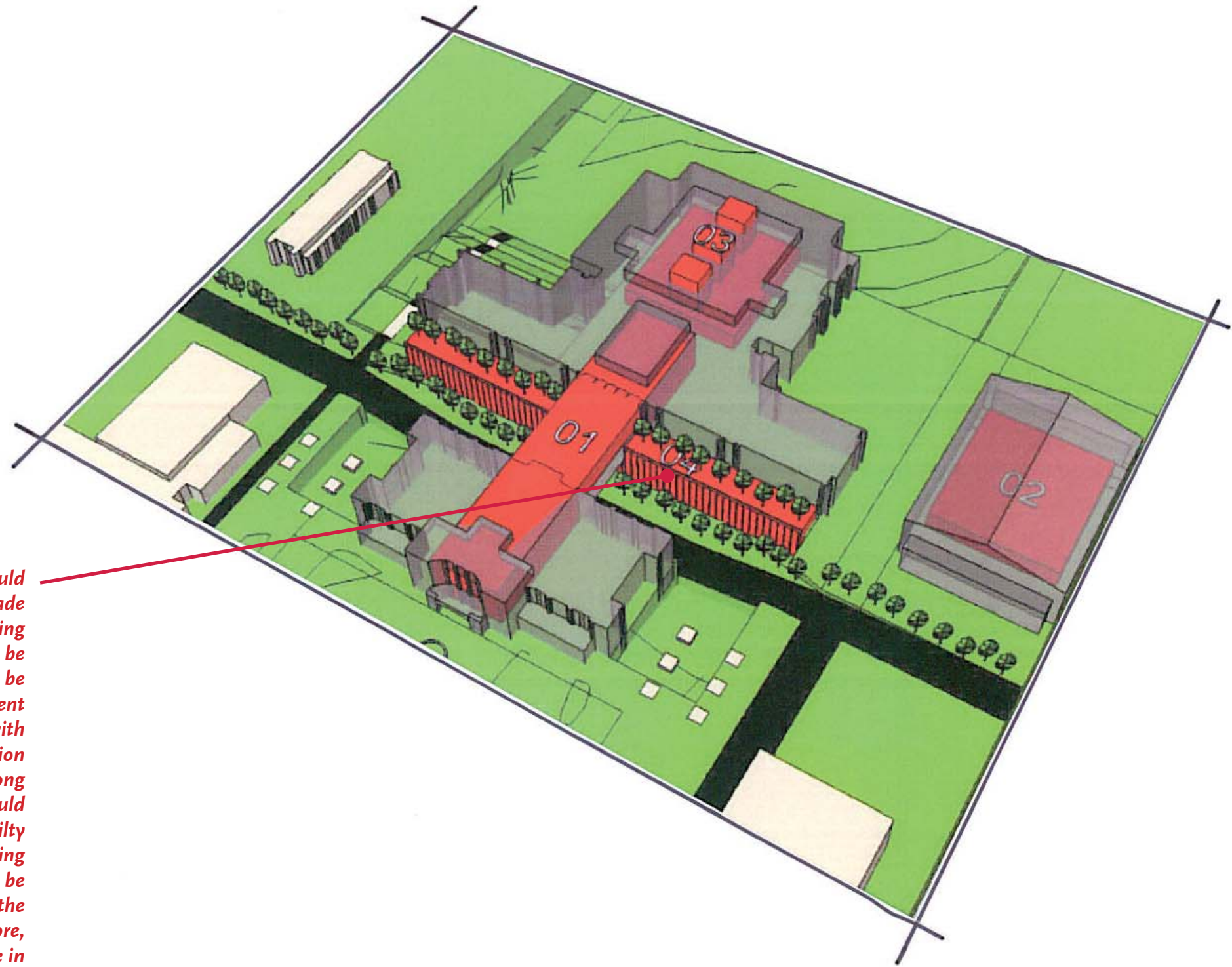
Fieldhouse - Upper Level Floor Plan



Ancillary Ballroom functions (Offices, Storage, Receiving, etc.) would be located in the Lower Level

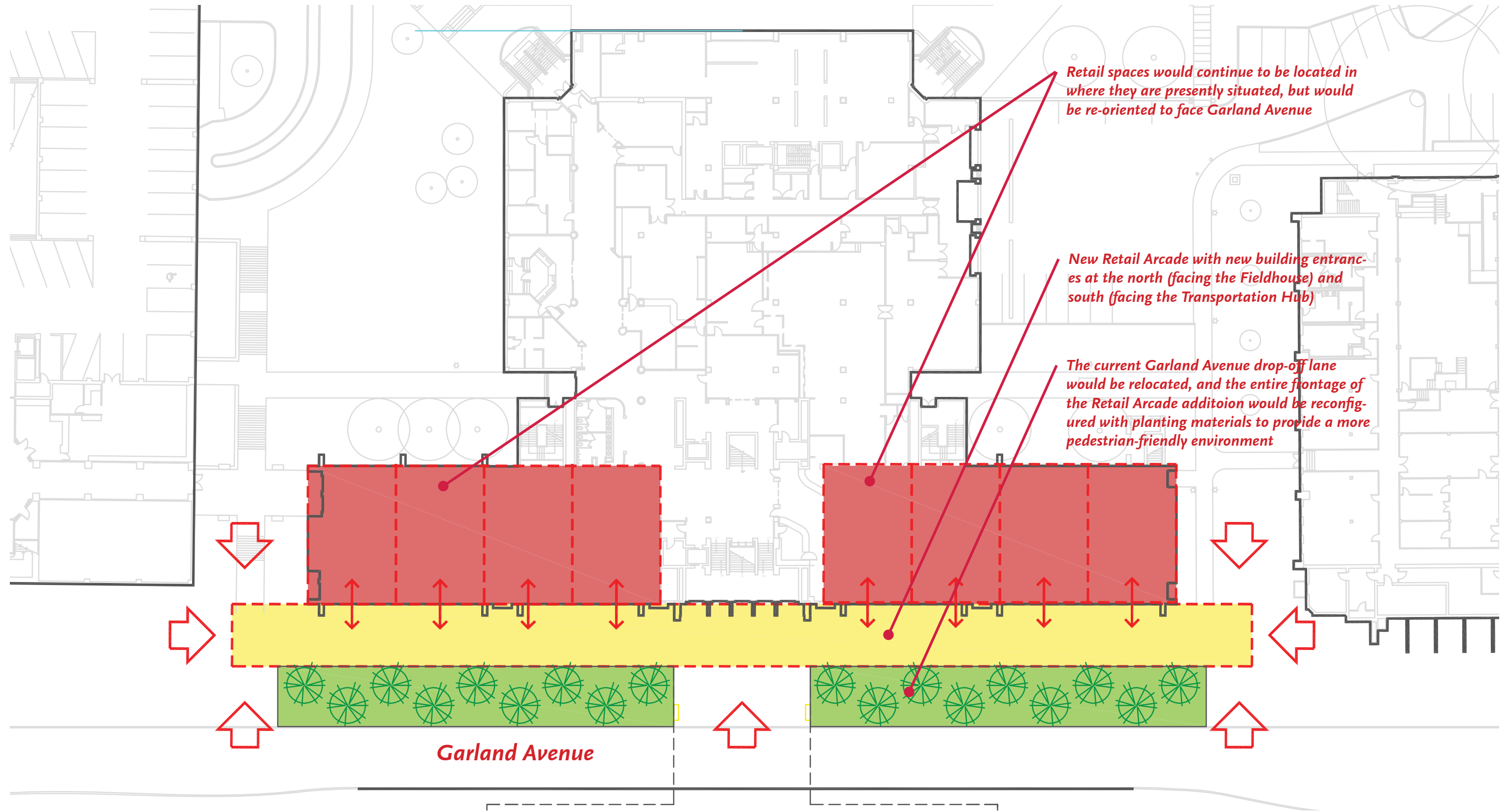
Fieldhouse - Typical Building Section

Planning Projects: Option 04 Retail Arcade

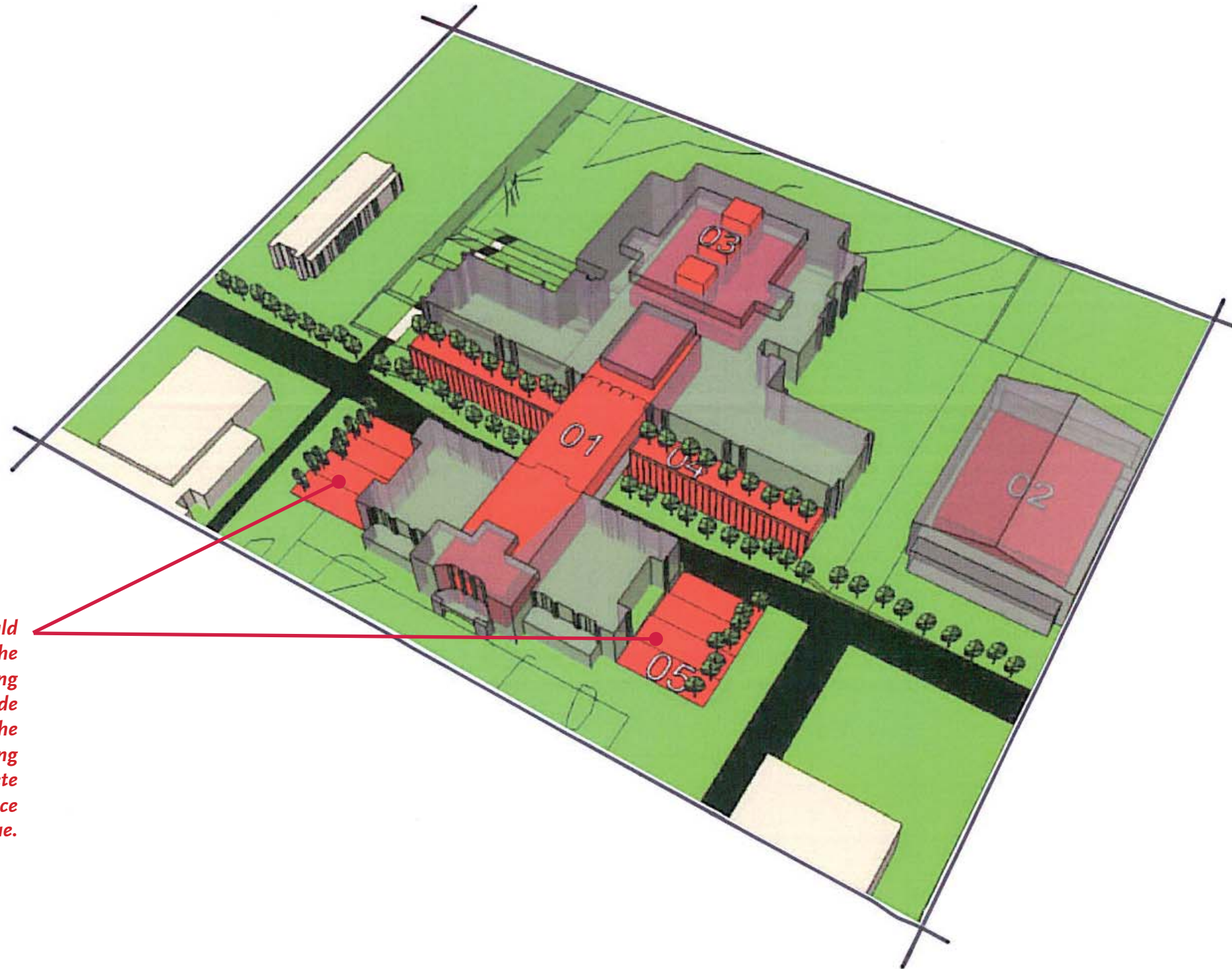


The east side of the first two floors of the Union West would be extended 20', creating an enclosed pedestrian arcade with new entrances on the north and south sides. Existing retail space on these floors within Union West would be reconfigured to open onto the arcade, and subsequently be much more visible to Garland Avenue traffic. The current drop-off lane on Garland Avenue would be combined with the Transportation Hub. The design of the arcade addition would be coordinated with landscaping improvements along Garland Avenue, and the roof of the addition itself would feature plantings that would both further the sustainability agenda and visually soften the starkness of the remaining Union West facade. Approximately 20,000 SF would be added to the Union facility. RZ's could be relocated to the Union West in the space currently occupied by the Bookstore, allowing the Student Technology Center to double its size in the Union East.

Planning Projects: Option 04 Retail Arcade



Planning Projects: Option 05 Landscaping Improvements



Existing plaza space north and south of the Union East would be redeveloped into terraced courts, allowing activity in the Central Quad to further engage pedestrian traffic along Garland Avenue. The new court spaces would also provide numerous points at which access to functions within the Union East can be provided. The scope of the landscaping improvements can include a redesign of the existing concrete stairs that occur where the two main campus walks interface with Garland Avenue.

Planning Projects: Option 05 Landscaping Improvements



Terracing of central quad space allows concrete wall to be reduced in height, diminishing the "tunnel"-like feeling of Garland Avenue

Concrete surface of retaining wall could be finished with a more suitably humane material, like stone

New paving materials on Garland Avenue would create a more pedestrian-friendly environment

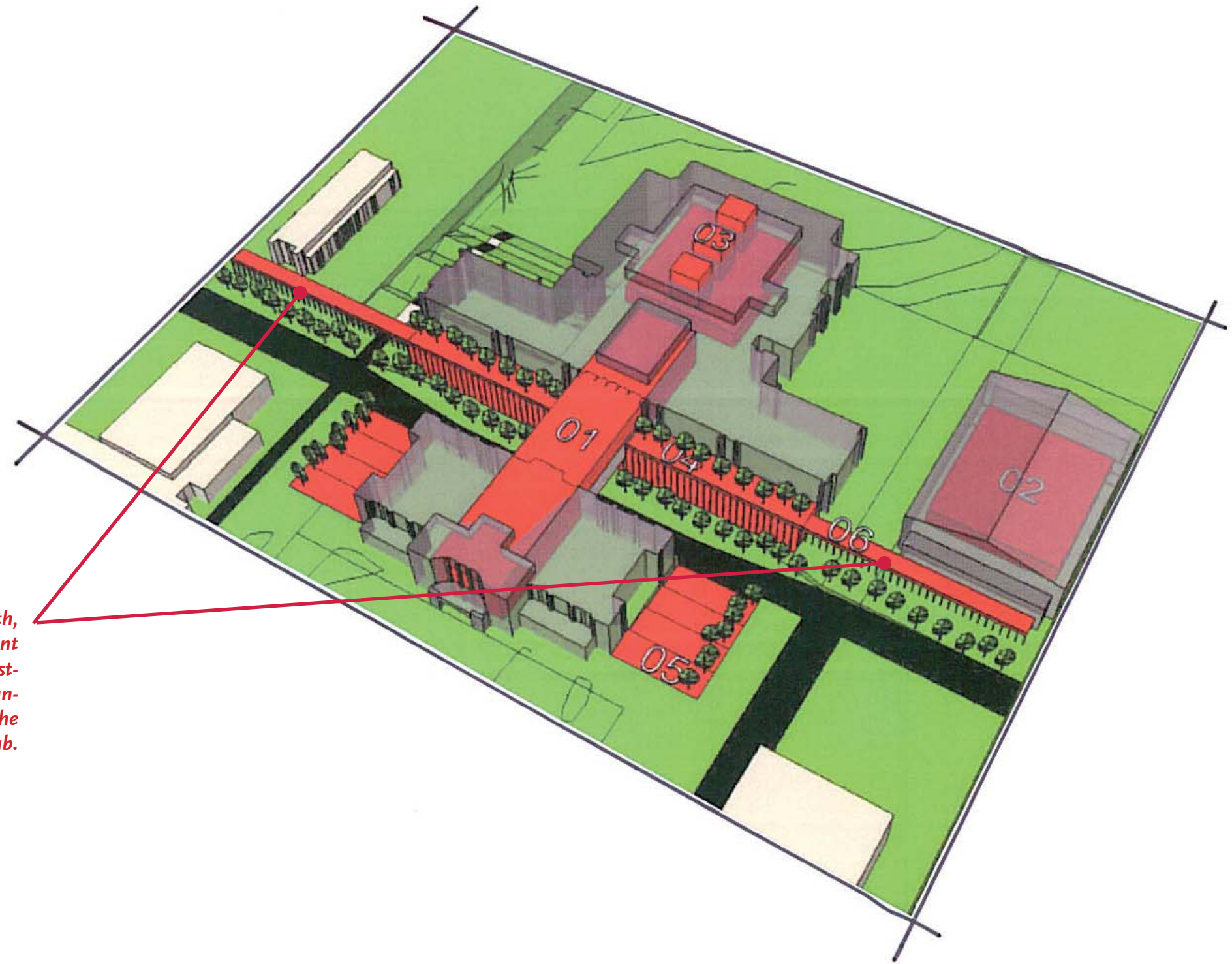
Potential Garland Avenue View (South)



Rough finish and spartan guardrail are more suited for a freeway overpass than a central campus pedestrian walkway

Existing Garland Avenue View (North)

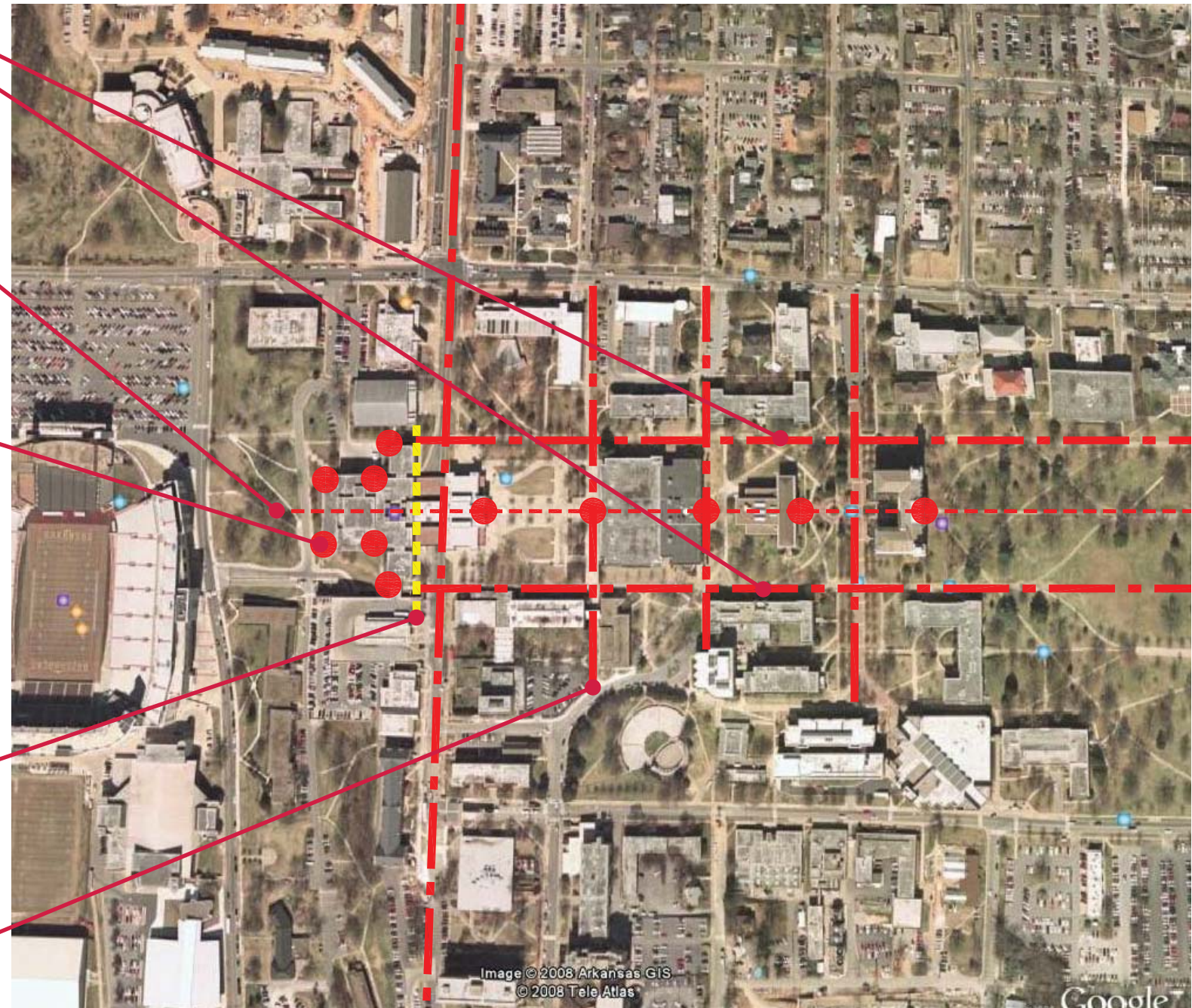
Planning Projects: Option 06 Retail Arcade Extension - CONCEPT



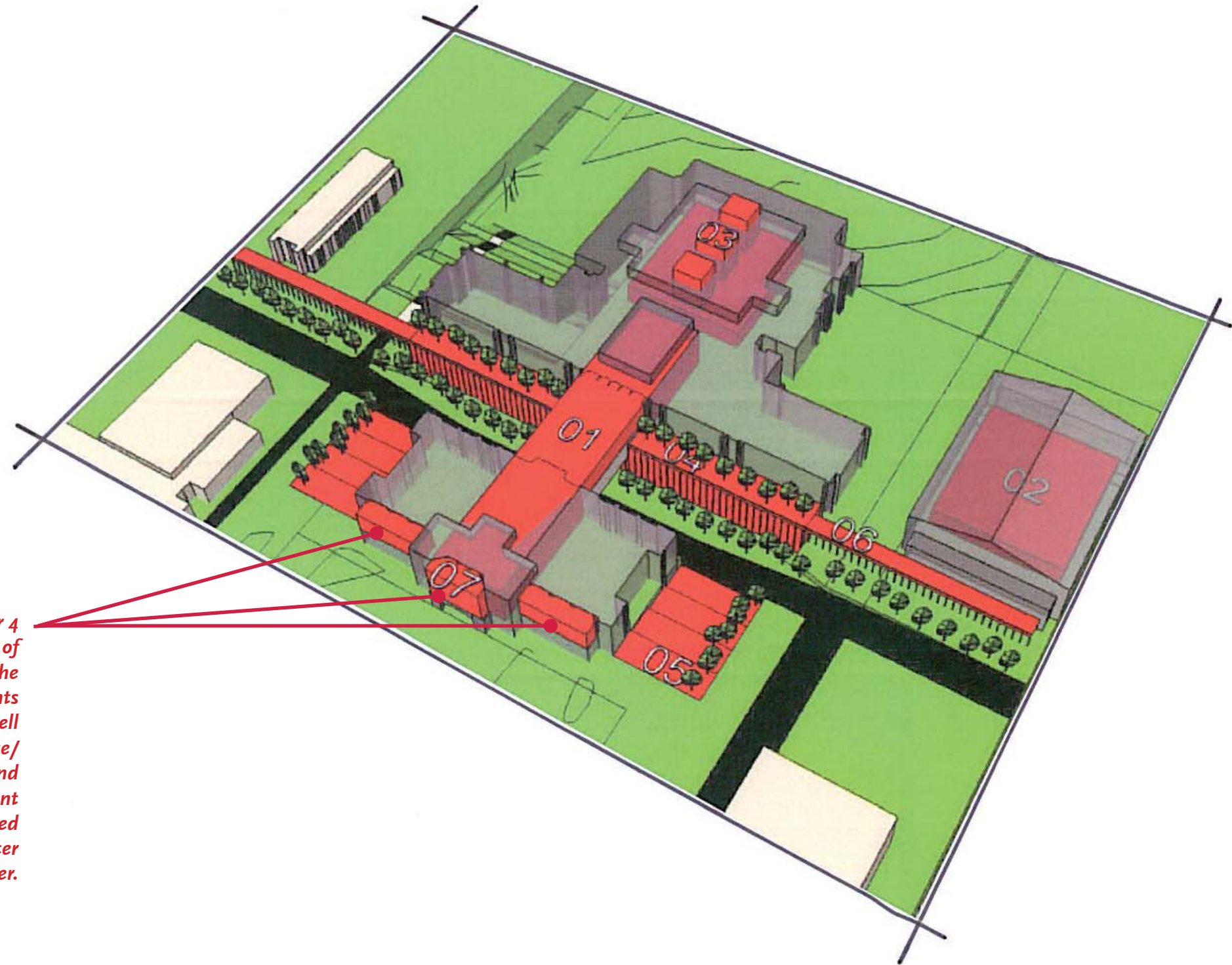
The Retail Arcade addition would extend north and south, as an exterior covered walkway. This would further cement Garland Avenue as the termination of the two main east-west campus walks, while providing more direct, pedestrian-friendly links to both the Fieldhouse/Ballroom and the Transportation Hub.

Planning Projects: Option 06 Retail Arcade Extension - CAMPUS SPATIAL NETWORK

- Main Pedestrian Axes ("Rails")*
- Central Campus Building Axis*
- Main Building Entrance (Typical)*
- Garland Avenue Backdrop*
- Secondary Pedestrian Axis ("Rung")*



Planning Projects: Option 07 Union East Facade Improvements - CONCEPT



The more “public” of the programs located on the Floor 4 of the Union West would be relocated to the east side of Floor A6 of the Union East, affording an opportunity for the Union East Quad facade to better “advertise” its contents to the campus. These programs might include the Kittrell Art gallery and the Video Theater, and new multi-use/performance space. Exterior terraces would be filled in and glazed to further this visual transparency. Current student organization offices located on Floor A6 would be relocated to Floor 4, allowing for administrative synergy and better proximity to the Multicultural Center.

Planning Projects: Option 07 Union East Facade Improvements - INSPIRATIONS



Time Warner Center, New York 2004

Skidmore Owings Merrill, Architects

The backdrop of the Allen Room of the Frederick P. Rose Hall, located within the Time-Warner Center, is a fully-glazed wall, which draws the exterior context (New York City) into the performance. Similarly, pedestrians on the sidewalks below are aware of events happening within the space.



Institute of Contemporary Art, Boston, 2006

Diller Scofidio + Renfro, Perry Dean Rogers | Partners Architects

The Barbara Lee Family Foundation Theater in the ICA is fully glazed on two of its four sides. A dual (acoustic, black-out) shade system allows for functional flexibility. As in the Time Warner Center's Allen Room, the backdrop allows for two-way visual communication between interior and exterior.

Planning Projects: Option 07 Union East Facade Improvements - FACADE CONCEPTS



Arkansas Union East, entry facade

By locating the more “public” of the Union programs to the east side, the main entry facade can become more transparent in nature, establishing opportunities for a “call-and-response” relationship with the Central Quad.

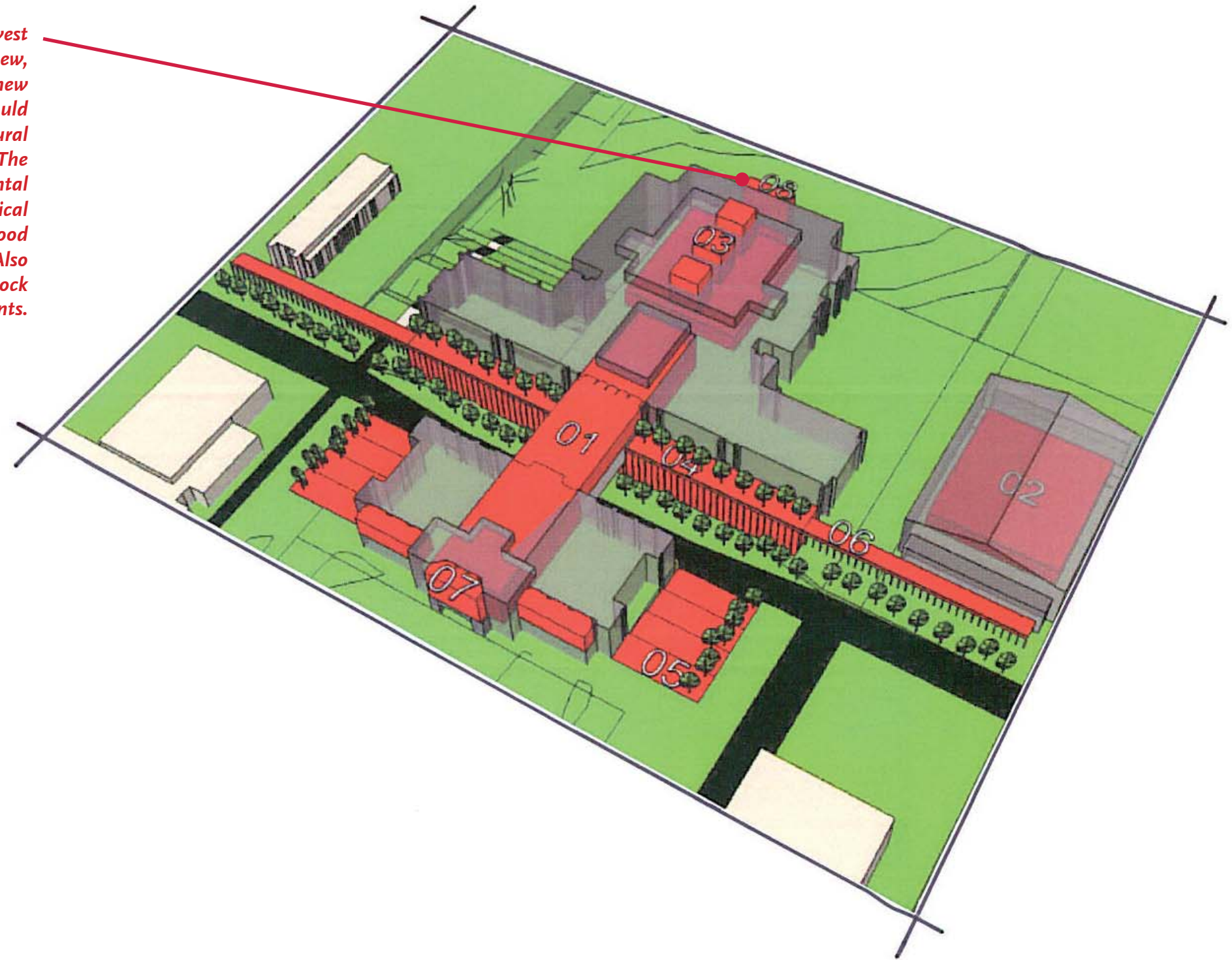


Time Warner Center, entry facade

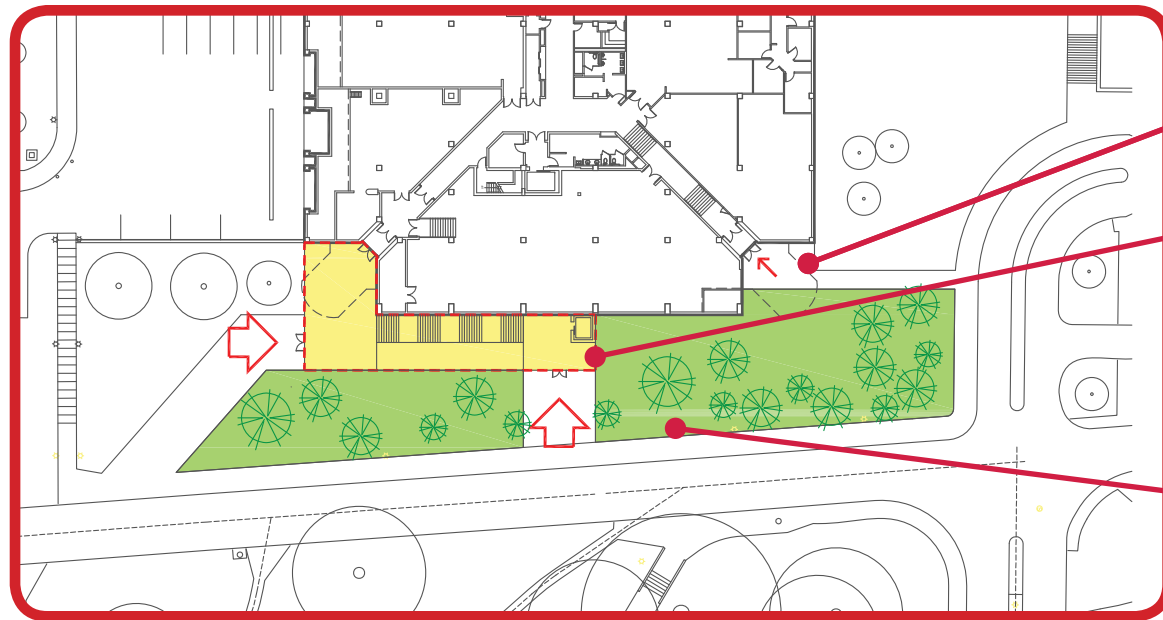
Although vast in scale, The Time Warner Center anchors street life in New York’s Columbus Circle by providing pedestrians glimpses of the breadth of activities (shopping, dining, performance, etc.) happening within.

Planning Projects: Option 08 Union West Facade Improvements - CONCEPT

The existing (non-code required) exterior stairs on the west side of the Union West would be removed, and a new, singular building entrance would be developed. The new entrance would reinforce the main campus axis, and would provide an opportunity for a more memorable architectural expression of the Union facing Razorback Stadium. The entrance would feature a lobby with a new monumental stair and elevator. Service spaces on Floors 1 & 2 (Mechanical Rooms, the Kitchen, etc.) would be unchanged, and the Food Court on Floor 3 would require modest upgrading. Also included in this scope would be a necessary Loading Dock improvements.



Planning Projects: Option 08 Union West Facade Improvements - FACADE CONCEPTS



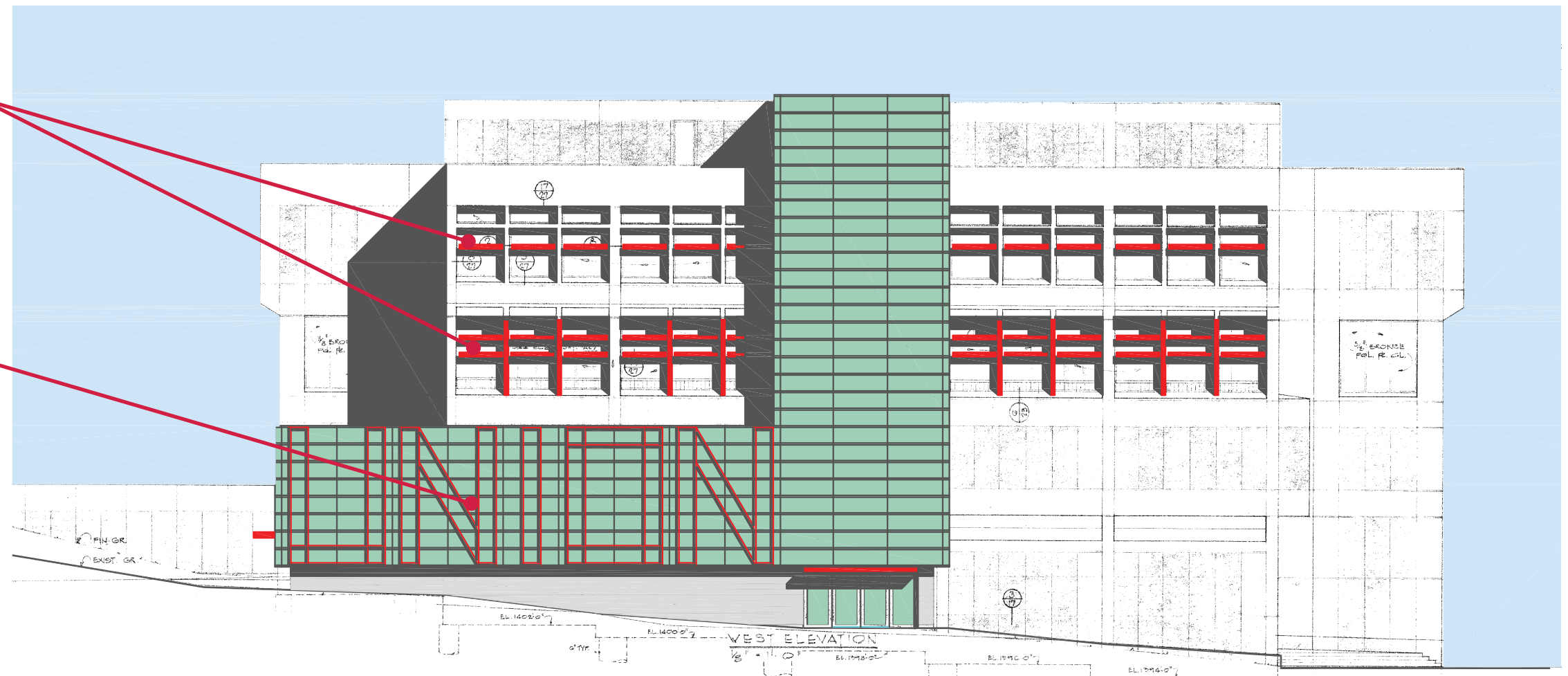
Service entrance maintained

New entrance lobby with grand stair and elevator

New landscape features along western frontage

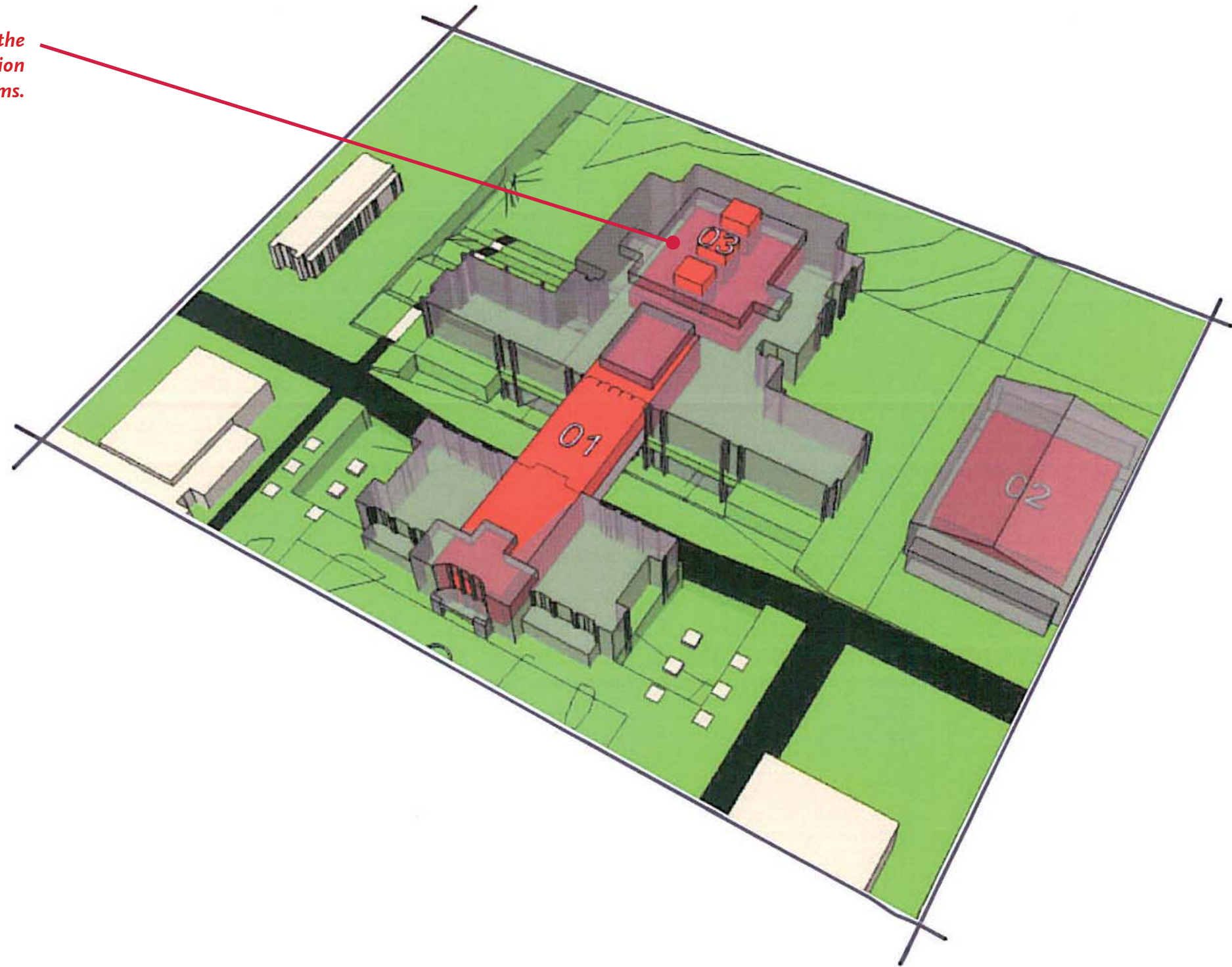
New sun control elements at existing windows

Identity-making "supergraphics" applied to new glazed facade

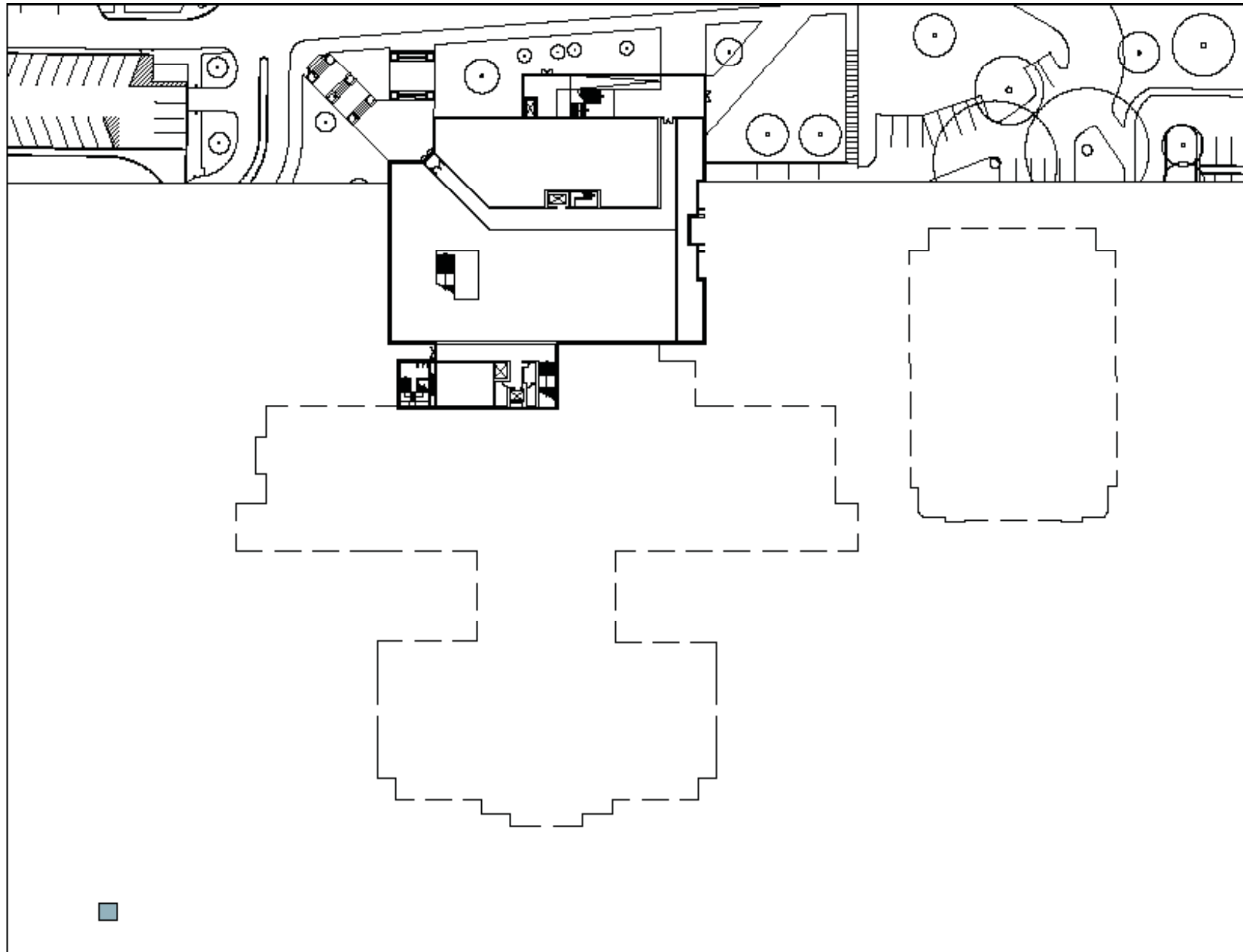


Planning Projects: Option 09 Recreation Programs

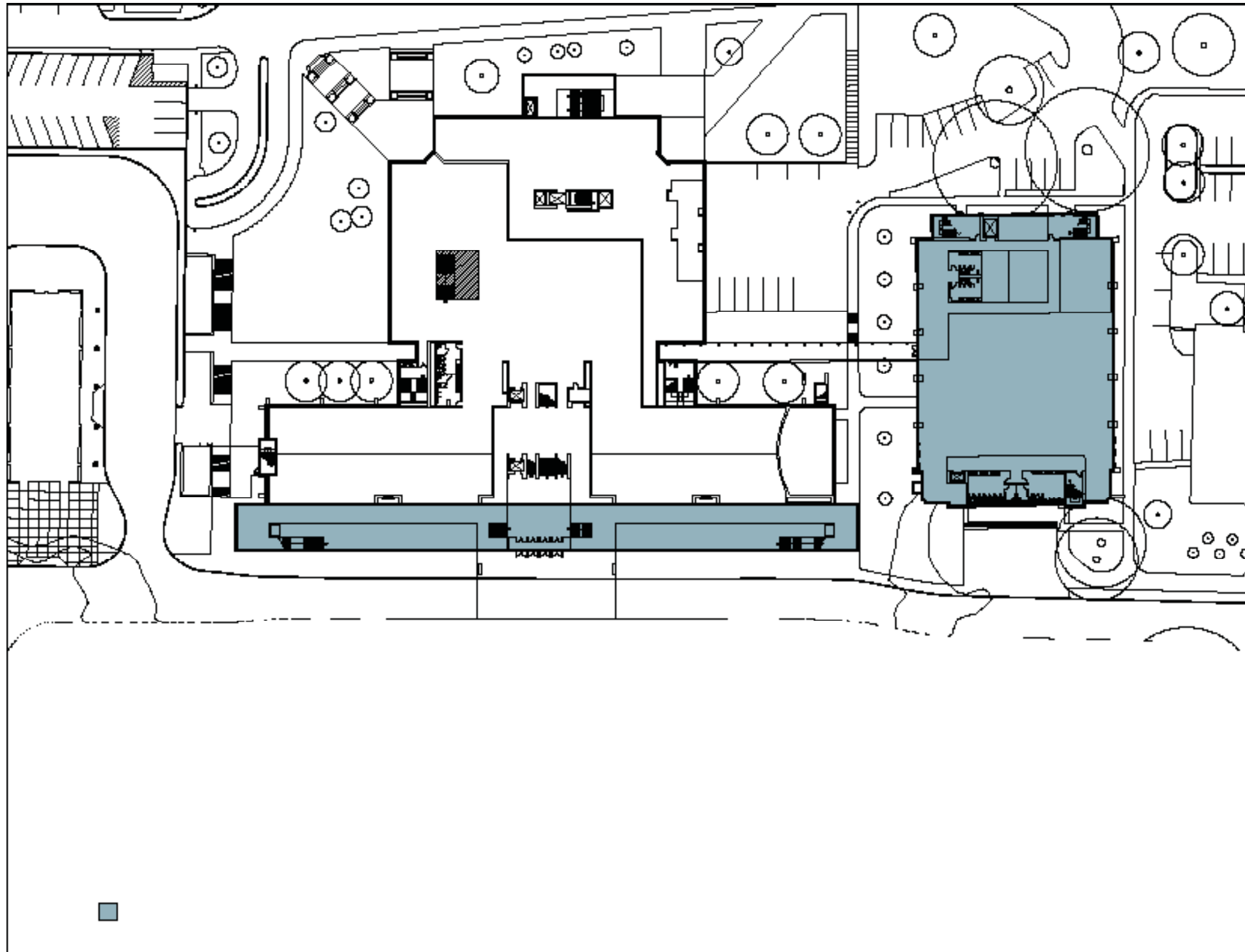
Formerly underutilized space on Floors 1 and 2 of the Union West would be fitted out for new satellite recreation programs.



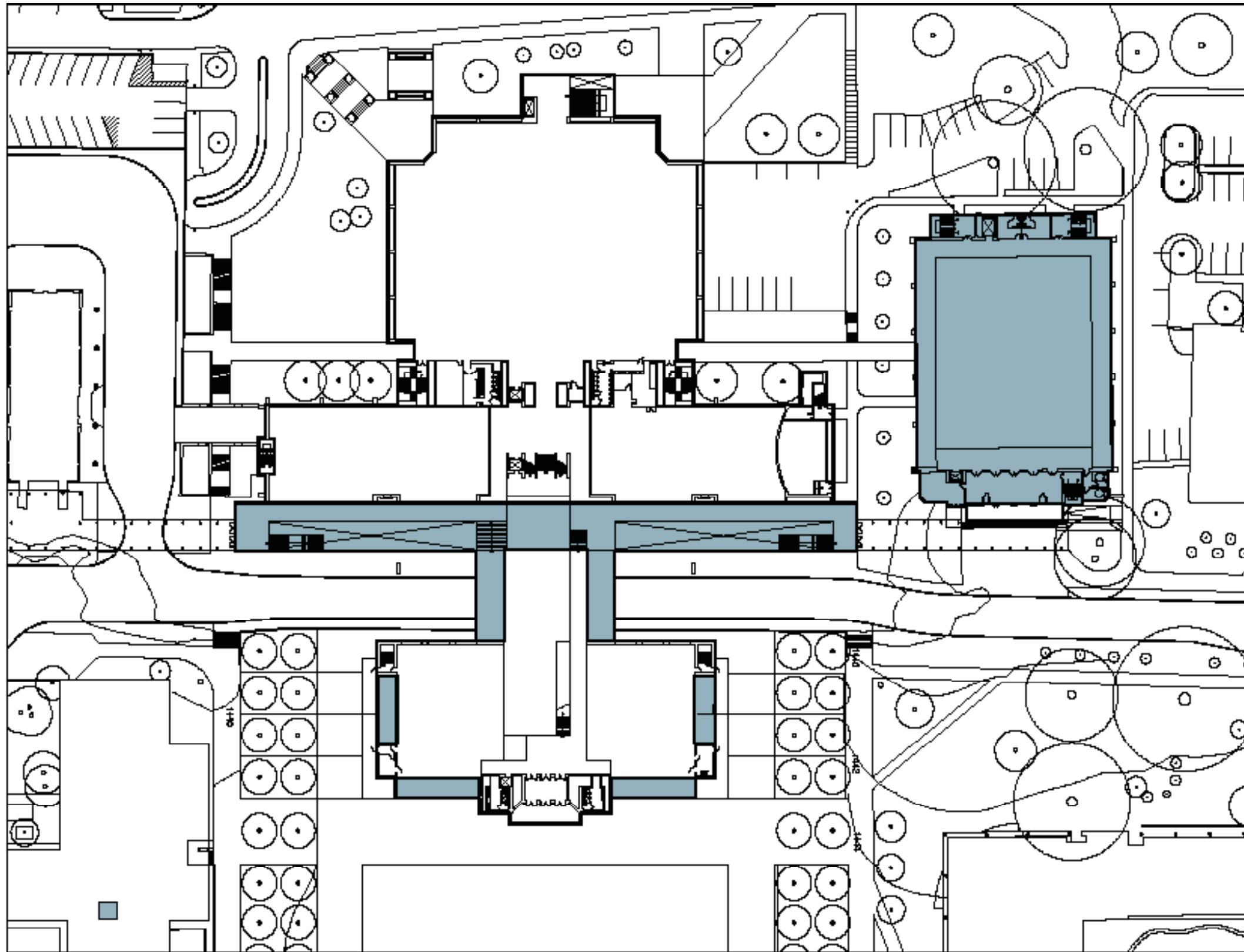
Planning Projects: ADDITIVE PLANS



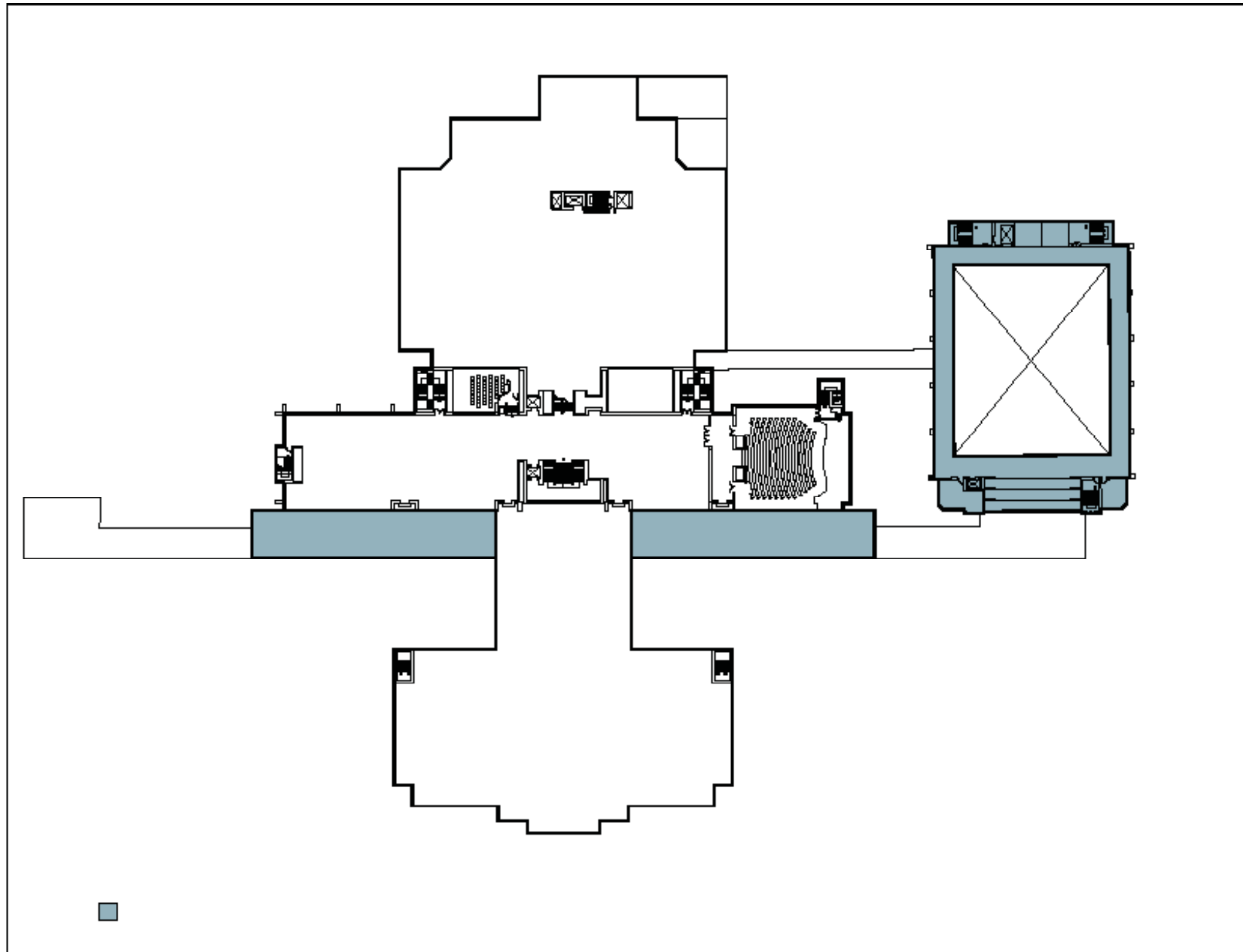
Planning Projects: ADDITIVE PLANS



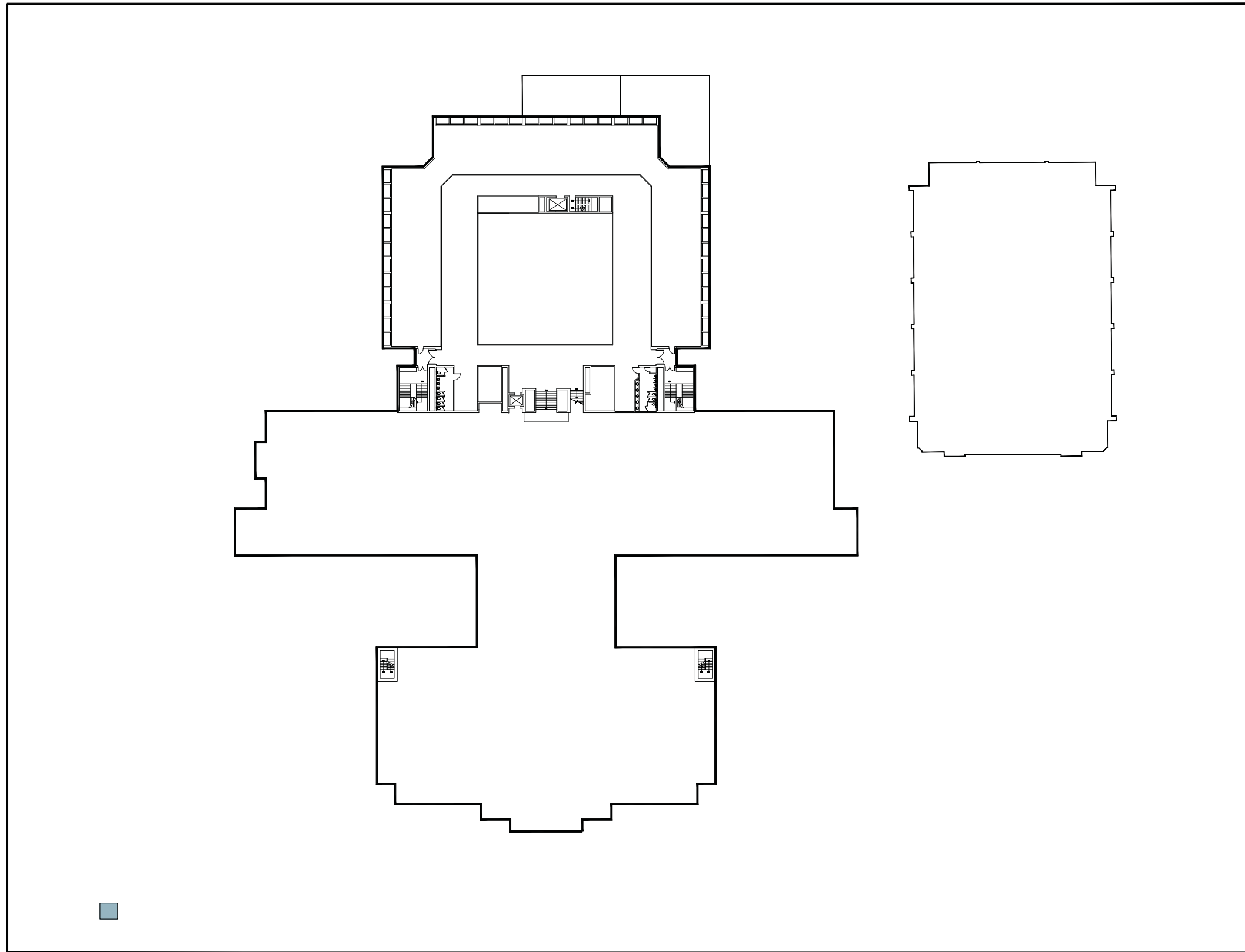
Planning Projects: ADDITIVE PLANS



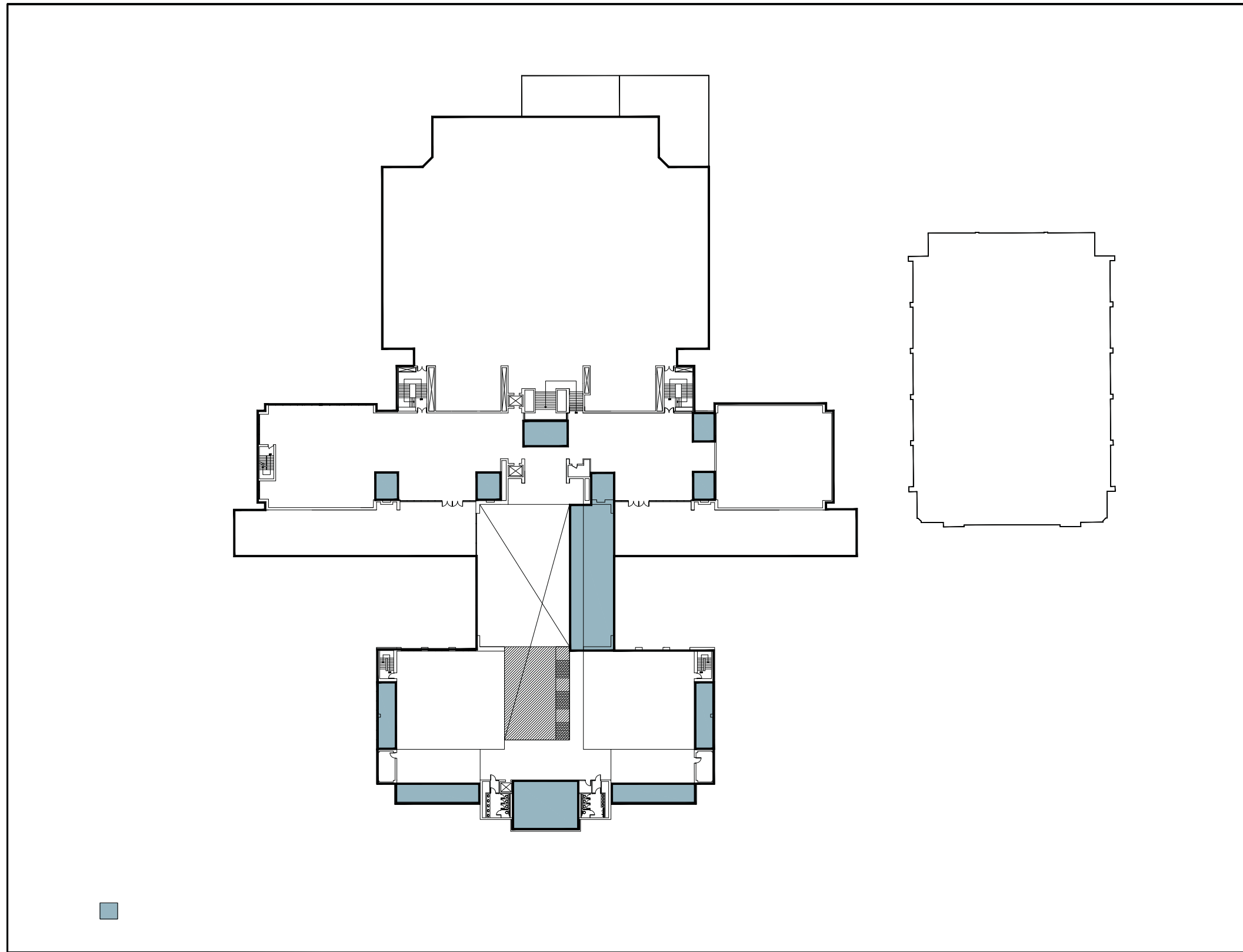
Planning Projects: ADDITIVE PLANS



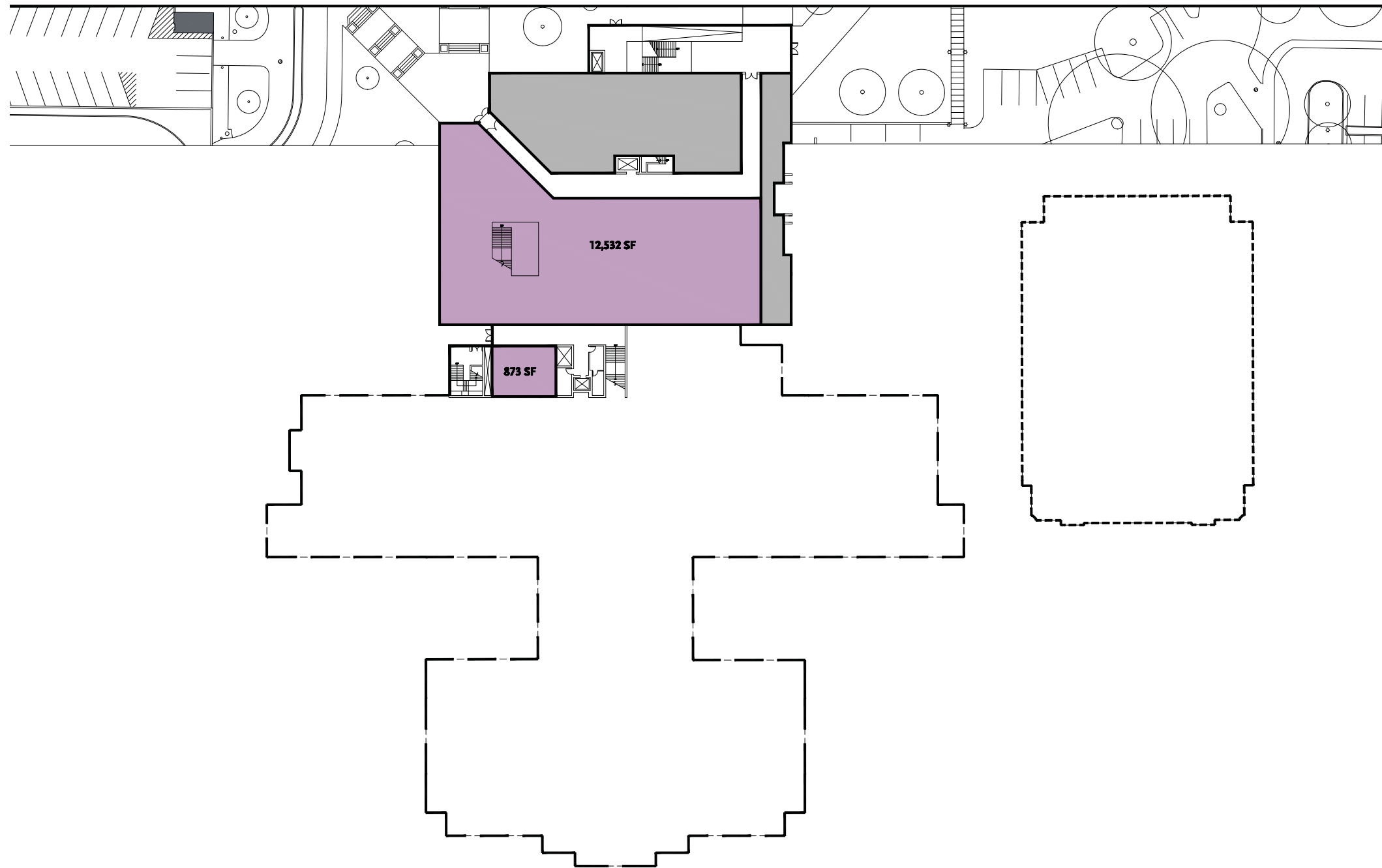
Planning Projects: ADDITIVE PLANS



Planning Projects: ADDITIVE PLANS



Planning Projects: RECOMMENDED LAYOUT

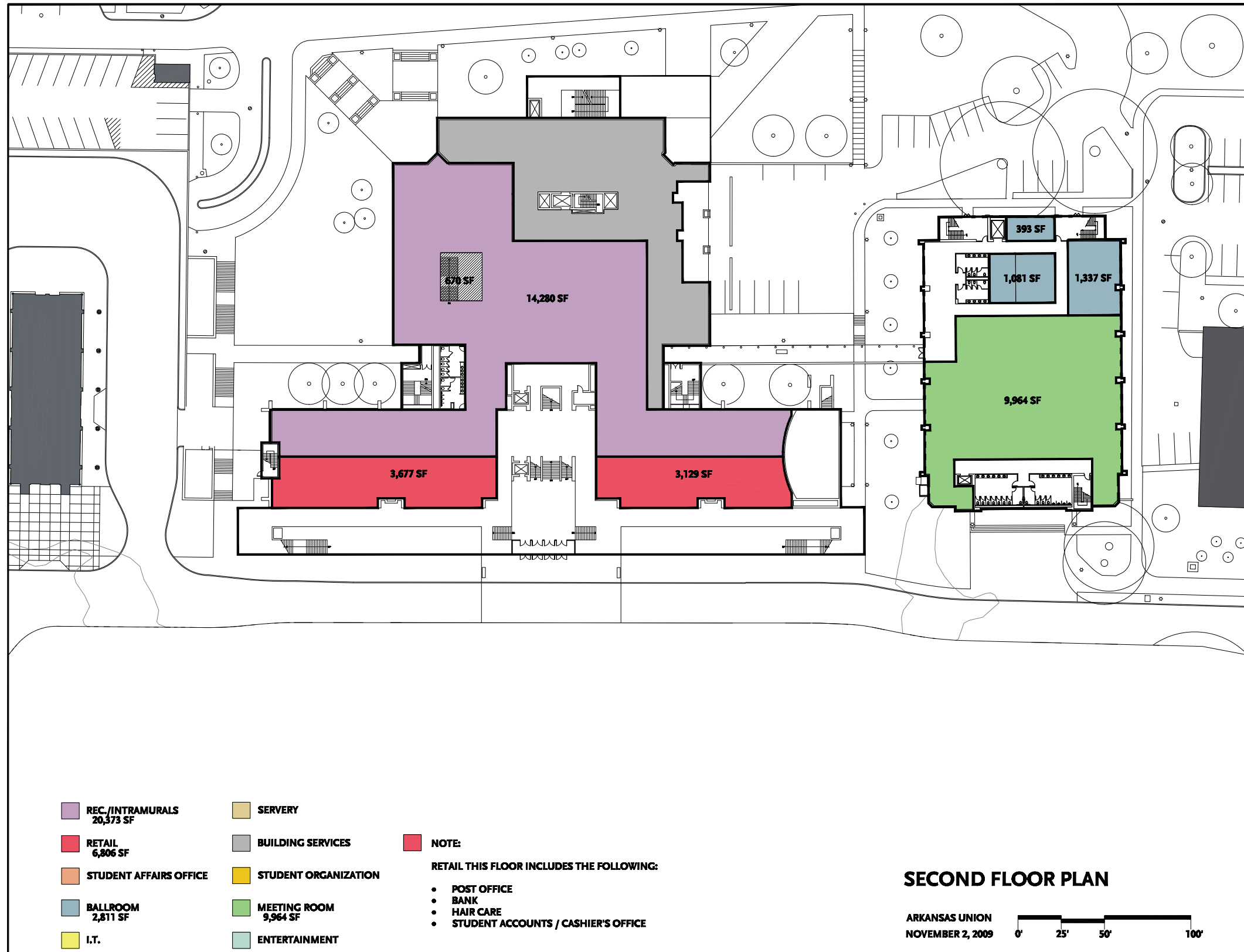


- | | |
|---|--|
| REC./INTRAMURALS
13,405 SF | SERVERY |
| RETAIL | BUILDING SERVICES |
| STUDENT AFFAIRS OFFICE | STUDENT ORGANIZATION |
| BALLROOM | MEETING ROOM |
| I.T. | ENTERTAINMENT |

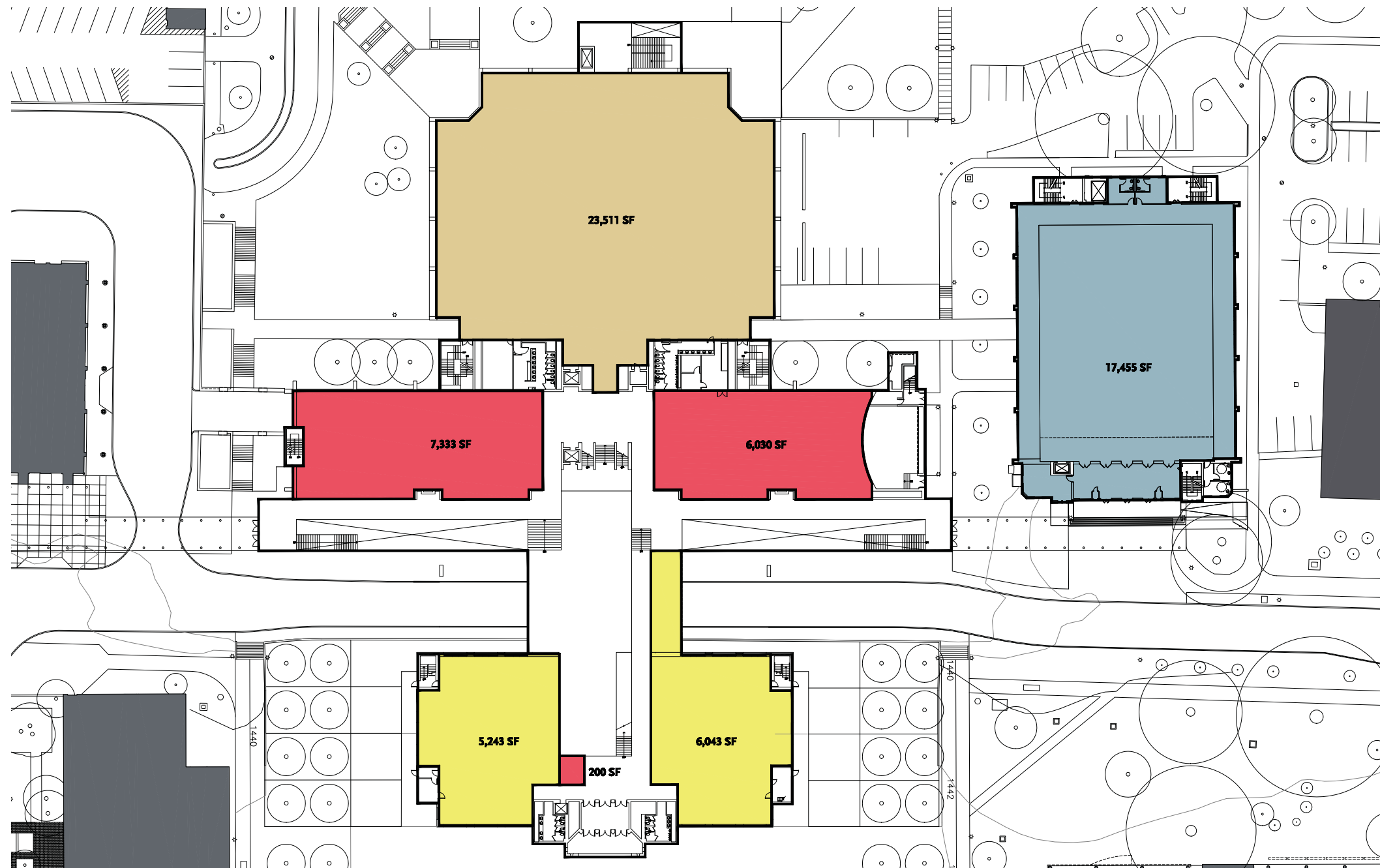
FIRST FLOOR PLAN

ARKANSAS UNION
NOVEMBER 2, 2009

Planning Projects: RECOMMENDED LAYOUT



Planning Projects: RECOMMENDED LAYOUT



- | | |
|---|---|
| REC./INTRAMURALS | SERVERY
23,511 SF |
| RETAIL
13,363 SF | BUILDING SERVICES |
| STUDENT AFFAIRS OFFICE | STUDENT ORGANIZATION |
| BALLROOM
17,455 SF | MEETING ROOM |
| I.T.
11,286 SF | ENTERTAINMENT |

NOTE:
 RETAIL THIS FLOOR INCLUDES THE FOLLOWING:

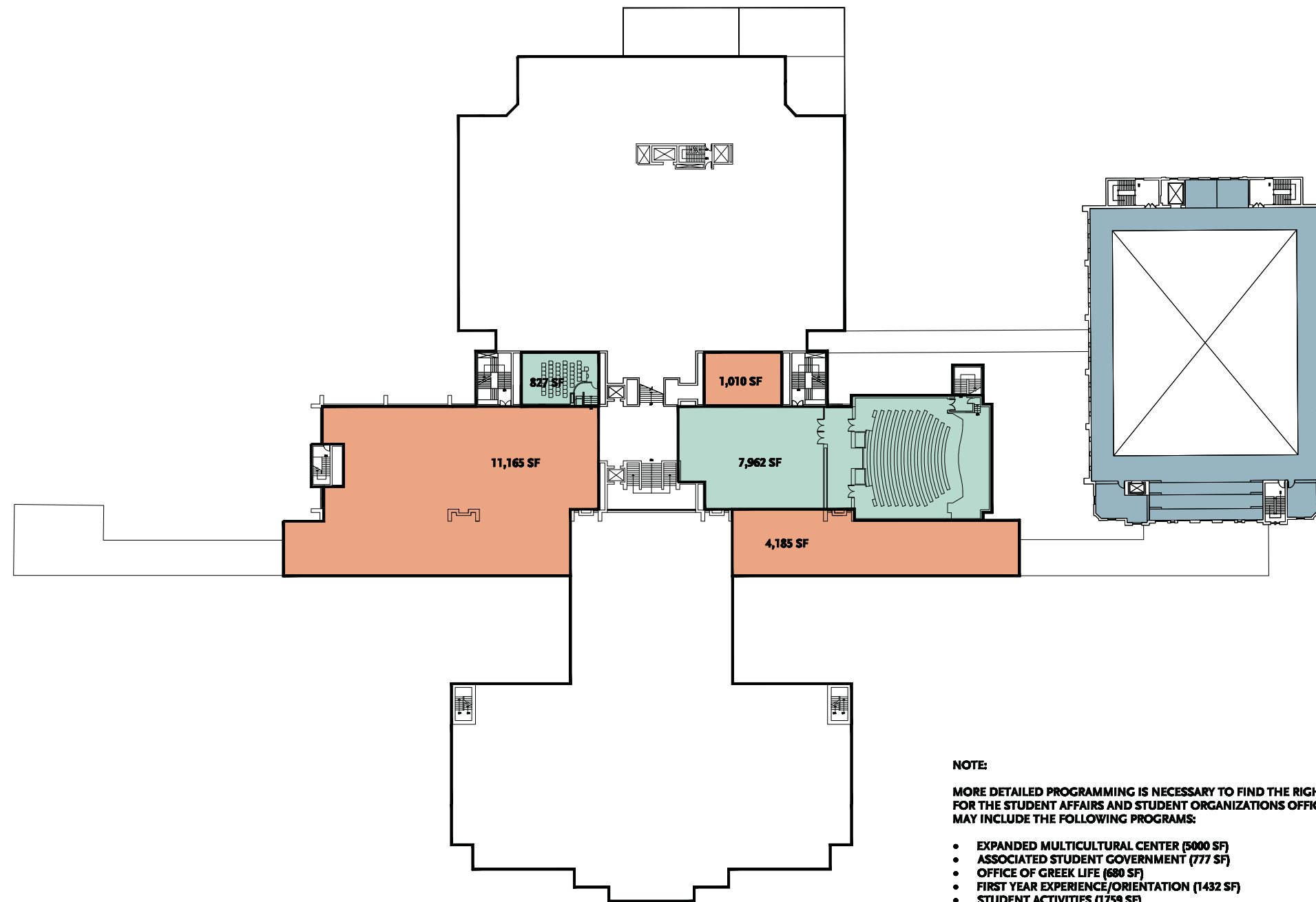
- RAZORBACK SHOP
- RZ'S COFFEE SHOP
- UNION MARKET
- POTENTIAL OTHER TENANT

THIRD FLOOR PLAN

ARKANSAS UNION
 NOVEMBER 2, 2009



Planning Projects: RECOMMENDED LAYOUT



NOTE:

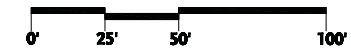
MORE DETAILED PROGRAMMING IS NECESSARY TO FIND THE RIGHT BLEND OF PROGRAMS FOR THE STUDENT AFFAIRS AND STUDENT ORGANIZATIONS OFFICES ON THIS FLOOR. IT MAY INCLUDE THE FOLLOWING PROGRAMS:

- EXPANDED MULTICULTURAL CENTER (5000 SF)
- ASSOCIATED STUDENT GOVERNMENT (777 SF)
- OFFICE OF GREEK LIFE (680 SF)
- FIRST YEAR EXPERIENCE/ORIENTATION (1432 SF)
- STUDENT ACTIVITIES (1759 SF)

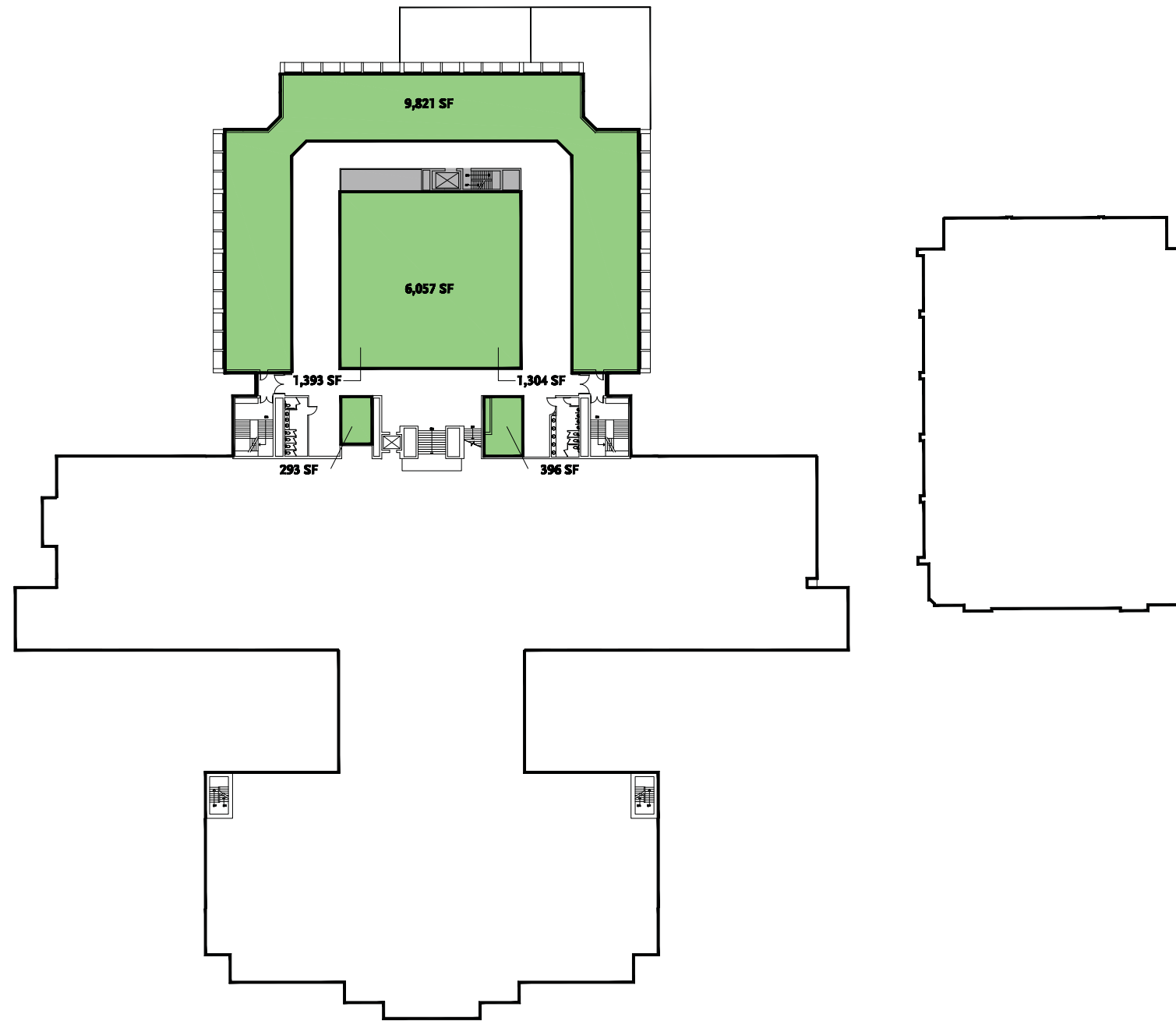
 REC./INTRAMURALS	 SERVERY
 RETAIL	 BUILDING SERVICES
 STUDENT AFFAIRS OFFICE 16,360 SF	 STUDENT ORGANIZATION
 BALLROOM 7,272 SF	 MEETING ROOM
 I.T.	 ENTERTAINMENT 8,789 SF

FOURTH FLOOR PLAN

ARKANSAS UNION
NOVEMBER 2, 2009



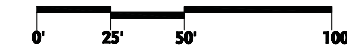
Planning Projects: RECOMMENDED LAYOUT



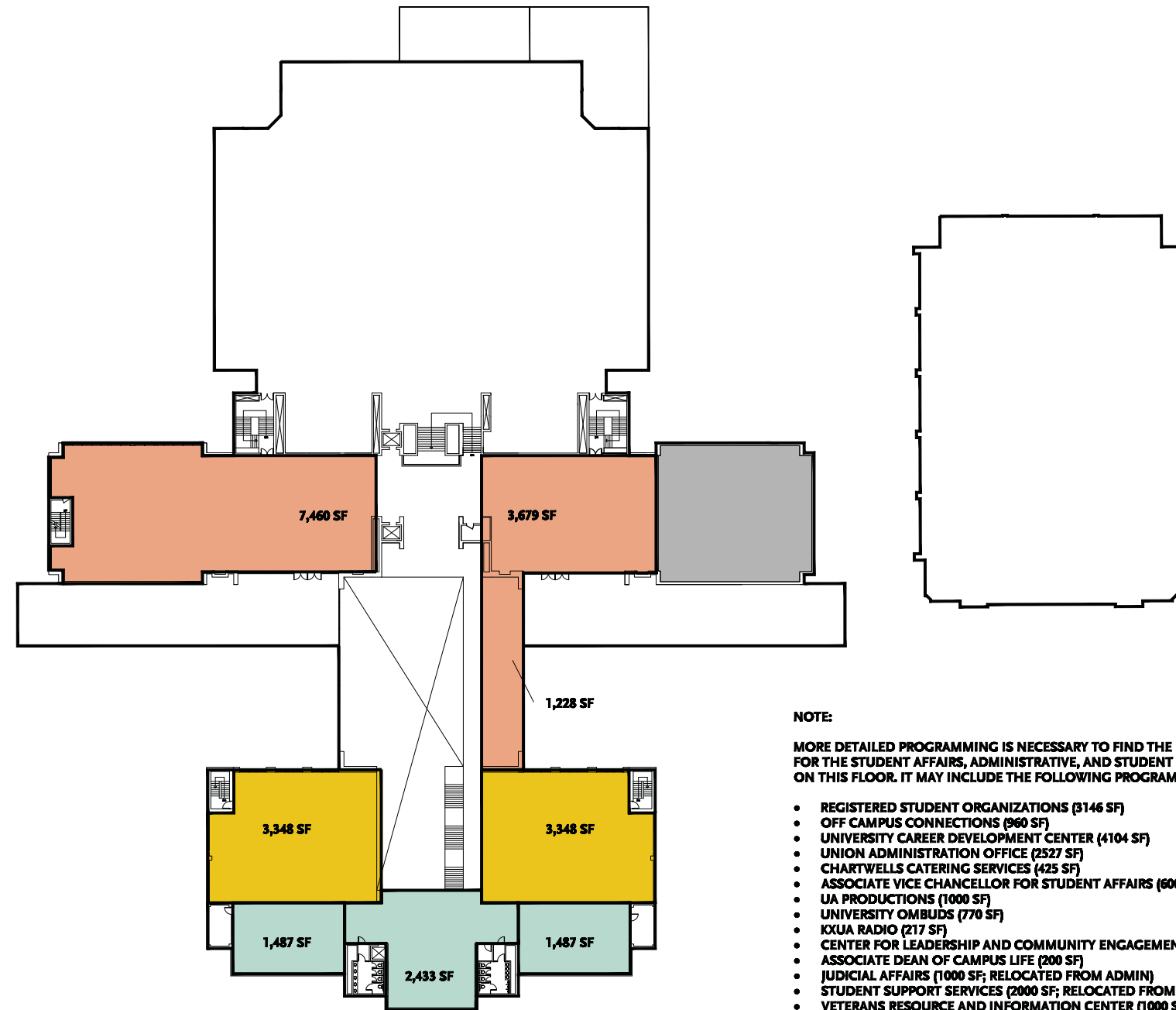
- | | |
|--|---|
| REC./INTRAMURALS | SERVERY |
| RETAIL | BUILDING SERVICES |
| STUDENT AFFAIRS OFFICE | STUDENT ORGANIZATION |
| BALLROOM | MEETING ROOM
16,002 SF |
| I.T. | ENTERTAINMENT |

FIFTH FLOOR PLAN

ARKANSAS UNION
NOVEMBER 2, 2009



Planning Projects: RECOMMENDED LAYOUT



NOTE:

MORE DETAILED PROGRAMMING IS NECESSARY TO FIND THE RIGHT BLEND OF PROGRAMS FOR THE STUDENT AFFAIRS, ADMINISTRATIVE, AND STUDENT ORGANIZATIONS OFFICES ON THIS FLOOR. IT MAY INCLUDE THE FOLLOWING PROGRAMS:

- REGISTERED STUDENT ORGANIZATIONS (3146 SF)
- OFF CAMPUS CONNECTIONS (960 SF)
- UNIVERSITY CAREER DEVELOPMENT CENTER (4104 SF)
- UNION ADMINISTRATION OFFICE (2527 SF)
- CHARTWELLS CATERING SERVICES (425 SF)
- ASSOCIATE VICE CHANCELLOR FOR STUDENT AFFAIRS (600 SF)
- UA PRODUCTIONS (1000 SF)
- UNIVERSITY OMBUDS (770 SF)
- KXUA RADIO (217 SF)
- CENTER FOR LEADERSHIP AND COMMUNITY ENGAGEMENT (2600 SF)
- ASSOCIATE DEAN OF CAMPUS LIFE (200 SF)
- JUDICIAL AFFAIRS (1000 SF; RELOCATED FROM ADMIN)
- STUDENT SUPPORT SERVICES (2000 SF; RELOCATED FROM GREGSON HALL)
- VETERANS RESOURCE AND INFORMATION CENTER (1000 SF)

REC./INTRAMURALS	SERVERY
RETAIL	BUILDING SERVICES
STUDENT AFFAIRS OFFICE 12,367 SF	STUDENT ORGANIZATION 6,696 SF
BALLROOM	MEETING ROOM
I.T.	ENTERTAINMENT 5,407 SF

SIXTH FLOOR PLAN

ARKANSAS UNION
NOVEMBER 2, 2009

7.0 Sustainability

Sustainability: OVERVIEW

Sustainable design is fast-becoming a requirement for many contemporary projects. From small-scale renovations to large-scale new construction and master planning, campuses are embracing sustainable practices in order to lessen their environmental impact and to reduce their operating costs. With each project, we strive to balance environmental and financial necessities against program requirements and to achieve a harmonious synthesis between the two. While a detailed sustainability analysis is beyond the scope of this Study, it is acknowledged that future renovations and expansions of the Arkansas Union will be executed with USGBC - LEED certification in mind.

Many of our clients, including the University of Arkansas, face the challenge of balancing two conflicting desires: the desire for improved and expanded facilities and the desire to reduce their energy footprint. Students, faculty, and administrators clamor for more and better space – space which often results in increased energy consumption – even as rising energy costs and increasing awareness of sustainability underscore the value of reduced energy consumption.

Our approach to sustainability integrates diverse solutions from across the design disciplines and is both holistic and pragmatic. We make sustainable choices that are appropriate for each individual project. No two solutions are identical. We also use federal and state funding wherever possible by working with state agencies to pursue subsidies, grants and rebate programs that target capital

projects, central plant improvements, renewable energy, and design fees.

Three basic principles guide our sustainable design ethic, and inform our diverse and varied solutions. First, users must embrace our recommendations, making sustainable behaviors part of their daily interactions with the built environment. Second, our recommendations must be consistent with the operations and maintenance practices of our clients. And third, our recommendations must respect regional climate conditions, responding to, accommodating, and leveraging them as appropriate.

The strategies that have driven the individual Planning Projects documented in this Report have been rooted firmly in the human and environmental context of the Arkansas Union – and by integrating site, program, systems, use patterns, and building design – we have achieved solutions that balance environmental responsibility and resource efficiency with performance and occupant comfort and well-being.



A.1

**Brailsford & Dunlavy
Financial Model, 25 years**

A.2

**Brailsford & Dunlavy
Financial Model, 30 years**

B

F+G Cost Estimate



Brailsford & Dunlavey Program Report



Arkansas Union Planning Workshop #3

January 8, 2009



BRAILSFORD & DUNLAVEY

Catalysts for Building Community

Agenda

1. Student Survey Results
 - General Issues
 - Study Areas
 - Food Service
 - Renovated Union Usage
2. Demand Analysis
3. Database Comparison
4. Preliminary Conclusions – Open Discussion



Student Survey Results

GENERAL ISSUES



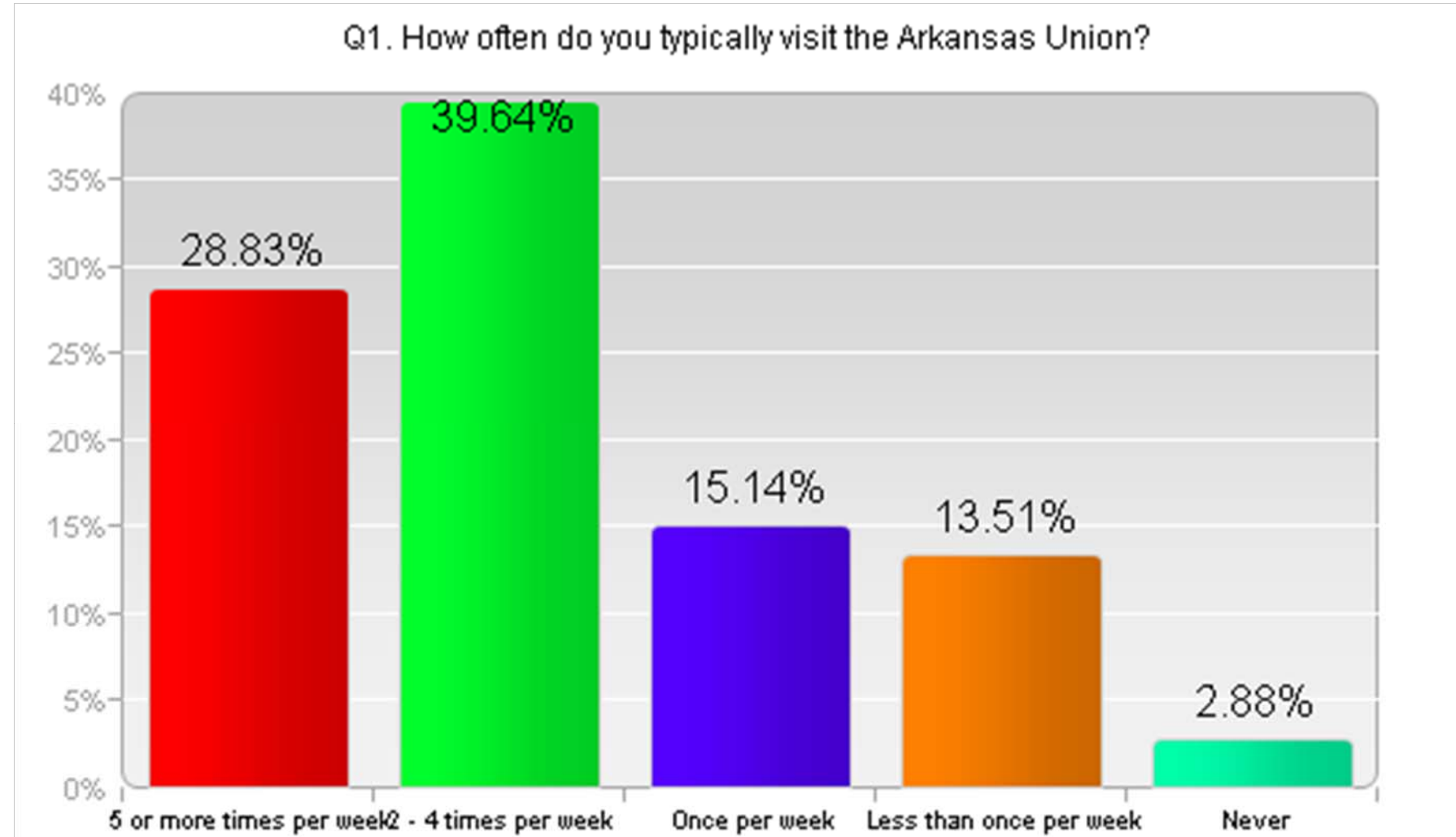
Student Survey Results

Web-based survey

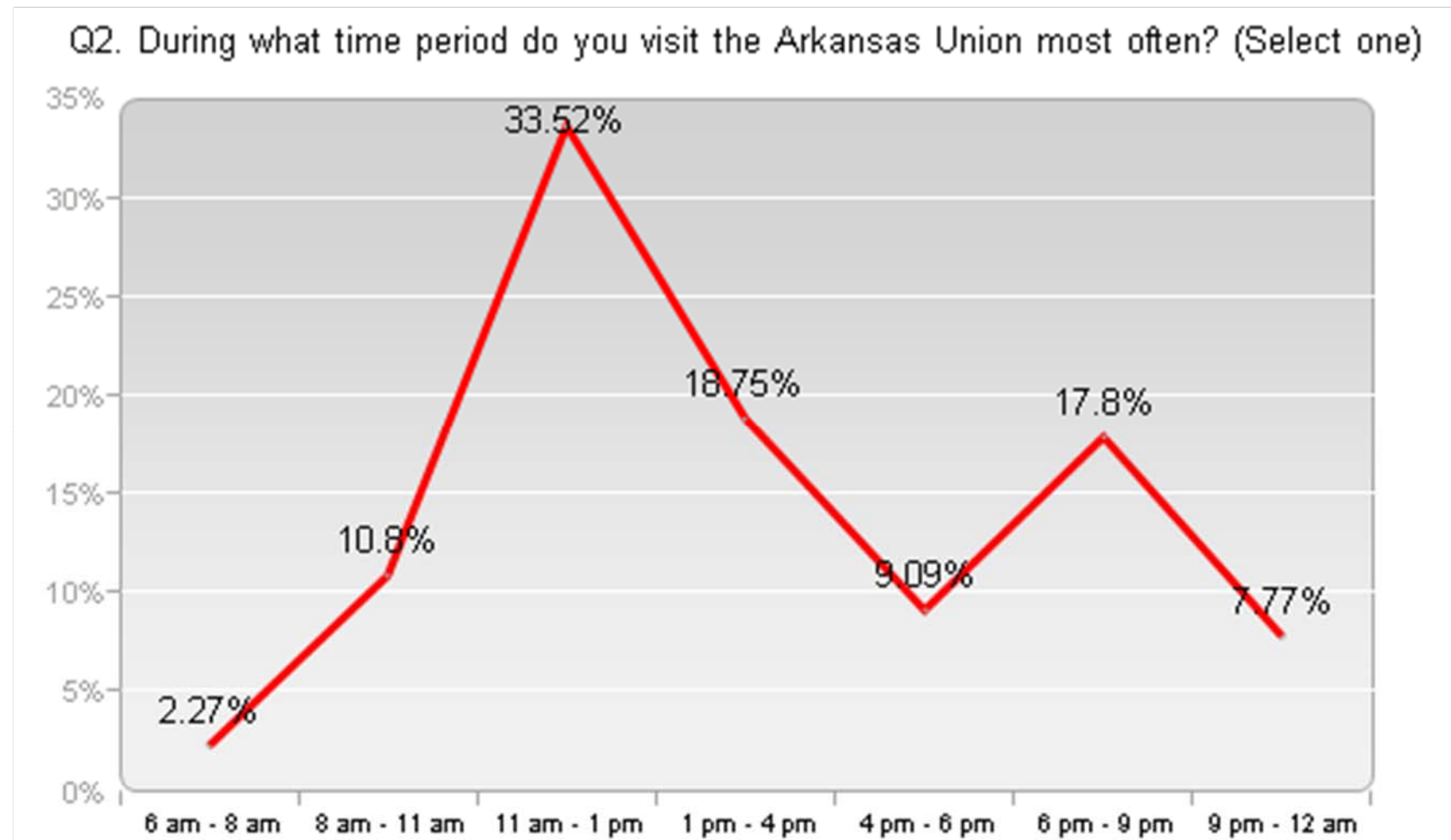
- Electronic survey emailed to entire student population on 12/02/08
- Survey implemented over 12 days
- 555 responses – 3.3% response rate
- 4.2% margin of error within 95% confidence level
- Prizes awarded in a lottery



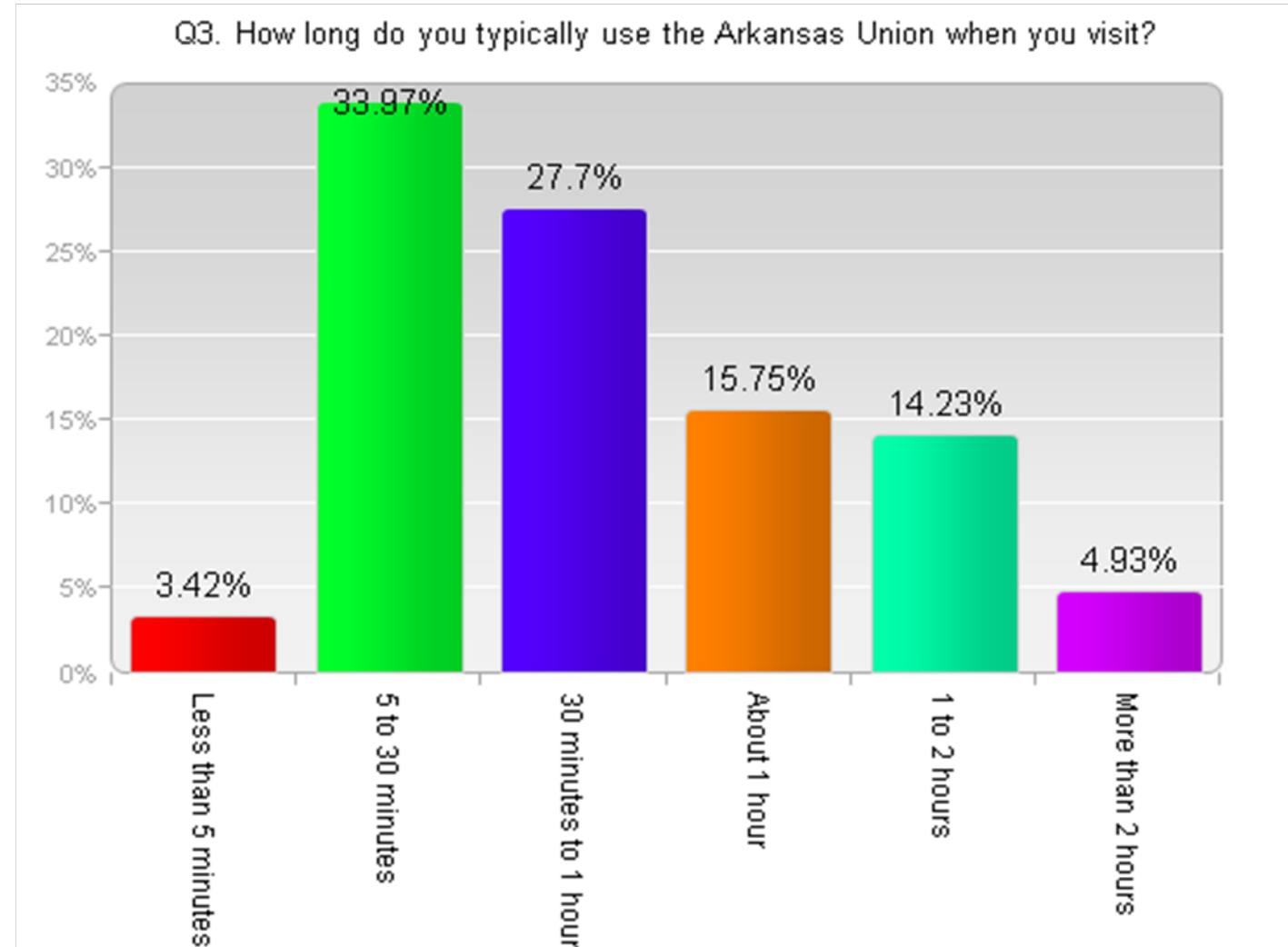
Student Survey Results



Student Survey Results

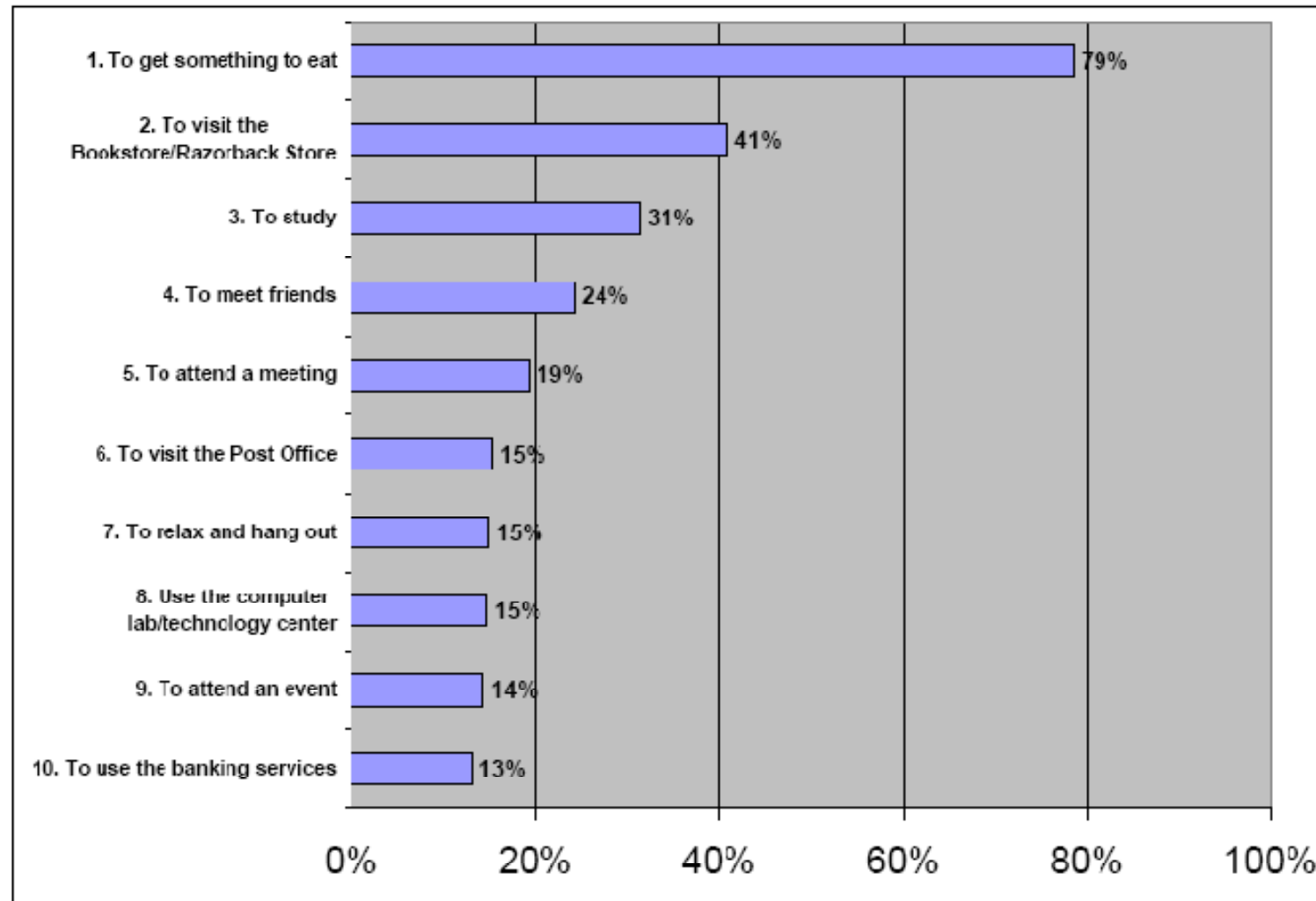


Student Survey Results



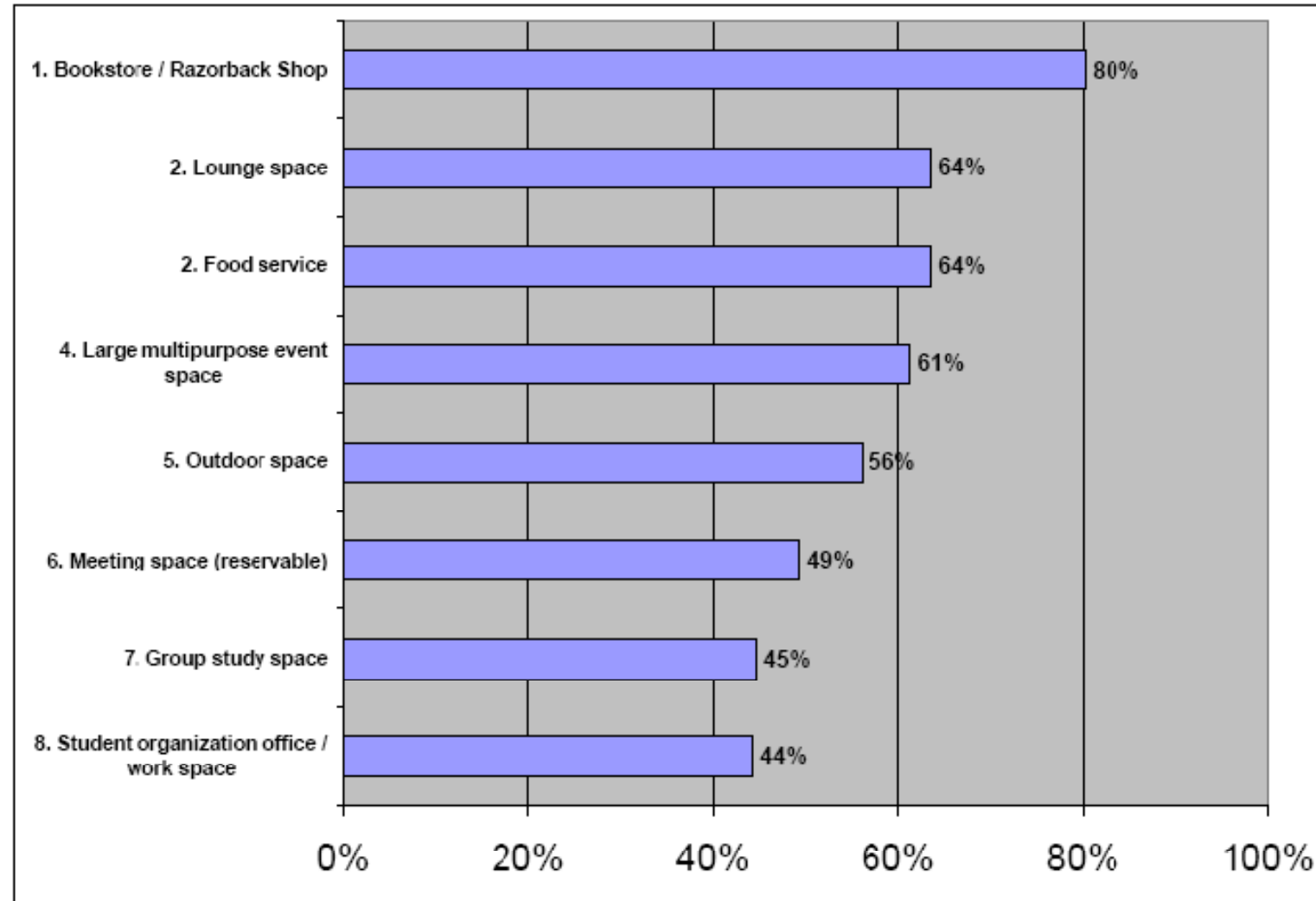
Student Survey Results

What are the three main reasons you visit the Union?



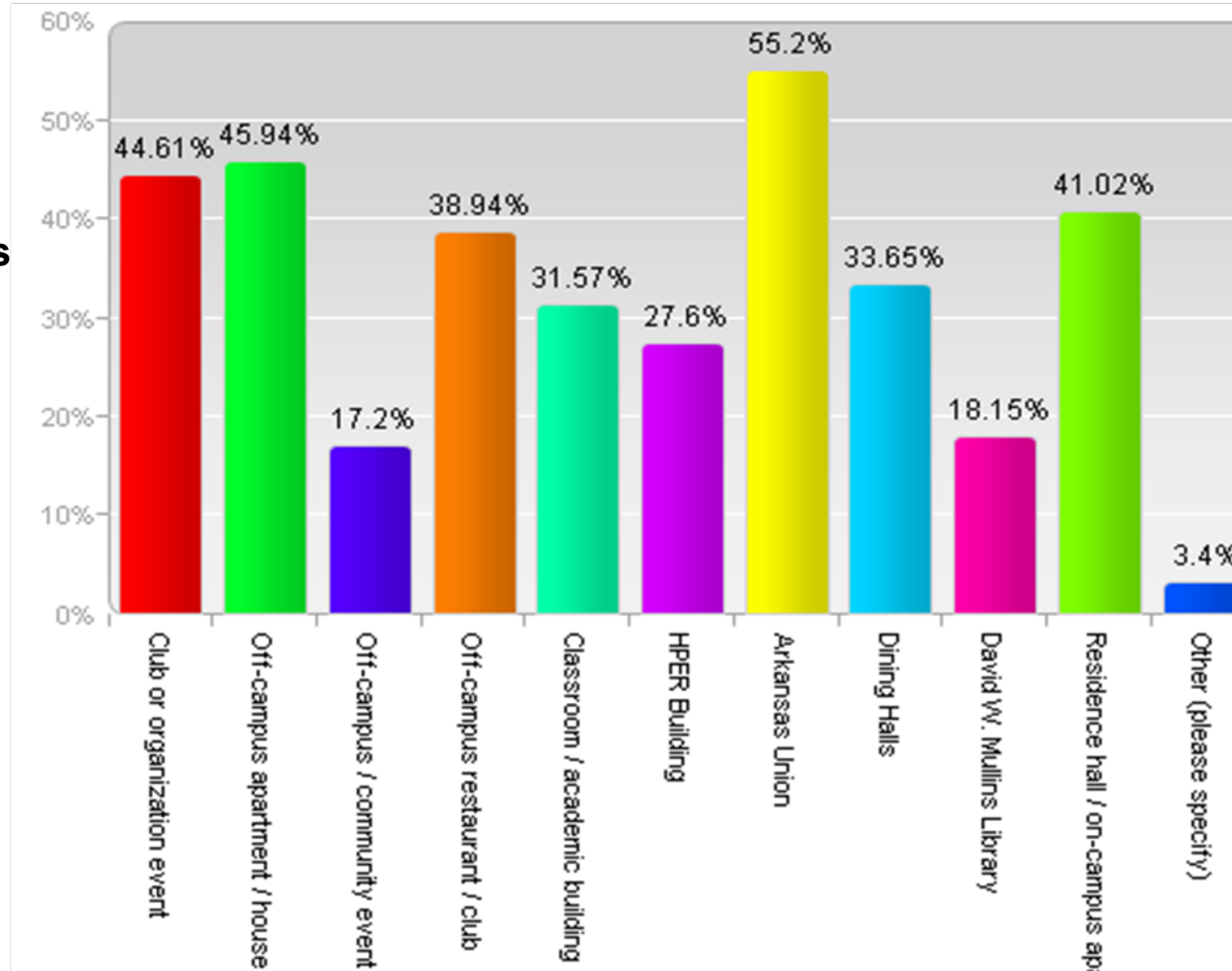
Student Survey Results

Please indicate your level of satisfaction with the following amenities and spaces in the Arkansas Union.



Student Survey Results

What are the best places / opportunities to interact informally with other students? (check all that apply)



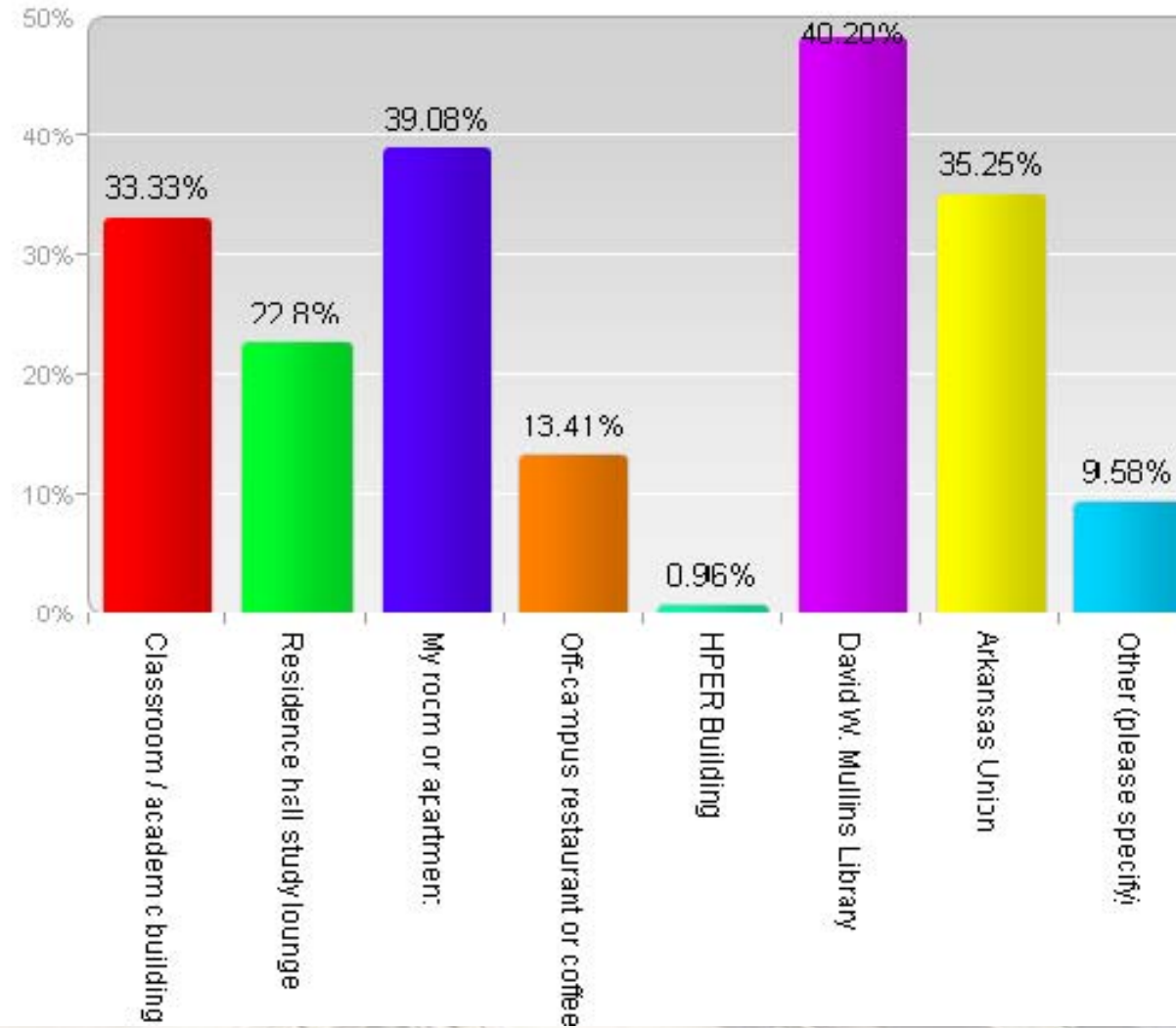
Student Survey Results

STUDY AREAS



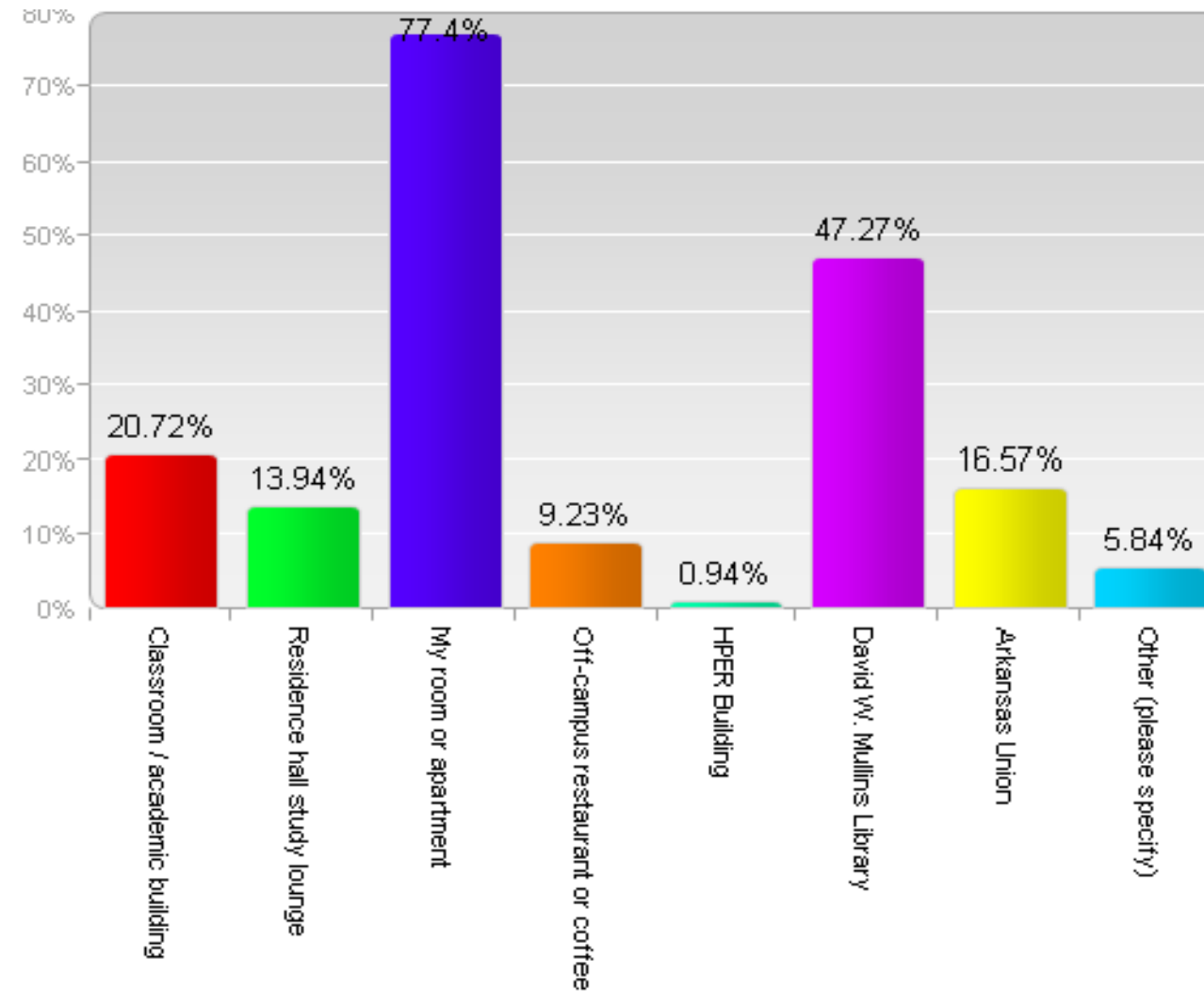
Student Survey Results

Where do you go to study most often for group study? (Check up to 3)



Student Survey Results

Where do you go to study most often for individual / private study? (Check up to 3)



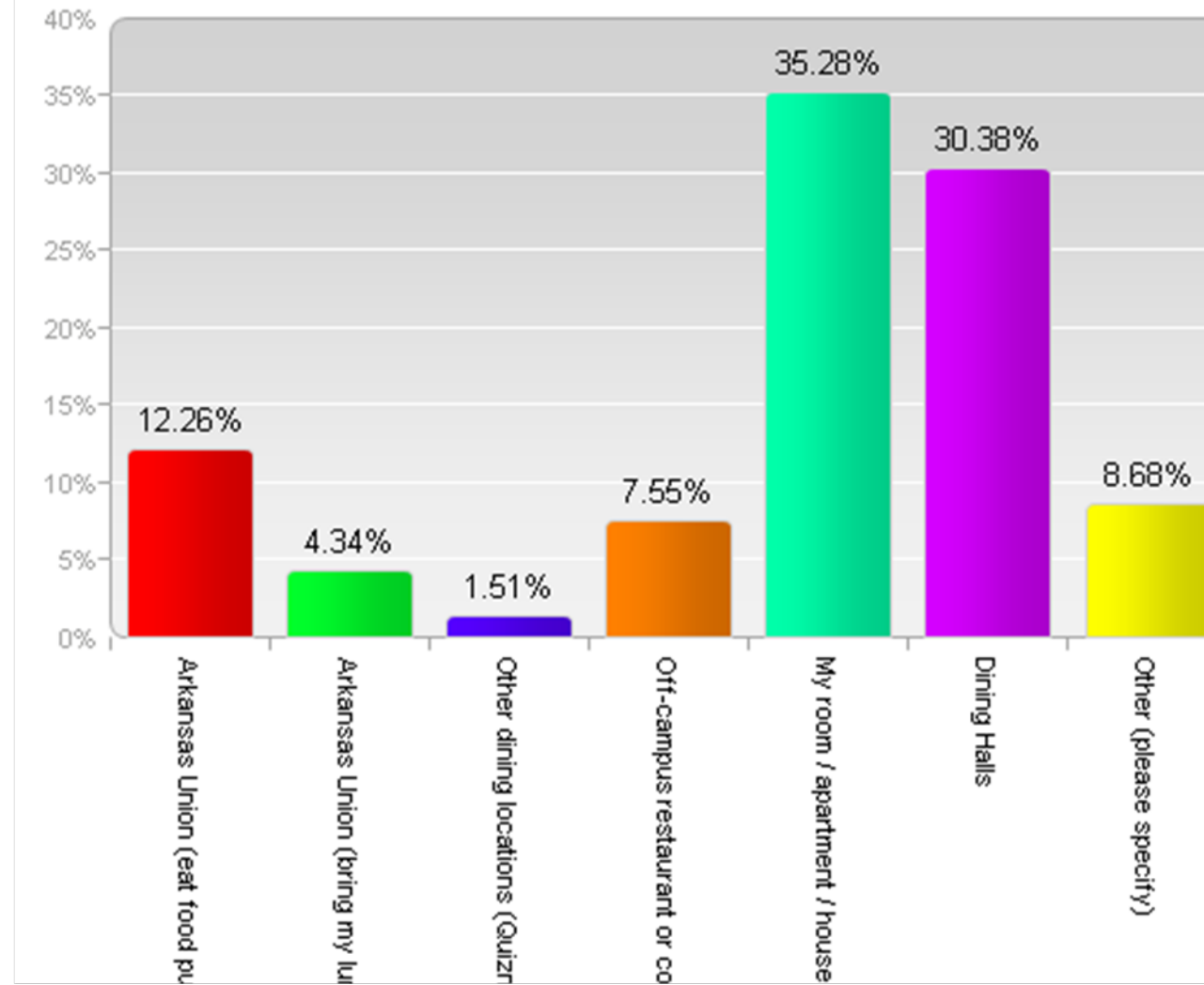
Student Survey Results

FOOD SERVICE



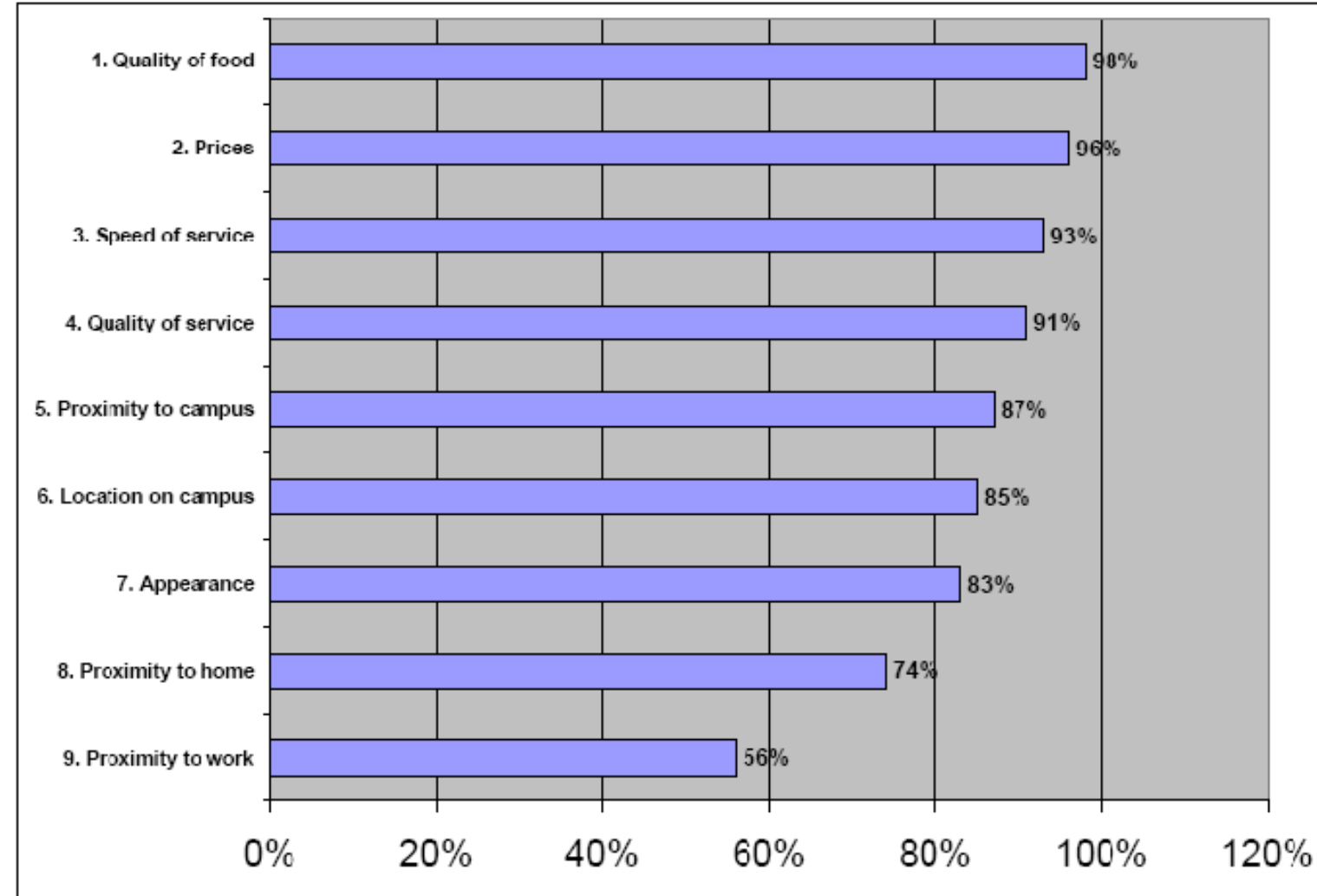
Student Survey Results

On a typical day,
where do you eat
your meals?



Student Survey Results

How influential is each of the following factors on where you choose to eat?



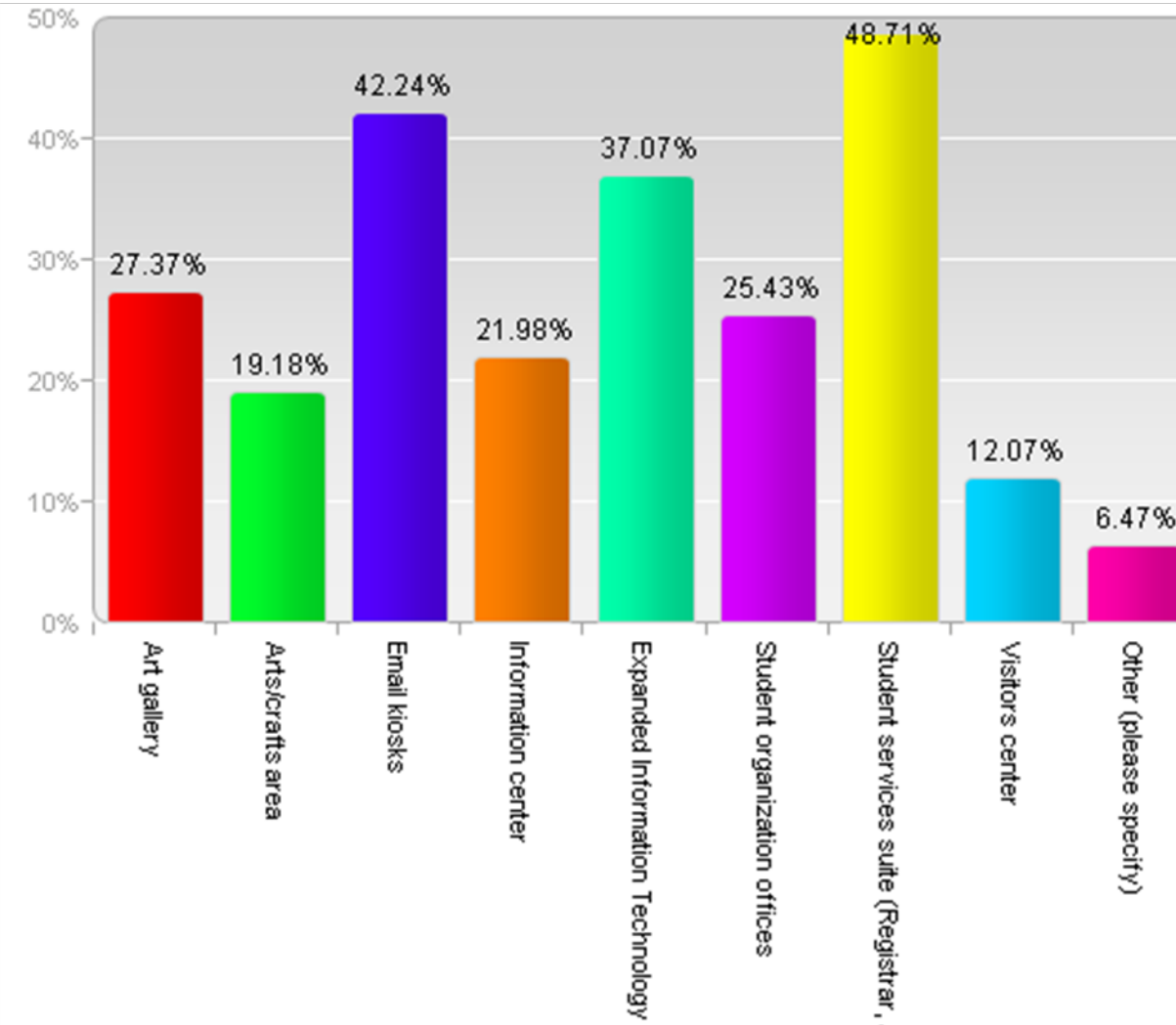
Student Survey Results

RENOVATED UNION USAGE



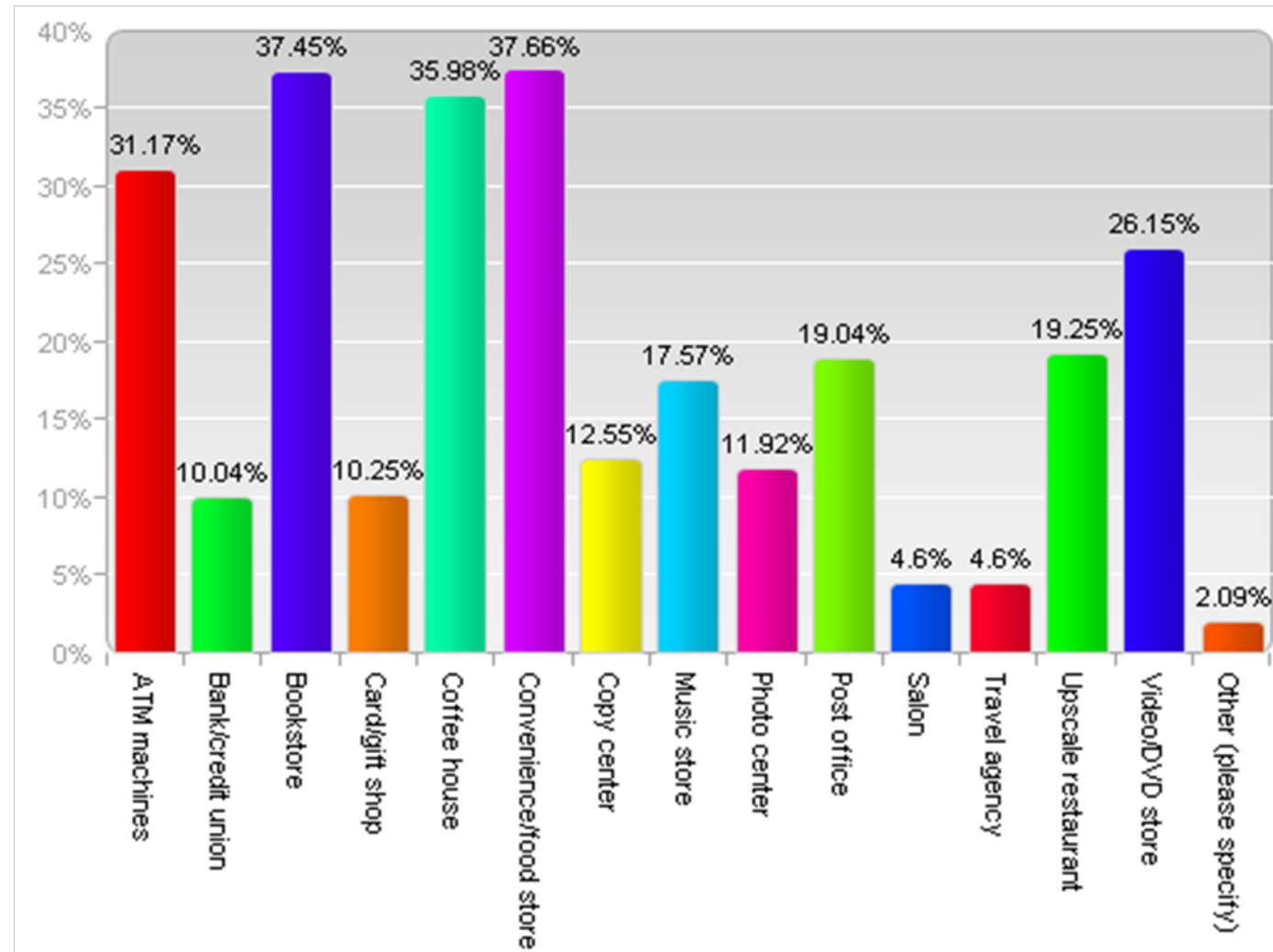
Student Survey Results

What types of programs and services would you utilize the most in the renovated / expanded Union? (Select top 3)



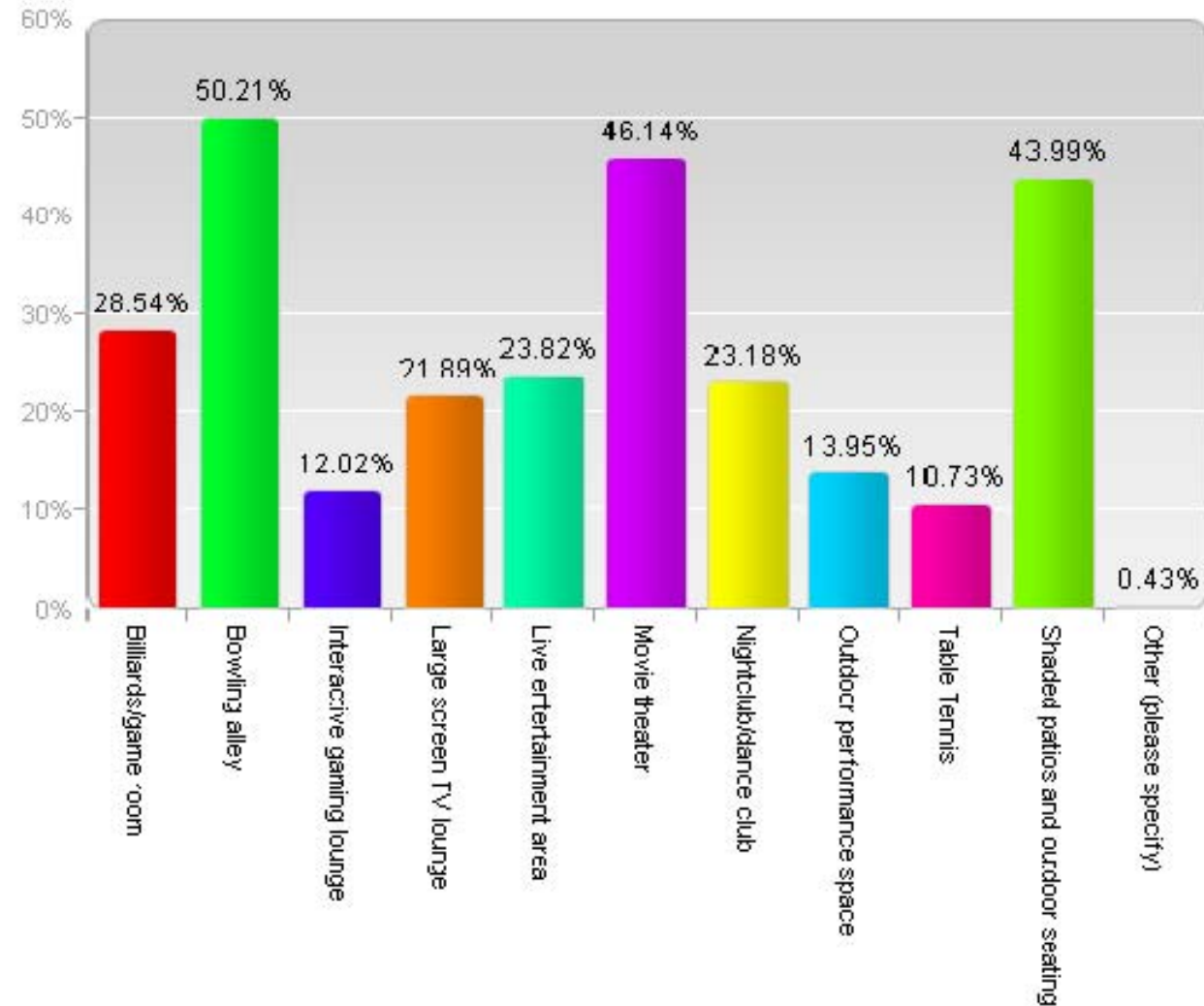
Student Survey Results

What types of retail spaces would you utilize the most in the renovated / expanded Union? (Select top 3)



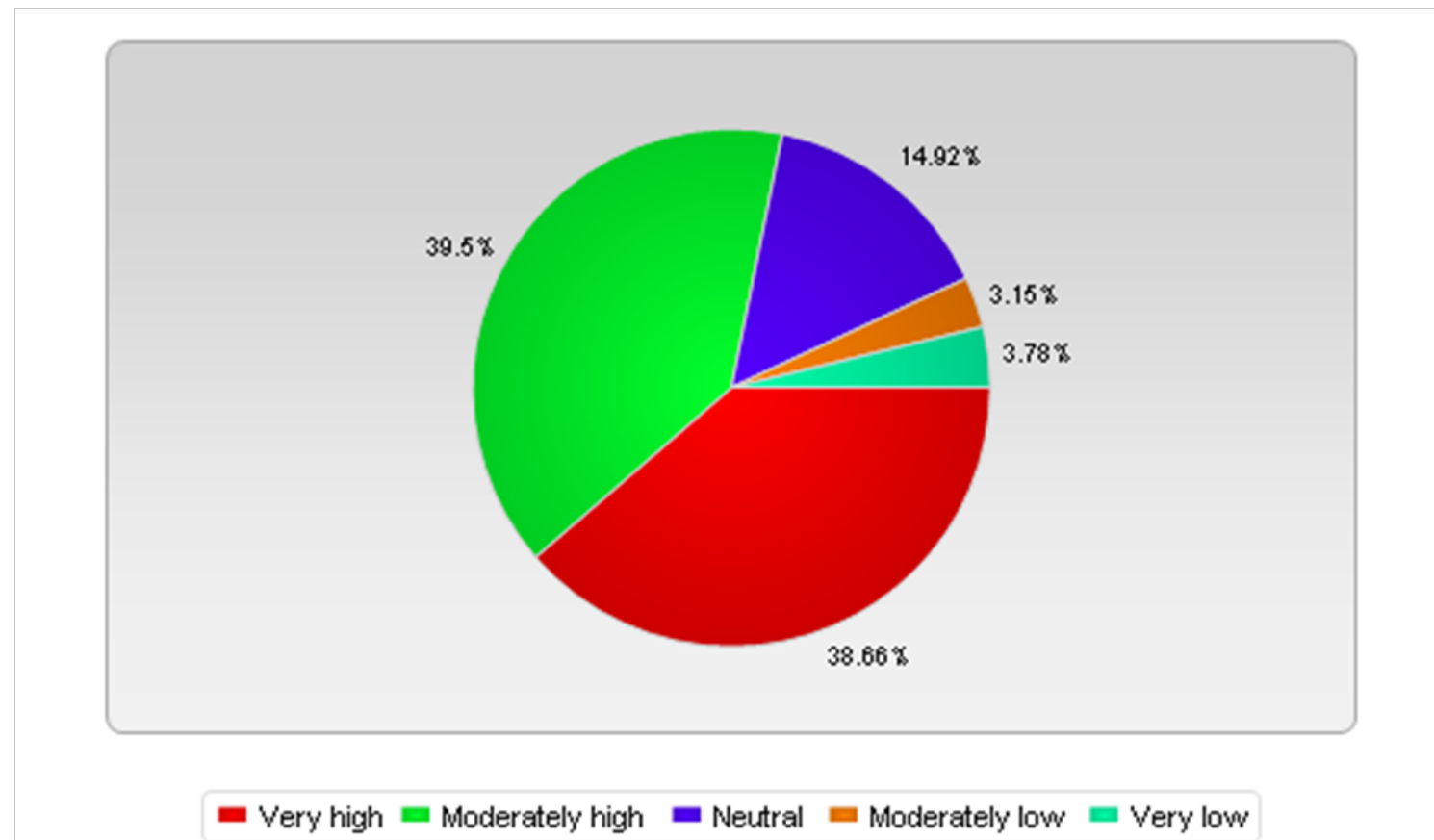
Student Survey Results

What types of social / entertainment spaces would you utilize the most in the renovated / expanded Union?
(Select top 3)

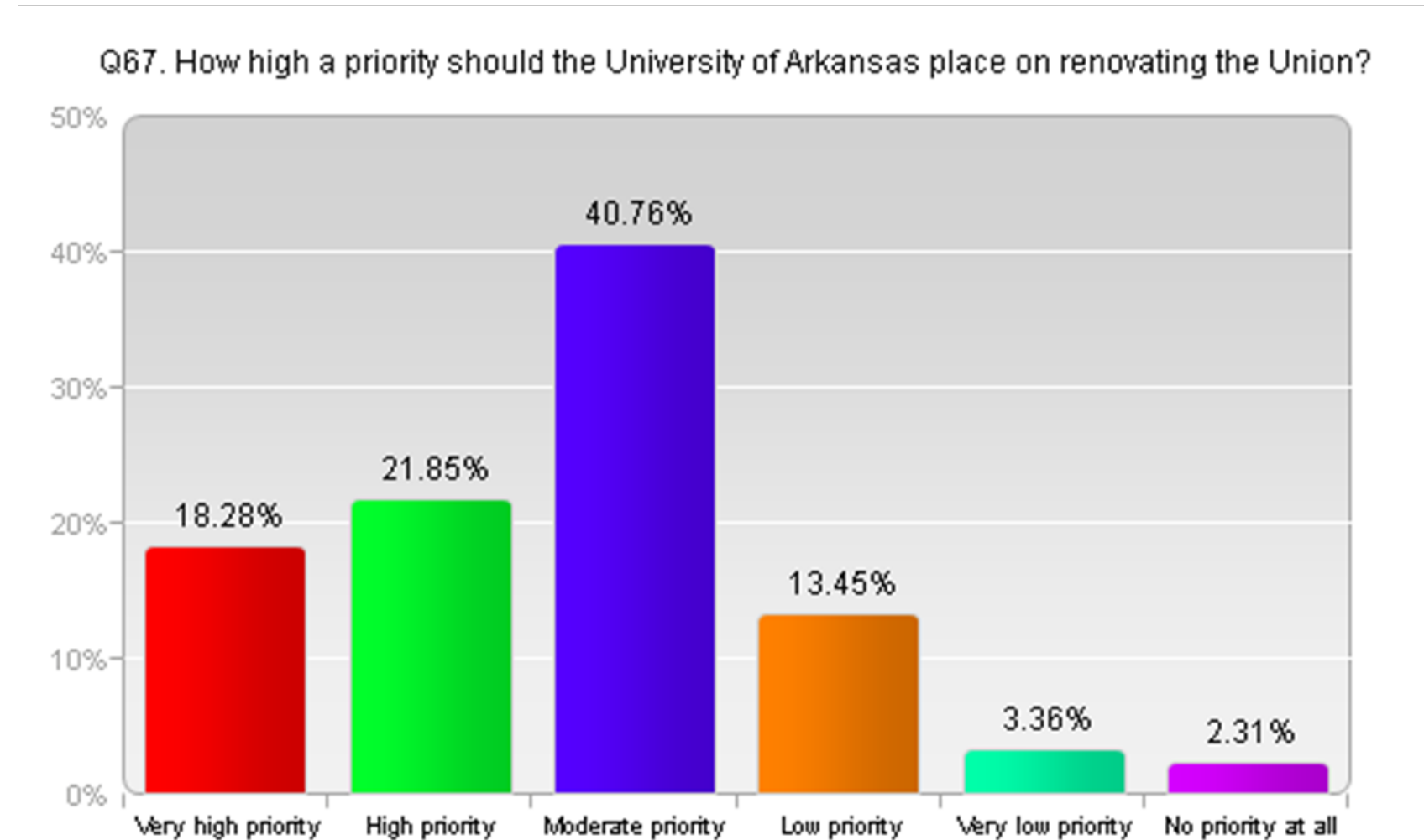


Student Survey Results

How high of a priority do you place on including sustainability in the Arkansas Union?

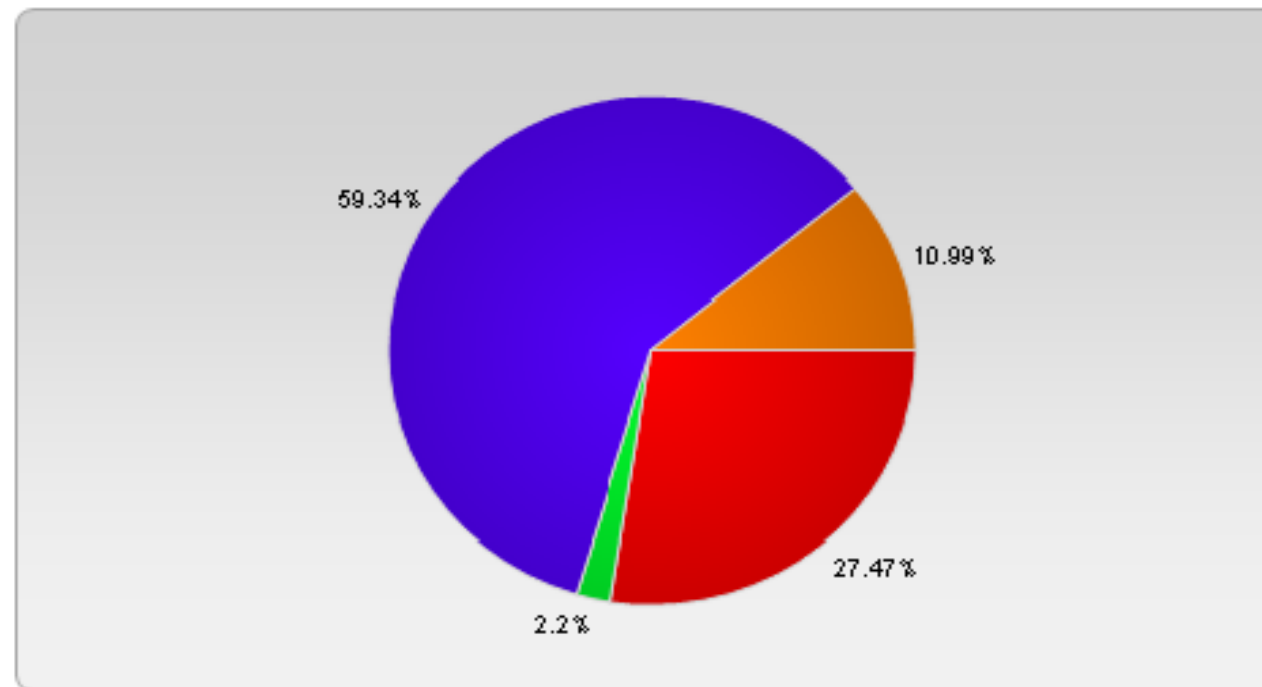


Student Survey Results



Student Survey Results

Q68. Which one of the following statements comes closest to your reason for selecting a low priority for the University of Arkansas to renovate the Union?



- A renovated Union is necessary, but Arkansas has more pressing priorities right now.
- If students want better facilities, they can explore off-campus opportunities.
- The current facilities are satisfactory to meet current and short-term needs.
- Other (please specify)





DEMAND ANALYSIS



Demand-Based Model (DBP)

- 15 activity space tested
- Input: frequency and time of use (survey based)
- Output: Projected quantities of users and sizes of spaces
- Depth and breadth of demand (order of demand)
- Priority reconciliation of space



Demand-Based Model (DBP)

ACTIVITY:		1	FOOD SERVICE/DINING - BREAKFAST		Activity Duration: 0.75 Hours		
Frequency	Period	Activity Frequency	Turnover Factor	Intensity Factor	Number of Users	Demand Projection	
Daily	8 AM - 8 AM	0.71	0.38	0.27	105	28	
Daily	8 AM - 11 AM	0.71	0.25	0.18	280	50	
Daily	11 AM - 1 PM	0.71	0.38	0.27	35	9	
Daily	1 PM - 4 PM	0.71	0.25	0.18	0	0	
Daily	4 PM - 6 PM	0.71	0.38	0.27	0	0	
Daily	6 PM - 9 PM	0.71	0.25	0.18	35	6	
Daily	9 PM - Midnight	0.71	0.25	0.18	0	0	
Daily	Midnight - 6 AM	0.71	0.13	0.09	0	0	
2-4 Times/Week	8 AM - 8 AM	0.43	0.38	0.16	350	56	
2-4 Times/Week	8 AM - 11 AM	0.43	0.25	0.11	734	79	
2-4 Times/Week	11 AM - 1 PM	0.43	0.38	0.16	0	0	
2-4 Times/Week	1 PM - 4 PM	0.43	0.25	0.11	70	8	
2-4 Times/Week	4 PM - 6 PM	0.43	0.38	0.16	0	0	
2-4 Times/Week	6 PM - 9 PM	0.43	0.25	0.11	0	0	
2-4 Times/Week	9 PM - Midnight	0.43	0.25	0.11	0	0	
2-4 Times/Week	Midnight - 6 AM	0.43	0.13	0.05	35	2	
Once/Week	8 AM - 8 AM	0.14	0.38	0.05	175	9	
Once/Week	8 AM - 11 AM	0.14	0.25	0.04	804	28	
Once/Week	11 AM - 1 PM	0.14	0.38	0.05	70	4	
Once/Week	1 PM - 4 PM	0.14	0.25	0.04	35	1	
Once/Week	4 PM - 6 PM	0.14	0.38	0.05	0	0	
Once/Week	6 PM - 9 PM	0.14	0.25	0.04	0	0	
Once/Week	9 PM - Midnight	0.14	0.25	0.04	0	0	
Once/Week	Midnight - 6 AM	0.14	0.13	0.02	0	0	
Less than once a week	8 AM - 8 AM	0.03	0.38	0.01	909	10	
Less than once a week	8 AM - 11 AM	0.03	0.25	0.01	2,727	20	
Less than once a week	11 AM - 1 PM	0.03	0.38	0.01	175	2	
Less than once a week	1 PM - 4 PM	0.03	0.25	0.01	35	0	
Less than once a week	4 PM - 6 PM	0.03	0.38	0.01	0	0	
Less than once a week	6 PM - 9 PM	0.03	0.25	0.01	35	0	
Less than once a week	9 PM - Midnight	0.03	0.25	0.01	0	0	
Less than once a week	Midnight - 6 AM	0.03	0.13	0.00	35	0	

TOTAL NUMBER OF USERS PROJECTED PER PERIOD*:

6 AM - 8 AM	8 AM - 11 AM	11 AM - 1 PM	1 PM - 4 PM	4 PM - 6 PM	6 PM - 9 PM	9 PM - Midnight	Midnight - 6 AM
104	177	15	9	0	6	0	2

SPACE DEM/NUMBER OF SQ. FT. **

6 AM - 8 AM	8 AM - 11 AM	11 AM - 1 PM	1 PM - 4 PM	4 PM - 6 PM	6 PM - 9 PM	9 PM - Midnight	Midnight - 6 AM
2,904	4,961	419	252	0	181	0	56

Demand-Based Model (DBP)

DEPTH OF DEMAND

	Activity	Number	Percent
1	Computer lab	218	39.3%
2	Convenience store/small grocery market	132	23.8%
3	Food Service/Dining - Lunch	116	20.9%
4	Food Service/Dining - Dinner	108	19.5%
5	Quiet lounge	99	17.8%
6	Copy/print center	91	16.4%
7	Social/TV lounge	89	16.0%
8	Coffeehouse	87	15.7%
9	Bowling	70	12.6%
10	Game Room (pool tables, ping pong, video games)	65	11.7%
11	Food Service/Dining - Breakfast	47	8.5%
12	Multipurpose theater/auditorium space	32	5.8%
13	Small study rooms	32	5.8%
14	Razorback Shop (logo apparel)	20	3.6%
15	Large/special event programming space	18	3.2%



Demand-Based Model (DBP)

DEPTH & BREADTH OF DEMAND

	Activity	Depth	Breadth	Priority
1	Computer lab	39.3%	71.7%	first
2	Convenience store/small grocery market	23.8%	70.6%	second
3	Food Service/Dining - Lunch	20.9%	60.0%	second
4	Food Service/Dining - Dinner	19.5%	49.2%	second
5	Quiet lounge	17.8%	53.7%	third
6	Copy/print center	16.4%	53.2%	third
7	Social/TV lounge	16.0%	54.4%	third
8	Coffeehouse	15.7%	57.1%	third
9	Bowling	12.6%	50.6%	fourth
10	Game Room (pool tables, ping pong, video games)	11.7%	44.5%	fourth
11	Food Service/Dining - Breakfast	8.5%	34.2%	fourth
12	Multipurpose theater/auditorium space	5.8%	52.4%	fourth
13	Small study rooms	5.8%	45.9%	fifth
14	Razorback Shop (logo apparel)	3.6%	55.9%	fifth
15	Large/special event programming space	3.2%	37.8%	fifth



Demand-Based Model (DBP)

DBP Model (Enrollment - 20,000)

	Activity	Priority Category	Peak Accommodation	Space Type	Peak Demand	Space Allocation Based on Prioritization of Demand		
1	Computer lab	first	75% to 85%	Sq. Ft.	8,860	6,600	to	7,500
2	Convenience store/small grocery market	second	55% to 65%	Sq. Ft.	910	501	to	592
3	Food Service/Dining - Lunch	second	55% to 65%	Sq. Ft.	18,420	10,100	to	12,000
4	Food Service/Dining - Dinner	second	55% to 65%	Sq. Ft.	13,520	7,400	to	8,800
5	Quiet lounge	third	40% to 50%	Sq. Ft.	4,770	1,900	to	2,400
6	Copy/print center	third	40% to 50%	Sq. Ft.	3,800	1,500	to	1,900
7	Social/TV lounge	third	40% to 50%	Sq. Ft.	6,150	2,500	to	3,100
8	Coffeehouse	third	40% to 50%	Sq. Ft.	3,890	1,600	to	1,900
9	Bowling	fourth	25% to 35%	Lanes	40	10	to	14
10	Game Room (pool tables, ping pong, video games)	fourth	25% to 35%	Sq. Ft.	7,720	1,900	to	2,700
11	Food Service/Dining - Breakfast	fourth	25% to 35%	Sq. Ft.	4,961	1,200	to	1,700
12	Multipurpose theater/auditorium space	fourth	25% to 35%	Sq. Ft.	2,030	500	to	700
13	Small study rooms	fifth	10% to 20%	Sq. Ft.	3,310	300	to	700
14	Razorback Shop (logo apparel)	fifth	10% to 20%	Sq. Ft.	1,510	200	to	300
15	Large/special event programming space	fifth	10% to 20%	Sq. Ft.	2,050	200	to	400
1	COMBINED 1: (Lounges: Quiet, Social/TV lounge)				8,570	3,400		4,300
2	AGGREGATE 2: (Largest Demand of Food Service Categories)				18,420	10,100		12,000



Demand-Based Model (DBP)

DBP Model (Enrollment - 25,000)

Activity		Priority Category	Peak Accommodation	Space Type	Peak Demand	Space Allocation Based on Prioritization of Demand		
1	Computer lab	first	75% to 85%	Sq. Ft.	11,070	8,300	to	9,400
2	Convenience store/small grocery market	second	55% to 65%	Sq. Ft.	1,140	600	to	700
3	Food Service/Dining - Lunch	second	55% to 65%	Sq. Ft.	23,030	12,700	to	15,000
4	Food Service/Dining - Dinner	second	55% to 65%	Sq. Ft.	16,900	9,300	to	11,000
5	Quiet lounge	third	40% to 50%	Sq. Ft.	5,970	2,400	to	3,000
6	Copy/print center	third	40% to 50%	Sq. Ft.	4,750	1,900	to	2,400
7	Social/TV lounge	third	40% to 50%	Sq. Ft.	7,690	3,100	to	3,800
8	Coffeehouse	third	40% to 50%	Sq. Ft.	4,860	1,900	to	2,400
9	Bowling	fourth	25% to 35%	Lanes	50	13	to	18
10	Game Room (pool tables, ping pong, video games)	fourth	25% to 35%	Sq. Ft.	9,650	2,400	to	3,400
11	Food Service/Dining - Breakfast	fourth	25% to 35%	Sq. Ft.	6,201	1,600	to	2,200
12	Multipurpose theater/auditorium space	fourth	25% to 35%	Sq. Ft.	2,540	600	to	900
13	Small study rooms	fifth	10% to 20%	Sq. Ft.	4,140	400	to	800
14	Razorback Shop (logo apparel)	fifth	10% to 20%	Sq. Ft.	1,890	200	to	400
15	Large/special event programming space	fifth	10% to 20%	Sq. Ft.	2,560	300	to	500
1	COMBINED 1: (Lounges: Quiet, Social/TV lounge)				10,720	4,300		5,400
2	AGGREGATE 2: (Largest Demand of Food Service Categories)				23,030	12,700		15,000



Database Comparison

Larger Enrollment (22,500-27,500) Union Comparison Chart

Functional Areas	All Unions (n=75) Ave Enrollment = 18,476			Select Unions (n=12) Ave Enrollment = 24,250			Arkansas Union Enrollment = 17,197		
	ASF	Average	ASF/Stdnt	ASF	Average	ASF/Stdnt	ASF	Average	ASF/Stdnt
Group 1: Food Service	26,884	23.0%	1.5	27,722	22.5%	1.1	22,586	23.9%	1.2
Group 2: Ballroom Facilities	10,479	9.0%	0.6	11,548	9.4%	0.5	7,292	7.7%	0.4
Group 3: Conference/Meeting Rooms	10,781	9.2%	0.6	9,755	7.9%	0.4	10,460	11.1%	0.6
Group 4: Bookstore	13,098	11.2%	0.7	22,903	18.6%	0.9	3,435	3.6%	0.2
Group 5: Additional Retail Services	5,530	4.7%	0.3	5,297	4.3%	0.2	8,680	9.2%	0.5
Group 6: Theater/Auditorium	5,419	4.6%	0.3	4,901	4.0%	0.2	5,282	5.6%	0.3
Group 7: Recreation/Entertainment	6,746	5.8%	0.4	5,590	4.5%	0.2	0	0.0%	0.0
Group 8: Lounge Space	7,433	6.4%	0.4	7,949	6.5%	0.3	11,300	11.9%	0.6
Group 9: Academic Related	1,995	1.7%	0.1	2,219	1.8%	0.1	3,036	3.2%	0.2
Group 10: Student Organizations	9,121	7.8%	0.5	10,378	8.4%	0.4	4,609	4.9%	0.2
Group 11: Administrative Offices	11,119	9.5%	0.6	9,572	7.8%	0.4	13,848	14.6%	0.7
Group 12: Multicultural Centers	1,948	1.7%	0.1	788	0.6%	0.0	2,731	2.9%	0.1
Group 13: Special/Misc. Components	6,227	5.3%	0.3	4,370	3.6%	0.2	1,312	1.4%	0.1



Database Comparison

Newly Renovated (1998-2008) Union Comparison Chart

Functional Areas	All Unions (n=75) Ave Enrollment = 18,476			Select Unions (n=29) Ave Enrollment = 19,082			Arkansas Union Enrollment = 17,197		
	ASF	Average	ASF/Stdnt	ASF	Average	ASF/Stdnt	ASF	Average	ASF/Stdnt
Group 1: Food Service	26,884	23.0%	1.5	27,892	23.9%	1.5	22,586	23.9%	1.2
Group 2: Ballroom Facilities	10,479	9.0%	0.6	12,099	10.4%	0.6	7,292	7.7%	0.4
Group 3: Conference/Meeting Rooms	10,781	9.2%	0.6	11,645	10.0%	0.6	10,460	11.1%	0.6
Group 4: Bookstore	13,098	11.2%	0.7	12,111	10.4%	0.6	3,435	3.6%	0.2
Group 5: Additional Retail Services	5,530	4.7%	0.3	5,699	4.9%	0.3	8,680	9.2%	0.5
Group 6: Theater/Auditorium	5,419	4.6%	0.3	5,558	4.8%	0.3	5,282	5.6%	0.3
Group 7: Recreation/Entertainment	6,746	5.8%	0.4	5,624	4.8%	0.3	0	0.0%	0.0
Group 8: Lounge Space	7,433	6.4%	0.4	7,237	6.2%	0.4	11,300	11.9%	0.6
Group 9: Academic Related	1,995	1.7%	0.1	1,827	1.6%	0.1	3,036	3.2%	0.2
Group 10: Student Organizations	9,121	7.8%	0.5	9,969	8.6%	0.5	4,609	4.9%	0.2
Group 11: Administrative Offices	11,119	9.5%	0.6	10,674	9.2%	0.6	13,848	14.6%	0.7
Group 12: Multicultural Centers	1,948	1.7%	0.1	2,768	2.4%	0.1	2,731	2.9%	0.1
Group 13: Special/Misc. Components	6,227	5.3%	0.3	3,460	3.0%	0.2	1,312	1.4%	0.1





PRELIMINARY CONCLUSIONS



Strategic Analysis

The Strategic Asset Value Story

Priority Order of Space Needs / Project Concept

Leisure and formal meeting spaces to become core of program

Architectural & Construction Quality

Openness and quality of space to improve

Target Markets / Campus Location

Student and faculty/staff at the current location

Operating Paradigm / Financial Performance

Additional speculative revenues needed (loss of Bookstore \$'s)



Preliminary Conclusions

Food Service

- Size (22,500 nsf) approximately 5,000 nsf smaller than B&D database averages
- Discounted demand from model (~15,000 nsf) plus faculty/staff demand should be accommodated in current facility (18,000 nsf – seating and servery)
- No resizing recommended

Ballroom

- Undersized relative to B&D database averages (2,000-5,000 nsf)
- Low priority for an average Union user based on survey results
- Consider expansion or relocation/replacement



Preliminary Conclusions

Conference/Meeting Rooms

- Size consistent with B&D overall database average
- Smaller than B&D similarly-sized institution database average
- Small study/meeting rooms low priority based on survey results
- Some expansion may be appropriate based on strategic objectives

Student Organization Space

- Approximately half the size of B&D database averages
- Consider significant expansion



Preliminary Conclusions

Lounge Spaces

- Size larger than B&D database averages (if Connections Lounge included)
- Currently low demand (based on survey) due to usage of Computer Lab and Food Court as hangout spaces
- Consider improvements to existing lounge spaces
- Consider functional reconfiguration of Connections Lounge

Computer Lab

- Size could triple to meet discounted demand (based on survey)
- Consider distributed approach
- Consider Information Commons concept (computer access / lounge / small-scale food service); explore synergies with Mullins Library
- Consider staffing and FF&E improvements to existing Computer Lab



Preliminary Conclusions

Coffeehouse (RZ's)

- Current size (including TV eating room) appropriate to meet demand

Convenience Store

- Size appropriate to satisfy peak demand based on survey results

Recreation/Game Room

- Currently no designated recreation/game area
- Consider 3,500sf game/recreation area with pool tables, ping pong tables, and video gaming
- Consider distributed approach
- Consider partnership with IT Services for video gaming



Strategic Analysis

Legend: X - Existing Conditions O - Targeted Aspiration	Targeted Strategic Value										
	Low						High				
	0	1	2	3	4	5	6	7	8	9	10
I. Educational Outcomes											
a. Leadership Development									X		O
b. Student Employment							X		O		
c. Leisure Activities				X							O
d. Out-of-Classroom Experience				X							O
e. Academic Activities					X				O		

More “see and be seen” space need

More formal meeting spaces need



Strategic Analysis

Legend: X - Existing Conditions O - Targeted Aspiration	Targeted Strategic Value										
	Low					High					
	0	1	2	3	4	5	6	7	8	9	10
II. Enrollment Management											
a. Recruitment			X								O
b. Retention							X				O

Architectural quality for “wow” factor needed



Strategic Analysis

Legend: X - Existing Conditions O - Targeted Aspiration	Targeted Strategic Value											
	Low					High						
	0	1	2	3	4	5	6	7	8	9	10	
III. Campus Community												
a. Central Gathering Place								X			O	
b. Faculty / Staff / Student Interaction						X			O			
c. Alcohol-Free Social Opportunities							X			O		
d. Late Night/Weekend Programming							X			O		
e. Student Life "Master Plan" Integration							X			O		



Strategic Analysis

Legend: X - Existing Conditions O - Targeted Aspiration	Targeted Strategic Value										
	Low					High					
	0	1	2	3	4	5	6	7	8	9	10
IV. Financial Performance											
a. Revenue Generation (other than student tuition/fees)					X			O			
b. Expense Management							X		O		
c. Alumni Development			X							O	
d. Balance Sheet Utilization							X		O		
e. Sustainable Design & Operations						X			O		

Stronger relationship w/ alumni base need



D.1

UNION

Code & Fire Protection
Facility Assessment
Rolf Jensen Associates

Appendix D.1: Union: Code & Fire Protection Facility Assessment

Executive Summary

For this Study, Perry Dean Rogers | Partners contracted Rolf Jensen & Associates, Inc. (RJA) to conduct a full fire protection, life safety and accessibility analysis of the Arkansas Union facility. Their Reports, appended in full on the following pages, documents the results of their survey of the existing features of the building and any retroactive requirements that are applicable. PDR|P provides a summary of the reports, with a list of recommendations. RJA's reports were all based on existing drawing review, visual walk-through inspections, and discussions with PDR|P, Wayne Brashear (University of Arkansas Fire Marshal) and Dennis Frederick (Arkansas Union Facilities Manager).



Building Code Evaluation Report

- The key component of the BCE Report is the Construction Classification, which identifies the Arkansas Union as either a single building or two separate buildings joined by fire-resistive construction. (This designation is critical in determining to what extent the existing Union can be expanded.)



Fire Alarm System Narrative Report

- The Arkansas Union currently has a working fire alarm system in place, but is not wholly compliant with current NFPA requirements. The scope of system upgrading will be commensurate with the scope of building renovation work.



Fire Sprinkler System Narrative Report

- Currently, the Arkansas Union provides a combination of partially-sprinklered spaces (Union East) and fully-sprinklered spaces (Union West). However, the existing water supply serving various campus sprinkler systems appears to be dangerously unreliable, resulting in inadequate water flow.

Key Recommendations

The RJA Reports touched upon several issues which could have a direct impact on future architectural projects involving the Arkansas Union:

1. At present the Construction Type of the Union East is unidentified; it is most likely either 1B (a more restrictive type which allows for greater expansion opportunities) or 2A (a less restrictive classification which would limit, or perhaps even preclude, further expansion).
 - *The Union East as constructed appears to meet Type 1B requirements in all categories except for the thickness of applied fireproofing materials on the building's structural system. The beams and columns are currently concealed; it is recommended that several points within the building be opened up to allow for a visual confirmation. If it is determined that the fireproofing materials do not meet 1B requirements, they can be remediated to the degree that is necessary. (This work would ideally be done during an early renovation phase, such as that outlined in Planning Project 01 earlier in the Report.)*
2. Current codes require atriums (multi-story spaces) to either incorporate fire barriers that can reduce the spatial volume into smaller compartments, or be equipped with an alarm-triggered smoke evacuation system. The atrium that exists at the open stair system in the Union West does not currently have provisions for either, and would require extensive remedial work if the interior renovations included this area.
 - *The open stairs should not be included in the Work Area for any of the potential Planning Projects. The appearance of the stairs can be altered (glass rails to replace concrete guards, etc.), but their geometry and location should be left intact.*
3. Based on discussions with the University of Arkansas Fire Marshal, it appears that the municipal water supply serving the Union (and several other buildings in the area) does not have the minimum water pressure required to adequately serve the building's current sprinkler system. Consequently, the Union does not have a fire pump which could help offset this problem.
 - *Even if the scope of new renovation work does not mandate a new sprinkler system, the existing one would benefit from the installation of an approved fire pump.*
4. The Arkansas Union currently has three elevators; 2 for passengers and one for freight. Neither of the two passenger elevators serve all floor levels, requiring users to take circuitous routes to access all points within the facility.
 - *Renovations to the Union should ultimately provide at least one new elevator that serves all floors, allowing disabled individuals access that more closely approximates that provided for the able-bodied.*
5. Several retail and office spaces in the Union West are protected by fire shutters, which are activated in coordination with the fire alarm system. These shutters provide a continuation of adjacent fire-rated construction, but they also close off required egress routes from these spaces.
 - *Even if these spaces are not eventually included in the Work Area for a given Planning Project, they should be at least provided with additional exits that provide a level of egress capacity in accordance with current life safety codes.*
6. Clearances and mounting heights of plumbing fixtures in restrooms throughout the Union do not comply with current ADA requirements.
 - *In the larger picture, this is a small problem, but it has a significant impact on how physically-challenged individuals use the building. Public spaces should meet (if not exceed) current ADA requirements to the extent that is possible.*



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**EXISTING BUILDING
CODE EVALUATION REPORT
ARKANSAS UNION
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS**

Prepared For:

Perry, Dean, Rogers | Partners
177 Milk Street
Boston, MA 02109

January 5, 2009

Project # B45541

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INTRODUCTION

Perry, Dean, Rogers | Partners (PDRP) has retained Rolf Jensen & Associates, Inc. (RJA) to provide fire protection, life safety and accessibility code consulting services for the proposed renovation project to the existing Arkansas Union (hereafter referred to as the “building”) located on the campus of the University of Arkansas in Fayetteville, Arkansas.

This report serves as the Fire Protection & Life Safety Existing Building Report for the project. It also documents the results of RJA’s survey of the existing fire protection and life safety features of the building and retroactive requirements that are applicable. This report will outline the application of the 2006 International Existing Building Code, as adopted by the State of Arkansas, to the existing building in the context of the proposed renovation work.

The information in this report is based on the following:

- Review of selected existing drawings of the building;
- Walk-thru visual inspection of the building conducted by Carl W. Nelson and Wael A. Hadad (RJA) on December 18th, 2008.
- Various project related discussion between RJA and PDRP.
- Various project related discussion between RJA, Wayne Brashear, and Dennis Frederick. Wayne Brashear is the fire marshal for the university and Dennis Frederick is the facility manager for the Arkansas Union.

APPLICABLE CODES AND REQUIREMENTS

The following are the applicable codes for the project.

- **Building** - 2007 Arkansas Fire Prevention Code – Volume II (AFPC), which is an amended version of the 2006 *International Building Code (IBC)*, effective August 1, 2008, and the 2006 *International Existing Building Code (IEBC)*.
- **Fire** – 2007 Arkansas Fire Prevention Code – Volume I (AFPC-I), which is an amended version of the 2006 *International Fire Code (IFC)*, effective August 1, 2008
- **Plumbing** – 2006 Arkansas State Plumbing Code (APC), which is an amended version of the 2006 *International Plumbing Code (IPC)*.
- **Electrical** – 2008 NFPA 70, *National Electrical Code*.
- **Mechanical** – 2003 Arkansas State Mechanical Code (AMC), which is an amended version of the 2003 *International Mechanical Code (IMC)*.
- **Accessibility** – Arkansas Accessibility Code, which is an amended version of the Americans with Disabilities Act Accessibility Guidelines.
- **Elevator** – Arkansas Elevator Safety Rules and Regulations, which is an amended version of the 2004 ASME A17.1, Safety Code for Elevators and Escalators.

EXISTING BUILDING CODE EVALUATION

COMPLIANCE WITH REQUIREMENTS FOR NEW CONSTRUCTION

This section of the report applies only to newly constructed areas. In general, all new work associated with any change in use, addition or renovation project should conform to the specific "new construction" requirements of the AFPC.

Renovations of portions of existing mechanical, plumbing, electrical, and other systems in a building should be made in conformance with the "new construction" requirements of the AFPC. Renovations to the existing systems should not cause a reduction in the level of safety or adversely affect the performance of the systems. Where any renovations subject portions of the building to excessive loads, those portions should be upgraded to comply with the "new construction" requirements of the AFPC.

Alterations to means of egress elements should comply with the "new construction" requirements of the AFPC.

COMPLIANCE REQUIREMENTS FOR EXISTING BUILDINGS

GENERAL

As previously discussed, the AFPC is primarily intended for application in the design and construction of new buildings. The arrangement of safeguards specified by the AFPC for new buildings results in an acceptable level of fire and life safety. In general, non-renovated portions of an existing building are not required to comply with all of the "new construction" requirements of the current edition of the AFPC.

An existing building is presumed to meet the provisions of the applicable laws, codes, rules or regulations, bylaws or ordinances in effect at the time such building was constructed or altered. An existing building is allowed to continue to be occupied pursuant to its use and occupancy, provided that the building is maintained. However, this does not permit the continuation of existing building features which were installed in conflict with any codes or laws in effect at the time of construction or installation.

Effective August 1, 2008, the 2007 Arkansas Fire Prevention Code was adopted in the State of Arkansas as mandated by the State Fire Marshal. The AFPC consists of three (3) volumes to address the fire, building, and residential provisions of the state, which are amended versions of the 2006 International Code Council (ICC) codes.

Additionally, a notable change from the adoption of the 2007 AFPC involves the use of the 2006 International Existing Building Code (IEBC). Per our discussions with the State Fire Marshal and the city of Fayetteville, the provisions of the IEBC including Appendix A but not including Appendix B, is allowed to be substituted in its entirety in lieu of the requirements of Chapter 34 of the AFPC as an acceptable alternative for existing buildings. The mixing of requirements found in Chapter 34 of the AFPC and the requirements found in the IEBC is prohibited.

Renovated portions of the building are required to comply with the current edition of the AFPC or to be evaluated against the IEBC. The IEBC was selected to evaluate the renovated portions of the Arkansas Union since it provides greater leniency and flexibility in comparison to the AFPC Chapter 34 scoring system.

ALTERATIONS

The extent to which un-renovated portions of an existing building must be upgraded is dependent on their present condition and on the type and amount of renovation work that is proposed. In all cases, the new work, including that associated with upgrades resulting from application of code requirements, should conform to the specific "new construction" requirements of the AFPC.

ADDITIONS

Generally, if an addition plus the existing building can meet the height and area requirements for the given construction type, unaltered portions of the existing building are not required to be upgraded per the AFPC. If the existing building and the addition can function independently from one another because they are separated by a fire wall, then unaltered portions of the existing building are not required to be upgraded per the AFPC.

VARIANCE

If the feasibility of bringing the existing building into compliance with the existing requirements of the AFPC is not feasible or practical, an appeal to such requirements may be requested. The request for a variance would be based on a complete fire and life safety assessment of the existing building areas.

PROPOSED WORK

During this Pre-Design Phase of the project, the scope of the proposed renovation is relatively unknown. Based on discussions with PDRP, this report will provide a “big picture” of requirements associated with potential minor renovations as well as complete floor remodels. Additionally, it is the understanding of RJA that an addition may also be considered in the future and thus has been discussed within the report as well.

EXISTING CONDITIONS DESCRIPTION & REVIEW

Carl W. Nelson and Wael A. Hadad of RJA surveyed the building on Thursday, December 18th, 2008. The survey was limited to visual review of existing conditions. Destructive or invasive inspections and systems testing were not performed. This section of the report documents our observations during the survey and our understanding of the building per discussions with PDRP, university officials, and our review of existing drawings for the facility.

GENERAL

The Arkansas Union is six (6) stories above grade and was originally constructed in 1971. The maximum footprint area of the original building is approximately 48,000 square feet. The building was remodeled in 1981 and a major addition was constructed to the east of the existing building in 1999. During the addition, the original building also underwent a significant renovation. The addition is two (2) stories above grade and is partially located above N Garland Avenue. Due to the grading of the site, the first and second stories of the addition are located at elevations equivalent to approximately Levels Three and Six in the original building, respectively. Therefore, the first story of the addition is referred to as Level A3 and the second story is referred to as Level A6. The addition is separated from the original building with one (1)-hour fire-resistance rated (FRR) doors on magnetic hold opens on Level A3.

Based on discussions with Wayne Brashear, the fire marshal for the university, it is his understanding that the FRR wall located at the interface between the original building and the addition was designed to function as a fire wall. Therefore, the fire alarm and fire protection systems serving each respective side of the fire wall are independent of one another. If the addition were separated from the original construction via a structurally independent fire wall, the addition would be considered as a separate and distinct building.

Further, the permit drawings for the addition indicate that they were issued to the City of Fayetteville Building Department on August 18, 1997. At this time, the 1992 Arkansas Fire Prevention Code was adopted in the state of Arkansas which was based upon the 1988 Edition of the Standard Building Code (SBC). Under this code, SBC Section 202 defines a fire wall as a:

“Four (4)-hour fire resistance wall, having protective openings, which restricts the spread of fire and extends continuously from the foundation to or through the roof, with sufficient stability under fire conditions to allow collapse of construction on either side without collapse of the wall.”

Based on this definition, the design of the fire wall does not appear to conform to code requirements at the time of construction. Specifically, the fire wall does not provide a sufficient FRR (i.e.: doors in the fire wall are required to provide a 3-hour FRR, but are only 1-hour rated), the wall does not extend continuously from the foundation of the building, and it does not appear to be structurally independent.

The design and specifications of the wall separating the original building from the addition could not be located on the existing drawings for the facility. The determination of whether or not the buildings are separated by a true fire wall may have a significant impact on the cost and design of a renovation and/or addition. It is the assumption of RJA that the original building and the addition were constructed as separate buildings and that the design was discussed and approved by the local AHJs prior to construction. However, as the design and history of the “fire wall” is relatively unknown, we have also addressed potential design implications if the Arkansas Union was considered as one overall building, where applicable.

It is the recommendation of RJA that the design team and owner investigate any supplementary existing drawings and how the addition portion of the building was permitted in 1998 in order to determine if the construction was considered as a separate building or as a true addition. At a minimum, even if the wall is determined to be designed as a structurally independent fire wall, it appears that several modifications would need to be made in order for the wall to comply with requirements of a fire wall at the time of construction. These issues are discussed in further detail within the report.

PROPOSED WORK

During this Pre-Design Phase of the project, the scope of the proposed renovation is relatively unknown. Based on discussions with PDRP, this report will provide a “big picture” of requirements associated with potential minor renovations as well as complete floor remodels. Additionally, it is the understanding of RJA that an addition may also be considered in the future and thus has been discussed within the report as well.

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The Arkansas Union is six (6) stories above grade and was originally constructed in 1971. The maximum footprint area of the original building is approximately 48,000 square feet. The building was remodeled in 1981 and a major addition was constructed to the east of the existing building in 1999. During the addition, the original building also underwent a significant renovation. The addition is two (2) stories above grade and is partially located above N Garland Avenue. Due to the grading of the site, the first and second stories of the addition are located at elevations equivalent to approximately Levels Three and Six in the original building, respectively. Therefore, the first story of the addition is referred to as Level A3 and the second story is referred to as Level A6. The addition is separated from the original building with one (1)-hour fire-resistance rated (FRR) doors on magnetic hold opens on Level A3.

Based on discussions with Wayne Brashear, the fire marshal for the university, it is his understanding that the FRR wall located at the interface between the original building and the addition was designed to function as a fire wall. Therefore, the fire alarm and fire protection systems serving each respective side of the fire wall are independent of one another. If the addition were separated from the original construction via a structurally independent fire wall, the addition would be considered as a separate and distinct building.

Addition

Level A3 of the addition consists of a large lobby area, a lounge, a computer center, a convenience store, a coffee shop, mechanical/electrical rooms, and storage space. The level also contains two (2) outdoor terraces. Level A6 of the addition is primarily composed of office space.

These spaces are classified as the following uses by AFPC:

Use Group Classification	Uses
Use Group A-2, Assembly	Coffee Shop
Use Group A-3, Assembly	Lobby, Lounge
Use Group B, Business	Offices
Use Group M, Mercantile	Convenience Store
Use Group S-2, Storage	Mechanical and Electrical Equipment Rooms, Storage Areas

The addition is classified as a Non-Separated, Mixed Use Occupancy, with the most restrictive classification being Use Group A-3, Assembly Occupancy. The coffee shop may be considered as accessory to the main occupancy of the building as it occupies less than ten (10) percent of the area of the story in which it is located. The Business, Mercantile, and Storage Occupancies within the building are classified as secondary to the building’s main occupancy (AFPC 508.3.2).

One Overall Building

If the original construction and the addition were considered as the same overall building, the building would be classified as a Non-Separated, Mixed Use Occupancy, with the most restrictive classification being Use Group A-1, Assembly Occupancy.

CONSTRUCTION CLASSIFICATION - HEIGHT AND AREA

Original Building

The height of the original building is six (6) stories above grade plane. Level One of the building is considered as a story above grade as defined by the AFPC since Level Two is more than twelve (12) feet above the finished ground level on the west side of the building (AFPC 502.1). The maximum gross footprint area of the original building is approximately 48,000 square feet and the aggregate area of the building is approximately 180,000 square feet.

The structural framing (slabs, joists, beams, girders, columns, and bearing/shear walls) of the building was observed to be solid concrete. Specifically, the concrete beams supporting the concrete floor/ceiling assemblies were observed to be approximately 20 inches deep, 8 inches thick, and spaced at 30 inches on center. The concrete columns were approximately 22 inches by 22 inches. All exterior walls of the building were concrete as well. **This portion of the building most closely resembles Type IA or IB construction, depending on the type and thickness of the concrete. The type and thickness of the concrete should be confirmed by the structural engineer on the project. As a worst case scenario, it is assumed that the construction type of the original building is Type IB Construction.**

The building is classified as a Use Group A-1, Assembly Occupancy as specified above. Given this Use Group classification and a construction type of Type IB, the building is permitted to be five (5) stories above grade plane (160 feet) and have an unlimited footprint area by the base values in Table 503 of the AFPC. This does not include any height or area increases for open frontage or automatic sprinkler protection.

The original building is only partially sprinklered and thus is not eligible for an increase in allowable height and area. Further, as the building is permitted to have an unlimited footprint area, the area increase due to open frontage is not necessary. Thus, the building's height and area comply with the provisions of the AFPC. An additional height increase of one (1) story could be achieved by adding sprinkler protection throughout the building. This would increase the allowable height and area to six (6) stories above grade and unlimited square feet, respectively.

As detailed above, the Type IB construction building is not compliant with the current height provisions of the AFPC. Based on discussions with a member of the International Code Council (ICC) technical service line, it is the intent of the IEBC that an addition is permitted if it complies with the height and area requirements of a building, even if the existing building already exceeds the height requirement. We recognize the ICC is not the governing code body in Fayetteville, Arkansas and thus this issue requires further discussion with local AHJs.

As such, an addition to the building is permitted under the current configuration. This addition may be directly connected to the original building and is not required to be classified as a separate building via a fire wall or back-to-back exterior walls. The new addition would be permitted to have an unlimited maximum footprint area and be up to five (5) stories in height. The maximum permitted height may be increased by one (1) story if the building is fully sprinkler protected.

If it is determined that the original building is composed of Type IA construction, an addition of unlimited height and area would be permitted to be directly connected to the original building.

Addition

The height of the addition is two (2) stories above grade plane. The maximum gross footprint area of the addition is approximately 21,000 square feet and the aggregate area is approximately 37,200 square feet. The structural framing in the addition was observed to be fireproofed steel. The floor/ceiling assemblies were composed of concrete with metal decking beneath. **The addition appears to be most consistent with Type IB or IIA construction, depending on the thickness of the fireproofing. As a worst case scenario, it is assumed that the construction type of the addition is Type IIA Construction.**

The building is classified as a Use Group A-3, Assembly Occupancy as specified above. Given this Use Group classification and a construction type of Type IIA, the building is permitted to be three (3) stories above grade plane (65 feet) and have a footprint area of 15,500 square feet by the base values in Table 503 of the AFPC. This does not include any height or area increases for open frontage or automatic sprinkler protection.

The addition is protected throughout by an automatic sprinkler system and thus is eligible for an increase in allowable height and area. Buildings equipped throughout with an automatic sprinkler system are permitted to increase the maximum height limitation by 20 feet and the maximum number of stories by one (1) story (AFPC 504.2). For multi-story buildings, the base fire area may be increased by 200 percent where the building is equipped throughout with an automatic sprinkler system (AFPC 506.3).

Further, the building qualifies for an increase in allowable area based on open frontage. Approximately 92 percent of the perimeter has open frontage of 30 feet or greater which corresponds to an increase in area of 67 percent. This results in a maximum allowable height of four (4) stories (85 feet) and a maximum allowable footprint area of 56,885 square feet.

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The addition of Type IIA construction complies with the current height and area provisions of the AFPC. As such, an addition to the existing addition is permitted under the current configuration. This addition may be directly connected to the existing addition and is not required to be classified as a separate building via a fire wall or back-to-back exterior walls. The new addition would be permitted to have a maximum footprint area of 35,885 square feet such that the overall area of the building does not exceed 56,885 square feet as permitted by AFPC Table 503. Further, the addition would be permitted to have a maximum height of four (4) stories.

If it is determined that the existing addition is classified as Type IB construction, a new addition would be permitted to be directly connected to the existing addition and may have an unlimited maximum footprint area and be up to twelve (12) stories in height.

If the original building and the existing addition are determined to be considered as separate buildings, the following table summarizes the maximum permitted height and area of a new addition depending on the construction type of the existing buildings.

Building	Construction Type	Maximum Permitted Area of New Addition	Maximum Permitted Height of New Addition ¹
Original Building	Type IA	Unlimited	Unlimited
	Type IB	Unlimited	Six (6) stories
Existing Addition	Type IB	Unlimited	Twelve (12) stories
	Type IIA	35,885 square feet	Four (4) stories

One Overall Building

As specified above, if the original building and the existing addition are separated by a fire wall and are considered as separate buildings, a new addition is permitted to be provided which is directly connected to either portion of the existing building.

However, if the two portions of the building are determined to not be separated by a fire wall, the overall occupancy classification and construction type of the building will be classified as the more restrictive of the two portions of the building. In this instance, the overall building would be classified as a Use Group A-1, Assembly Occupancy and the construction type would be classified as a Type IIA building.

Below the implications of a future addition are discussed if it is determined that the original building and the existing addition are considered as part of the same building. The following details are discussed for informational purposes only.

The height of the overall building would be six (6) stories above grade plane. The maximum gross footprint area of the building would be approximately 69,000 square feet and the aggregate area of the building would be approximately 217,200 square feet.

Given a Use Group A-1 classification and a construction type of Type IIA, the building would be permitted to be three (3) stories above grade plane (65 feet) and have a footprint area of 15,500 square feet. The overall building would only be partially sprinklered and thus would not be eligible for an increase in allowable height and area. However, the building would qualify for an increase in allowable area based on open frontage. Since the overall building is provided with 100 percent open frontage of 30 feet or greater, the building's area would be permitted to be increased by 75 percent.

This results in a maximum allowable height of three (3) stories above grade and a maximum allowable area of 27,125 square feet. An additional area increase of 200% and a height increase of one (1) story would be achieved by adding sprinkler protection throughout the building. This would result in a maximum height and area of four (4) stories above grade and 58,125 square feet, respectively.

As specified above, the overall building of Type IIA Construction would not be compliant with the current height and area provisions of the AFPC even when applying the increases associated with open frontage and an automatic sprinkler system. As such, an addition to the building would not be permitted under this configuration. If an addition is desired, it would have to be connected to the existing building with a fire wall or back-to-back exterior walls such that the addition is regarded as a separate building.

If it is determined that the original building and existing addition can be considered as Type IB construction, the building would comply with current height and area provisions of the AFPC. As such, an addition to the overall building would be permitted under the current configuration. This addition may be directly connected to the overall building and is not required to be classified as a separate building via a fire wall or back-to-back exterior walls. The new addition would be permitted to have an unlimited maximum footprint area and be up to five (5) stories in height. The maximum permitted height may be increased by one (1) story if the building is fully sprinkler protected.

If the original building and the existing addition are determined to be considered as the same overall building, the following table summarizes the maximum permitted height and area of a new addition depending on the construction type of the existing building.

Building	Construction Type	Maximum Permitted Area of New Addition	Maximum Permitted Height of New Addition ²
One Overall Building	Type IB	Unlimited	Six (6) stories
	Type IIA	Not permitted ³	Not permitted ³

FIRE PROTECTION SYSTEMS

Sprinkler and Standpipe Protection – The original building is partially sprinklered in the areas of the building which were renovated in 1999. Particularly, the building is sprinklered on Level One in the mail processing and office areas, on Level Two in the west and south corridors and adjacent retail spaces, and throughout Levels Three and Five. Additionally, the exit stairs are not provided with standpipes, however various hose cabinets with 1 ½ inch hose connections are provided sporadically throughout the building. The addition is fully sprinkler protected throughout.

² Assumes respective buildings are protected throughout with an automatic sprinkler system.

³ An addition to the building would not be permitted under this configuration. If an addition is desired, it would have to be connected to the existing building with a fire wall or back-to-back exterior walls such that the addition is regarded as a separate building.

Fire Alarm System – Both buildings contain a zoned fire alarm system complete with notification appliances, manual pull stations, and smoke detectors. There is a Notifier Fire Alarm Control Panel (FACP) located in Electrical Room A310 on Level A3 of the addition. There was no trouble or supervisory signals observed on the panel. Based on discussions with Dennis Frederick, the facility manager for the building, the single FACP in the addition is also tied into the fire alarm system serving the original building. The initial FACP for the original building was abandoned in place as a result of the 1999 addition/renovation. The FACP is zoned separately for the original building and the addition. Upon activation of the fire alarm system in the original building, only the notification appliances in the original building will initiate. Similarly, upon activation of the fire alarm system in the addition, only the notification appliances in the addition portion of the building will initiate. The “fire wall” at the interface between the two buildings serves as the separation for the fire alarm system.

Smoke detection was observed in the majority of mechanical/electrical rooms, storage spaces, as well as adjacent to elevators to serve as Phase I emergency recall operation. Some initiating devices are not located in accordance with current code standards (e.g. smoke detectors located more than 4 feet below ceiling in electrical room A310); however, it is assumed that they were located in accordance with the codes at the time they were installed. Further, smoke detectors were also observed in the original building to serve as initiating devices on both sides of FRR fire shutters. The locations of these shutters are discussed in further detail later in the report. Additionally, an annunciator panel is located adjacent to the fire wall on Level Two on the original construction side of the building.

Notification devices were observed in the original building and the addition throughout all floor levels, however some of the device spacing is not in accordance with current code standards. The heights of speakers in the building were spot checked and measured as being as low as 76.5 inches and as high as 132 inches above the floor surface. The majority of manual pull stations were located within five (5) feet of exits and varied between approximately 45 inches and 54 inches above the floor surface. Several exits were not provided with manual pull stations. The current edition of NFPA 72 Sections 5.12.4 and 7.4.7.1 requires that notification appliances have their tops at least 90 inches above finished floor and manual fire alarm boxes be located between 42 and 54 inches above the floor surface. It is assumed that the spacing and heights of the notification appliances were provided in accordance with the codes at the time they were installed.

Other Fire Protection Systems – Fire extinguishers are provided in various locations throughout the original building in hose cabinets and in the addition. The hose cabinets in the original building are also provided with 1 ½ inch hose connections and an accompanying fire hose.

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An Ansul Hood Suppression System is also provided for the large kitchen on Level Two in the original building. The suppression system was not provided with a service tag and specified that the water wash system in hood was not operational.

MEANS OF EGRESS

Original Building

The means of egress in the original building consists of five (5) enclosed stairs, two (2) exterior stairs, and numerous exit doors to grade.

The five (5) enclosed exit stairs are labeled as Stairs 1, 2, 4, 6, and 7 on the existing drawings. Due to the grading of the site, the stairs discharge at various levels depending upon their location in the building. All of the doors leading into the stairs were observed to be equipped with approved panic hardware which was spot checked to be approximately 35 inches above the finished floor.

- Stair 1 is located on the southeast side of the building and serves Levels Four and Six only. The stair discharges directly to the exterior of the building on Level Two. The stair is 48 inches wide, measured from the outside of stringer to stringer, with a handrail at a height of approximately 36 inches above the walking surface on one side only. The clear width on the doors to Stair 1 were not consistent, however all doors minimally had at least 32 inches clear width. Doors to Stairs 1 contained a 90-minute FRR rating on each level.
- Stair 2 is located on the south side of the building, serves all six (6) levels, and discharges through a vestibule on Level One. The stair is 78 inches wide, measured from the outside of stringer to stringer, with handrails at a height of approximately 39 inches above the walking surface on both sides. The doors leading into the stair were observed to be 90-minute FRR with a majority of the doors being provided with magnetic hold open devices. It should be noted that the stair discharge doors on Level One did not latch properly and were locked shut with a wooden plank on the side opposite of egress.
- Stair 4 is located in the center of the original building and serves Levels Two, Three, and Five only. However, the stair is not signed as an exit on Level Three. Stair 4 discharges into a rated corridor on Level One which leads directly to the exterior at the northwest side of the building. The stair is 44 inches wide, measured from the outside of stringer to stringer, with handrails at a height of approximately 36 inches above the walking surface on both sides. The clear width on the doors to Stair 4 were not consistent, however all doors minimally had at least 32 inches clear width. Doors to Stairs 1 contained a 90-minute FRR rating on each level; however several of the doors did not latch properly.

- Stair 6 is located on the northeast side of the building and serves Levels Three through Six. The stair discharges directly to the exterior of the building on Level Two, however is not accessible from this level. The stair is 78 inches wide, measured from the outside of stringer to stringer, with handrails at a height of 33 inches above the walking surface on both sides. The doors leading into the stair were observed to be 90-minute FRR with a majority of the doors being provided with magnetic hold open devices. Several of the doors leading into the several did not close or latch properly.
- Stair 7 is located on the northwest corner of the building and serves the auditorium on Level Four only. The stair is 74 inches wide, measured from the outside of stringer to stringer, with handrails at a height of 38 inches above the finished floor. The pair of doors leading into the stair was observed to only provide a clear width of 29 inches. Further, it was observed that the bottom of the stair enclosure was used for table storage and the exit discharge door from the stair to the exterior of the building was locked from the egress side.

The building is also provided with two (2) exterior stairs, labeled as Stairs 3 and 5 on the existing drawings, which are located at the southwest and northwest corners of the building, respectively. Stair 3 serves Levels One, Two, Three, and Five, while Stair 5 serves Levels One, Three, and Five of the original building. Both stairs are 132 inches wide, measured from the outside of stringer to stringer, with handrails at a height of approximately 41 inches above the walking surface on both sides. The stairs are separated from the interior of the building on each level by a pair of 36 inch doors having a 1-hour FRR. Based on the inherent FRR associated with the exterior walls of the building, it is likely that the stairs are separated from the interior of the building by at least 1-hour rated construction. In addition, both stairs are provided with areas of refuge on each accessible floor level which consists of an enlarged landing on the exterior of the building. Each area of refuge is also equipped with a two-way communication system which connects to an area of refuge phone that is located adjacent to the east elevator on Level Two in the original building. It is assumed that the two-way communication system is working properly, however this was not verified.

Levels One through Three are also provided with exit doors on the southside of the building which lead to grade and provide access to the adjacent open parking garage. Each of these doors on the levels is provided with automatic door openers. In addition, Level Two is also provided with exit doors on the eastside of the building which lead directly onto N Garland Avenue.

The unenclosed stairs in the building are not regarded as a means of egress since they serves more than two stories and have open construction.

Addition

The means of egress in the addition consists of two (2) enclosed stairs and numerous exit doors to grade.

The two (2) enclosed exit stairs are labeled as Stairs A1 and A2 on the existing drawings. Both stairs discharge directly to the exterior of the building on Level A3. All of the doors leading into the stairs were observed to be equipped with approved panic hardware which was spot checked to be approximately 36 inches above the finished floor.

Stairs A1 and A2 are located on the north and south sides of the building, respectively, and serve both floors of the building. Both stairs are 44 inches wide, measured from the outside of stringer to stringer, with handrails at a height of approximately 38 inches above the walking surface on both sides. The doors to Stairs A1 and A2 were measured to provide 32 inches clear width and are provided with a 1-hour FRR. All of the doors were self-closing and self-latching, however the door leading into Stair A2 on Level A6 did not latch properly.

The unenclosed stair in the addition does not appear to be used as a means of egress. The stair is not currently provided with exit signage and doors leading into the stair on Level A6 are swinging in the direction opposite of egress travel. In addition, the stair width is only 40 inches wide; however the AFPC requires egress stairs to have a minimum width of 44 inches when serving an occupant load of greater than 50. It should be noted that this stair is not a required means of egress under the current layout of the addition.

Additionally, eleven (11) exit doors are provided from Level A3 which provides direct access to the exterior of the building.

EXIT SIGNAGE AND LIGHTING

Adequate exit signage appeared to be provided throughout the original building and the addition. In general, the signage is internally illuminated; however numerous exit signs were not illuminated at all or were illuminated at levels lower than required by the Code. The exit signs are not provided with emergency lighting. **Further, it has been verified with Dennis Frederick, the facility manager for the building, that both the original building and the addition are connected to their own respective on-site gas emergency generators. If primary power loss occurs, it is our understanding that the generators provide power to the building for a minimum of 90-minutes as required by the AFPC.**

VERTICAL OPENINGS

The original building is provided with a series of open stairs located at the east side of the building which connect Levels One through Six and thus create an atrium. The atrium is not provided with a smoke control system however is provided with 3-hour FRR shutters in various locations to separate the atrium from certain areas of the building. Specifically, two (2) fire shutters are provided on Level One to separate the postal service center from the main corridor and seven (7) fire shutters are provided on Level Two to separate the bookstore and retail spaces from the main corridor. On both levels, the main corridor is entirely open to the atrium. Level Three is provided with a single, large fire shutter which separates the majority of the level from the atrium. A fire shutter is also provided on Level Five which separates the ballroom from the atrium. As discussed previously, the shutters are initiated via smoke detectors which are located within 5 feet of the shutter on both sides.

Based on our observations, it appears that the fire shutters are provided in these locations to either provide a continuous 1-hour FRR to their respective corridors as the building is not fully sprinkler protected, or to limit the extents of the atrium itself. Based on discussions with Dennis Frederick, the fire shutters were provided as a result of the 1999 renovation. While numerous fire shutters are provided throughout the building to limit the extents of some of the combustibles exposed to the atrium, the atrium is still relatively open to all floor levels.

There are no other unprotected vertical openings observed in the building. All means of egress stairs and elevators are provided in shaft enclosures.

There are no unprotected vertical openings in the addition other than the unenclosed stair which is permitted by the AFPC as it only connects two stories (AFPC 707.2).

ACCESSIBILITY

From an accessibility standpoint, particular attention should be provided to the elevation differences between the floor levels in the original building and in the addition. As previously mentioned, the original building consists of Levels One through Six. However, at the east side of the building there are several intermediate floor landings, termed mezzanines by the university, which provide direct access to N Garland Avenue and the addition, and also serve as stair landings for the open stairs which connect various levels in the building. Specifically, these intermediate landings are referred to as Level 2A and Level A3 within the elevators serving the buildings. Level 2A is an intermediate floor landing located between Levels Two and Three in the original building and provides direct access to N Garland Avenue. Level A3 is an intermediate floor landing located between Levels Three and Four and provides direct access to the addition. The implications of these elevation differences are discussed below in further detail.

Original Building

The various main entrances to the building are located at grade with doors providing clear widths of at least 32 inches. As previously discussed, the doors on the south side of the building adjacent to the open parking garage on Levels One through Three are provided with automatic door openers labeled with the universal symbol for accessibility. The main entrance which fronts on N Garland Avenue leads onto an immediate floor landing (Level 2A) between Levels Two and Three. A passenger elevator is located adjacent to this landing to provide access to other floors in the building. Thus, this entrance is provided with an accessible route to the building.

Accessible toilet stalls are located in the original building on Levels One, Two, Three, and Five with the following details and dimensions:

- The men's accessible toilet stall on Level One was observed to be 64 inches wide by 56 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 20.5 inches from the side of the wall. The women's accessible toilet stall on Level One was observed to be 60 inches wide by 53 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall.
- The men's accessible toilet stall on Level Two was observed to be 40 inches wide by 70 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall. The women's accessible toilet stall on Level Two was observed to be 70 inches wide by 40 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 17.5 inches from the side of the wall.
- The men's accessible toilet stall on Level Three was observed to be 64 inches wide by 58 inches deep with handrails 35.5 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall. The women's accessible toilet stall on Level Three was observed to be 60 inches wide by 68 inches deep with handrails 33 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall.

- The men's accessible toilet stall on Level Five was observed to be 64 inches wide by 58 inches deep with handrails 34 inches above the finished floor. The centerline of the water closet was observed to be 17.5 inches from the side of the wall. The women's accessible toilet stall on Level Five was observed to be 60 inches wide by 60 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 17.5 inches from the side of the wall.

Water closets in accessible stalls should be a minimum of 60 inches wide by 56 inches deep for wall mounted toilets (Americans with Disabilities Act Accessibility Guidelines, ADAAG, 4.17.3). Side grab bars should be provided between 33 and 36 inches above the finished floor. The centerline of the water closet should be at least 18 inches from the side of the stalls. Based on these requirements, it appears that the men's accessible stall on Level One and the men's and women's accessible stalls on Level Three meet the current requirements of the ADAAG. The remaining toilet stalls do not comply with ADAAG based upon the dimensions of the stall or the distance from the centerline of the toilet to the wall.

It should be noted that if these toilet stalls were provided as a result of alteration work in the past, where a standard stall was technically infeasible or where plumbing code requirements prevent combining existing stalls to provide space, an alternate toilet stall in accordance with ADAAG Figure 30(b) may be provided in lieu of the standard stall. **It appears that the majority of the accessible toilet stalls comply with the dimensions of the alternate toilet stall, however this approach requires further discussion with the local AHJs as it is unknown if increasing the size of the stalls is technically infeasible or if additional stalls are required based upon plumbing fixture counts.**

There are numerous drinking fountains provided throughout the building. The fountains were provided with spouts which ranged from 33 inches to 36 inches above the finished floor. Additionally, several of the drinking fountains were not provided with any knee clearance, while the remaining drinking fountains were provided with knee clearances 27 inches in height and 8 inches deep. Drinking fountains should have at least 27 inches of knee clearance and be between 17 and 19 inches deep, with spouts no higher than 36 inches (ADAAG 4.15). By this definition, all of the drinking fountains within the building are provided with either spouts that are too tall or a lack of knee clearance to meet current accessibility requirements.

Sinks within typical restrooms were observed to have counters ranging from 31 inches to 34 inches above the finished floor. Knee clearances are provided which ranged from 7 inches to 14 inches deep and from 26.5 inches to 30 inches above the floor at the lowest point. Accessible sinks should be mounted with the counter no higher than 34 inches above the floor with knee clearances that are at least 27 inches high, 30 inches wide, and 19 inches deep (ADAAG 4.24). Based upon this definition, none of the sinks in the restrooms meet current accessibility requirements due to lack of knee clearance.

Three (3) elevators are provided in the original building, which consist of two (2) passenger elevators and one (1) service elevator. The first passenger elevator, hereafter termed as “west elevator”, is located towards the center of the building and serves Levels One through Six (excluding Levels 2A and A3). The clear width of the openings on both sides to the west elevator was measured to be 36 inches and the interior cab dimensions were 62 inches wide by 58 inches deep. The second passenger elevator, hereafter termed as “east elevator” is located on the east side of the building adjacent to the unenclosed stairs. This elevator serves Levels Two, 2A, Three, A3, Four, and Six. The opening to the east elevator on the east side was measured to be 36 and the opening on the west side was measured to be 32 inches. The interior cab dimensions were 68 inches wide by 60 inches deep. Per ADAAG, the opening to passenger elevators is required to be a minimum of 36 inches, with inside dimensions of 68 inches wide by 51 inches deep for elevators with the door located to one side of the elevator (ADAAG 4.10.9). Thus, the east elevator does comply with the current requirements of ADAAG for accessibility.

Since both elevators do not serve all floor levels, providing an accessible route between the original building and the addition can be a challenge. For example, if a disabled individual wants to travel from Level A3 in the addition to Level One in the original building, they would first have to take the east elevator from Level A3 to Level Two. On Level Two, they would be required to travel from the east elevator to the west elevator which they could then take to Level One. While an accessible route is provided to all levels in the original building and the addition, the accessible route can be rather long and laborious. Per ADAAG Section 4.3.2, the accessible route should, to the maximum extent feasible, coincide with the route for the general public. Thus, the existing accessible route in the building complies with the current edition of ADAAG. However, if a renovation to the building occurs, particular attention should be paid to providing a suitable solution.

The remainder of the original building also appears to be provided with an accessible route. The entrance to the small movie theater on Level Four is provided with numerous steps, however a wheelchair lift has been provided for disabled individuals. The wheelchair lift is provided with a 32 inch opening with interior dimensions of 32 inches wide by 50 inches deep. The chair lift is also provided with a two-way communication system. In accordance with ADAAG Section 4.2.4.1, the minimum ground floor clearance required to accommodate a single, stationary wheelchair and occupant is 30 inches by 48 inches. Based upon these dimensions, the wheelchair lift complies with the current version of ADAAG.

The fixed seating in the movie theater and auditorium are also provided with dedicated wheelchair spaces. The wheelchair spaces are providing along an accessible route and feature a companion fixed seats next to each wheelchair space per ADAAG Section 4.33.2. The auditorium is also provided with a ramp which leads to the stage, however the ramp is not provided with handrails. It does not appear that the auditorium is provided with an assistive listening system. The ballroom on Level Five is also features a stage which is equipped with a platform lift. The lift is provided with an opening of 32 inches, interior dimensions of 32 inches wide by 50 inches deep, and is provided with a two-way communication system. Based upon these dimensions, the wheelchair lift complies with the current version of ADAAG.

Addition

The main entrance to the addition is located on the west side of Level A3 with doors providing clear widths of at least 32 inches. The doors at the main entrance are provided with automatic door openers labeled with the universal symbol for accessibility.

Accessible toilet stalls are located in the addition on Levels A3 and A6.

- The men’s accessible toilet stall on Level A3 was observed to be 63 inches wide by 58 inches deep with handrails 35 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall. The women’s accessible toilet stall on Level A3 was observed to be 63 inches wide by 58 inches deep with handrails 33 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall.
- The men’s accessible toilet stall on Level A6 was observed to be 58 inches wide by 58 inches deep with handrails 33 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall. The women’s accessible toilet stall on Level A6 was observed to be 60 inches wide by 58 inches deep with handrails 33 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall.

As previously mentioned, water closets in accessible stalls should be a minimum of 60 inches wide by 56 inches deep for wall mounted toilets (ADAAG, 4.17.3). Side grab bars should be provided between 33 and 36 inches above the finished floor. The centerline of the water closet should be at least 18 inches from the side of the stalls. Based on these requirements, the men’s accessible stall on Level A6 does not meet the current requirements of the ADAAG. The remaining toilet stalls comply with ADAAG based upon the dimensions of the stall and the distance from the centerline of the toilet to the wall.

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There are two (2) drinking fountains located on both Levels A3 and A6. The drinking fountains were provided with spouts 34 inches above the finished floor, and knee clearances having a height of 29 inches and a depth of 16 inches. Drinking fountains should have at least 27 inches of knee clearance and be between 17 and 19 inches deep, with spouts no higher than 36 inches (ADAAG 4.15). As such, all of the drinking fountains within the building are provided with a lack of knee clearance to meet current accessibility requirements.

Sinks within restrooms were observed to have counters 34 inches above the finished floor. Knee clearances are provided which are 10 inches deep and 29 inches high above the floor at the lowest point. Accessible sinks should be mounted with the counter no higher than 34 inches above the floor with knee clearances that are at least 27 inches high, 30 inches wide, and 19 inches deep (ADAAG 4.24). Based upon this definition, none of the sinks in the restrooms meet current accessibility requirements due to lack of knee clearance.

One (1) elevator, hereafter referred to as the “addition elevator”, is provided in the addition which is located on the east side of the building adjacent to the main entrance. The elevator serves Levels A3 and A6 in the building. The clear width of the opening to the addition elevator was measured to be 36 inches and the interior cab dimensions were 70 inches wide by 52 inches deep. Per ADAAG, the opening to passenger elevators is required to be a minimum of 36 inches, with inside dimensions of 68 inches wide by 51 inches deep for elevators with the door located to one side of the elevator (ADAAG 4.10.9). Thus, the addition elevator does comply with the current requirements of ADAAG for accessibility.

EXISTING BUILDING EVALUATION - IEBC

GENERAL

An IEBC evaluation of the existing building is necessary to determine the required fire protection and life safety improvements when any alteration or renovation work is undertaken.

This report will discuss the various renovation schemes under consideration as part of this project and will provide specific information regarding the different schemes where appropriate.

DEFINITIONS

Each of the following classes of work has an associated chapter within the IEBC which outlines the provisions for that type of work on an existing building.

Repairs:

Repairs are defined as measures taken to restore the building to good or sound condition for general maintenance purposes. These include the restoration of materials, elements, equipment or fixtures for the purpose of maintaining a good or sound condition.

Alteration Level 1:

Alterations are defined as “any construction or renovation to an existing structure other than repair or addition.” Level 1 alterations include, “removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.”

Alteration Level 2:

A Level 2 alteration consists of the reconfiguration of space, addition or subtraction of a door or window, the reconfiguration of any system, or adding any equipment to the building. Level 2 alterations should also comply with the provisions for a Level 1 alteration.

Alteration Level 3:

A Level 3 alteration exists where the work area exceeds 50 percent of the aggregate area of the building. Level 3 alterations should also comply with the provisions of both Level 2 and Level 1 alterations. The term “work area” is defined as the area of all reconfigured spaces where work is occurring in the building, as specified on the Construction Documents. It should be noted that portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by the IEBC is excluded from being considered in the “work area”.

Due to the uncertainty of the scope of work, the existing building evaluation will outline potential impacts based upon both Level 2 and Level 3 Alterations.

Additions:

Additions are any extension to a building which increases the floor area, number of stories, or height of the building.

It is the understanding of RJA that an increase in floor area may be considered which may be designed as an addition to the existing building or as a separate building via a fire wall. Under the requirements of the IEBC, a new addition is permitted to be provided adjacent to the original building or the existing addition provided that the existing buildings are separated by a true fire wall and are thus considered as separate buildings. Under this configuration, an addition would be permitted as the existing buildings comply with the height and area limitations of the AFPC.

However, if it is determined that the existing addition is considered as part of the original building and they are not separated via a fire wall, a new addition would not be permitted due to the overall building exceeding the maximum allowable height and area requirements of AFPC. Please refer to the Construction Classification - Height and Area section of the report for further details. Thus, under this configuration, any increase in floor area would be required to be separated from the existing building with a fire wall or back-to-back exterior walls, such that the new area is considered a separate building.

Change in Use:

Changes in occupancy are defined as a change in purpose or level of activity within a building. This includes changes in use of a building within the same occupancy classification as well as a change of occupancy classification.

While the use of certain spaces may be relocated within the building, a change in occupancy classification is not anticipated.

REQUIREMENTS FOR REPAIRS & ALTERATIONS – LEVEL 1 & LEVEL 2

REPAIRS

Chapter 5 of the IEBC addresses repairs done to specific building elements. This section requires that when repairs are done to fire protection, means of egress, and accessibility elements that they are done to maintain the level of work currently provided. This section also requires that repairs to structural, electrical, mechanical, and plumbing systems should not reduce the level of service previously provided. Additional structural requirements may be applicable depending on the size of the structural repair occurring.

ALTERATIONS LEVEL 1

Interior Finish

All newly installed interior finishes should comply with the flame spread requirements of the AFPC (IEBC 602.1). New carpeting used as an interior floor finish material should comply with the radiant flux requirements of the AFPC (IEBC 602.3).

MEP and Fire Protection

All new work should comply with materials and methods requirements in the AFPC, Arkansas Energy Conservation Code (AECC), AMC, and APC, as applicable, that specify material standards, details of installation and connection, joints, penetrations, and continuity of any element, component, or system in the building (IEBC 602.3).

Alterations should be done in a manner that maintains the level of fire protection provided (IEBC 603.1).

Accessibility

Accessibility requirements for Alteration Level 1 are discussed later in the report and are applicable to work areas where repairs or Alteration Level 2 or Level 3 work is performed.

Structural Requirements

Where alteration work includes replacement of equipment that is supported by the building or where a re-roofing permit is required, the structural provisions of this section should apply (IEBC 606.1). Existing structural components supporting alteration work should comply with this section. Where replacement of roofing or equipment results in additional dead loads, structural components supporting such reroofing or equipment should comply with the vertical load requirements of the AFPC (IEBC 606.2.1).

Structural requirements should be addressed by the structural engineer.

ALTERATIONS LEVEL 2

Section 601.2 requires that alterations categorized as Level 2 comply both with the requirements of Chapter 6, Alterations Level 1, and Chapter 7, Alterations Level 2.

Vertical Openings

In Use Group A Occupancies, all existing interior vertical openings within the work area connecting more than two (2) floors should be enclosed with approved assemblies having a fire-resistance rating of not less than one (1) hour with approved opening protectives (IEBC 703.2.1). However, the following exceptions apply:

1. Where vertical opening enclosure is not required by the AFPC.
2. Interior vertical openings other than stairways may be blocked at the floor and ceiling of the work area by installation of not less than 2 inches (51 mm) of solid wood or equivalent construction.
3. The enclosure is not required where:
 - 3.1. Connecting the main floor and mezzanines; or
 - 3.2. All of the following conditions are met:
 - 3.2.1. The communicating area has a low hazard occupancy or has a moderate hazard occupancy that is protected throughout by an automatic sprinkler system.
 - 3.2.2. The lowest or next to the lowest level is a street floor.
 - 3.2.3. The entire area is open and unobstructed in a manner such that it may be assumed that a fire in any part of the interconnected spaces will be readily obvious to all of the occupants.
 - 3.2.4. Exit capacity is sufficient to provide egress simultaneously for all the occupants of all levels by considering all areas to be a single floor area for the determination of required exit capacity.
 - 3.2.5. Each floor level, considered separately, has at least one half of its individual required exit capacity provided by an exit or exits leading directly out of that level without having to traverse another communicating floor level or be exposed to the smoke or fire spreading from another communicating floor level.

The unenclosed stairs on the east side of the original building which connect Levels One through Six are classified as unprotected vertical openings. If these stairs are not included in the work area, they are not subject to the enclosure requirements described above (IEBC 703.1). If these stairs are to be included in the work area, they should be enclosed in 1-hour FRR construction.

Alternatively, if the building is equipped with an automatic sprinkler system throughout as part of the renovation, it is the opinion of RJA that the unenclosed stairs may remain as-is in accordance with Exception 3.2 noted above. However, this approach requires further discussions with the local AHJs as several of the criteria for this approach are subjective (e.g. open and unobstructed).

It should be noted that the unenclosed stairs are not permitted to be protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13 as they connect more than four stories (AFPC 707.2, Exception 2.1).

Fire Protection Systems

Automatic Sprinkler Protection -

For Level 2 alterations, the following provisions apply at least throughout the floor on which the work areas are located (IEBC 704.1). If the work area exceeds 50 percent of the floor area and if the building has sufficient municipal water supply for design of a fire sprinkler system without installation of a new fire pump, the work area must be provided with automatic sprinkler protection if required by the AFPR (IEBC 704.2.2).

The IEBC requirements for automatic sprinkler protection depend on the nature of work to be done. If the work area exceeds 50 percent of the floor area and the building has sufficient water supply for the sprinkler system without a new fire pump, automatic sprinkler protection is required for the entire floor.

Fire pumps are not currently installed for the sprinkler systems serving the original building or the addition. Based on discussions with Wayne Brashear, the municipal water supply serving the original building is inadequate for the existing sprinkler system. Therefore, it is likely that if any new areas of the original building are sprinklered as a result of the renovations, the installation of a new fire pump would be required. As such, the work areas are not required to be sprinklered if a new pump is required per IEBC Section 704.2.2.

Due to the large amount of combustibles within the original building, it is the recommendation of RJA that an automatic sprinkler system be provided throughout the entire building as part of the renovation process. While this may not be specifically required, it will provide a higher level of safety which is intended by the Code.

Further, as the water supply serving the existing sprinkler system in the original building is already inadequate, it is our recommendation to provide a new fire pump as a result of the renovations even if not explicitly required by the Code.

This section of the IEBC does not apply to the addition as it is already equipped with an automatic sprinkler system throughout.

Standpipe Systems -

Where the work area includes exits or corridors and is located more than 50 feet above or below the lowest level of fire department access, a standpipe system should be provided (IEBC 704.3). The standpipes system should have an approved fire department connection with hose connections at each floor level.

The original building is not currently equipped with a standpipe system inside of the exit stairs. The highest floor level of the building is greater than 50 feet above the lowest level of fire department access and thus a standpipe system would be required if the work area includes exits or corridors in areas greater than 50 feet above the lowest level of fire department access. RJA recommends that if an automatic sprinkler system is provided throughout the original building as a result of renovations, a Class I standpipe system should be considered as well.

This section of the IEBC is not applicable to the addition as its floors are not greater than 50 feet above or below the lowest level of fire department access.

Fire Alarm and Detection

Except in existing occupancies with previously approved fire alarm systems or where selective notification is permitted, a fire alarm system should be installed for the occupancies identified in Section 704.4.1 of the IEBC. Existing alarm-notification appliances should be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the work area should be provided and automatically activated (IEBC 704.4.1). If the work area on any floor exceeds 50 percent of that floor area, a fire alarm system should be provided throughout the floor (IEBC 704.4.2).

For Alteration Level 2, IEBC Section 704.4.1 does not include Use Group A, Assembly Occupancies. The original building and the addition are equipped with a previously approved fire alarm and detection system. Renovated areas will be subject to the fire alarm requirements for new construction. Additionally, as the original building has an occupant load of greater than 1,000, the manual fire alarm system should initiate a signal using an emergency voice/alarm communications system in accordance with NFPA 72. Based upon discussions with Dennis Frederick, both the original building and the addition are already provided with a previously approved emergency voice/alarm communications system.

The fire alarm and detection system in unaltered portions of the building are permitted to remain. It should be noted that additional smoke alarm and notification appliances (i.e. speakers and strobes) will be required in the work areas. The number of available points on the existing fire alarm panel is unknown. While not explicitly stated in the requirements, an additional fire alarm panel or a replacement of the existing fire alarm panel may be warranted if the capacity of the existing system is exceeded. Further, if the work area on any floor exceeds 50 percent of that floor area, a fire alarm system should be provided throughout the floor.

Means of Egress

General -

During the Renovation Phase of the project, the details of the work areas associated with the proposed renovation schemes are unknown.

The means of egress within these work areas are not required to comply with the requirements of this section if the following conditions exist (IEBC 705.2):

1. Where the work area and the means of egress serving it complies with NFPA 101.
2. Means of egress conforming to the requirements of the AFPC under which the building was constructed are considered compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life.

Every story utilized for human occupancy which there is a work area that includes exits or corridors should be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the AFPC (IEBC, 705.3.1)

Use Group A buildings with occupant loads of 300 or more are required to have a main exit sized for at least one half of the total occupant load (IEBC, 705.3.3). Where there is no well-defined main exit or where multiple exits are provided, exits are permitted to be distributed around the perimeter of the building provided that that total width of egress is not less than 100 percent of the required width.

The means of egress from each level in the original building and the addition Library provides a sufficient minimum number of exits based on the occupancy and occupant load as prescribed by the AFPC for new construction. Additionally, it is the opinion of RJA that the original building is served by multiple main exits around the perimeter of the building and thus a single main exit does not need to serve one half of the total occupant load of the building.

Appendix D.1:

Union: Code & Fire Protection Facility Assessment

The addition does appear to be provided with a well defined main exit on Level A3 located on the east side of the building. The main exit is sufficient to accommodate at least half of the total occupant load of the addition.

The means of egress requirements as applied to a Level 2 Alteration are provided below and should be revisited once the scope of the renovation project is defined.

The following are a list of means of egress requirements that a work area would be subject to as a Level 2 Alteration. As the scope of the project becomes more defined, RJA will update this list to detail what should be provided.

Number of Means of Egress -

In any work area, all rooms and spaces having an occupant load greater than 50 or in which the travel distance exceeds 75 feet should be provided with at least two egress doorways (IEBC 705.4.1.1). Storage rooms having a maximum occupant load of 10 are permitted to have one exit and unlimited travel distance. In the work area, or in the path from the work area to the area of exit discharge, all doors serving an area with an occupant load of 50 or greater should swing in the direction of egress (IEBC 705.4.2). Where the work area exceeds 50 percent of the floor area, door swings should comply with the above provisions through the entire floor.

As previously mentioned, several retail and office spaces are protected by FRR fire shutters on Levels One and Two in the original building. Upon initiation of the fire shutters, many of these spaces are only provided with a single means of egress, although the occupant load for the spaces is greater than 50. As such, if any of these rooms or spaces are included in the work area, they should be renovated to provide at least two available means of egress upon initiation of the fire shutters.

In addition, there are rooms and corridors in the original building which are provided with or serve occupant loads greater than 50 whose doors swing opposite of the direction of egress travel. These spaces include the stage in the auditorium on Level Four and the doors leading into Corridor 217 on Level Two. If these spaces are included in the work area, these doors swings should be reversed to swing in the direction of egress travel.

Further, the art gallery on Level Four of the original building is provided with an occupant load of greater than 50 occupants; however a single horizontal sliding door is provided from the room as a means of egress. If this room is included in the work area, it should be anticipated that two means of egress will be required, both of which consist of side-hinged swinging doors as required by AFPC Section 1008.1.2.

Door Closing -

In any work area, all doors opening onto an exit passageway at grade or an exit stair should be self-closing or automatically closing by listed closing devices. This requirement applies unless the exit enclosure is not required by the AFPC or if the means of egress are not within the work area (IEBC 705.4.3). Where the work area exceeds 50 percent of the area of that floor, all doors along the means of egress to the level of exit discharge must also be self-closing or automatic closing.

In any work area, and in the egress path from any work area to the exit discharge, for Use Group A occupancies with an occupant load greater than 100, all required exit doors equipped with latching devices should be equipped with approved panic hardware (IEBC 705.4.4). Where the work area exceeds 50 percent of the floor area, panic hardware should be provided for all doors equipped with latching devices on the floor.

Several of the doors leading into Stairs 2, A2, 4, and 6 did not close or latch properly. If these doors are located within the work area, or if the work area exceeds 50 percent of the floor, the doors should be provided with approved self-closing devices. The majority of exit doors and exit discharge doors in the original building and the addition were observed to be provided with panic hardware.

Panic hardware within the building was observed to be provided between 35 inches and 47 inches above the finished floor. Panic hardware was not provided on the means of egress doors from numerous conference rooms on Level Five of the building. These conference rooms are provided with removable partitions and thus the occupant load of combined rooms may exceed 100 occupants. Therefore, these rooms should be equipped with panic hardware if they are included within the work area or if the work area exceeds 50 percent of the floor area on Level Five. The AFPC requires panic hardware to be installed between 34 inches and 48 inches above the finished floor and thus the existing panic hardware within the building complies with these height requirements (AFPC 1008.1.8.3).

Corridor Doors -

Openings in corridor walls contained in a work area should not be constructed of hollow core wood and should not contain louvers. Existing corridor doors are permitted to remain if they achieve a 15-minute archaic fire resistance rating or if they are labeled as having a fire resistance rating of at least 20-minutes (IEBC 705.5.1). Where the work area exceeds 50 percent of the floor area, the provisions above should apply to all corridors on the floor.

There are currently corridors provided in Levels One and Two of the original building. It was observed that the corridor is provided with doors having a FRR ranging from 20-minutes to 1-hour and therefore they are permitted to remain even if included in the work area. Further, if the original building is provided with an automatic sprinkler system throughout as part of the renovations, the corridors and corridor doors are permitted to be non-rated.

This section is not applicable to the addition as it is protected with an automatic sprinkler system throughout and thus the corridors are permitted to be non-rated.

Dead Ends -

Dead-end corridors in any work area should not exceed 35 feet (IEBC 705.6).

No dead-end conditions were observed in the original building or in the addition.

Means of Egress Lighting -

Means of egress in all work areas should be provided with artificial lighting in accordance with the requirements of the AFPC. Where the work area on any floor exceeds 50 percent of that floor area, means of egress lighting throughout the floor should comply with the provisions of the AFPC. This illumination must be provided by artificial lighting and must be a minimum of 1 foot-candle (11 lux) at the floor level.

Based on our observations, exit signage in the original building and the addition is not provided with emergency lighting per the AFPC. However, it was verified with Dennis Frederick that the original building and the addition are each connected to their own respective on-site gas emergency generators. It is the assumption of RJA that the generators are capable of supplying the emergency lighting system for a duration of not less than 90-minutes per AFPC Section 1006.3.

If the generators are not capable of meeting this duration, it should be expected that the means of egress in work areas of the original building and the addition will be provided with emergency lighting per the AFPC. Additionally, if the work area exceeds 50 percent on any floor level, the means of egress on the entire floor should be provided with emergency lighting.

Exit Signs -

Means of egress in all work areas should be provided with exit signs in accordance with the requirements of the AFPC. Where the work area on any floor exceeds 50 percent of that floor area, means of egress throughout the floor should be provided with exit signage.

It appears that the majority of the original building and addition is provided with adequate exit signage throughout. Exit signs are provided at all exit discharge doors and doors leading into exit stairs on all floors. However, it was observed that many of the exit signs are not internally illuminated at all or are illuminated at levels less than that required by the AFPC. If these exit signs are included in the work areas, it should be anticipated that the signage will be required to be replaced.

Handrails -

Every required exit stairway that is part of the means of egress for any work area and that has three (3) or more risers and is not provided with at least one handrail, or in which the existing handrails are judged to be in danger of collapsing, should be provided with handrails for the full length of the run of steps on at least one side. All exit stairways with a required egress width of more than 66 inches should have handrails on both sides (IEBC 705.9.1). Handrails should be designed and installed in accordance with the provisions of the AFPC.

Handrails are currently provided on both sides of all of the means of egress stairs in the original building and in the addition. The handrails vary between 33 inches and 41 inches above the stair treads. It was observed that the majority of the handrails are not provided with handrail extensions as required by the AFPC. Although the handrails do not meet the current requirements of the AFPC, they are provided on all means of egress stairs and are not in danger of collapsing. Therefore, new handrails will not be required even if the means of egress stairs serve work areas.

The stairs serving as means of egress from the auditorium stage on Level Four and the stairs serving as means of egress from the ballroom stage on Level Five in the original building are not provided with handrails on either side. As these stairs consist of three (3) or more risers, they should be provided with handrails for the full length of the stairs on at least one side if they are included in the work areas.

Guards -

Every open portion of a stair, landing, or balcony that is more than 30 inches above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, should be provided with guards (IEBC 705.10.1). Guards should be designed and installed in accordance with the AFPC.

Guards are currently provided above the finished floor on the open-sided walking surfaces for each of the stairs within the original building and the addition. It was observed that the guards are not provided with balusters such that a 4 inch diameter sphere cannot pass through any opening (AFPC 1013.3). However, as guards are provided for each of the stairs and the guards do not appear to be in danger of collapsing, new guards serving work areas will not be required.

Structural and MEP -

Where alteration work includes installation of additional equipment that is structurally supported by the building or reconfiguration of space such that portions of the building become subjected to higher gravity loads as required by Tables 1607.1 and 1607.6 of the AFPC, the provisions of Section 707 of the IEBC should apply (IEBC 707.1).

This section is required to be addressed by the structural and/or mechanical engineer.

REQUIREMENTS FOR REPAIRS & ALTERATIONS – LEVEL 3

IEBC Chapter 8 stipulates specific requirements for Level 3 Alterations. In addition to the provisions of IEBC Chapter 8, work must also comply with all of the requirements of IEBC Chapters 6 and 7, for Level 1 and 2 Alterations. The requirements of Sections 703 (Building Elements and Materials), 704 (Fire Protection) and 705 (Means of Egress) apply within all work areas regardless of the occupant load (IEBC 701.2).

Based on the proposed renovation under consideration, the work may be classified as an Alteration Level 2 or an Alteration Level 3. Due to the unknown scope of work, this information is presented for informational purposes.

EXISTING SHAFTS AND VERTICAL OPENINGS

Existing stairways that are part of the means of egress should be enclosed in accordance with Section 703.2.1 between the highest work area floor and the level of exit discharge and all floors below (IEBC 803.1). A minimum one (1) hour stairway enclosure is required for existing Use Group A occupancies exceeding 3 stories.

There are no additional requirements for the unenclosed existing stairs beyond those discussed in the Alteration Level 2 Section of this report.

FIRE PROTECTION SYSTEMS

Automatic Sprinkler Systems

There are no additional requirements for automatic sprinkler systems beyond those discussed in the Alteration Level 2 Section of this report.

Fire Alarm and Detection Systems

In Use Group A occupancies having an occupant load of 300 or more, a manual fire alarm system should be provided throughout the work area (IEBC 804.2.1). Alarm notification appliances should be provided on such floors and should be automatically activated as required by the IEBC.

Exceptions:

1. Alarm-initiating and notification appliances are not required to be installed in tenant spaces outside of the work area.
2. Visual alarm notification appliances are not required, except where an existing alarm system is upgraded or replaced or where a new fire alarm system is installed.

A manual fire alarm system is installed throughout the original building and the addition. Notification appliances are also installed; however, the number of devices is not sufficient to meet the current performance requirements. In work areas, the number of notification appliances should be upgraded to meet the current requirements of the AFPC.

Means of Egress

The means of egress requirements for an Alteration Level 3 include the requirements described for an Alteration Level 2 and the following additional egress lighting and exit signage requirements:

Means of egress from the highest work area floor to the floor of exit discharge should be provided with artificial lighting within the exit enclosure in accordance with the requirements of the AFPC (IEBC 805.2).

It is the assumption of RJA that the generators serving the original building and the addition are capable of supplying the means of egress lighting in the building for a duration of not less than 90-minutes. If this is not the case, it should be expected that if an Alteration Level 3 takes place, compliant lighting including the intensity of illumination, emergency power and performance of the system should be provided from the highest work area down to the level of exit discharge.

Means of egress from the highest work area floor to the floor of exit discharge should be provided with exit signs in accordance with the requirements of the AFPC (IEBC 805.3).

Compliant exit signage was noted in the majority of areas of the building during RJA’s survey. However, several areas were provided with exit signs which were not sufficiently illuminated or not illuminated at all. It should be anticipated that new signage would be required in any areas which do not comply with the AFPC.

Structural and MEP

Where the building is undergoing Level 3 alterations including structural alterations, the provisions of Section 807 should apply. This section is applicable to new structural members, minimum design loads, and structural alterations

This section is required to be addressed by the structural and/or mechanical engineer.

REQUIREMENTS FOR ADDITIONS

SCOPE

An addition to a building or structure should comply with the building, plumbing, electrical, and mechanical codes without requiring the existing building or structure to comply with the requirements of those codes or of the provisions of the AFPC (IEBC 1001.1). Any repair or alteration work within an existing building to which an addition is being made should comply with the applicable requirements for the work as classified in the AFPC definitions provided above (IEBC 1001.3).

HEIGHT & AREA LIMITATIONS

No addition should increase the height or area of an existing building beyond that permitted under the applicable provisions of Chapter 5 of the AFPC.

Original Building

The original building appears to be consistent with Type IB Construction. As previously stated, the existing maximum height and footprint area complies with the height and area requirements of the AFPC.

Under the current configuration as Type IB Construction, the height and area requirements of the AFPC permit an addition to be provided. The addition is not required to be separated from the original building via a fire wall or back-to-back exterior walls. The addition may be unlimited in area and up to five (5) stories in height. The height of the addition is permitted to be increased by one (1) story if the building is fully sprinklered.

If it is determined that the original building is composed of Type IA construction, an addition of unlimited height and area would be permitted to be directly connected to the original building.

Addition

As stated previously in the report, the addition appears to be consistent with Type IIA Construction. The existing maximum height and footprint area complies with the height and area requirements of the AFPC.

Under the current configuration as Type IIA Construction, the height and area requirements of the AFPC permit an addition to be provided. The addition is not required to be separated from the addition via a fire wall or back-to-back exterior walls. The addition may be up to 35,885 square feet in area and up to four (4) stories in height.

If it is determined that the existing addition is classified as Type IB construction, a new addition would be permitted to be directly connected to the existing addition and may have an unlimited maximum footprint area and be up to twelve (12) stories in height.

One Overall Building

If it is determined that the original building and the addition are considered as part of the same building, a new addition would not be permitted as the existing maximum height and footprint area do not comply with the requirements of the AFPC for Type IIA Construction. Thus, an addition would only be permitted if it were separated from the existing building via a fire wall or back-to-back exterior walls.

If it is determined that the original building and existing addition can be considered as Type IB construction, the building would comply with current height and area provisions of the AFPC. As such, an addition to the overall building would be permitted under the current configuration. This addition may be directly connected to the overall building and is not required to be classified as a separate building via a fire wall or back-to-back exterior walls. The new addition would be permitted to have an unlimited maximum footprint area and be up to five (5) stories in height. The maximum permitted height may be increased by one (1) story if the building is fully sprinkler protected.

If information regarding the construction of the addition cannot be located, it is the recommendation of RJA to discuss our approach with the local AHJs.

Please refer to the Construction Classification – Height and Area section of the report for further information.

FIRE PROTECTION SYSTEMS

Existing fire areas increased by the addition should comply with Chapter 9 of the AFPC.

If an addition increases the existing building's fire area to a level that is required to have fire protection systems by Chapter 9 of the AFPC, those fire areas must comply with the new construction requirements, both in the new addition and the existing building. Since the existing addition is already protected throughout with an automatic sprinkler system, this requirement will not have an impact on this portion of the building.

As the original building is classified as a Use Group A-1, Assembly Occupancy, sprinkler systems are required where one of the follow conditions exist (AFPC 903.2.1.3):

- The fire area exceeds 12,000 square feet.
- The fire area has an occupant load of 300 or more.
- The fire area is located on a floor other than the level of exit discharge.

Since the original building currently may exceed the fire area limitations outlined above, if a new addition is provided to the building, both the original building and the addition portion of the building's fire area will be required to be fully sprinkler protected. A fire area is defined as the aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls, or FRR horizontal assemblies. As the floor construction of the original building is 2-hour rated, an addition would only require sprinkler protection on the entire floors in which it is located. In order to avoid sprinkler protection within the existing building, the addition may be classified as a separate fire area and thus separated by a fire barrier having a minimum FRR separation of 2 hours.

CHANGE OF OCCUPANCY

A change in use not involving a change in occupancy classification is required to be dealt with as a Level 1, 2, or 3 alteration; therefore, the requirements contained in those chapters for fire protection and life safety apply (discussed in the previous sections).

If the change in occupancy results in a higher structural loading of any kind, then compliance with the AFPC structural provisions is required (IEBC 907).

As a result of the proposed renovation project, the building will not change occupancy classification. The requirements of this section when a change in use and not a change in occupancy is occurring refers the user back to the requirements of the level of alteration or addition that is occurring in the building. These requirements were discussed in previous sections of this report.

ACCESSIBILITY REQUIREMENTS - AFPC

The following accessibility requirements are applicable to repair work and any level of alteration work performed on the building.

Accessibility requirements for alterations should comply with the AFPC unless technically infeasible. In general, all spaces that are altered should be designed to be accessible.

Where an alteration includes alterations to an entrance, and the building or facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless an area of primary function is being altered that cannot be accessed from the existing accessible entrance (IEBC 605.1).

Altered elements of existing elevators should comply with ASME A17.1 and ICC A117.1. Such elements should also be altered in elevators programmed to respond to the same hall call control as the altered elevator (IEBC 605.1.2).

Where it is technically infeasible to alter existing toilet and bathing facilities to be accessible, an accessible unisex toilet or bathing facility is permitted. The unisex facility should be located on the same floor and in the same area as the existing facilities (IEBC 605.1.9).

Where an alteration affects the accessibility to, or contains an area of, primary function, the route to the primary function area should be accessible. The accessible route to the primary function area should include toilet facilities or drinking fountains serving the area of primary function. For the purposes of complying with this section, an area of primary function is defined by applicable provisions of 49 CFR Part 37.43(c) or 28 CFR Part 36.403 (IEBC 605.2). Primary function is a major activity for which the facility is intended.

However, the costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs. In addition, this provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems, and abatement of hazardous materials.

As stated earlier in the report, an accessible entrance is provided in the building. The accessible route to the primary function areas on other levels are via the three (3) existing passenger elevators. ANSI/ICC A117.1 Section 407 requires that accessible elevators have a 42 inch minimum door opening and minimum cab dimensions of 51 inches deep by 80 inches wide. Currently, the interior cab dimensions of the existing elevators are less than that required for new accessible elevators.

However, Section 407.4.1 of ANSI/ICC A117.1 permits existing elevator cabs that provide 16 square feet of clear floor space and have a clear inside dimension of 36 inches minimum width and 54 inches minimum depth. The existing west elevator in the original building provides approximately 25 square feet of floor space (62 inches x 58 inches), 36 inches of clear width, and thus meets the minimum dimensions specified above. The existing east elevator in the original building provides approximately 28 square feet of floor space (68 inches x 60 inches), and provides 36 inches and 32 inches of clear width on the east and west elevator openings, respectively. Thus, the elevator does not meet the minimum dimensions specified above due to the clear width of the west elevator opening. The existing elevator in the addition provides approximately 25 square feet of floor space (70 inches x 58 inches), 36 inches of clear width, and thus meets the minimum dimensions specified above.

As such, only two (2) of the elevators are considered accessible, however the third elevator is required to be accessible in order to provide an accessible route to all areas of the building. Please refer to the Existing Conditions - Accessibility Section of the report for further information. The existing service elevator is not required to comply with these provisions as it is not intended to provide an accessible route within the building.

The operating controls of the elevator and signage to elevator were not surveyed in detail. These controls and signage may need to be altered to meet current accessibility regulations. Further, it should be noted that the existing drinking fountains and public telephones provided in the building will be required to be upgraded if they are on the accessible route to an altered area of primary function.

If bathrooms are provided on the accessible route, they should be in accordance with the minimum requirements of ANSI/ICC A117.1, unless technically infeasible.

ACCESSIBILITY REQUIREMENTS - ADAAG

Each space or element of an existing building that is altered should comply with the applicable provisions of the minimum requirements for New Construction (ADAAG 4.1.5). **The alteration and renovation of any area of the building is required to meet the current requirements of ADAAG.**

No alteration should be undertaken which decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction at the time of alteration (ADAAG 4.1.6.1(a)).

An alteration that affects or could affect the usability of or access to an area containing a primary function should be made so as to ensure that, to the maximum extent feasible, the path of travel to the altered area and the restrooms, telephones, and drinking fountains serving the altered area, are readily accessible to and usable by individuals with disabilities, unless such alterations are disproportionate to the overall alterations in terms of cost and scope (as determined under criteria established by the Attorney General) (ADAAG 4.1.6(2)).

DISPROPORTIONALITY CRITERIA

When the cost of alterations necessary to make the path of travel to the altered area fully accessible is disproportionate to the cost of the overall alteration project, the path of travel should be made accessible to the extent that it can be made accessible without incurring disproportionate costs. Not more than 20% of the construction cost should be used for accessibility upgrades to the building as referenced earlier in the report by IEBC section 605.2.

In choosing which accessible elements to provide, priority should be given to those elements that will provide the greatest access, in the following order:

1. An accessible entrance;
2. An accessible route to the altered area (i.e. elevator);
3. At least one accessible restroom for each sex or a single unisex restroom;
4. Accessible telephones;
5. Accessible drinking fountains; and
6. When possible, additional accessible elements such as parking, storage, and alarms.

ADAAG requirements are generally the same as those described in the IEBC. Additionally, guidance is provided on the areas of the building which should be given priority when applying the money allotted (not more than 20%) for accessibility upgrades.

ADAAG does not address existing elevator cabs specifically, as is done in ICC/ANSI A117.1. As such, the existing elevator clear width dimension of 32 inches does not meet the minimum 36 inches required by Section 4.10.9 of ADAAG. Further discussion with the owner and the university's accessibility office is warranted regarding the elevator dimensions.

Money allotment towards accessibility upgrades within the building may include, but are not limited to, renovating existing elevators in the original building, renovating accessible restrooms, upgrading door hardware into means of egress stairs, and upgrading means of egress handrails and guards to comply with the AFPC (although not specifically required by the IEBC).

CONCLUSIONS & RECOMMENDATIONS

The following recommendations and conclusions are provided to aid the design team during the Pre-Design Phase of the project.

1. The construction type of the original building and the addition are currently unknown. The original building most closely resembles Type IA or Type IB construction and the addition most closely resembles Type IB or Type IIA construction. These construction types depend on the thickness of the concrete and fireproofing of the building elements. As a worst case scenario, it has been assumed that the original building is composed of Type IB construction and the addition is composed of Type IIA construction. **This should be verified by the structural engineer on the project.**
2. The sprinkler system, fire alarm system, and emergency generators serving the original building and the addition are currently zoned as if they are separate buildings. However, the "fire wall" located at the interface of the original building and the addition does not appear to comply with the current requirements of the AFPC or the requirements at the time of construction. This includes the rating of the wall, its continuity to the foundation of the building, and its structural independence from both buildings. It is currently unknown whether the separation is a true structurally independent fire wall which was discussed prior to construction with the local AHJs or if the wall is constructed only as a fire barrier. **The configuration of the "fire wall" will have potential cost and design implications on the proposed renovation and/or addition and therefore it is the recommendation of RJA to investigate any existing drawings and how the addition was permitted.**

The existing building(s) may or may not comply with the current height and area limitations provided by the AFPC depending on their construction type and whether the original building and addition are considered as the same overall building or whether they are separated by a fire wall. **Please refer to the Construction Classification – Height and Area section of the report for further information.**

3. For a renovation in the original building, if the work area on any floor exceeds 50 percent of the floor area and the installation of a new fire pump is not required, the entire floor is required to be protected by an automatic sprinkler system.

It is the recommendation of RJA that the entire building should be provided with an automatic sprinkler system throughout as part of the renovation. This is due to the large amount of combustibles within the building.

4. If a new addition is provided to the building, a sprinkler system will be required for the entire fire area both in the existing building and new addition as the fire area will exceed the limitations of AFPC Section 903. The fire area will consist of the entire floor on the levels where the addition is provided. If a 2-hour fire barrier is provided at the interface between the existing building and addition, sprinkler protection will not be required in the existing building as two separate fire areas will be created. However, if renovations are to occur within the existing building, sprinkler protection may still be required based upon the alteration levels discussed within this report. These requirements do not apply to the existing addition as it is also protected throughout with an automatic sprinkler system.
5. The existing open stairs that connect Levels One through Six in the original building are permitted to remain unenclosed if they are not included in the work area. If included in the work area, the open stairs should be enclosed in a minimum of one (1) hour fire resistance rated construction. Alternatively, they may remain unenclosed if the communicating areas are protected throughout with automatic sprinklers. **This approach requires further discussion with the local AHJs.**
6. Based on discussions with Wayne Brashear, it is likely that the municipal water supply serving the automatic sprinkler system in the original building does not provide adequate flow or pressure. Therefore, if new areas of the original building are provided with an automatic sprinkler system, it should be anticipated that the installation of a new fire pump will be required. **Additionally, it is our recommendation that the original building be provided with a new fire pump even if the extent of the sprinkler system is not increased as a result of the renovation.**

7. Further discussion with the University Accessibility Compliance office is warranted regarding the interior dimensions of the existing east elevator in the original building, as it is not in compliance with ANSI/ICC A117.1 or ADAAG. This elevator is required to provide an accessible route throughout the building.
8. Up to 20% of the construction cost must be used for accessibility upgrades to the building as referenced earlier in the report as per IEBC 606.2.

If you have any questions with respect to the above information, please do not hesitate to call.

Prepared By:

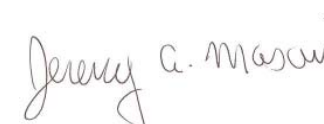


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**ARKANSAS UNION
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS**

**CONCEPT PHASE
FIRE ALARM SYSTEM
NARRATIVE REPORT**

Prepared For:

Perry, Dean, Rogers | Partners
177 Milk Street
Boston, MA 02109

January 23, 2009

Project #: B45541

FIRE ALARM SYSTEM NARRATIVE REPORT

PROJECT OWNER

University of Arkansas
Fayetteville, Arkansas

PROJECT

Arkansas Union

DESIGN RESPONSIBILITY

The accountability for the fire alarm system design modifications and the integration of the fire alarm system in constituting a building life safety system will be performed by the following method of design responsibility:

Rolf Jensen & Associates, Inc. (RJA), as the Professional Engineer (PE), will provide conceptual design including design criteria, drawings, and material specifications to be used by the installing subcontractor. The selected fire alarm contractor will produce shop drawings of the proposed system installation, as well as manufacturers' data sheets and voltage drop calculations on the products that will be installed. RJA will review and approve the installing contractor's final layout, system design and installation, and equipment selection.

RESPONSIBLE ENGINEER

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BUILDING DESCRIPTION

The Arkansas Union is six (6) stories above grade and was originally constructed in 1971. The maximum footprint area of the original building is approximately 48,000 square feet. The building was remodeled in 1981 and a major addition was constructed to the east of the existing building in 1999. During the addition, the original building also underwent a significant renovation. The addition is two (2) stories above grade and is partially located above North Garland Avenue. Due to the grading of the site, the first and second stories of the addition are located at elevations equivalent to approximately Levels Three and Six in the original building, respectively. Therefore, the first story of the addition is referred to as Level A3 and the second story is referred to as Level A6. The addition is separated from the original building with one (1)-hour fire-resistance rated (FRR) doors on magnetic hold opens on Level A3.

Based on observations during the survey of the building, the construction of the original building is of concrete construction and most closely resembles Type IB construction. The construction of the Addition is of fireproofed steel and concrete/metal and most closely resemble Type IIA construction. Refer to the IEBC report dated January 5th, 2008 for further construction type details. The building is not expected to undergo a change in use or classification as a result of the potential renovation. Therefore, it is expected that the building will contain primarily business (offices) and assembly use groups (Auditorium, Dining, Conference Rooms) throughout the building. MEP type spaces, retail bookstores, and storage spaces will also be provided.

The fire protection scope of the project includes the potential replacement and / or upgrade of the existing fire alarm system; and installation of new fire alarm equipment for a potential Addition. The project also includes potential upgrade of the sprinkler system to include full building sprinkler protection throughout the original construction and the Addition. A Class 1 standpipe system with 2 ½ inch hose connections should also be provided in required areas of the building. The installation of the sprinkler and standpipe systems is discussed in RJA's Concept Phase Fire Sprinkler System Narrative Report dated January 20, 2009.

APPLICABLE LAWS, REGULATIONS AND STANDARDS

The following codes and standards are applicable to design of the fire protection systems for the building in addition to requirements imparted by the City of Fayetteville (AHJ) and the insurance underwriter.

- 2007 Arkansas Fire Prevention Code, Volume I, which is an amended version of the *2006 International Building Code (IBC)*, effective August 1, 2008;

- 2007 Arkansas Fire Prevention Code, Volume II, which is an amended version of the *2006 International Fire Code (IFC)*, effective August 1, 2008;
- 2003 Arkansas State Mechanical Code (AMC), which is an amended version of the *2003 International Mechanical Code (IMC)*;
- NFPA 70, National Electrical Code, 2008 Edition, effective June 1, 2008;
- NFPA 72, National Fire Alarm Code, 2002 Edition

EXISTING SYSTEM DESCRIPTION

Both buildings contain a zoned fire alarm system complete with notification appliances, manual pull stations, and smoke detectors. There is a Notifier manufactured Fire Alarm Control Panel (FACP) located in Electrical Room A310 on Level A3 of the addition. There were no trouble or supervisory signals observed on the panel. Based on discussions with Dennis Frederick, the facility manager for the building, the single FACP in the addition is also tied into the fire alarm system serving the original building.

The original FACP for the original building was abandoned in place as a result of the 1999 addition/renovation. The FACP is zoned separately for the original building and the addition. Upon activation of the fire alarm system in the original building, only the notification appliances in the original building will initiate. Similarly, upon activation of the fire alarm system in the addition, only the notification appliances in the addition portion of the building will initiate. The "fire wall" at the interface between the two buildings serves as the separation for the fire alarm system.

Smoke detection was observed in the majority of mechanical/electrical rooms, storage spaces, as well as adjacent to elevators to serve as Phase I emergency recall operation. Some initiating devices are not located in accordance with current code standards (e.g. smoke detectors located more than 4 feet below ceiling in electrical room A310); however, it is assumed that they were located in accordance with the codes at the time they were installed. Further, smoke detectors were also observed in the original building to serve as initiating devices on both sides of Fire Resistance Rated (FRR) fire shutters. A remote annunciator panel is located adjacent to the fire wall on Level Two on the original construction side of the building.

Notification devices were observed in the original building and the addition throughout all floor levels, however some of the device spacing is not in accordance with current code standards. The heights of speakers in the building were spot checked and measured as being as low as 76.5 inches and as high as 132 inches above the floor surface. The majority of manual pull stations were located within five (5) feet of exits and varied between approximately 45 inches and 54 inches above the floor surface (code compliant positioning). Several exits were not provided with manual pull stations. The current edition of NFPA 72 Sections 5.12.4 and 7.4.7.1 requires that notification

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appliances have their tops at least 90 inches above finished floor and manual fire alarm boxes be located between 42 and 54 inches above the floor surface. It is assumed that the spacing and heights of the notification appliances were provided in accordance with the codes at the time they were installed.

OPTIONS FOR CONSIDERATION

Based upon our Existing Building Code Evaluation Report for the Student Union, dated January 5, 2009, the requirement of a new fire detection and alarm system is dependent upon the amount of renovation work to be done within the building. There are three (3) renovation thresholds which stipulate the amount of new fire detection and alarm devices required within the building as outlined below:

- If the work areas within the building do not exceed 50 percent of the floor area on any level, only the renovated areas are required to comply with the “new construction” fire alarm requirements of NFPA 72. In these areas, it should be anticipated that additional notification devices will be required. It is likely that these additional devices can be connected to the existing fire alarm panel, however if the capacity of the panel is exceeded, a new or additional panel will be required. Since the existing fire alarm system for the building was previously approved, any notification devices currently installed outside of work areas may remain.
- If the work areas on any floor exceed 50 percent of that floor area, a fire alarm system which complies with “new construction” requirements of NFPA 72 should be provided throughout the floor. New notification appliances should be provided such that the spacing is in accordance with the current requirements. As noted above, these additional notification devices can likely be connected to the existing control panel and existing devices outside of work areas may remain. If a new fire alarm control panel is required due to added devices, the existing notification appliances should not be required to be replaced as long as they are compatible with the new control unit.
- If the work area exceeds 50 percent of the aggregate floor area of the building, the number of notification devices in all work areas should be upgraded to meet the “new construction” requirements of NFPA 72. Since the majority of the building will be required to be upgraded, this threshold will likely require the entire building’s fire alarm system to be upgraded.

Additionally, since the overall occupant load of the building is greater than 1,000 occupants, the AFPC requires that new fire alarm systems for Assembly Occupancies also consist of an emergency voice/alarm communications system (AFPC 907.2.1). There is currently a voice evacuation system present for the original construction and addition. Based on the current uncertainty of the extent of renovations and potential

addition work, it should be anticipated that the entire “New Building”, consisting of the existing renovated construction and Addition and future additions, will have an upgraded voice evacuation fire alarm system to provide notification in all areas. Anticipating complete fire alarm voice evacuation throughout the entire New Building is a conservative approach with regard to master planning. The emergency voice/alarm communication system would be connected to the existing emergency power source as required by the AFPC. Evaluation of the emergency power source would be required to ensure the system can handle additional fire alarm capacity.

It should also be noted that it is likely the existing fire sprinkler systems will be modified to provide full area protection throughout the building. If this system is installed, the fire alarm system is no longer required to be provided with smoke/heat detection or manual fire alarm boxes pending that the alarm notification appliances will activate upon sprinkler water flow (AFPC 907.2.1, Exception). Based on previous experiences with similar projects, it is reasonable to believe that any existing smoke/heat detectors and manual pull stations may be removed if the fire alarm system and sprinkler system is installed within the building as noted above since they are no longer required by the AFPC. This issue should also be discussed with the AHJ as they may prefer the replacement of smoke/heat detectors and manual pull stations in areas which are currently provided with such.

RJA RECOMMENDATION

Foremost, it is the recommendation of RJA that the potential modification and/or replacement of the fire alarm voice evacuation system be discussed with local authorities as early as possible once the scope of the renovation and addition work has been established. At this time, based on discussions with the fire marshal for the university, it is clear that a complete sprinkler system will be installed throughout the New Building as part of the renovation and addition work due to increasing pressure from the university’s insurance provider. However, it is not known if similar pressure is being placed on upgrading the fire alarm and detection system as well.

Due to the size and expected high occupant loads within the building, it is evident that life safety should be taken seriously. Therefore, if substantial renovations are to occur (i.e.: more than 50 percent of the building being renovated), then modification to the existing fire alarm voice evacuation systems and fire detection systems should be performed where necessary throughout the New Building. It may be necessary to replace the existing fire alarm control panel, or add a new panel, based on the extent of proposed renovation and addition work. New equipment may include new speaker/strobe notification appliances, a new fire alarm control panel(s), remote annunciators, and new manual pull stations. The fire alarm system should also include the major components as addressed in the Proposed System section below. The new fire alarm system should initiate upon sprinkler water flow at the respective proposed floor control stations. It should be noted that it may be possible to eliminate smoke and

heat detectors in a fully sprinklered New Building and should be discussed with the local AHJ.

PROPOSED SYSTEM FOR NEW ADDITION AND MODIFICATIONS FOR RENOVATED AREAS

If the entire building is required to be provided with a fully addressable automatic fire alarm voice evacuation system and partial detection system where required, it should include the following fire alarm features (AFPC 907.2.1):

- Potential installation of new Main Fire Alarm Control Panel which will be dependent on extent of renovation and addition work and the capacity of the existing panel.
- Potential installation of notification appliance booster panels used to power and synchronize strobes on floor levels and / or renovated spaces. Their potential installation is dependent on the capacity of the existing or new fire alarm control panels.
- Relocation and installation of new notification devices, speakers and speaker/strobes, throughout the New Building.
- Potential elimination of existing manual pull stations at exits in a fully sprinklered New Building (to be discussed with the AHJ).
- Potential elimination of heat and smoke detectors in areas currently provided with such in a fully sprinklered New Building (to be discussed with the AHJ). Smoke detectors may be required by the AHJ for elevator recall operations.
- Installation of duct smoke detectors where required based on air flow rates.
- Potential Installation of additional Remote Annunciators. Remote annunciators are fire alarm indicating panels which may be located at various building exits as required by the local AHJ. They do not provide system control functions as provided by the main fire alarm control panel.
- Installation of Class A notification appliance circuits and Class A signaling line circuits.

The new system will be configured such that each floor will be provided with a minimum of one signaling line circuit (SLC) and one notification appliance circuit (NAC).

SEQUENCE OF OPERATION FOR NEW BUILDING

The receipt of an alarm from any initiating device (smoke/heat detector, manual pull station, water flow switch) will transmit a signal to the existing or new Main fire alarm control panel and activate the notification appliances throughout the building if the design specified total building evacuation. The following table is the fire alarm sequence of operation for the Student Union Building:

Response →	Fire Alarm Panel Audible Alarm	Actuate Building Notification Appliances	Emergency Voice/ Alarm
Initiating Device ↓			
Waterflow Switch	■	■	■
Manual Pull Station	■	■	■
Supervisory/ Trouble	■		
Automatic Heat/ Smoke Detector	■	■	■

TESTING CRITERIA

The contractor will be responsible for coordinating all testing and will provide all necessary tools and equipment required for testing. Acceptance testing will be conducted in accordance with Chapter 10 of NFPA 72. The contractor should provide all testing certificates and appropriate forms including the Record of Completion.

Prior to final acceptance testing, the documentation required by AFPC 907.1.1 will be submitted to the Authority Having Jurisdiction. Final approval and acceptance of the work will be given when the complete system has been inspected, tested, and approved in writing by the AHJ.

SUMMARY

The following conclusions are provided to aid the design team during the Concept Phase and outline the most important factors when considering the upgrade of the existing fire alarm system:

1. The building (original construction and addition) is provided with a fire alarm voice evacuation system and detection system. However, it is the understanding of RJA that the building is considered two separate buildings with regard to fire alarm system building evacuation (i.e. Operation of a notification device in the Addition evacuates only the occupants in the Addition). Therefore, the fire wall has been credited as having provided adequate separation between the two

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buildings. It is RJA's opinion that this separation wall is not a true fire wall per the definition in the code and therefore, we recommend the original construction and addition be treated as one building with regard to building evacuation (i.e. operation of a notification device in the Addition will also evacuate all floors in the original construction for a total evacuation scheme). Further evaluation is required based on extent of the proposed renovations and additions. Refer to RJA's IEBC report dated January 5, 2009 for further details regarding the "fire wall" separation issue.

2. Based on extent of renovations and addition work, existing fire alarm and detection devices that are not correctly dimensionally positioned per Code, could potentially be replaced or relocated.
3. There are three (3) renovation thresholds which require upgrades to the building's fire alarm system. If the work areas do not exceed 50 percent of the floor area on any level, only the renovated areas are required to comply with the fire alarm requirements of NFPA 72. In these areas, additional notification devices will be required; however existing devices not in work areas are permitted to remain. A new or additional fire alarm control panel may be required for the additional devices if the capacity of the system is exceeded.
4. If the work areas on any floor exceed 50 percent of that floor area, a new fire alarm system which complies with the requirements of NFPA 72 should be provided throughout the floor. This will require new notification appliances throughout the floor; however existing devices should not be required to be replaced. Again, if the capacity of the fire alarm control panel is exceeded, a new or additional panel should be provided.
5. If the work area exceeds 50 percent of the aggregate floor area of the building, the notification devices in all work areas should be upgraded to meet the requirements of NFPA 72. Since the majority of the building will be required to be replaced, this threshold will likely require the entire building's fire alarm system to be upgraded. Existing notification devices within the building may remain as long as they are compatible to the new fire alarm control panel (if required).
6. The existing fire alarm voice evacuation system will likely have to be expanded to the renovated areas and any new Addition areas. The emergency power system(s) will be need to be evaluated to ensure they can handle the extra fire alarm system capacity.

7. It is likely the existing fire sprinkler systems currently installed throughout the original building and Addition will be modified to provide complete New Building protection. Therefore, smoke and heat detectors and manual pull stations are no longer code required in a fully sprinklered building with floor control stations. It is likely that these appliances could be removed from the building, however, elimination of these devices would require discussion with the local AHJ.

If you have any questions with respect to the above information, please do not hesitate to call.

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Reviewed By:



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**ARKANSAS UNION
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS**

**CONCEPT PHASE
FIRE SPRINKLER SYSTEM
NARRATIVE REPORT**

Prepared For:

Perry Dean Rogers | Partners
177 Milk Street
Boston, MA 02109

January 20, 2009

Project #: B45541

FIRE SPRINKLER SYSTEM NARRATIVE REPORT

PROJECT OWNER

University of Arkansas
Fayetteville, Arkansas

PROJECT

Arkansas Union

DESIGN RESPONSIBILITY

The accountability for the automatic sprinkler and standpipe system design and the integration of such systems in constituting a building life safety system will be performed by the following method of design responsibility:

Rolf Jensen & Associates, Inc. (RJA), as the Professional Engineer (PE), will provide design contract documents for the purpose of obtaining design permits and accurate contractor bids. The contract documents will include, but may not be limited to, design criteria per NFPA 13 and NFPA 14, contract drawings, hydraulic calculations, and material specifications to be used by the installing subcontractor. The selected sprinkler contractor will provide a shop drawing package. The package will include a cost effective shop drawing layout of the sprinklers and piping, hydraulic calculations, and manufacturers' product data sheets. RJA will review and approve the installing contractor's shop drawings, hydraulic calculations, and material submittals, and will review the testing of the completed system.

RESPONSIBLE ENGINEER

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Tel: (508) 620-8900 Fax: (508) 620-0908

BUILDING DESCRIPTION

The Arkansas Union is six (6) stories above grade and was originally constructed in 1971. The maximum footprint area of the original building is approximately 48,000 square feet. The building was remodeled in 1981 and a major addition was constructed to the east of the existing building in 1999. During the addition, the original building also underwent a significant renovation. The addition is two (2) stories above grade and is partially located above North Garland Avenue. Due to the grading of the site, the first and second stories of the addition are located at elevations equivalent to approximately Levels Three and Six in the original building, respectively. Therefore, the first story of the addition is referred to as Level A3 and the second story is referred to as Level A6. The addition is separated from the original building with one (1)-hour fire-resistance rated (FRR) doors on magnetic hold opens on Level A3.

Based on observations during the survey of the building, the construction of the original building is of concrete construction and most closely resembles Type IB construction. The construction of the Addition is of fireproofed steel and concrete/metal and most closely resemble Type IIA construction. Refer to the IEBC report dated January 5th, 2008 for further construction type details. The building is not expected to undergo a change in use or classification as a result of the potential renovation. Therefore, it is expected that the building will contain primarily light hazard business (offices) and assembly use groups (Auditorium, Dining, Conference Rooms) throughout the building. MEP type spaces, retail bookstores, and storage spaces are also provided; and are classified as ordinary hazard group 1 (OH-1) occupancies with regard to sprinkler system design criteria.

The original building is partially sprinklered in the areas of the building which were renovated in 1999. Particularly, the building is sprinklered on Level One in the mail processing and office areas, on Level Two in the west and south corridors and adjacent retail spaces, and throughout Levels Three and Five. RJA estimates that approximately 40% of the Existing Building (Original construction) is sprinklered. Exit stairs are not provided with standpipes having 2 ½" fire department connections, however various hose cabinets with 1 ½ inch hose connections are provided sporadically throughout the building. The addition is fully sprinkler protected throughout.

The project includes the potential replacement and / or upgrade of the existing fire alarm system. The project also includes potential upgrade of the sprinkler system to include full building sprinkler protection throughout the original construction and the Addition. A Class 1 standpipe system with 2 ½ inch hose connections should also be provided in required areas of the building.

Per conversations with the University Fire Marshal, Wayne Brashear, it should be noted that the existing water supply serving various campus sprinkler systems appears to be dangerously unreliable due the recent hydrant flow test results performed by the University. Per Fire Marshal Brashear, the recent hydrant flow test resulted in minimal flows from the flow hydrant and it is Mr. Brashear's understanding that all system control valves were open. Additionally, documentation describing the existing water supply system is unavailable. Further investigation of the adequacy of the existing water supply is warranted as the installation of a new underground water service may be necessary. It is RJA's opinion that an unreliable water supply can pose a significant safety and liability risk to the University.

The sprinkler contractor would be responsible for the installation of the above ground sprinkler and standpipe system from a location to be determined by RJA during the design process. The fire sprinkler contractor will provide necessary electrical flow and tamper switches, and local electric bell, etc. but they will be interconnected to the building fire alarm system by the electrical contractor. As mentioned above, it is uncertain at this time whether a new underground water service would be required to be installed. A General Contractor/Civil Contractor could potentially be hired to complete the site utility work.

The following codes and standards are applicable to design of the fire protection systems for the building in addition to requirements imparted by the City of Fayetteville (AHJ) and the insurance underwriter.

- 2007 Arkansas Fire Prevention Code, Volume I, which is an amended version of the *2006 International Building Code (IBC)*, effective August 1, 2008;
- 2007 Arkansas Fire Prevention Code, Volume II, which is an amended version of the *2006 International Fire Code (IFC)*, effective August 1, 2008;
- 2003 Arkansas State Mechanical Code (AMC), which is an amended version of the *2003 International Mechanical Code (IMC)*;
- NFPA 13, Standard for the Installation of Sprinkler Systems, 2002 Edition;
- NFPA 14, Standard for the Installation of Standpipe and Hose Systems, 2003 Edition;
- NFPA 20, Installation of Standard Pumps for Fire Protection, 2003 Edition;
- NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, 2002 Edition;

SPECIFIC BUILDING SYSTEM'S OPERATIONAL FEATURES

OVERVIEW

The building will be protected throughout with an automatic combination standpipe system, designed in accordance with NFPA 13, NFPA 14, and AFPC Chapter 9.

EXISTING WATER SUPPLY

The building's existing (and new) fire suppression system will be fed from an existing extension of the City of Fayetteville water supply. An existing 8-inch fire service line connects to the city water supply main on the campus. A 6-inch fire service currently serves a backflow preventer and riser check valve which serves the existing sprinkler system and 1 1/2" hose connections for the original construction. A separate 6-inch fire service with backflow preventer and riser check valve assembly also serves the fully sprinklered Addition. A fire pump is not provided. A water flow test performed in the vicinity of the Student Union in January 2009 by the University Fire Department provided the following results:

Location: In the vicinity of Student Union

Static Pressure: 60 PSI

Residual Pressure: 22 PSI

Total Flow: 0 GPM (noted by the Fire Marshal to be very minimal flow)

As noted above, further investigation into the water supply is warranted due to the very poor results. A sprinkler and standpipe system cannot be designed and installed without an adequate water supply. More importantly, the existing sprinkler systems are currently inadequate life safety systems and provide a false sense of security to building occupants.

FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTION

Free-standing Fire Department connections are currently provided throughout the campus in a locations approved by the City of Fayetteville and the University Fire Marshal. The need for modification to an existing FDC or installation of a new FDC will be determined during the design process. The FDC's will serve all portions of the sprinkler and standpipe systems and will be Siamese or Storz type per the University Fire Marshal. The nearest fire hydrants are located within 100 feet of the building.

SPRINKLER SYSTEMS

The renovated building will be provided with an automatic sprinkler system throughout in accordance with AFPC 904.2. The sprinkler system will include quick response sprinklers where possible. The system will contain floor control stations consisting of control valves, check valves, water flow switch, tamper switch, and drain riser. RJA intends to re-use the existing backflow preventer and riser check valve ("Main Riser Assembly").

Sprinkler system design criteria are for light hazard and OH-1 occupancies per NFPA 13. The hydraulic density for light hazard occupancies is 0.10 gpm over the hydraulically most remote 1,500 square feet plus 100 gpm for hose streams. The maximum allowable protection area of coverage for sprinklers in light hazard occupancies is 225 square feet with a maximum spacing of 15 feet by 15 feet. The hydraulic density for OH-1 occupancies is 0.15 gpm over the hydraulically most remote 1,500 square feet plus 250 gpm for hose streams. The maximum allowable protection area of coverage for sprinklers in OH-1 occupancies is 130 square feet with a maximum spacing of 13 feet by 10 feet. No high hazard storage is expected.

The wet pipe sprinkler system will be equipped with heat activated frangible bulb quick response sprinklers. When a sprinkler fuses and discharges water, the main riser water flow switch is actuated and sends an alarm signal to the fire alarm system control panel and exterior mounted electric bell. The local flow switch indicates the origin of the fire and supervisory tamper switches are also provided for all system control valves to monitor potential valve tampering located at the floor control station and main riser check valve.

STANDPIPE SYSTEMS

A Class 1 standpipe system will be provided in the building in accordance with NFPA 14, *Standard for the Installation of Standpipe Systems* and AFPC 905. Hydraulic demand at the top of standpipe riser will be achieved by fire department apparatus. The system will consist of the following:

1. A 6-inch combination sprinkler/standpipe riser will be located within the building.
2. Fire Department Hose Connections will be located at the intermediate landing levels (or main landings if permitted by the Fire Marshal) in the exit stairways. Each sprinkler/standpipe riser will have a 2-1/2 inch fire department hose connection with 1-1/2 inch reducer cap and chain located at each floor. No occupant hoses will be provided in the building.

MAJOR FIRE PROTECTION EQUIPMENT TO BE INSTALLED

Among other system components, the following are major items to be installed as part of the scope of work:

- New Class 1 standpipe system with fire department hose connections and control valves
- Floor control stations including control valves, check valves, tamper and flow switches, and drain risers
- Potential fire pump (to be determined based on results of water supply investigation)
- Install sprinklers in all areas as specified on future design drawings. Types of sprinklers include quick response brass upright in exposed ceiling areas; and quick response recessed pendent with chrome finish or concealed pendent with white cap (TBD) in finished ceiling areas.
- Install new Schedule 10 and Schedule 40 steel piping as indicated on the future design drawings.
- If deemed necessary during the design process, install a new Siamese or Storz FDC. Provide a new sign stating “Automatic Sprinkler and Standpipe”.
- Install flexible couplings, hangers, and lateral and longitudinal sway bracing of sprinkler piping in accordance with NFPA 13. Show locations of seismic bracing on the shop drawings.

SEQUENCE OF OPERATION

1. Activation of Automatic Sprinkler.
 - a. Waterflow alarm at floor control station and main riser check valve will activate with indication provided on main building fire alarm control panel.
 - b. Building notification system will activate causing general evacuation.
 - c. Alarm sent to central station.
 - d. Event will be recorded in history log.
2. Tamper Supervisory.

- a. An LED on the fire alarm control panel will activate indicating Supervisory which will be relayed to Campus FD
- b. Event will be recorded in history log.

TESTING CRITERIA

1. The contractor will be responsible for setting up and coordinating all testing of the new sprinkler system in accordance with NFPA 13, NFPA 14, and NFPA 72.
2. The professional in charge will work in coordination with the sprinkler contractor to assure that all testing of individual components and systems will be performed. The contractors will first be required to test the systems themselves. Once they have tested the systems, a letter certifying that this testing has been performed will be submitted to the professional in charge.
3. Upon receipt of the contractors’ certification of successful tests on the system, the professional in charge will work with the contractor to coordinate dates for witnessing testing. Once dates have been confirmed with all parties, the professional in charge will coordinate with the contractor to assure that the electrical contractor, fire alarm installer, sprinkler contractor, sprinkler equipment supplier, building representatives, and fire department personnel are available on the scheduled date and time.

APPROVAL REQUIREMENTS

1. Written approval of witness testing will be required from the fire department if the system satisfies all operational code compliance requirements.
2. Should the system fail to operate satisfactorily, the contractor will be given a specific date by which time he must have completed the remedial action on the system. A follow-up date for testing will be established at the initial failure date.
3. A document certifying that the system is in compliance with all laws, regulations, standards, and pre-approved narrative reports will be given to code officials on completion of the successful test. This certification will be signed by the professional in charge and the sprinkler contractor.
4. All documentation required by the AFPC will be provided.
5. Documentation of names, addresses, and telephone numbers of personnel for emergency notification will be submitted to code officials.

Appendix D.1:

Union: Code & Fire Protection Facility Assessment

6. 100% testing of the automatic sprinkler system and receipt of all Test Certificates, as provided in NFPA 13 and NFPA 14.

If you have any questions with respect to the above information, please do not hesitate to call.

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B45541

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D.2

FIELDHOUSE

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**EXISTING BUILDING
CODE EVALUATION REPORT
FIELD HOUSE
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS**

Prepared For:

Perry, Dean, Rogers | Partners
177 Milk Street
Boston, MA 02109

September 30, 2009

Project # B45541

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INTRODUCTION

Perry, Dean, Rogers | Partners (PDRP) has retained Rolf Jensen & Associates, Inc. (RJA) to provide fire protection, life safety and accessibility code consulting services for the proposed renovation project to the existing Field House (hereafter referred to as the “building”) located on the campus of the University of Arkansas in Fayetteville, Arkansas.

This report serves as the Fire Protection & Life Safety Existing Building Report for the project. It also documents the results of RJA’s survey of the existing fire protection and life safety features of the building and retroactive requirements that are applicable. This report will outline the application of the 2006 International Existing Building Code, as adopted by the State of Arkansas, to the existing building in the context of the proposed renovation work.

The information in this report is based on the following:

- Review of selected existing drawings of the building;
- Walk-thru visual inspection of the building conducted by Carl W. Nelson (RJA) on August 13th, 2009.
- Various project related discussion between RJA and PDRP.
- Various project related discussion between RJA, Wayne Brashear, and Kelley Sharp. Wayne Brashear is the fire marshal for the university and Kelly Sharp is the manager of construction services for the university.

APPLICABLE CODES AND REQUIREMENTS

The following are the applicable codes for the project.

- **Building** - 2007 Arkansas Fire Prevention Code – Volume II (AFPC), which is an amended version of the 2006 *International Building Code* (IBC), effective August 1, 2008, and the 2006 *International Existing Building Code* (IEBC).
- **Fire** – 2007 Arkansas Fire Prevention Code – Volume I (AFPC-I), which is an amended version of the 2006 *International Fire Code* (IFC), effective August 1, 2008
- **Plumbing** – 2006 Arkansas State Plumbing Code (APC), which is an amended version of the 2006 *International Plumbing Code* (IPC).
- **Electrical** – 2008 NFPA 70, *National Electrical Code*.
- **Mechanical** – 2003 Arkansas State Mechanical Code (AMC), which is an amended version of the 2003 *International Mechanical Code* (IMC).
- **Accessibility** – 2003 ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities* as referenced by Chapter 11 of the AFPC, and the Arkansas Accessibility Code, which is an amended version of the *Americans with Disabilities Act Accessibility Guidelines*.
- **Elevator** – Arkansas Elevator Safety Rules and Regulations, which is an amended version of the 2004 ASME A17.1, *Safety Code for Elevators and Escalators*.

EXISTING BUILDING CODE EVALUATION

COMPLIANCE WITH REQUIREMENTS FOR NEW CONSTRUCTION

This section of the report applies only to newly constructed areas. In general, all new work associated with any change in use, addition or renovation project should conform to the specific "new construction" requirements of the AFPC.

Renovations of portions of existing mechanical, plumbing, electrical, and other systems in a building should be made in conformance with the "new construction" requirements of the AFPC. Renovations to the existing systems should not cause a reduction in the level of safety or adversely affect the performance of the systems. Where any renovations subject portions of the building to excessive loads, those portions should be upgraded to comply with the "new construction" requirements of the AFPC.

Alterations to means of egress elements should comply with the "new construction" requirements of the AFPC.

COMPLIANCE REQUIREMENTS FOR EXISTING BUILDINGS

GENERAL

As previously discussed, the AFPC is primarily intended for application in the design and construction of new buildings. The arrangement of safeguards specified by the AFPC for new buildings results in an acceptable level of fire and life safety. In general, non-renovated portions of an existing building are not required to comply with all of the "new construction" requirements of the current edition of the AFPC.

An existing building is presumed to meet the provisions of the applicable laws, codes, rules or regulations, bylaws or ordinances in effect at the time such building was constructed or altered. An existing building is allowed to continue to be occupied pursuant to its use and occupancy, provided that the building is maintained. However, this does not permit the continuation of existing building features which were installed in conflict with any codes or laws in effect at the time of construction or installation.

Effective August 1, 2008, the 2007 Arkansas Fire Prevention Code was adopted in the State of Arkansas as mandated by the State Fire Marshal. The AFPC consists of three (3) volumes to address the fire, building, and residential provisions of the state, which are amended versions of the 2006 International Code Council (ICC) codes.

Additionally, a notable change from the adoption of the 2007 AFPC involves the use of the 2006 International Existing Building Code (IEBC). Per our discussions with the State Fire Marshal and the city of Fayetteville, the provisions of the IEBC including Appendix A but not including Appendix B, are allowed to be substituted in its entirety in lieu of the requirements of Chapter 34 of the AFPC as an acceptable alternative for existing buildings. The mixing of requirements found in Chapter 34 of the AFPC and the requirements found in the IEBC is prohibited.

Renovated portions of the building are required to comply with the current edition of the AFPC or to be evaluated against the IEBC. The IEBC was selected to evaluate the renovated portions of the Arkansas Union since it provides greater leniency and flexibility in comparison to the AFPC Chapter 34 scoring system.

ALTERATIONS

The extent to which un-renovated portions of an existing building must be upgraded is dependent on their present condition and on the type and amount of renovation work that is proposed. In all cases, the new work, including that associated with upgrades resulting from application of code requirements, should conform to the specific "new construction" requirements of the AFPC.

ADDITIONS

Generally, if an addition plus the existing building can meet the height and area requirements for the given construction type, unaltered portions of the existing building are not required to be upgraded per the AFPC. If the existing building and the addition can function independently from one another because they are separated by a fire wall, then unaltered portions of the existing building are not required to be upgraded per the AFPC.

VARIANCE

If the feasibility of bringing the existing building into compliance with the existing requirements of the AFPC is not feasible or practical, an appeal to such requirements may be requested. The request for a variance would be based on a complete fire and life safety assessment of the existing building areas.

PROPOSED WORK

During this Pre-Design Phase of the project, the scope of the proposed renovation is relatively unknown. Based on discussions with PDRP, one possibility is to utilize the Field House to accommodate the ballrooms which are currently located within the Arkansas Union. However, as this approach is not definitive, this report will provide a “big picture” of requirements associated with potential minor renovations as well as complete floor remodels. It is the understanding of RJA that an addition to Field House will not be considered in the future as a result of its historical significance and the proximity of the adjacent buildings.

EXISTING CONDITIONS DESCRIPTION & REVIEW

Carl W. Nelson of RJA surveyed the building on Thursday, August 13th, 2009. The survey was limited to visual review of existing conditions. Destructive or invasive inspections and systems testing were not performed. This section of the report documents our observations during the survey and our understanding of the building per discussions with PDRP, university officials, and our review of existing drawings for the facility.

GENERAL

The Field House was originally constructed in 1937 as an indoor recreational center for sports as well as special events such as concerts and commencements. In addition to the recreational activities, the building was also utilized for student registration and to house the campus’ athletic offices. The building is currently known as the University Museum and is used for offices, storage space, and astronomy exhibits. The building was also listed with the National Register of Historic Places in 1992.

The building is two (2) stories above grade and has maximum footprint area of approximately 18,500 square feet. The ground floor of the building is currently utilized for astronomy research, faculty offices, and storage rooms. The first floor is essentially one large continuous space which primarily contains science exhibits, two (2) conference rooms which are separated by partial height partitions, and miscellaneous storage. It does not appear that this floor is currently utilized on a regular basis. In addition to the two (2) stories, the building also contains an enclosed mezzanine located above the first floor which spans approximately 2,000 square feet. The mezzanine is used for faculty offices and is also provided with a small seminar room.

These spaces are classified as the following uses by AFPC:

Use Group Classification	Uses
Use Group A-3, Assembly	Exhibitions, Meeting/Conference Rooms
Use Group B, Business	Offices, Assembly spaces with occupant loads less than 50
Use Group S-1, Moderate-Hazard Storage	Storage Rooms
Use Group S-2, Low-Hazard Storage	Mechanical and Electrical Equipment Rooms

The building is classified as a nonseparated, mixed use occupancy with the most restrictive classification being Use Group A-3, Assembly Occupancy. The business and storage occupancies within the building are classified as secondary to the building’s main occupancy as they are less restrictive in terms of fire protection system and height and area allowance of the occupancy groups under consideration (AFPC 508.3.2).

The main entrance to the building is located on the east side and enters on the first floor. It should be noted that grading surrounding the site slopes downward from east to west. Therefore, the ground floor is located at grade on the west side of the building, and the first floor is located at grade on the east side of the building.

CONSTRUCTION CLASSIFICATION - HEIGHT AND AREA

The height of the building is two (2) stories above grade plane. The ground floor of the building is considered as a story above grade as defined by the AFPC since the first floor is located more than twelve (12) feet above the finished ground level on the west side of the building (AFPC 502.1). The maximum gross footprint area of the building is approximately 18,500 square feet and the aggregate area of the building is approximately 39,000 square feet.

The structural framing (joists, beams, girders, and columns) of the building was observed to be constructed of unprotected steel and the roof was observed to be composed of wooden planks. The exterior wall of the building appears to be entirely comprised of masonry construction. **Thus, the building most closely resembles Type IIIB Noncombustible/Combustible, Unprotected Construction. Buildings of Type IIIB construction are those with noncombustible exterior walls with combustible interior building elements (floors, roofs, and walls).**

Appendix D.2: Fieldhouse: Code & Fire Protection Facility Assessment

UNIV. OF ARKANSAS – FIELD HOUSE
EXISTING BUILDING EVALUATION

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The building is classified as a Use Group A-3, Assembly Occupancy as specified above. Given this occupancy classification and a construction type of Type IIIB, the building is permitted to be two (2) stories above grade plane (55 feet) and have a maximum floor area of 9,500 square feet by the base values in Table 503 of the AFPC. This does not include any height or area increases for open frontage or automatic sprinkler protection.

The building is not sprinkler protected and thus is not eligible for an increase in allowable height and area. However, the building area is also permitted to be increased when it has more than twenty-five percent (25%) of its perimeter on a public way. The building's area is permitted to be increased by the percentage of frontage (F/P) minus twenty-five percent (25%), multiplied by the width of the public way (W) divided by 30 (AFPC 506.2).

The building has one-hundred percent (100%) of its perimeter open with at least 30 feet to the public way. This results in a seventy-five percent (75%) increase in allowable area as shown below:

$$[(F/P) - 25] \times (W/30) = (100-25) \times (30/30) = 75 \text{ percent}$$

Where: W = 30 feet

Thus, the building is permitted to have a maximum height of two (2) stories and 55 feet above grade. The maximum allowable footprint area for the levels located above grade (Group A-3) based upon the open perimeter increase is as follows:

$$9,500 + (9,500 \times 0.75) = 16,625 \text{ square feet}$$

An additional height and area increase of one (1) story and 19,000 square feet could be allowed by adding sprinkler protection throughout the building. This would increase the allowable height and area to three (3) stories above grade and 35,625 square feet, respectively.

As detailed above, the Type IIIB construction building is not compliant with the current area provisions of the AFPC. As such, an addition to the building is not permitted under the current configuration unless it is separated by a structurally independent fire wall per AFPC Section 705 or back-to-back exterior walls. However, an addition which increases the building height and maximum floor area by one (1) story and 17,125 square feet per floor, respectively, would be permitted provided that the building is equipped throughout with automatic sprinkler protection. This would increase the allowable height and area of the building to three (3) stories and 35,625 square feet. This addition may be directly connected to the original building and is not required to be classified as a separate building via a fire wall or back-to-back exterior walls.

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FIRE PROTECTION SYSTEMS

Sprinkler and Standpipe Protection – The building is not provided with a sprinkler system or standpipes.

Fire Alarm System – The building contains a minimal fire alarm system which consists of a single manual pull station located adjacent to the main entrance and limited notification appliances throughout the building. The fire alarm system is comprised of a 24 Volt continuous line system which initiates a local alarm within the building only. Upon activation of the manual pull station, a fault is created in the continuous line which initiates an alarm in the building. The relay for the fire alarm system is located in a closet on the first floor of the building. Smoke and heat detection devices are not provided in the building.

Notification devices were observed on each floor of the building; however the number of devices is scarce and is not in compliance with current code standards. Specifically, a total of five (5) notification devices are provided in the entire building. Three (3) ceiling-mounted horn/strobes are provided within the corridor on the ground floor, one (1) wall-mounted horn/strobe is provided on the first floor, and one (1) wall-mounted horn is provided on the mezzanine. The heights of wall-mounted horn/strobes in the building were spot checked and measured as being as high as 120 inches above the floor surface. The single manual pull station was located within five (5) feet of the main entrance and was located approximately 52 inches above the floor surface. The remaining exits were not provided with any manual pull stations.

The current edition of NFPA 72 Sections 5.12.4 and 7.4.7.1 requires that notification appliances have their tops at least 80 inches above finished floor and manual fire alarm boxes be located between 42 and 54 inches above the floor surface. Further, AFPC Section 907.2.1 requires manual pull stations be provided within five (5) feet of every exit in a nonsprinklered assembly building having an aggregate occupant load of 300 or more occupants. It is assumed that the spacing and heights of the notification appliances and the location of the manual pull stations were provided in accordance with the codes at the time they were installed, however they do not meet current code provisions.

Other Fire Protection Systems – Fire extinguishers are provided sporadically in various locations including within the stairwells throughout the building.

MEANS OF EGRESS

The means of egress in the building consists of three (3) enclosed exit stairs, and numerous exit doors which lead directly to grade.

The three (3) enclosed exit stairs are labeled as Stairs 1, 2, and 3 on the existing drawings. Due to the grading of the site, the stairs discharge at various levels depending upon their location in the building. The configurations of the stairs are summarized below as follows:

- Stair 1 is located in the northeast corner of the building and serves all floors including the mezzanine. The stair discharges through the vestibule in the main lobby of the building on the first floor. The stair is 50 inches wide, measured from the outside of stringer to stringer, with a handrail at a height of approximately 36 inches above the walking surface on one side only. The bottom of the stair enclosure was observed to be utilized for locker storage. The clear width on the doors to Stair 1 were not consistent, however all doors minimally had at least 28 inches clear width. Each of the doors was self-closing, however they were held open by wooden blocks. None of the doors were observed to latch properly. Lastly, the doors were labeled to provide a 1-hour FRR rating on each floor.
- Stair 2 is located in the southwest corner of the building, serves the ground and first floors, and discharges directly to the exterior on the ground floor. The stair is 62.5 inches wide, measured from the outside of stringer to stringer, with a handrail at a height of approximately 35 inches above the walking surface on one side only. The stair is open to the ground floor and is separated from the first floor by a pair of 1-hour FRR door having a clear width of 28 inches each. The doors do not fully close or latch properly. Significant amounts of combustible storage were also observed to be provided beneath the stair on the ground floor.
- Stair 3 is located in the northwest corner of the building, serves the ground and first floors, and discharges directly to the exterior on the ground floor. The stair is 62.5 inches wide, measured from the outside of stringer to stringer, with a handrail at a height of approximately 35 inches above the walking surface on one side only. The stair is open to the ground floor and is separated from the first floor by a pair of 1-hour FRR door having a clear width of 28 inches each. The bottom of the stair enclosure is currently used for the storage of a flammable liquids cabinet. The quantity label provided on the outside of the cabinet indicates that it contains 120 Liters of Methanol, a Class IB flammable liquid.

The first floor is also provided with three (3) pairs of exit doors at the main entrance on the eastside of the building which lead to grade. Each of these doors provides a clear width of 32 inches, are self-closing and self-latching, and are provided with panic hardware approximately 38.5 inches above the finished floor. One (1) pair of doors is equipped with automatic door openers. The automatic door opener button is located on each side of the doors at a height of 35.5 inches above the finished floor.

EXIT SIGNAGE AND LIGHTING

Adequate exit signage appeared to be provided throughout the majority of the building. Signage was observed to be provided adjacent to exit stairs and doors, and from large rooms and spaces. Exit signs are lacking within corridors where changes in direction occur. In general, the signage is internally illuminated; however numerous exit signs were not illuminated at all or were illuminated at levels lower than required by the Code. The exit signs are not provided with emergency lighting.

ACCESSIBILITY

The main entrance to the building is located at an elevation which is higher than grade and the building may be accessed via stairs or a ramp. The ramp is approximately 46 inches wide, 27 feet long, and features a rise of 28 inches. As such, the ramp has a running slope of one unit vertical in 11.5 units horizontal (8.7 percent slope). Handrails are provided on both sides of the ramp at a height of 32 above the ramp surface. As previously discussed, a single pair of 32 inch clear width doors leading into the building is provided with automatic door openers marked with the universal symbol for accessibility. While these doors provide an accessible route into the building, they only provide access into the main lobby which is separated from the balance of the building by five (5) pairs of doors each having a clear width of 29 inches. None of these doors were observed to be provided with automatic door openers. As none of the active leaves of the doorways provide a clear opening width of at least 32 inches and they are manually operated, this entrance does not provide an accessible route to the entire first floor other than the main lobby (ADAAG 4.13.5, ICC/ANSI A117.1 404.2.1).

Two (2) entrances are also provided on the ground floor in the building via a pair of doors provided at Stairs 2 and 3. Each of the doors was measured to provide a clear width of 29 inches. Further, none of these doors were observed to be provided with automatic door openers. As none of the active leaves of the doorways provide a clear opening width of at least 32 inches and they are manually operated, this entrance does not provide an accessible route to the ground floor (ADAAG 4.13.5, ICC/ANSI A117.1 404.2.1).

Accessible toilet stalls are located in the building on the ground floor. In addition, an accessible men’s and women’s water closet is provided on the first floor of the building. The remaining fixtures in the building are non-accessible. The accessible fixtures are provided with the following details and dimensions:

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- The men's accessible toilet stall on the ground floor was observed to be 60.5 inches wide by 79.5 inches deep with handrails 34 inches above the finished floor. The centerline of the water closet was observed to be 19 inches from the side of the wall. The women's accessible toilet stall on the ground floor was observed to be 60 inches wide by 59.5 inches deep with handrails 34 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall.
- The men's accessible water closet on the first floor was observed to be 87.5 inches wide by 99 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall. The women's accessible toilet stall on the first floor was observed to be 87.5 inches wide by 121 inches deep with handrails 36 inches above the finished floor. The centerline of the water closet was observed to be 18 inches from the side of the wall.

Accessible toilet compartments should be a minimum of 60 inches wide by 56 inches deep for wall mounted toilets (ADAAG 4.17.3, ICC/ANSI A117.1 604.8.2). Side grab bars should be provided between 33 and 36 inches above the finished floor. The centerline of the water closet should be at least 18 inches from the side of the stalls. Based on these requirements, it appears that the men's and women's accessible toilet stall on the ground floor meet the current requirements of the ADAAG and ICC/ANSI A117.1.

Accessible water closets should be provided with a minimum clearance of 60 inches wide and 56 inches deep (ADAAG 4.17.2, ICC/ANSI A117.1 604.3.1). Side grab bars should be provided between 33 and 36 inches above the finished floor. The centerline of the water closet should be between 16 and 18 inches from the side of the stalls. Based on these requirements, it appears that the men's and women's accessible water closets on the first floor meet the current requirements of the ADAAG and ICC/ANSI A117.1.

There are two (2) drinking fountains provided on the ground floor and a single drinking fountain provided in the main lobby on the first floor. The fountains provided on the ground floor were located adjacent to the restrooms and consist of a high-low combination with spout outlet heights of 33 inches and 38 inches above the finished floor. The lower drinking fountain is wheelchair accessible and is provided with a knee clearance of 27 inches high and 18 inches deep. The drinking fountain located on the first floor features a spout height of 41.5 inches above the finished floor and is not provided with any knee clearance. Drinking fountains should have at least 27 inches of knee clearance and be between 17 and 19 inches deep, with spouts no higher than 36 inches (ADAAG 4.15, ICC/ANSI A117.1 602). By this definition, the lower drinking fountain on the ground floor within the building meets current accessibility requirements.

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Sinks within the accessible restrooms and water closets were observed to have counters of 34 inches above the finished floor. Knee clearances are provided which ranged from 19 inches to 21 inches deep and from 29 inches to 34 inches above the floor at the lowest point. Accessible sinks should be mounted with the counter no higher than 34 inches above the floor with knee clearances that are at least 27 inches high, 30 inches wide, and 19 inches deep (ADAAG 4.24). Based upon this definition, the sinks in the accessible restrooms meet current accessibility requirements.

There are no elevators provided within the building. As such, an accessible route is not provided to the mezzanine.

EXISTING BUILDING EVALUATION - IEBC

GENERAL

An IEBC evaluation of the existing building is necessary to determine the required fire protection and life safety improvements when any alteration or renovation work is undertaken.

DEFINITIONS

Typically, alterations to an existing building are broken up in three (3) distinct levels of requirements based upon the amount of work expected to take place. However, historic buildings are addressed with their own unique provisions in the IEBC which are designed to provide a means for preservation. A historic building undergoing repair, alteration, or change in occupancy should be investigated and evaluated to these requirements accordingly. Definitions associated with historic buildings are provided below for further reference.

Historic Building:

Any building or structure that is listed in the State or National Register of Historic Places; designated as a historic property under local or state designation law or survey certified as a contributing resource within a National Register listed or locally designed historic district; or with an opinion or certification that the property is eligible to be listed on the National or State Register of Historic Places either individually or as a contributing building to a historic district by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places.

It is the understanding of RJA that the building was listed with the National Register of Historic Places in 1992 and thus qualifies as a historic building.

Repairs:

Repairs are defined as measures taken to restore the building to good or sound condition for general maintenance purposes. These include the restoration of materials, elements, equipment or fixtures for the purpose of maintaining a good or sound condition.

Alteration:

Any construction or renovation to an existing structure other than a repair or addition.

Due to the uncertainty of the project, the existing building will be evaluated as a repair and an alteration to a historic building.

Additions:

Additions are any extension to a building which increases the floor area, number of stories, or height of the building.

It is the understanding of RJA that an addition to Field House will not be considered in the future as a result of its historical significance and the proximity of the adjacent buildings.

Change in Use:

Changes in occupancy are defined as a change in purpose or level of activity within a building. This includes changes in use of a building within the same occupancy classification as well as a change of occupancy classification.

While the use of certain spaces may be relocated within the building, a change in occupancy classification is not anticipated. It is expected that the building will remain as an Assembly Occupancy.

REQUIREMENTS FOR HISTORIC BUILDINGS

REPAIRS

Section 1102 of the IEBC addresses repairs done to specific historic building elements. This section specifies that when repairs are done to any portion of a historic building that original or like materials and original methods of construction are permitted. Further, any existing or missing features are permitted to be replaced using original materials. These replacements are not required to meet the materials and methods for non-historic buildings contained in Section 401 of the IEBC.

Repairs within the building are permitted to be of original or like materials and original methods of construction.

FIRE SAFETY

General

Every historic building that constitutes a distinct fire hazard and does not conform to the requirements contained in the IEBC for the specific occupancy or use must be provided with an approved automatic fire-extinguishing system (IEBC 1103.2).

Due to the occupancy and size of the building, along with the proposed scope of the renovation, the installation of a new automatic sprinkler system will be required by the IEBC. Further, it is the opinion of RJA that the existing configuration of the building is considered as a distinct fire hazard due to the large amount of combustibles and the lack of an adequate fire alarm/detection system. The likelihood of providing an automatic sprinkler system as a result of the renovation was also confirmed by Mr. Brashear.

Means of Egress

IEBC Section 1103.3 permits existing door openings, corridors, and stairways with widths less than those required to remain provided that, in the opinion of the code official, there is sufficient width and height for a person to readily pass through the opening and traverse as a means of egress. Further, the main exit doors in a historic building are not required to swing in the direction of egress travel as long as there are other approved means of egress available to serve the total occupant load.

The existing exit stairs in the building are minimally 50 inches wide which exceed the minimum required width of 44 inches are specified by AFPC Section 1009.1. The widths of numerous doors in the building were measured to provide a minimum clear width of at least 28 inches. The doors were observed to provide a sufficient width and height to allow a person to use them freely as a means of egress. Lastly, the main exit doors in the building are already arranged to swing in the direction of egress travel.

The configuration existing means of egress in the building satisfies the criteria above, and thus no further requirements are warranted.

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Interior Finishes

The existing finishes of walls and ceiling in a historic building are acceptable if it can be demonstrated that they are historic finishes (IEBC 1103.5). Other non-historic finishes in the building which do not comply with the AFPC must be removed.

It did not appear that the building is currently provided with any unique or non-compliant interior finishes which may need to be removed as a result of the renovation.

Stair Enclosure

Where a building is three stories or less, exit enclosure construction must limit the spread of smoke by the use of tight-fitting doors and solid elements. These elements are not required to be fire-resistance-rated.

Each of the stairs in the building were observed to be partially or fully enclosed by 1-hour rated fire doors. However, doors were either held open with wooden blocks, did not close fully, or were missing latches. In these instances, the door hardware should be replaced such that the doors are self-closing, self-latching, and tight-fitting as required.

Additionally, Stairs 2 and 3 are currently configured such that they are open to the ground floor in the building. The historic provisions of the IEBC require that these stairs be separated from the ground floor by non-rated construction. As such, a pair of non-rated, tight-fitting doors should be provided between the stairways and the adjacent corridors. Based upon the extent and the scope of the renovation, if it can be determined that the proposed building will comply with all of the non-historic provisions of the IEBC, these stairs may remain unenclosed in accordance with IEBC Section 703.2.1. This requires further discussion with RJA.

One-Hour Fire-Resistant Assemblies

Where 1-hour rated wall construction is required by the historic provisions of the IEBC, it is not required, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster (IEBC 1103.7).

Any existing finishes which are composed of wood or metal lath and plaster are permitted to remain even if 1-hour rated construction is required by the IEBC.

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Glazing In Fire-Resistance-Rated Systems

Any historic glazing materials in interior walls which are required to be 1-hour rated are permitted when provided with approved smoke seals and when the area affected is protected by an automatic sprinkler system (IEBC 1103.8).

The building is composed of Type IIIB Construction and therefore contains no rated interior bearing walls. Additionally, any corridors in the building will not be required to be rated as it is anticipated that the building will be fully sprinkler protected throughout as a result of the renovation. It does not appear that there are any existing interior walls within the building which are fire-resistance-rated. Thus, the requirements within this section do not apply.

Stairway Railings

Existing handrails and guards at all stairs in the historic building are permitted to remain unless they are considered as structurally dangerous. Any historic glazing materials in interior walls which are required to be 1-hour rated are permitted when provided with approved smoke seals and when the area affected is protected by an automatic sprinkler system (IEBC 1103.8).

The three stairways in the building are currently provided with a handrail on one side only. The handrails appeared to be structurally stable. An additional handrail is not required to be provided on the opposing side of each stair.

Guards

The spacing between intermediate railings or openings in existing ornamental patterns is acceptable and is permitted to remain (IEBC 1103.10). Any missing elements or members of the guards may be replaced in a manner that will preserve its historic appearance. The repairs should be completed in a manner that maintains the level of accessibility provided.

Guards are currently provided above the finished floor on the open-sided walking surfaces for each of the stairs within the building. It was observed that the guards are in good working order with no missing or broken members. As guards are provided for each of the stairs and they do not appear to be in danger of collapsing, new guards in the building are not required. If any portions of the guards will be replaced as a result of the renovation, they may be constructed to preserve the historic appearance of the building, but should not reduce the level of accessibility.

Exit Signs

Where exit sign locations would damage the historic character of the building, alternative exit signs are permitted with the approval of the code official (IEBC 1103.11). Alternative signs should identify the exits and the egress paths in the building.

Based on our observations, the majority of the building is provided with adequate exit signage. Exit signs are provided at all exit discharge doors and doors leading into the exit stairs on all floors. However, it was observed that the exit signs are lacking in corridors at changes in direction where the location of the exit is not readily apparent. Sufficient exit signage should be provided throughout the building as a result of the renovation, however their location and appearance is flexible upon approval by the code official in order to maintain a historic appearance.

Automatic Fire-Extinguishing Systems

Historical buildings that cannot be made to conform to the requirements of the AFPC for the occupancy and use which constitute a distinct fire hazard are considered to be in compliance if provided with an approved automatic fire-extinguishing system (IEBC 1003.12.1).

As previously mentioned, it is the opinion of RJA that the building constitutes a distinct fire hazard as a result of the large amounts of combustible fueling, anticipated high occupant loads, and lack of a sufficient fire detection and alarm system. Based on discussions with Mr. Brashear, it is our understanding that this building will be provided with a sprinkler system as a result of the renovation. It should be noted that an automatic sprinkler system is required by the AFPC as the building exceeds 12,000 square feet (AFPC 903.2.1.3). Approved audible devices should be connected to the sprinkler system in accordance with AFPC Section 903.4.2. If a sprinkler system is not preferred due to the historic nature of the building, an alternative system may be provided if approved by the code official.

ALTERATIONS

Accessibility Requirements

Any facility or element within the building that is altered should comply with Section 605.1 of the IEBC, Chapter 11 of the AFPC, and ICC/ANSI A117.1, unless it is technically infeasible (IBC 1104.1). Where compliance with the requirements for accessible routes, entrances, or toilet facilities would threaten or destroy the historic significance of the building, as determined by the code official, the alternative requirements of IEBC Section 1104.1 are permitted.

As the building is currently provided with accessible toilet rooms and power-operated doors, it is the understanding of RJA that additional accessible upgrades would not threaten or destroy the historic significance of the building. As such, this section of the report addresses compliance of the building with Section 605.1 of the IEBC, Chapter 11 of the AFPC, and ICC/ANSI A117.1 as specified above.

Accessible Routes

Accessibility requirements for alterations should comply with the AFPC unless technically infeasible. In general, all spaces that are altered should be designed to be accessible.

Where an alteration includes alterations to an entrance, and the building or facility has an accessible entrance on an accessible route, the altered entrance is not required to be accessible unless an area of primary function is being altered that cannot be accessed from the existing accessible entrance (IEBC 605.1).

Where it is technically infeasible to alter existing toilet and bathing facilities to be accessible, an accessible unisex toilet or bathing facility is permitted. The unisex facility should be located on the same floor and in the same area as the existing facilities (IEBC 605.1.9).

As stated earlier in the report, an accessible main entrance is not provided in the building as a result of the manually operated door leafs which are less than 32 inches wide. In order to provide an accessible route into the building on the first floor, ADA-compliant automatic door operators should be equipped on one of the pairs of doors at this location. If automatic door openers are not desired, the doors may be replaced with one which provides a clear width of at least 32 inches (ADAAG 4.13.5, ICC/ANSI A117.1 404.2.1).

An accessible route is also not currently provided to the ground floor in the building. Currently, the ground floor can accessed from grade in two locations via doors in Stairs 2 and 3, however the doors were observed to only provide a clear width of 29 inches. As such, a minimum of one of the doors would need to be replaced with a door having a clear width of at least 32 inches in order to provide an accessible route into the ground floor. Other alternative options instead of replacing the door would include providing a new accessible elevator.

Primary Function Areas

Where an alteration affects the accessibility to, or contains an area of, primary function, the route to the primary function area should be accessible. The accessible route to the primary function area should include toilet facilities or drinking fountains serving the area of primary function. For the purposes of complying with this section, an area of primary function is defined by applicable provisions of 49 CFR Part 37.43(c) or 28 CFR Part 36.403 (IEBC 605.2). Primary function is a major activity for which the facility is intended.

However, the costs of providing the accessible route are not required to exceed 20 percent of the costs of the alterations affecting the area of primary function. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs. In addition, this provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems, and abatement of hazardous materials.

The mezzanine in the building is currently utilized for offices which would not be considered as a primary function area. Therefore, if the mezzanine was renovated as a result of this project, providing an accessible route (i.e. elevator) to this area would not be required. However, if the areas in the mezzanine are renovated and are considered as primary function areas, an accessible route would be required, unless the costs of providing the elevator exceed 20 percent of the costs of the alteration affecting the area of primary function.

If new bathrooms are provided on the accessible route, they should be accessible in accordance with the minimum requirements of ANSI/ICC A117.1, unless technically infeasible.

CHANGE OF OCCUPANCY

Historic building undergoing a change of occupancy should comply with the applicable provisions of IEBC Chapter 9. When Chapter 9 requires compliance with specific requirements of IEBC Chapter 5, Chapter 6, or Chapter 7, and when those requirements are subject to the exceptions in IEBC Section 1102, the same exception should apply.

As a result of the proposed renovation project, the building will not change occupancy classification. The requirements of this section when a change in use is occurring refers the user back to the requirements of the level of alteration or addition that is occurring in the building, except as specifically permitted by IEBC Chapter 9.

STRUCTURAL

Historic buildings are required to comply with the applicable structural provisions for the work as classified in IEBC Chapter 4.

Where the code official determines that a component or a portion of a building or structure is dangerous as defined in this code and is in need of repair, strengthening, or replacement by provisions of this code, only that specific component or portion is required to be repaired, strengthened, or repaired.

This section is required to be addressed by the structural engineer.
ACCESSIBILITY REQUIREMENTS - ADAAG

Each space or element of an existing building that is altered should comply with the applicable provisions of the minimum requirements for New Construction (ADAAG 4.1.5). **The alteration and renovation of any area of the building is required to meet the current requirements of ADAAG.**

No alteration should be undertaken which decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction at the time of alteration (ADAAG 4.1.6.1(a)).

An alteration that affects or could affect the usability of or access to an area containing a primary function should be made so as to ensure that, to the maximum extent feasible, the path of travel to the altered area and the restrooms, telephones, and drinking fountains serving the altered area, are readily accessible to and usable by individuals with disabilities, unless such alterations are disproportionate to the overall alterations in terms of cost and scope (as determined under criteria established by the Attorney General) (ADAAG 4.1.6(2)).

DISPROPORTIONALITY CRITERIA

When the cost of alterations necessary to make the path of travel to the altered area fully accessible is disproportionate to the cost of the overall alteration project, the path of travel should be made accessible to the extent that it can be made accessible without incurring disproportionate costs. Not more than 20% of the construction cost should be used for accessibility upgrades to the building as referenced earlier in the report by IEBC section 605.2.

In choosing which accessible elements to provide, priority should be given to those elements that will provide the greatest access, in the following order:

1. An accessible entrance;
2. An accessible route to the altered area (i.e. elevator);

- 3. At least one accessible restroom for each sex or a single unisex restroom;
- 4. Accessible telephones;
- 5. Accessible drinking fountains; and
- 6. When possible, additional accessible elements such as parking, storage, and alarms.

ADAAG requirements are generally the same as those described in the IEBC. Additionally, guidance is provided on the areas of the building which should be given priority when applying the money allotted (not more than 20%) for accessibility upgrades.

Money allotment towards accessibility upgrades within the building may include, but are not limited to, providing new fully accessible entrances, providing a new accessible elevator, renovating non-accessible restrooms, upgrading door hardware into means of egress stairs, and upgrading means of egress handrails and guards to comply with the AFPC (although not specifically required by the IEBC).

CONCLUSIONS & RECOMMENDATIONS

The following recommendations and conclusions are provided to aid the design team during the Pre-Design Phase of the project.

- 1. The construction type of the building most closely resembles Type IIIB Noncombustible/Combustible, Unprotected Construction. The building is not sprinkler protected and is provided with a minimal fire alarm and detection system. It is the understanding of RJA that building was listed with the National Register of Historic Places in 1992. **Thus, a historic building evaluation was completed in accordance with the IEBC.**
- 2. Large amounts of combustible storage were observed to be located within the stair enclosures in the building. Additionally, the bottom of the Stair 3 enclosure is currently utilized for the storage of a flammable liquids cabinet. The quantity label located on the outside of the cabinet illustrates that 120 Liters of Methanol, a Class IB flammable liquid is currently stored. **While not specifically referenced by the provisions of the IEBC, it is the recommendation of RJA to remove the combustible storage and the flammable liquids cabinet from the stair enclosures within the building.**
- 3. Any repairs within the building are permitted to be of original or like materials and original methods of construction in order to maintain the building’s historic preservation.
- 4. The building is not currently provided with an automatic sprinkler system. **Due to the proposed scope of the renovation and its size and occupancy, it should be anticipated that an automatic sprinkler system will be required in the building. If a sprinkler system is not preferred due to the historic nature of the building, an alternate system may be provided if approved by the code official.**
- 5. Upgrades to the fire alarm and detection system in the building are not specifically warranted in the non-renovated portions of the building by the historic building chapter of the IEBC. **However, if a new sprinkler system is provided, approved audible devices should be connected to the system throughout the building in accordance with AFPC Section 903.4.2. It is the recommendation of RJA that approved visual devices should also be considered throughout the building due to the largest amount of combustibles present and the potentially high occupant loads in the building.**

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6. Each of the stairs in the building were observed to be partially or fully enclosed by 1-hour rated fire doors. However, doors were either held open with wooden blocks, did not close fully, or were missing latches. In these instances, the door hardware should be replaced such that the doors are self-closing, self-latching, and tight-fitting as required.

Additionally, Stairs 2 and 3 are currently configured such that they are open to the ground floor in the building. The historic provisions of the IEBC require that these stairs be separated from the ground floor by non-rated construction. As such, a pair of non-rated, tight-fitting doors should be provided between the stairways and the adjacent corridors.

Based upon the extent and the scope of the renovation, if it can be determined that the proposed building will comply with all of the non-historic provisions of the IEBC, these stairs may remain unenclosed in accordance with IEBC Section 703.2.1. This requires further discussion with RJA.

7. The ground and first floors of the building are not currently provided with an accessible route as a result of insufficient door widths. **If a primary function area in the building is renovated on these floors, an accessible entrance which connects an accessible route to these areas should be provided. This would include providing a new door which has a clear width of at least 32 inches on the ground and first floors. Alternatively, an automatic door opener may be provided to the existing pair of doors on the first floor in order to provide an accessible route. Refer to the Accessibility section of this report for further details.**
8. The mezzanine in the building is currently utilized for offices which would not be considered as a primary function area. **Therefore, if the mezzanine was renovated as a result of this project, providing an accessible route (i.e. elevator) to this area would not be required. However, if the areas in the mezzanine are renovated and are considered as primary function areas, an accessible route would be required, unless the costs of providing the elevator exceed 20 percent of the costs of the alteration affecting the area of primary function.**
9. Up to 20% of the construction cost must be used for accessibility upgrades to the building as referenced earlier in the report as per IEBC 606.2.

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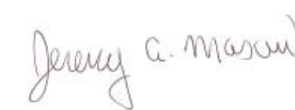
If you have any questions with respect to the above information, please do not hesitate to call.

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B45541

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FIELD HOUSE
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS

CONCEPT PHASE
FIRE ALARM SYSTEM
NARRATIVE REPORT

Prepared For:

Perry, Dean, Rogers | Partners
177 Milk Street
Boston, MA 02109

October 27, 2009

Project #: B45541



FIRE ALARM SYSTEM NARRATIVE REPORT

PROJECT OWNER

University of Arkansas
Fayetteville, Arkansas

PROJECT

Field House

DESIGN RESPONSIBILITY

The accountability for the fire alarm system design modifications and the integration of the fire alarm system in constituting a building life safety system will be performed by the following method of design responsibility:

Rolf Jensen & Associates, Inc. (RJA), as the Professional Engineer (PE), will provide conceptual design including design criteria, drawings, and material specifications to be used by the installing subcontractor. The selected fire alarm contractor will produce shop drawings of the proposed system installation, as well as manufacturers' data sheets and voltage drop calculations on the products that will be installed. RJA will review and approve the installing contractor's final layout, system design and installation, and equipment selection.

RESPONSIBLE ENGINEER

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Framingham, MA 01701

Tel: (508) 620-8900 Fax: (508) 620-0908

BUILDING DESCRIPTION

The Field House was originally constructed in 1937 as an indoor recreational center for sports as well as special events such as concerts and commencements. The building is two (2) stories above grade and has maximum footprint area of approximately 18,500 square feet. The ground floor of the building is currently utilized for astronomy research, faculty offices, and storage rooms. The first floor is essentially one large continuous space which primarily contains science exhibits, two (2) conference rooms which are separated by partial height partitions, and miscellaneous storage. It does not appear that this floor is currently utilized on a regular basis. In addition to the two (2) stories, the building also contains an enclosed mezzanine located above the first floor which spans approximately 2,000 square feet. The mezzanine is used for faculty offices and is also provided with a small seminar room. The building is currently provided with a limited fire alarm system.

Based on observations during the survey of the building, the structural framing (joists, beams, girders, and columns) was observed to be constructed of unprotected steel and the roof was observed to be composed of wooden planks. The exterior wall of the building appears to be entirely comprised of masonry construction. Thus, the building most closely resembles Type IIIB Noncombustible/Combustible, Unprotected Construction. Refer to the Existing Building Code Evaluation Report for the building, dated September 30, 2009, for further construction type details.

The fire protection scope of the project includes the potential replacement of the existing fire alarm system. The project also includes potential upgrade of the sprinkler system to include full building sprinkler protection throughout. The installation of the sprinkler system is discussed in RJA’s Concept Phase Fire Sprinkler System Narrative Report dated October 20, 2009.

APPLICABLE LAWS, REGULATIONS AND STANDARDS

The following codes and standards are applicable to design of the fire protection systems for the building in addition to requirements imparted by the City of Fayetteville (AHJ) and the insurance underwriter.

- 2007 Arkansas Fire Prevention Code (AFC), Volume I, which is an amended version of the *2006 International Building Code (IBC)*, effective August 1, 2008;
- 2007 Arkansas Fire Prevention Code, Volume II, which is an amended version of the *2006 International Fire Code (IFC)*, effective August 1, 2008;
- 2003 Arkansas State Mechanical Code (AMC), which is an amended version of the *2003 International Mechanical Code (IMC)*;

- NFPA 70, National Electrical Code, 2008 Edition, effective June 1, 2008;
- NFPA 72, National Fire Alarm Code, 2002 Edition

EXISTING SYSTEM DESCRIPTION

The building contains a minimal fire alarm system which consists of a single manual pull station located adjacent to the main entrance and limited notification appliances throughout the building. The fire alarm system is comprised of a 24 Volt continuous line system which initiates a local alarm within the building only. Upon activation of the manual pull station, a fault is created in the continuous line which initiates an alarm in the building. The relay for the fire alarm system is located in a closet on the first floor of the building. Smoke and heat detection devices are not provided in the building.

Notification devices were observed on each floor of the building; however the number of devices is scarce and is not in compliance with current code standards. Specifically, a total of five (5) notification devices are provided in the entire building. Three (3) ceiling-mounted horn/strobes are provided within the corridor on the ground floor, one (1) wall-mounted horn/strobe is provided on the first floor, and one (1) wall-mounted horn is provided on the mezzanine. The heights of wall-mounted horn/strobes in the building were spot checked and measured as being as high as 120 inches above the floor surface. The single manual pull station was located within five (5) feet of the main entrance and was located approximately 52 inches above the floor surface. The remaining exits were not provided with any manual pull stations.

The current edition of NFPA 72 Sections 5.12.4 and 7.4.7.1 requires that notification appliances have their tops at least 80 inches above finished floor and manual fire alarm boxes be located between 42 and 54 inches above the floor surface. Further, AFPC Section 907.2.1 requires manual pull stations be provided within five (5) feet of every exit in a nonsprinklered assembly building having an aggregate occupant load of 300 or more occupants. It is assumed that the spacing and heights of the notification appliances and the location of the manual pull stations were provided in accordance with the codes at the time they were installed, however they do not meet current code provisions.

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FIELD HOUSE
FIRE ALARM SYSTEM NARRATIVE REPORT
CONCEPT PHASE

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OPTIONS FOR CONSIDERATION

Based upon our Existing Building Code Evaluation Report for the Field House, dated September 30, 2009, the requirement of a new fire detection and alarm system is not specifically warranted by the AFPC as the Field House is classified as a historic building. However, historic buildings which are renovated and considered as a distinct fire hazard by the AHJ are required to be provided with an automatic-fire extinguishing system. It is the opinion of RJA that the building constitutes a distinct fire hazard as a result of the large amounts of combustible fueling, anticipated high occupant loads, and lack of sufficient fire protection systems. As it is proposed that the building will be equipped with an automatic sprinkler system as a result of the renovation, approved audible devices will minimally be required to be connected to the system which initiate in the event of an alarm (AFPC 903.4.2). Additional features of the fire alarm system such as visual notification appliances are not specifically required by the AFPC.

If it is decided that a new complete fire alarm and detection system will be provided in the building, it is required to have emergency voice capabilities if the aggregate occupant load of the building is greater than 1,000 occupants (AFPC 907.2.1). The emergency voice/alarm communication system should be connected to a new or existing emergency power source as required by the AFPC. Evaluation of an existing emergency power source would be required to ensure the source can handle the additional fire alarm capacity.

Further, if a sprinkler system is installed, the fire alarm system is no longer required to be provided with smoke/heat detection or manual fire alarm boxes pending that the alarm notification appliances will activate upon sprinkler waterflow (AFPC 907.2.1, Exception). Based on previous experiences with similar projects, it is reasonable to believe that existing smoke/heat detectors (if any) and manual pull stations may be removed if the fire alarm system and sprinkler system is installed within the building as noted above since they are no longer required by the AFPC. This issue should also be discussed with the AHJ as they may prefer the replacement of devices in areas which are currently provided with such.

RJA RECOMMENDATION

Due to the combustible construction and expected high occupant loads within the building, it is evident that life safety is a high priority. Based on discussions with the fire marshal for the university, a complete sprinkler system will be installed throughout the building as part of the renovation due to increasing pressure from the university's insurance provider. However, it is not known if similar pressure is being placed on upgrading the fire alarm and detection system as well.

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FIRE ALARM SYSTEM NARRATIVE REPORT
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Therefore, if substantial renovations are to occur (i.e.: more than 50 percent of the building being renovated), then it is the recommendation of RJA that the fire alarm and detection system should be replaced throughout the building. This approach is consistent with the requirements of the AFPR, however the historic building provisions do not address fire alarm system upgrades. If the system is upgraded, it will be necessary to add a new fire alarm control panel as the existing system consists of only a fire alarm relay as noted above. Other new equipment will include speaker/strobe notification appliances and remote annunciators (where deemed necessary by the fire marshal).

The fire alarm system should also include the major components as addressed in the Proposed System section below. The new fire alarm system should initiate upon sprinkler water flow at the respective proposed floor control stations.

PROPOSED SYSTEM FOR NEW ADDITION AND MODIFICATIONS FOR RENOVATED AREAS

If the entire building will be provided with a fully addressable automatic fire alarm voice evacuation and detection system, it should include the following fire alarm features (AFPC 907.2.1):

- Installation of a new main fire alarm control panel with voice communication system capabilities.
- Installation of new notification devices; speakers and speaker/strobes throughout the building.
- Potential elimination of existing manual pull stations at exits and existing smoke/heat detectors (if any) in a fully sprinklered building (to be discussed with the AHJ).
- Potential installation of new smoke detectors for elevator recall if an elevator is installed as a result of the renovation.
- Installation of duct smoke detectors where required based on air flow rates.
- Potential installation of remote annunciators. Remote annunciators are fire alarm indicating panels which may be located at various building exits as required by the local AHJ. They do not provide system control functions as provided by the main fire alarm control panel.
- Installation of Class A notification appliance circuits and Class A signaling line circuits.

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The new system will be configured such that each floor will be provided with a minimum of one signaling line circuit (SLC) and one notification appliance circuit (NAC).

SEQUENCE OF OPERATION FOR NEW BUILDING

The receipt of an alarm from any initiating device (smoke/heat detector, manual pull station, water flow switch) will transmit a signal to the existing or new main fire alarm control panel and activate the notification appliances throughout the building if the design specified total building evacuation. The following table is the fire alarm sequence of operation for the Field House Building:

Response → Initiating Device ↓	Fire Alarm Panel Audible Alarm	Actuate Building Notification Appliances	Emergency Voice/ Alarm
Waterflow Switch	■	■	■
Manual Pull Station	■	■	■
Supervisory/ Trouble	■		
Automatic Heat/ Smoke Detector	■	■	■

TESTING CRITERIA

The contractor will be responsible for coordinating all testing and will provide all necessary tools and equipment required for testing. Acceptance testing will be conducted in accordance with Chapter 10 of NFPA 72. The contractor should provide all testing certificates and appropriate forms including the Record of Completion.

Prior to final acceptance testing, the documentation required by AFPC 907.1.1 will be submitted to the Authority Having Jurisdiction. Final approval and acceptance of the work will be given when the complete system has been inspected, tested, and approved in writing by the AHJ.

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SUMMARY

The following conclusions are provided to aid the design team during the Concept Phase and outline the most important factors when considering the upgrade of the existing fire alarm system:

1. The building is currently provided with a minimal fire alarm system. It consists of a fire alarm relay, five (5) notification appliances sporadically located throughout the building, and a single manual pull station located adjacent to the main entrance. The building does not appear to be provided with any initiating devices. Upon activation of the fire alarm system, a local alarm is initiated throughout the building.
2. As the Field House is classified as a historic building, there are no provisions contained within the AFPR which require the fire alarm and detection system to be replaced as a result of the renovation. However, the Code does specify that when a new sprinkler system is provided, it should be connected to approved audible devices in the building. Actuation of the sprinkler system should automatically actuate the building fire alarm system. It is the understanding of RJA that a sprinkler system will be provided throughout the building as a result of the renovation and therefore audible devices will minimally be required.
3. Due to the combustible construction and high occupant loads expected within the building, it is the recommendation of RJA that a new complete fire alarm and detection system be installed throughout the building if the renovation is substantial (i.e. 50% of the floor area renovated). The new fire alarm and detection system would be required to include an emergency voice/alarm communication system if the aggregate occupant load of the building exceeds 1,000 occupants. The emergency voice/alarm communication system will need to be connected to a new or existing emergency power source. If the system is to be connected to an existing source, it will need to be evaluated to determine that it can handle this increased electrical loading.
4. Other features required to be provided if a complete fire alarm and detection system is installed include speaker/strobe notification appliances, a main fire alarm control panel, and remote annunciators (if required by the university fire marshal). Existing notification devices within the building may remain as long as they are compatible to the new fire alarm control panel.
5. As it is likely that a new sprinkler system will be installed throughout the building, any smoke and heat detectors and manual pull stations which are located in the building are no longer code required per AFPC Section 907.2.13.4.2. Elimination of these devices would require discussion with the local AHJ.

Appendix D.2:
Fieldhouse: Code & Fire Protection Facility Assessment

FIELD HOUSE
FIRE ALARM SYSTEM NARRATIVE REPORT
CONCEPT PHASE

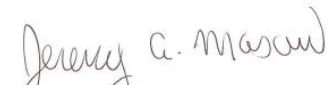
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If you have any questions with respect to the above information, please do not hesitate to call.

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FIELD HOUSE
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, ARKANSAS

CONCEPT PHASE
FIRE SPRINKLER SYSTEM
NARRATIVE REPORT

Prepared For:

Perry Dean Rogers | Partners
177 Milk Street
Boston, MA 02109

October 27, 2009

Project #: B45541



FIRE SPRINKLER SYSTEM NARRATIVE REPORT

PROJECT OWNER

University of Arkansas
Fayetteville, Arkansas

PROJECT

Field House

DESIGN RESPONSIBILITY

The accountability for the automatic sprinkler design and the integration of such systems in constituting a building life safety system will be performed by the following method of design responsibility:

Rolf Jensen & Associates, Inc. (RJA), as the Professional Engineer (PE), will provide design contract documents for the purpose of obtaining design permits and accurate contractor bids. The contract documents will include, but may not be limited to, design criteria per NFPA 13 and NFPA 14, contract drawings, hydraulic calculations, and material specifications to be used by the installing subcontractor. The selected sprinkler contractor will provide a shop drawing package. The package will include a cost effective shop drawing layout of the sprinklers and piping, hydraulic calculations, and manufacturers' product data sheets. RJA will review and approve the installing contractor's shop drawings, hydraulic calculations, and material submittals, and will review the contractor test certificates.

RESPONSIBLE ENGINEER

Carl W. Nelson
Rolf Jensen & Associates, Inc.
1661 Worcester Road, Suite 501
Framingham, MA 01701

Tel: (508) 620-8900 Fax: (508) 620-0908

BUILDING DESCRIPTION

The Field House was originally constructed in 1937 as an indoor recreational center for sports as well as special events such as concerts and commencements. The building is two (2) stories above grade and has maximum footprint area of approximately 18,500 square feet. The ground floor of the building is currently utilized for astronomy research, faculty offices, and storage rooms. The first floor contains science exhibits, two (2) conference rooms, and miscellaneous storage. In addition to the two (2) stories, the building also contains an enclosed mezzanine located above the first floor which spans approximately 2,000 square feet. The mezzanine is used for faculty offices and is also provided with a small seminar room. The building is not currently sprinkler protected and exit stairs are not provided with standpipes having 2 1/2" fire department connections.

Based on observations during the survey of the building, the structural framing (joists, beams, girders, and columns) was observed to be constructed of unprotected steel and the roof was observed to be composed of wooden planks. The exterior wall of the building appears to be entirely comprised of masonry construction. Thus, the building most closely resembles Type IIIB Noncombustible/Combustible, Unprotected Construction. Refer to the Existing Building Code Evaluation Report for the building, dated September 30, 2009, for further construction type details.

The building is not expected to undergo a change in use or classification as a result of the potential renovation. The building will remain as a mixed use occupancy consisting of assembly and business use groups with ancillary storage space. Therefore, it is expected that the building will contain primarily light hazard business (offices) and assembly use groups (Auditorium, Ballrooms, Conference Rooms) throughout the building. MEP type spaces, and storage spaces will also be provided; and are classified as ordinary hazard group 1 (OH-1) occupancies with regard to sprinkler system design criteria. The project also includes the potential replacement and / or upgrade of the existing fire alarm system.

Per conversations with the University Fire Marshal, Wayne Brashear, it should be noted that the existing water supply serving various campus sprinkler systems appears to be dangerously unreliable due the recent hydrant flow test results performed by the University. Per Fire Marshal Brashear, the recent hydrant flow test resulted in minimal flows from the flow hydrant and it is Mr. Brashear's understanding that all system control valves were open. Additionally, documentation describing the existing water supply system is unavailable. Further investigation of the adequacy of the existing water supply is warranted as the installation of a new underground water service may be necessary. It is RJA's opinion that an unreliable water supply can pose a significant safety and liability risk to the University.

The sprinkler contractor would be responsible for the installation of the above ground sprinkler and standpipe system from a location to be determined by RJA during the design process. The fire sprinkler contractor will provide necessary electrical flow and tamper switches, and local electric bell, etc. but they will be interconnected to the building fire alarm system by the electrical contractor. As mentioned above, it is uncertain at this time whether a new underground water service would be required to be installed. A General Contractor/Civil Contractor could potentially be hired to complete the site utility work.

APPLICABLE LAWS, REGULATIONS AND STANDARDS

The following codes and standards are applicable to design of the fire protection systems for the building in addition to requirements imparted by the City of Fayetteville (AHJ) and the insurance underwriter.

- 2007 Arkansas Fire Prevention Code, Volume I, which is an amended version of the *2006 International Building Code (IBC)*, effective August 1, 2008;
- 2007 Arkansas Fire Prevention Code, Volume II, which is an amended version of the *2006 International Fire Code (IFC)*, effective August 1, 2008;
- NFPA 13, Standard for the Installation of Sprinkler Systems, 2002 Edition;
- NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, 2002 Edition;
- NFPA 72, National Fire Alarm Code, 2002 Edition

SPECIFIC BUILDING SYSTEM'S OPERATIONAL FEATURES

OVERVIEW

The building will be protected throughout with an automatic sprinkler system, designed in accordance with AFPC Chapter 9 and NFPA 13.

EXISTING WATER SUPPLY

The building's new sprinkler system will be fed from an existing extension of the City of Fayetteville water supply. An existing 6-inch fire service line runs along Garland Avenue between W Dickson Street and Maple Street. A water flow test was performed on this service line in the vicinity of the adjacent Student Union in January 2009 and it was determined that the flow and pressure of the system is inadequate. Based on discussions with Kelley Sharpe, the manager of construction services for the university, the Utilities Department would like to replace the 6-inch line with a 10-inch line in the near future. It is possible that the replacement of the fire service line will warrant the water supply adequate for the sprinkler system serving the Field House.

Other options include extending the existing 12-inch service line on Maple Street along Garland Avenue. A water flow test performed on this line at the corner of Maple Street and Garland Avenue in August 2009 by RJA and the University Fire Department provided the following results:

Location: Corner of Maple Street & Garland Avenue
Static Pressure: 54 PSI
Residual Pressure: 52 PSI
Total Flow: * GPM

As noted above, the existing water supply running along Garland Avenue between W Dickson Street and Maple Street is insufficient due to the poor test results obtained in January of 2009. The most feasible options include replacing this existing water supply with a larger diameter service line or extending a new service line from the adequate water supply serving Maple Street. A sprinkler system cannot be designed and installed without an adequate water supply. The installation of a new fire pump will not alleviate this condition unless the water supply is adequate.

FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTION

Free-standing Fire Department connections are currently provided throughout the campus in a locations approved by the City of Fayetteville and the University Fire Marshal. The need for modification to an existing FDC or installation of a new FDC will be determined during the design process. The FDC's will serve all portions of the sprinkler system and will be Siamese or Storz type per the University Fire Marshal. The nearest fire hydrants are located within 100 feet of the building.

SPRINKLER SYSTEMS

The renovated building will be provided with an automatic sprinkler system throughout in accordance with AFPC 904.2. The sprinkler system will include quick response sprinklers where possible. Concealed pendent sprinklers will be utilized in the office portions of the building, with the remaining area using recessed or exposed pendent or upright sprinklers. The system will contain floor control stations consisting of control valves, check valves, water flow switches, tamper switches, and drain riser.

Sprinkler system design criteria are for light hazard and Ordinary Hazard Group 1 (OH-1) occupancies per NFPA 13. The hydraulic density for light hazard occupancies is 0.10 gpm over the hydraulically most remote 1,500 square feet plus 100 gpm for hose streams. The maximum allowable protection area of coverage for sprinklers in light hazard occupancies is 225 square feet with a maximum spacing of 15 feet by 15 feet. The hydraulic density for OH-1 occupancies is 0.15 gpm over the hydraulically most remote 1,500 square feet plus 250 gpm for hose streams. The maximum allowable protection area of coverage for sprinklers in OH-1 occupancies is 130 square feet with a maximum spacing of 13 feet by 10 feet. No high hazard storage is expected.

The wet pipe sprinkler system will be equipped with heat activated frangible bulb quick response sprinklers. When a sprinkler fuses and discharges water, the main riser water flow switch is actuated and sends an alarm signal to the fire alarm system control panel and exterior mounted electric bell. The local flow switch indicates the fire and supervisory tamper switches are also provided for all system control valves to monitor potential valve tampering located at the floor control station and main riser check valve.

STANDPIPE SYSTEMS

A Class I standpipe system in accordance with NFPA 14 will not be provided in the building as the floor of the mezzanine is not located more than 30 feet above the lowest level of fire department access (AFPC 905.3.1). It is likely that the main riser for the sprinkler system will still be located within Stair 1 as this stair serves all floors in the building.

MAJOR FIRE PROTECTION EQUIPMENT TO BE INSTALLED

Among other system components, the following are major items to be installed as part of the scope of work:

- Main riser check valve and trim consisting of main drain, pressure gauges, tamper switches and flow switches. A backflow preventer will also be installed.
- Floor control stations including control valves, check valves, tamper and flow switches, and drain risers
- Install sprinklers in all areas as specified on future design drawings. Types of sprinklers include quick response brass upright in exposed ceiling areas; and quick response recessed pendent with chrome finish or concealed pendent with white cap (TBD) in finished ceiling areas.
- Install new Schedule 10 and Schedule 40 steel piping as indicated on the future design drawings.
- If deemed necessary during the design process, install a new Siamese or Storz FDC. Provide a new sign stating "Automatic Sprinkler and Standpipe".
- Install flexible couplings, hangers, and lateral and longitudinal sway bracing of sprinkler piping in accordance with NFPA 13. Show locations of seismic bracing on the shop drawings.
- Install exterior electric bell.

SEQUENCE OF OPERATION

1. Activation of Automatic Sprinkler.
 - a. Waterflow alarm (flow switch) at floor control station and main riser check valve will activate with indication provided on main building fire alarm control panel. The waterflow alarm will also activate the exterior electric bell.
 - b. Building notification system will activate causing general evacuation.
 - c. Alarm sent to central station.
 - d. Event will be recorded in history log.
2. Tamper Supervisory.
 - a. An LED on the fire alarm control panel will activate indicating Supervisory which will be relayed to Campus FD
 - b. Event will be recorded in history log.

TESTING CRITERIA

1. The contractor will be responsible for setting up and coordinating all testing of the new sprinkler system in accordance with NFPA 13, and NFPA 72.
2. The professional in charge will work in coordination with the sprinkler contractor to assure that all testing of individual components and systems will be performed. The contractors will first be required to test the systems themselves. Once they have tested the systems, a letter certifying that this testing has been performed will be submitted to the professional in charge.
3. Upon receipt of the contractors' certification of successful tests on the system, the professional in charge will work with the contractor to coordinate dates for witnessing testing. Once dates have been confirmed with all parties, the professional in charge will coordinate with the contractor to assure that the electrical contractor, fire alarm installer, sprinkler contractor, sprinkler equipment supplier, building representatives, and fire department personnel are available on the scheduled date and time.

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SPRINKLER SYSTEM NARRATIVE REPORT
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APPROVAL REQUIREMENTS

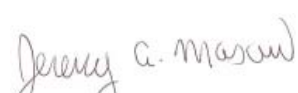
1. Written approval of witness testing will be required from the fire department if the system satisfies all operational code compliance requirements.
2. Should the system fail to operate satisfactorily, the contractor will be given a specific date by which time he must have completed the remedial action on the system. A follow-up date for testing will be established at the initial failure date.
3. A document certifying that the system is in compliance with all laws, regulations, standards, and pre-approved narrative reports will be given to code officials on completion of the successful test. This certification will be signed by the professional in charge and the sprinkler contractor.
4. All documentation required by the AFPC will be provided.
5. Documentation of names, addresses, and telephone numbers of personnel for emergency notification will be submitted to code officials.
6. 100% testing of the automatic sprinkler system and receipt of all Test Certificates, as provided in NFPA 13.

If you have any questions with respect to the above information, please do not hesitate to call.

Prepared By:


Carl W. Nelson

Reviewed By:


Jeremy A. Mason

B45541

CWN:jm

D.3

UNION

Architectural

Facility Assessment

Amirmoez Foster Hailey Johnson



UNIVERSITY OF ARKANSAS
ARKANSAS UNION
EXISTING BUILDING CONDITIONS REPORT

Amirmoez Foster Hailey Johnson visited the site of the Arkansas Union building for the purpose of conducting a survey analysis of the existing building conditions. Our analysis is based on a visual inspection of the existing conditions of the overall building supplemented with the aid of available existing drawings for the original building (named THE ARKANSAS UNION from Wittenberg, Delony & Davidson, Inc.- dated 6/02/1969). The scope of work includes Exterior Wall Envelope, Roof, and Site conditions. The following represents those observations.

CONTENTS

A- EXTERIOR WALL ENVELOPE

1. EAST ENTRY ADDITION
2. LINK ADDITION
3. ORIGINAL BUILDING
4. GENERAL SUMMARY OF RECOMMENDATIONS

B- ROOF

1. EAST ENTRY ADDITION AND LINK ADDITION
2. ORIGINAL BUILDING
3. GENERAL SUMMARY OF RECOMMENDATIONS

C- SITE

1. SITE AROUND EAST ENTRY AND BRIDGE AREAS
2. SITE AROUND ORIGINAL BUILDING
3. GENERAL SUMMARY OF RECOMMENDATIONS

A- EXTERIOR WALL ENVELOPE

The walls of original building are exposed load bearing concrete. The windows in the original building are a mixture of single-pane glazing in non-thermally broken aluminum framing system from the original construction to modern insulated glazing in thermally broken aluminum framing from later renovations. The walls of the new entry addition on the east are brick veneer over steel stud framing. The new additions windows are modern insulated glazed aluminum framing systems.

1.EAST ENTRY ADDITION

- a. Crack in brick on northwest corner. Probably best to leave it as is now but monitor to see if it gets worse. (Photo 001)
- b. Mortar cracks at water table- typical. Could become problem with water entering and freezing causing damage to precast. Monitor and repoint in future. (Photo 002)
- c. Sealant thin and with many small openings between sidewalk and building-typical. Monitor and replace sealant in future. (Photo 002)
- d. Crack between precast lintel and brick above openings- typical. Monitor and repoint in future. (photo 003)
- e. Rust stain on precast accent on northwest side of building. (Photo 004)
- f. Plastic shim not removed under lintel on west side north of bridge. Remove or cut back and touch up mortar.
- g. Crack at precast water table on west side south of bridge. Monitor (Photo 005)
- h. Hollow metal door on south side showing signs of rust. Repaint door.
- i. No mortar in precast joint above window on south side. Repoint in future. (Photo 006)
- j. At south windows weather stripping at windows loose and hanging. Reset. Aluminum frame finish is failing and as a result is discoloring glazing. Monitor (Photo 006)
- k. Joint above precast trim open on south side. Repoint in future. (photo 007)
- l. Mortar joint in precast watertable open on south side of building. Repoint in future. (Photo 008)
- m. Mortar missing from precast trim at balcony on east side. Repoint in future. (Photo 009)
- n. Sealant joints around arches at entry on east side are deteriorating. Replace sealant in future. (Photo 010)
- o. Patched damaged area in arch at entry on west side. Monitor (Photo 011)
- p. Wood soffit finish along east side of building is deteriorating. Possible from lack of seal on end grain. Monitor (Photo 012)
- q. Vent exhaust on north side of building rusting and roughly sealed. Monitor could be replaced with stainless steel piping. (Photo 013)
- r. No mortar in precast joint above window on south side. Repoint in future (Photo 014)

- s. Spalled section at precast lintel at north balcony on east side of building. Monitor (Photo 015)
- t. At balconies on east side above windows sealant between deck and windows has voids. Reseal (Photo 016)
- u. At balconies on east side above windows cracks around guardrail post have developed. Monitor (Photo 017)
- v. At balcony on east side under precast cap crack in brick has developed. Monitor (Photo 018)

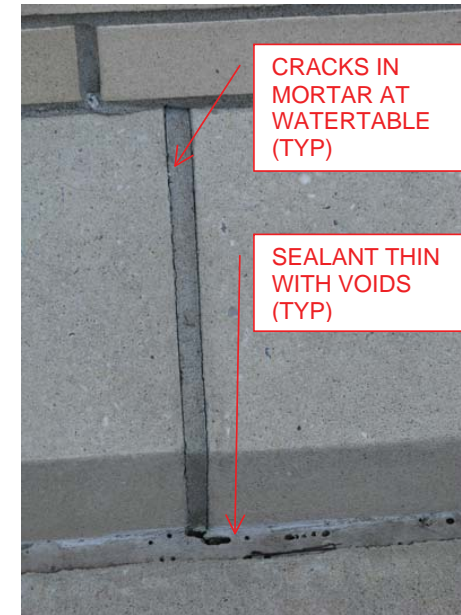


Photo 002



Photo 003

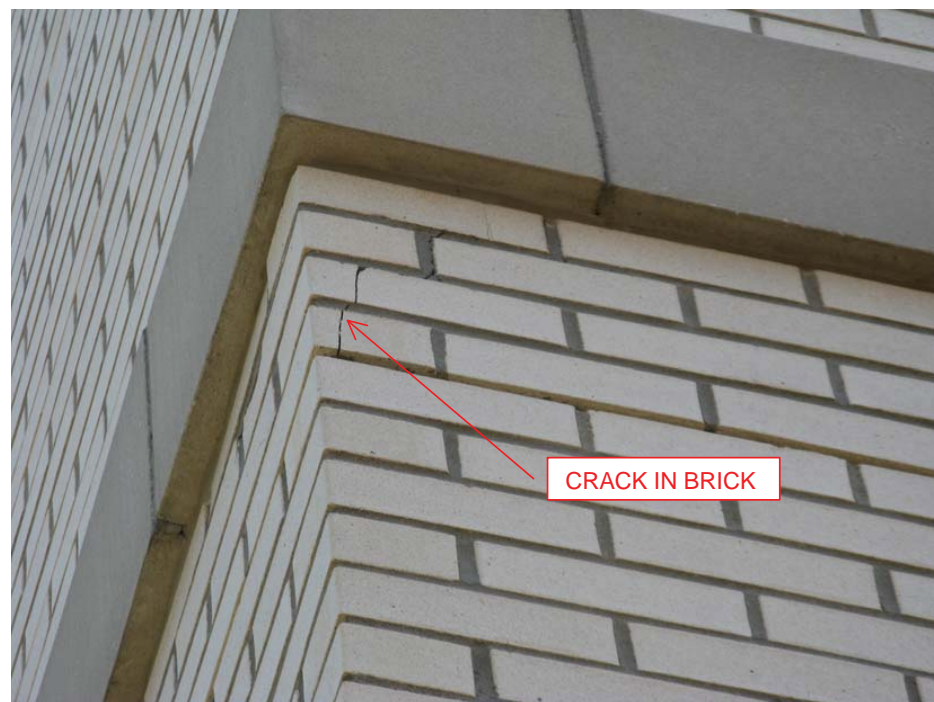


Photo 001



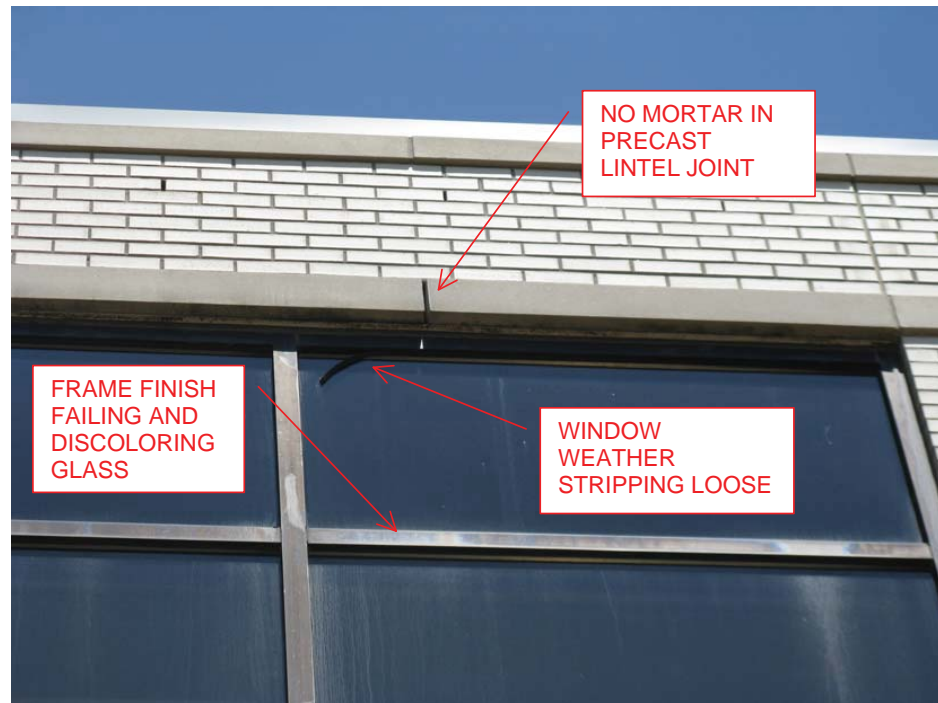
Photo 004

Appendix D.3:
Union: Architectural Facility Assessment



CRACK IN
PRECAST
WATERTABLE

Photo 005



NO MORTAR IN
PRECAST
LINTEL JOINT

FRAME FINISH
FAILING AND
DISCOLORING
GLASS

WINDOW
WEATHER
STRIPPING LOOSE

Photo 006



NO MORTAR IN
PRECAST
LINTEL JOINT

Photo 007



MORTAR
MISSING AT
PRECAST
WATERTABLE

Photo 008



Photo 009

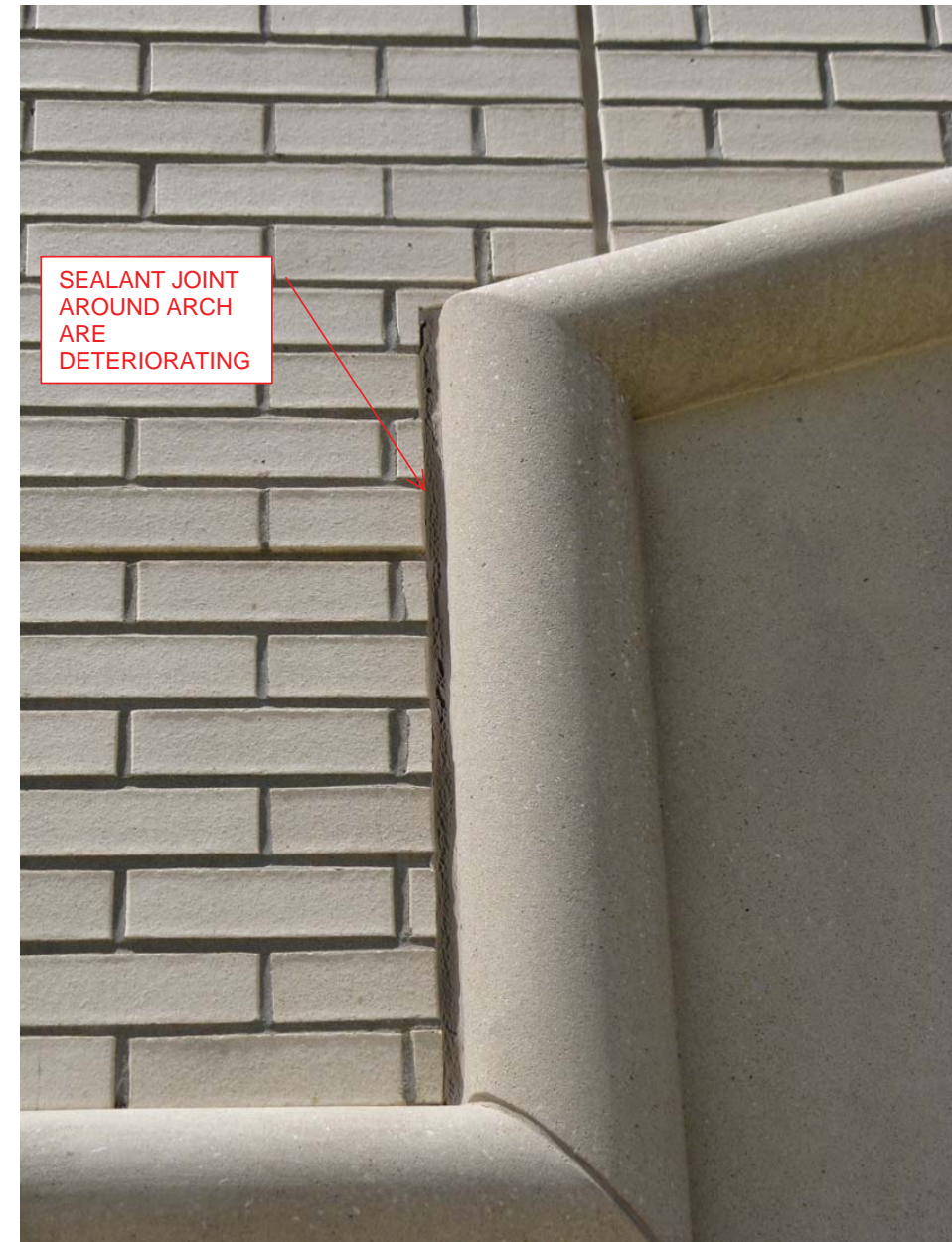


Photo 010

Appendix D.3:
Union: Architectural Facility Assessment



Photo 011



Photo 012



Photo 013

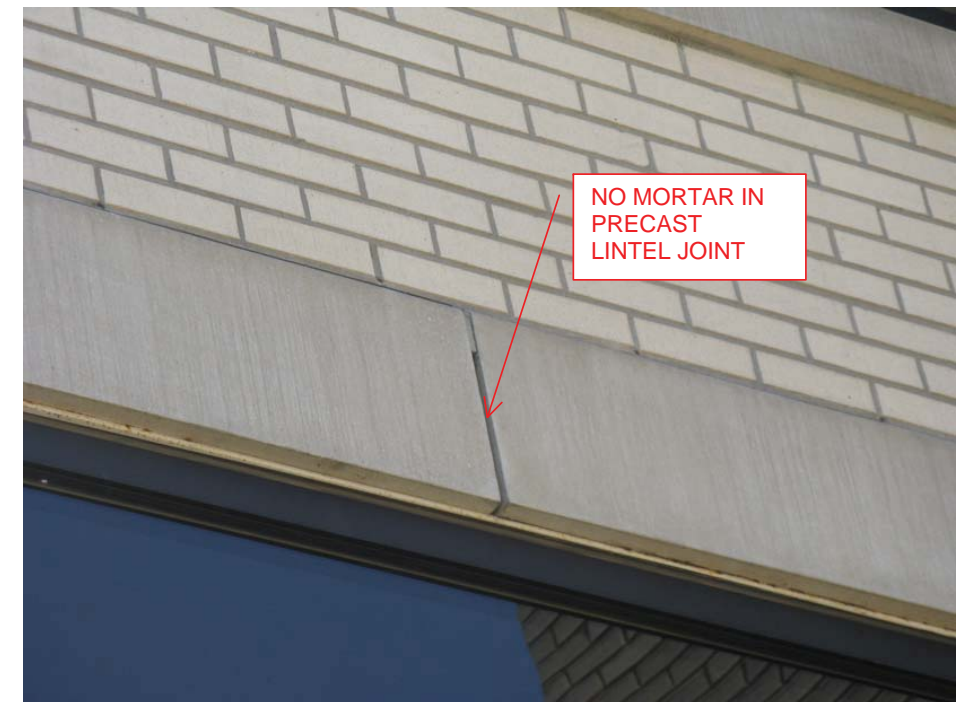


Photo 014



Photo 015



Photo 017



Photo 016



Photo 018

Appendix D.3: Union: Architectural Facility Assessment

2. LINKING ADDITION

- a. Cracks in bridge guardrail from the original building phase that are incorporated into the enclosed bridge connection. Monitor to verify that it doesn't get worse (Photo 019 & 020)
- b. At double doors on south side of bridge there is no weather seal between doors. Wind blows rain into building. Install seal. (Photo 021)
- c. Soffit that was installed below bridge at enclosed link above has been damaged by traffic. Repair damage and possibly install height indicators on either side of bridge to warn high clearance vehicles (Photo 022, 023, 024, 025, & 026)



Photo 019

13

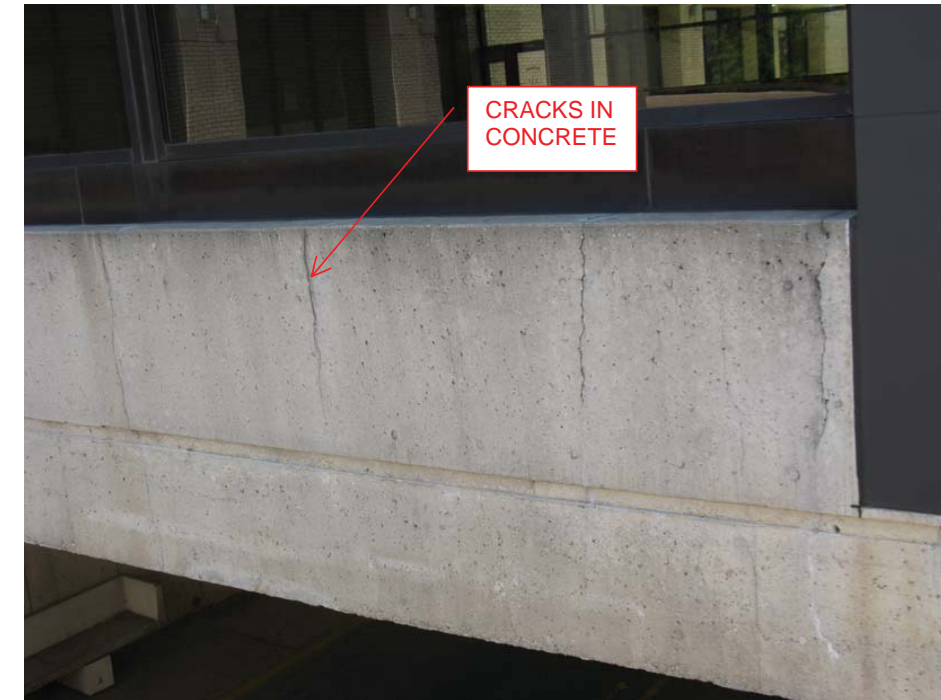


Photo 020

14



Photo 021



Photo 022



Photo 023

Appendix D.3:
Union: Architectural Facility Assessment



Photo 024



Photo 026



Photo 025

3. ORIGINAL BUILDING

- a. Concrete building has various cracks; rebar rust stains, honeycombs and other various concrete blemishes. None observed seem to be major problems but should be monitored to verify that they aren't getting worse. (Photo 027, 028, 029, 030, 031, 032, 033, & 034)
- b. Soffit grilles are dirty and need to be cleaned. May be affecting mechanical performances. (Photo 035)
- c. There is concrete damage to the head of dock opening from trucks. Install protective guards to prevent further damage. (Photo 036 & 037)
- d. Spalling concrete over recessed south entry should be examined closer to determine if it is stable. If not it should be stabilized to prevent possibility of it falling on someone. (Photo 038)
- e. Spalling concrete at inside corner of south wing to west section of building should be monitored over time to verify it is stabilized. (Photo 039)
- f. Spalling concrete at south side of link addition to original building should be monitored over time to verify it is stabilized. (Photo 040)
- g. According to staff the windows above the inset entry on the south side leaks in hard wind driven rain. (Photo 041)
- h. Water damage to soffit area should be repaired. (Photo 042)
- i. Balconies are several inches lower than interior spaces making them not accessible by wheel chair. Wooden ramp at one balcony has been added. (Photo 043)
- j. Balcony tiles have cracked and sealant has been added. (Photo 044)

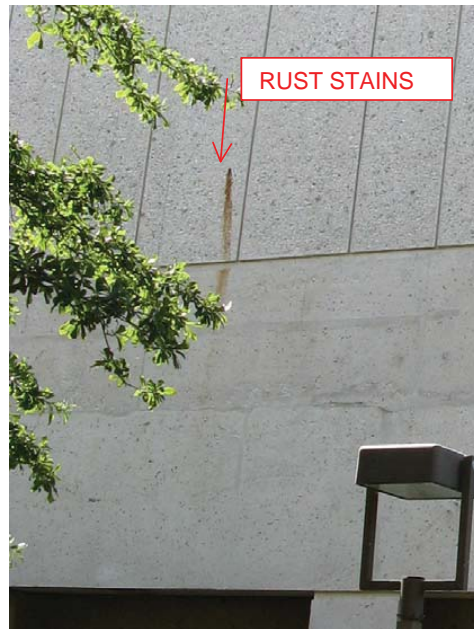


Photo 027



Photo 028

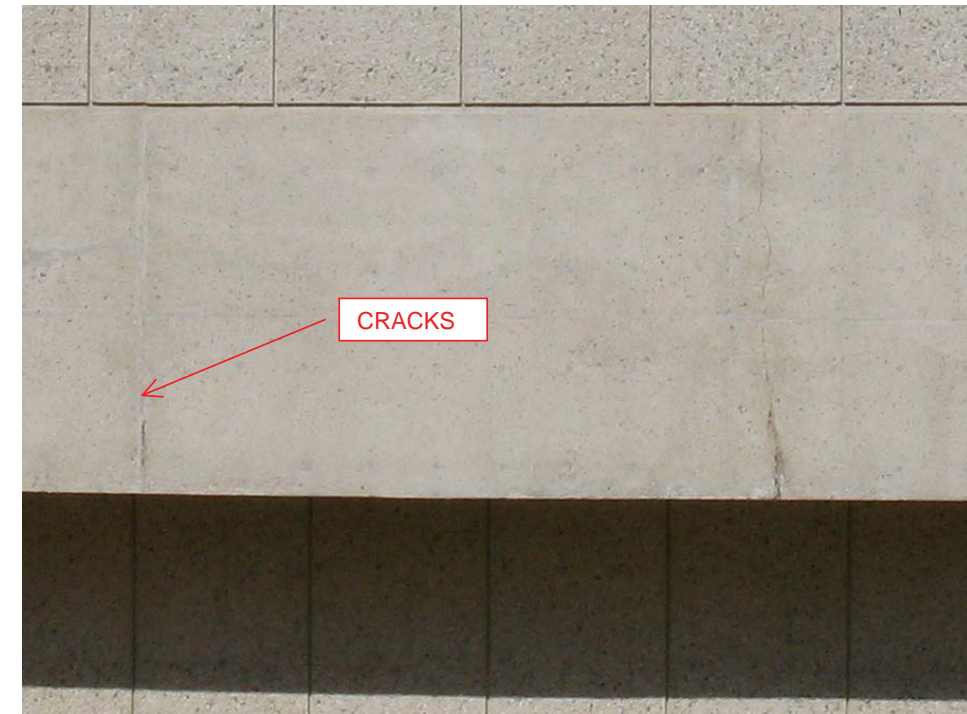


Photo 029



Photo 030

Appendix D.3:
Union: Architectural Facility Assessment



Photo 031



Photo 032



Photo 033



Photo 034



Photo 035



Photo 036



Photo 037



Photo 038



Photo 039



Photo 040

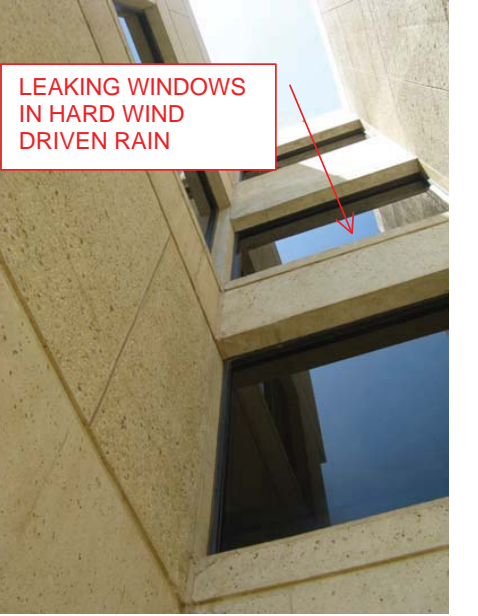


Photo 041

Appendix D.3:
Union: Architectural Facility Assessment



Photo 042



Photo 044



Photo 043

4. GENERAL SUMMARY OF RECOMMENDATIONS

- a. The east entry addition is of recent construction and is in generally good condition. A few maintenance items exist that should be addressed.
- b. The bridge addition has damage to the plaster soffit below from traffic that should be fixed.
- c. The original building has various imperfections with the poured-in-place concrete construction that should be routinely monitored to verify that they aren't deteriorating further.
- d. Single pane and non-thermally broken aluminum windows in the original building should be replaced with modern insulated glazing in thermally broken frames.
- e. Balconies aren't wheel chair accessible because of several inches of elevation change. They should be reworked to make them ADA compliant.

B- ROOFS

The roof of the original building looks to have a sprayed foamed roof with a granular topping possibly over an older roof membrane. The newer roof over the east entry addition and bridge looks to be a modified bituminous roof with a reflective coating.

1.EAST ENTRY ADDITION AND BRIDGE

- a. Roofs over the buildings seem in good condition. The reflective coating has deteriorated and should be touched up. (Photo 045 & 046)



Photo 045



Photo 046

1. ORIGINAL BUILDING

- a. General overall blistering of foam roof. (Photo 047, 048, 049, & 050)
- b. Roof seems to provide inadequate slope to drains. Staining of roof seems to indicate ponding. (Photo 047, 048, 049, & 050)
- c. Worse deterioration of the roof occurs at roof access door. There are no protective walkway areas on roof. (Photo 051)
- d. Repairs to roof have been made so that the membrane surface of the repair is lower than the surrounding roof so that it holds water. (Photo 052 & 053)
- e. Roof membrane around drains deteriorating. (Photo 054)
- f. Duct insulation is coming apart and needs to be reapplied in a better manner. (Photo 055)
- g. The sloped glazed skylights have single-pane glazing. Staff reports that they are a leak problem that they continually attempt to seal. One persistent leak is on the north sloping skylight. Interior office space near skylight has wet wall surfaces and carpeting. (Photo 056, 057, 058, 059, and 060)

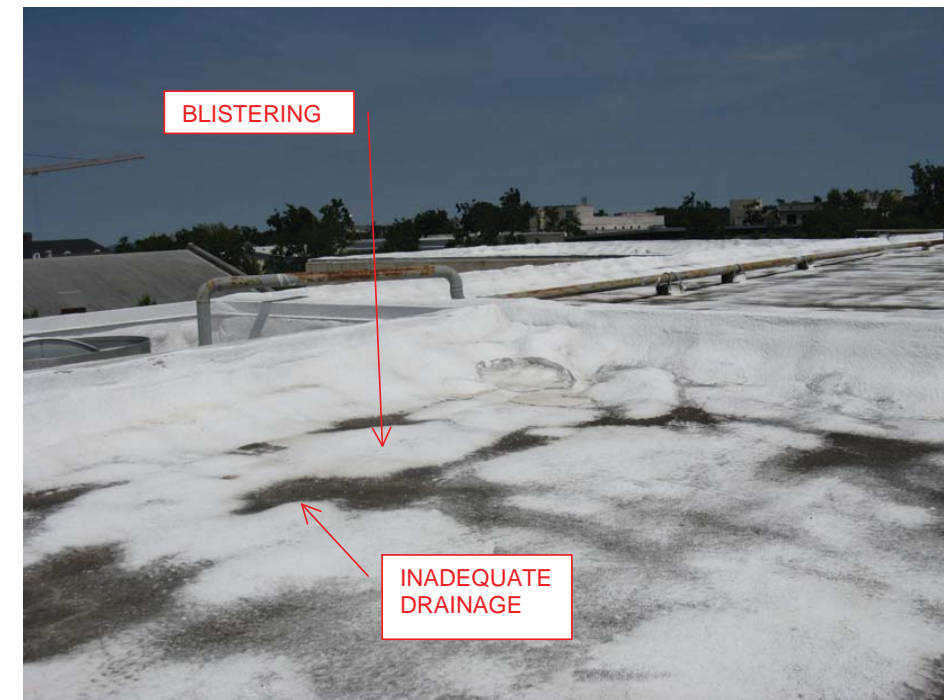


Photo 047



Photo 048



Photo 050



Photo 049



Photo 051

Appendix D.3:
Union: Architectural Facility Assessment



Photo 052

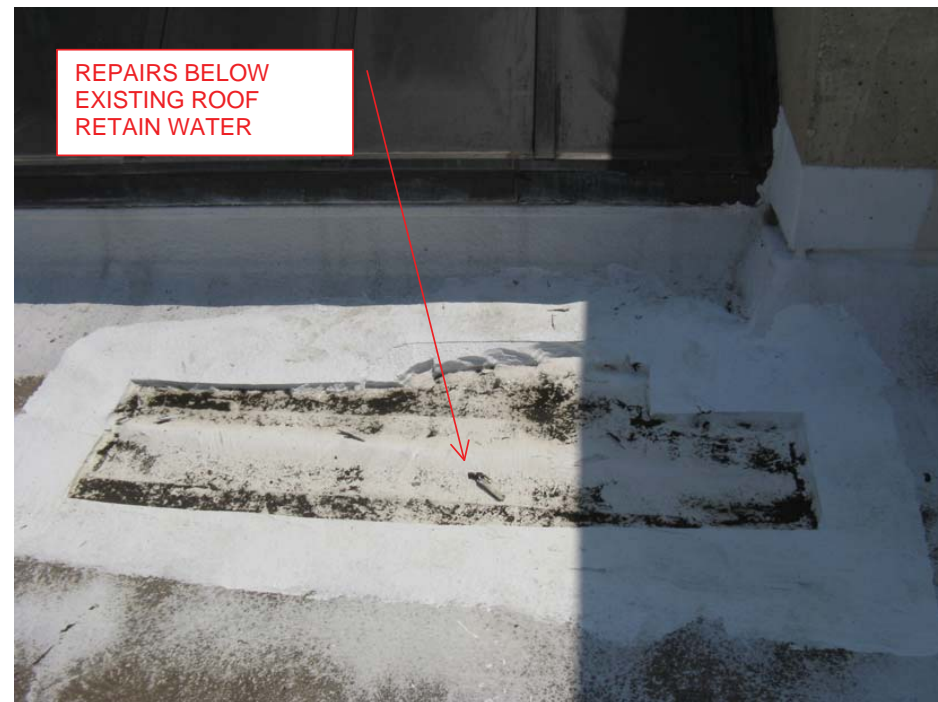


Photo 053



Photo 054



Photo 055



Photo 056

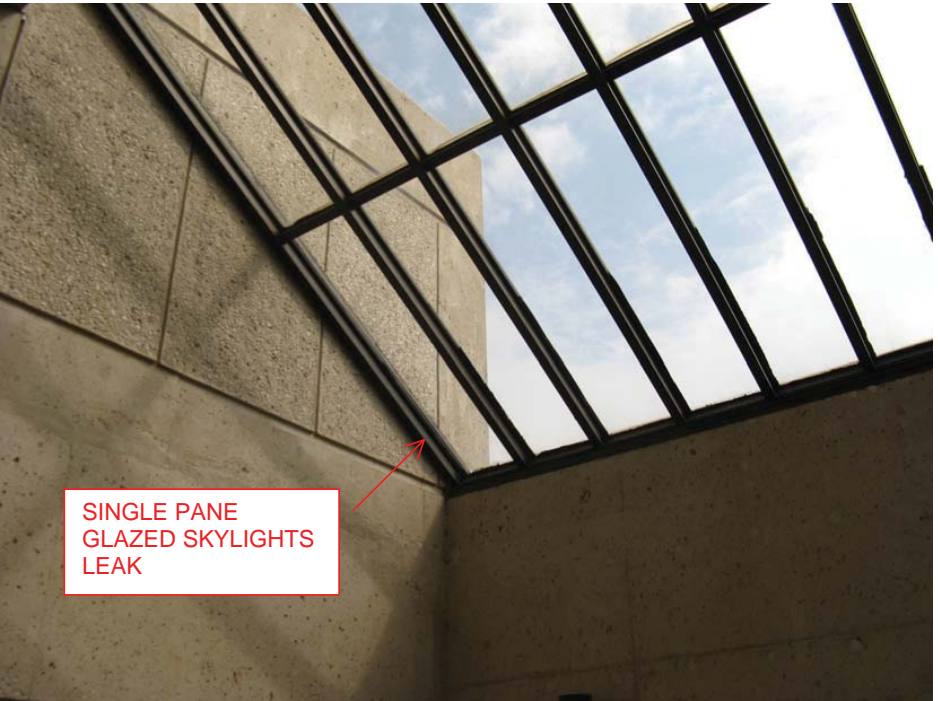


Photo 058



Photo 057



Photo 059



Photo 060

3. GENERAL SUMMARY OF RECOMMENDATIONS

- a. The east entry addition and bridge roof are in good condition. Roof in those areas could use touch up of reflective coating.
- b. Roof over the original building is a foam overlay roof that seems to have been applied over earlier roof. It is blistering and showing age. The slope to drain is inadequate and shows signs of ponding. In near future a new roof should be considered with a complete tear off and adequate slope to drainage provided.
- c. Sloped skylight should be replaced with modern insulated and thermally broken skylight correcting water leakage problems.

C- SITE

The new east addition is surrounded by brick paved plaza. The connection link between the new addition and the original building is built upon the original concrete entry bridge. There are grouted quarry tile plazas on either side on top of the bridge. Below the bridge is drive area that is mainly used by buses at this time. Off of this drive are entry doors to the original building. On the other sides of the original building are mainly lawn areas and various sidewalks.

1. SITE AROUND EAST ENTRY AND BRIDGE AREAS

- a. Quarry tile plazas on top of the bridge to the north and south of connecting link are deteriorating. Freezing and thawing has popped up some tiles. (Photo 061). There seems to be inadequate slope to drainage. (Photo 062 & 063) Inadequate water proofing mainly at plaza edges seems to be allowing water to migrate though plaza and form mineral deposits on the concrete structure below. (Photo 064)
- b. Traffic has cause some damage to concrete bridge joists. (Photo 065)
- c. Traffic has caused damage to conduit under bridge that needs repaired. (Photo 066)
- d. Moisture present under plaza deck slabs in some locations indicating possible leakage of membrane above. (Photo 067 & 068)
- e. Guardrail tops at plazas in bad repair. (Photo 069 & 070)
- f. Concrete retaining wall east of drive has staining that could be cleaned and some cracking that should be monitored. (Photo 071 & 072)



Photo 061

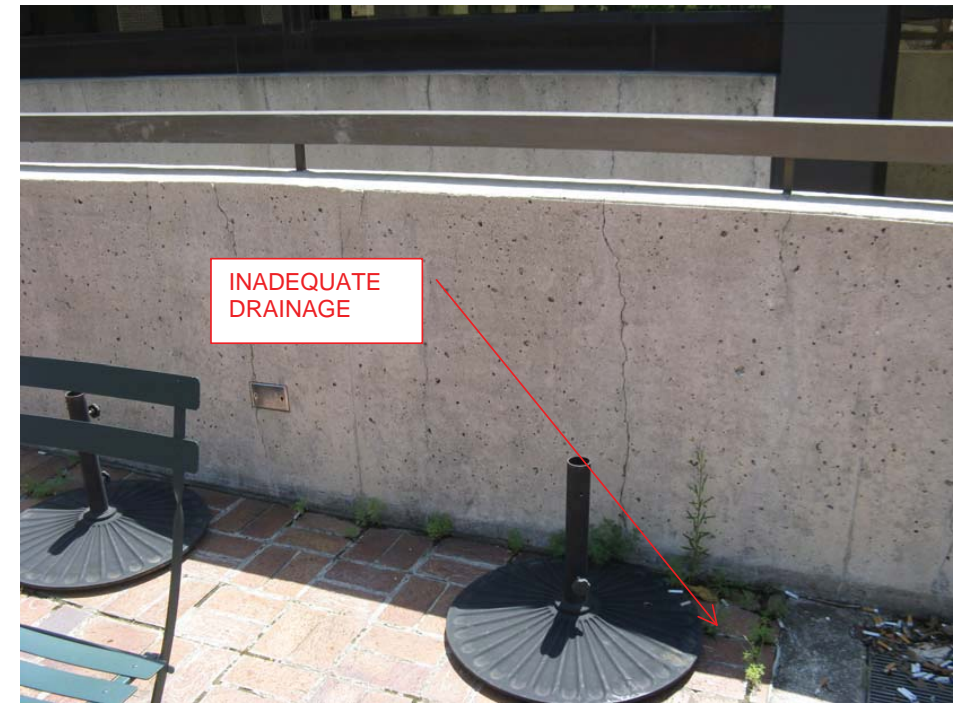


Photo 063



Photo 062



Photo 064

Appendix D.3:
Union: Architectural Facility Assessment



Photo 065

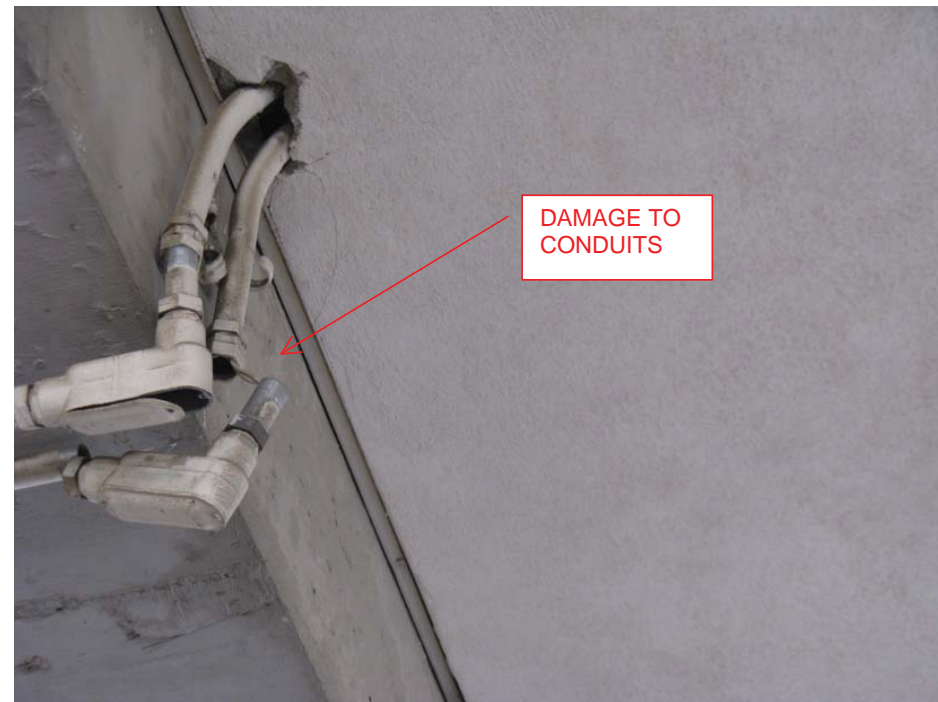


Photo 066

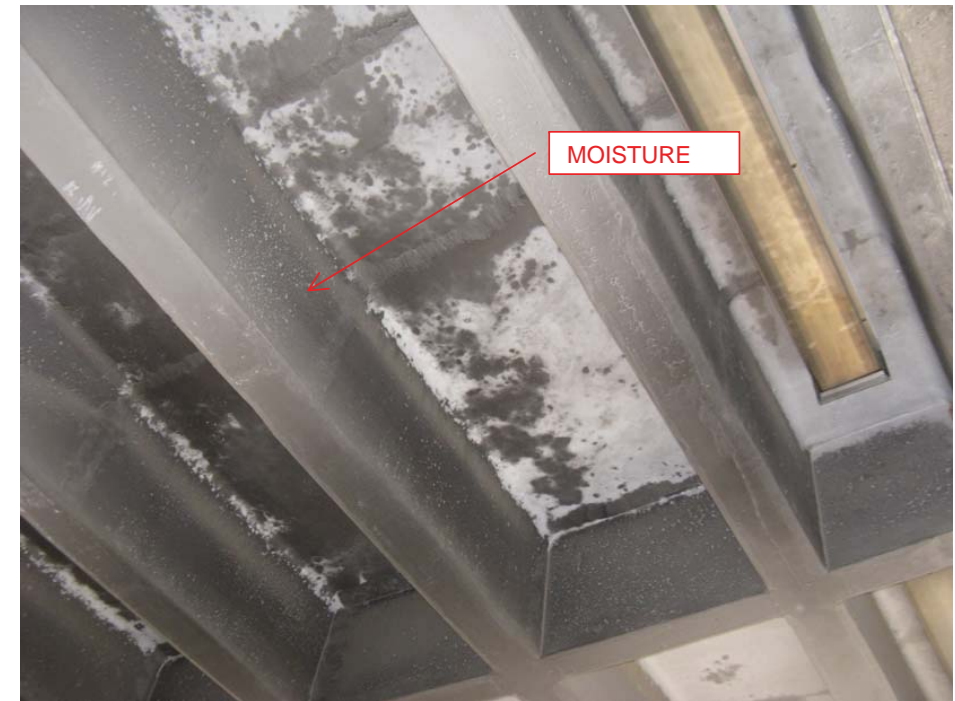


Photo 067



Photo 068



Photo 069



Photo 070

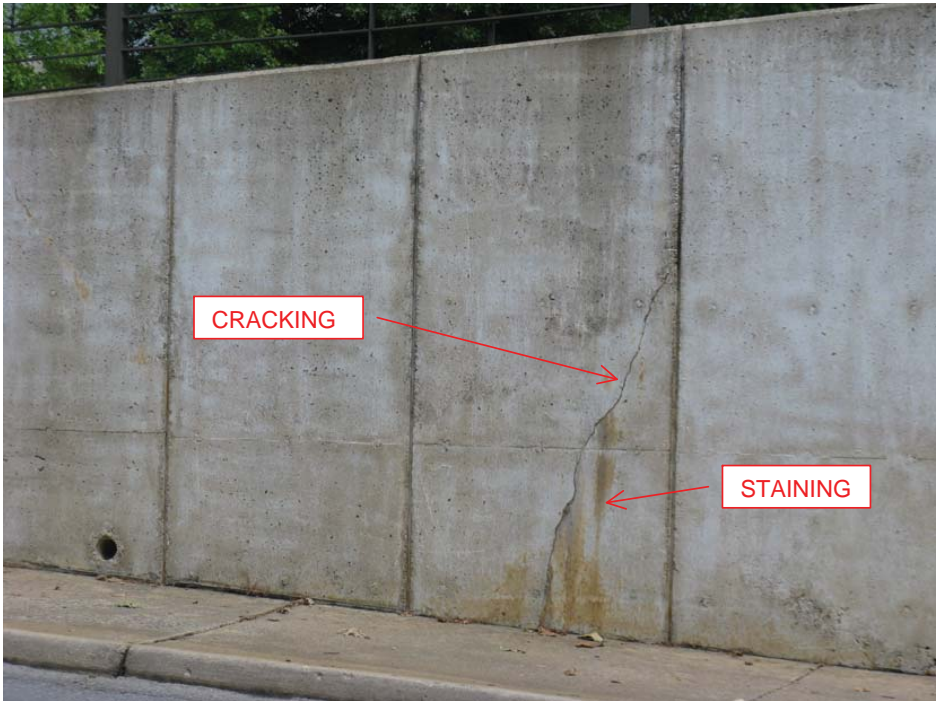


Photo 071

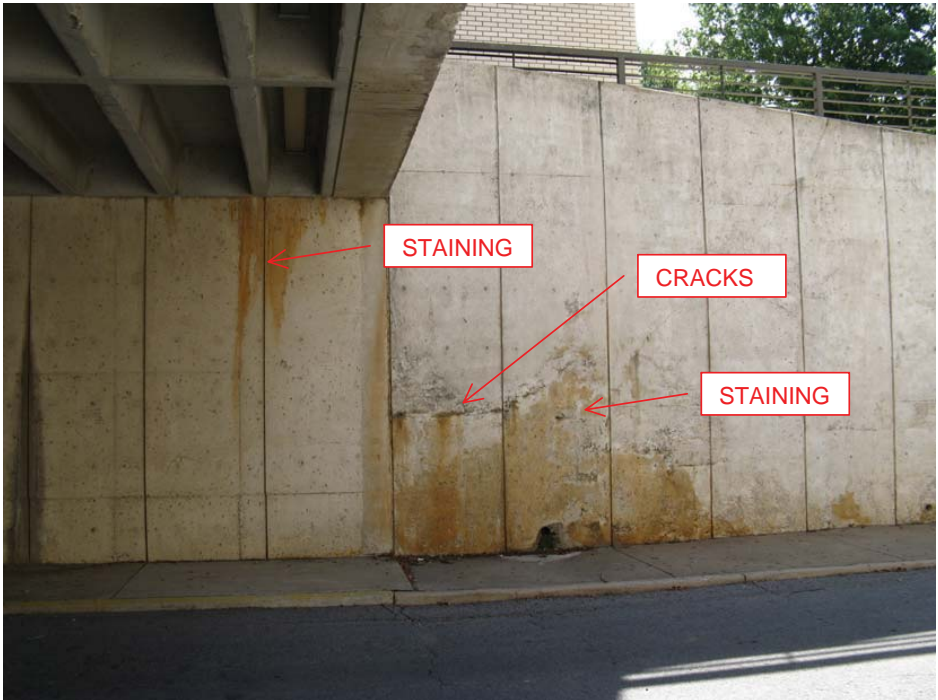


Photo 072

Appendix D.3: Union: Architectural Facility Assessment

2. SITE AROUND ORIGINAL BUILDING

- a. Sidewalks along east side of building at level under bridge have settled several inches. This has caused breakage in the concrete. (Photo 073) It has also cause a place for water ponding along north end of sidewalk. (Photo 074 & 075)
- b. Earth along north side of south wing of building has settled exposing top of footing. This side of building should be regarded. (Photo 076)



Photo 073

45



Photo 074



Photo 075

46



Photo 076

3. GENERAL SUMMARY OF RECOMMENDATIONS

- a. Quarry tile plazas on top of bridge to the north and south of connecting link building should be reworked to provide for adequate waterproofing.
- b. The sidewalk along the north side of the original building at the level below the bridge should be removed and repoured to correct problems with settlement.

End of Report on the Arkansas Union

D.4

FIELDHOUSE

Architectural

Facility Assessment

Amirmoez Foster Hailey Johnson



UNIVERSITY OF ARKANSAS
OLD MEN'S GYMNASIUM
EXISTING BUILDING CONDITIONS REPORT

Amirmoez Foster Hailey Johnson visited the site of the University Museum building for the purpose of conducting a survey analysis of the existing building conditions. Our analysis is based on a visual inspection of the existing conditions supplemented with the aid of available existing drawings (named FIELD HOUSE from Haralson and Nelson AIA- Architects dated 8/22/1936). The scope of work includes Exterior Wall Envelope, Roof, and Site conditions. The following represents those observations.

CONTENTS

A- EXTERIOR WALL ENVELOPE

1. GENERAL EXTERIOR WALL CONDITIONS
2. EAST (ENTRY) FAÇADE ITEMS
3. NORTH FAÇADE ITEMS
4. WEST FAÇADE ITEMS
5. SOUTH FAÇADE ITEMS
6. GENERAL SUMMARY OF RECOMMENDATIONS

B- ROOF

1. ENTRY AREA FLAT ROOF
2. SLOPED ROOF OVER GYMNASIUM AREA
3. BACK FLAT ROOF AREA
4. CANOPY ROOFS
5. GENERAL SUMMARY OF RECOMMENDATIONS

C- SITE

1. GENERAL EXTERIOR SITE CONDITIONS
2. EAST (ENTRY) SITE CONDITIONS
3. NORTH SITE CONDITIONS
4. GENERAL SUMMARY OF RECOMMENDATIONS

A- EXTERIOR WALL ENVELOPE

The exterior of the building is solid masonry with a face veneer of brick over a hollow tile backup. The masonry begins on top of a concrete wall at the basement level. The basement walls have an exterior paint finish. The brick walls above have limestone caps and accents. The windows are mainly the original single pane steel sash windows, except at the front entrance where openings have been replaced with aluminum storefront.

1.GENERAL EXTERIOR WALL CONDITIONS

- a. The concrete basement walls are in generally good condition. There is some minor hairline cracking at window openings but cracks seem stable. (photo 001 & 002)
- b. The brick is generally solid and in good condition. Mortar has deteriorated in many locations. Mortar is particularly bad at a bottom water table where brick steps out. At several locations sealant has been applied to joints in apparent attempts to prevent water infiltration. (photo 003, 004, & 005)
- c. Limestone accents are stained and mortar is missing from many locations. General cleaning and repointing is recommended. (photo 006 & 007)
- d. Sealant joints have deteriorated. These are generally located at pilaster locations. (photo 008 & 009)
- e. Steel sash windows have uninsulated glass and are not thermally broken. Numerous openings have been modified to insert window air conditioning units and various piping. (photo 010, 011, & 012)
- f. There are louvered openings along the sides and gabled ends of the gymnasium originally for ventilation to the unconditioned space.



Photo 001



Photo 002

3



Photo 003

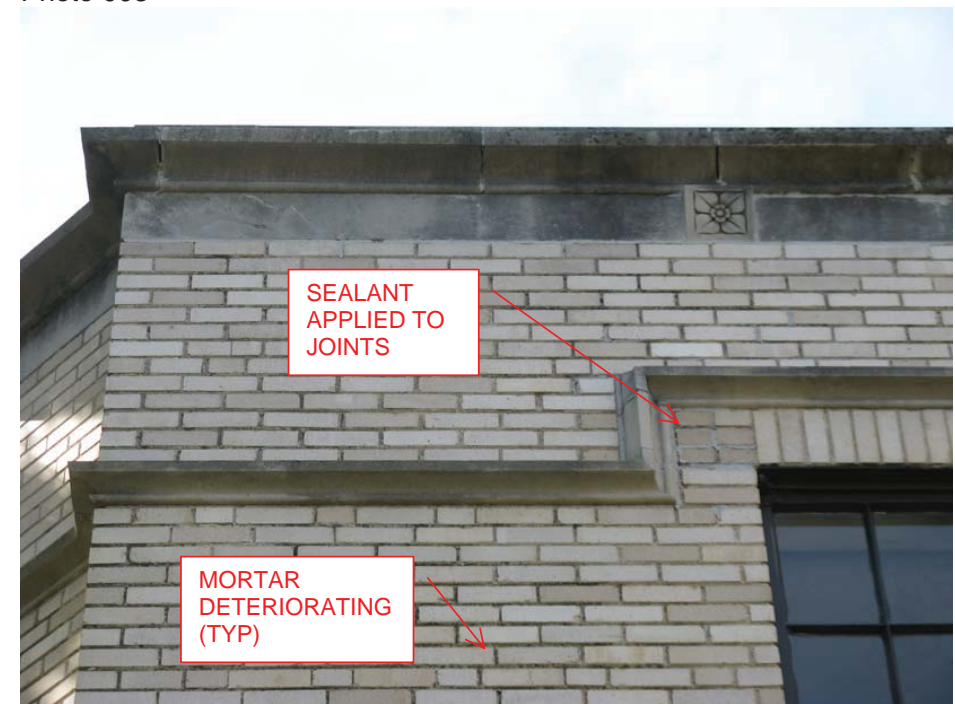
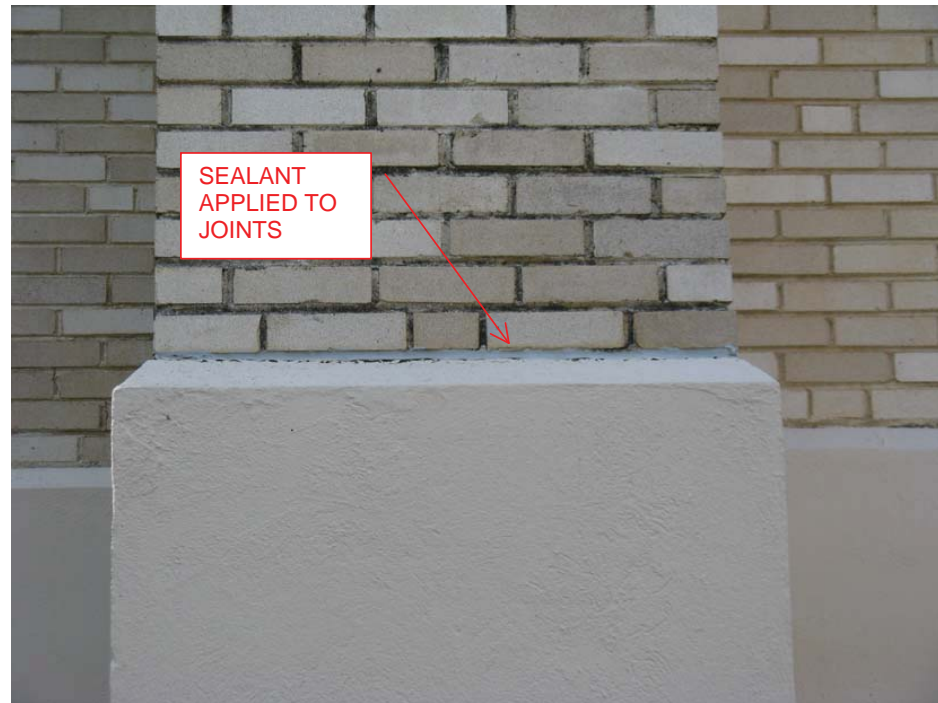


Photo 004

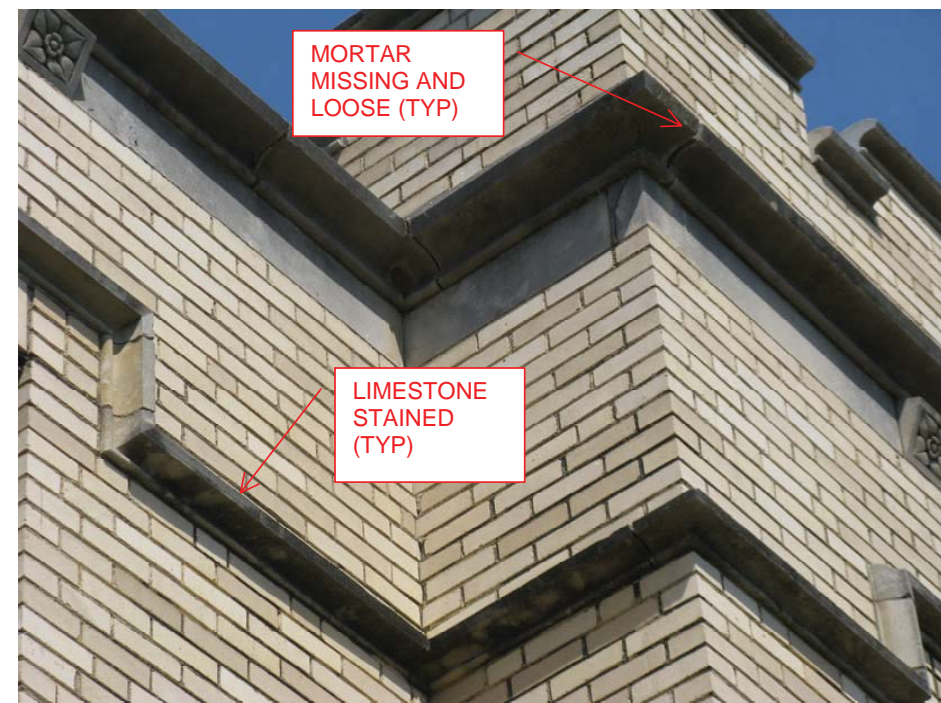
4

Appendix D.4:
Fieldhouse: Architectural Facility Assessment



SEALANT
APPLIED TO
JOINTS

Photo 005



MORTAR
MISSING AND
LOOSE (TYP)

LIMESTONE
STAINED
(TYP)

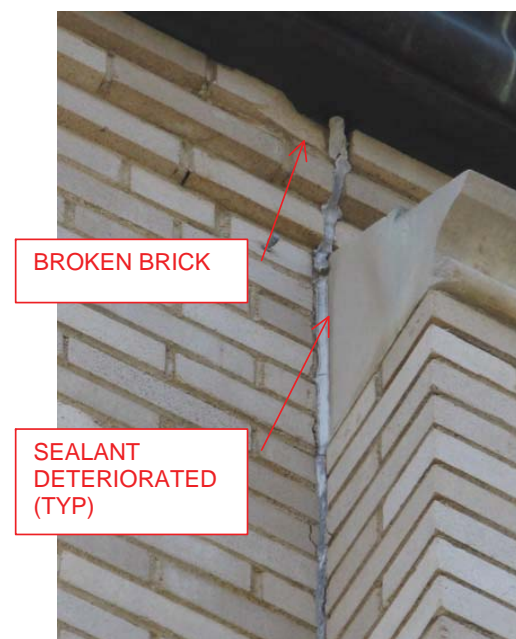
Photo 007



LIMESTONE
STAINED
(TYP)

MORTAR
MISSING AND
LOOSE (TYP)

Photo 006



BROKEN BRICK

SEALANT
DETERIORATED
(TYP)

Photo 008



SEALANT
DETERIORATED
(TYP)

Photo 009



Photo 0010



Photo 0011

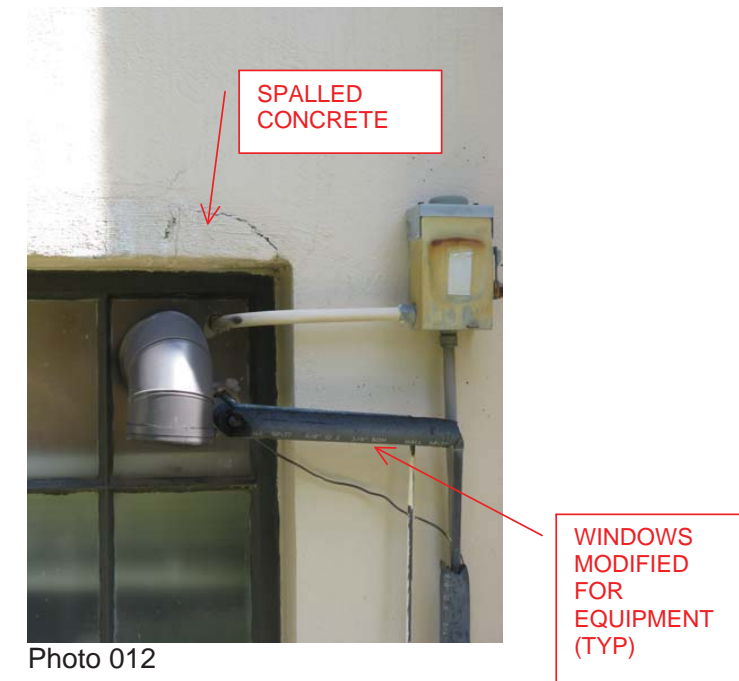


Photo 012

Appendix D.4: Fieldhouse: Architectural Facility Assessment

2. EAST (ENTRY) FAÇADE SPECIFIC ITEMS

- a. Limestone accents and cornices missing mortar. Should be repointed. (photo 013 & 014)
- b. Steel lintels at ticket booth are rusting and need to be refinished. (photo 015)
- c. Decorative copper cornice at thicket booth is loose. Needs to be reattached. (photo 015)
- d. Staining on brick below decorative louvers in gable. Should be removed in general overall cleaning of brick. (photo 016)
- e. There are a few spalled face bricks above low roof that should be replaced with matching brick. (photo 017)



Photo 013

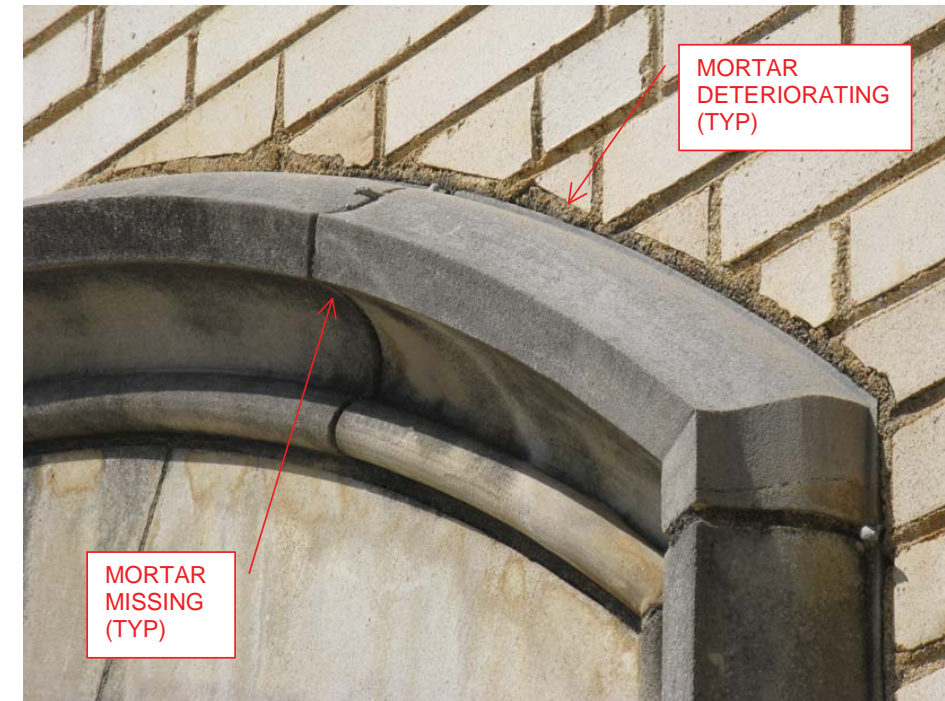


Photo 014

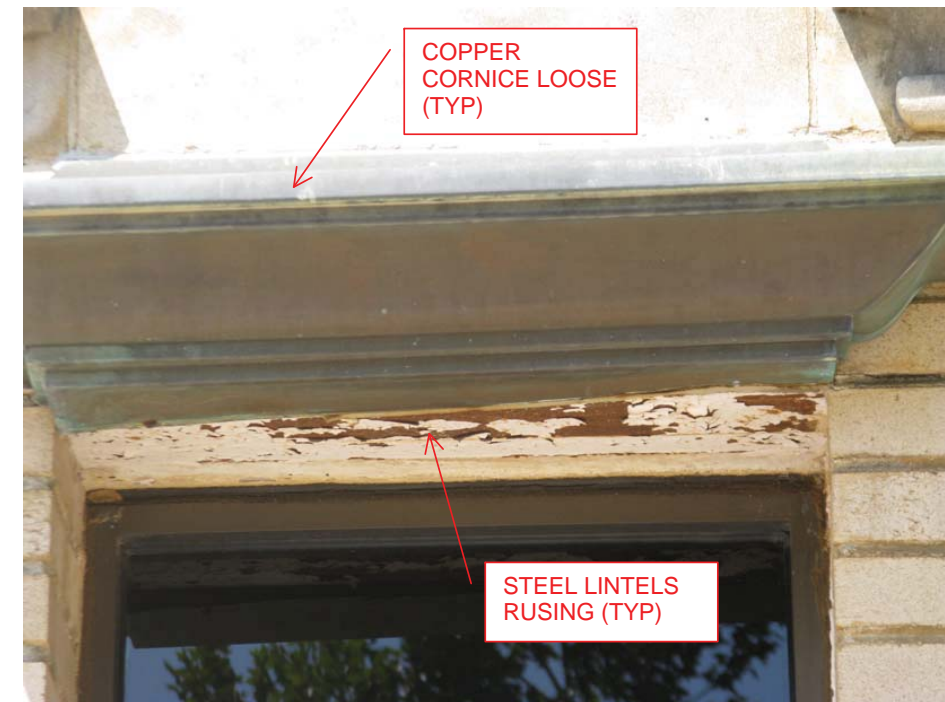


Photo 015



Photo 016

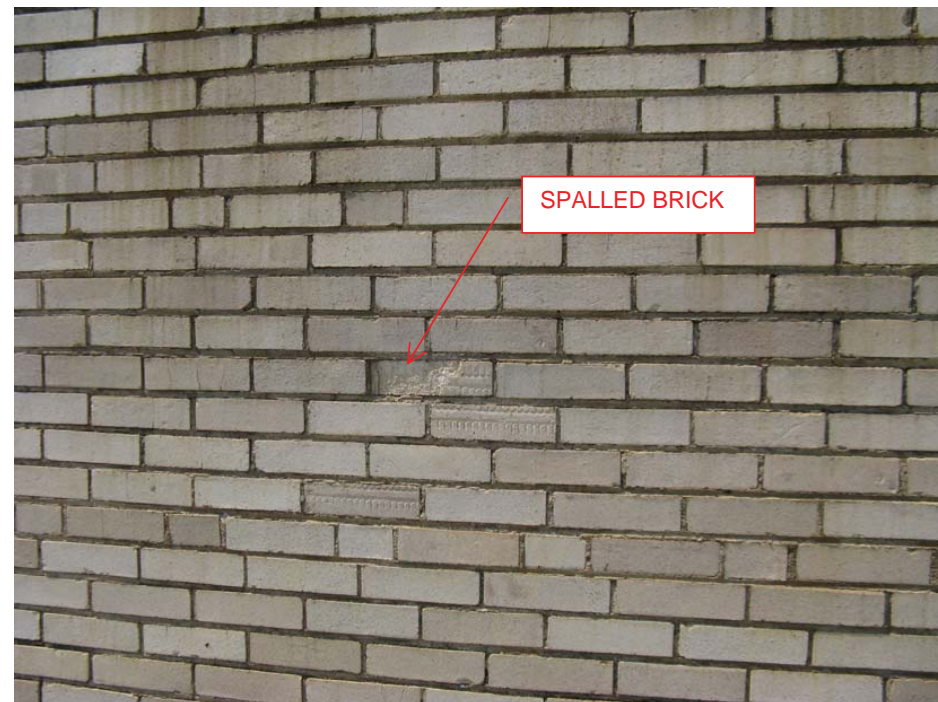


Photo 017

3. NORTH FAÇADE SPECIFIC ITEMS

- a. Some spalling and brick breakage at stepped out brick cornice. These should be replaced with matching brick. (photo 008)
- b. At lower section of building on the west end of the building is a significant diagonal crack that extends through the depth of the wall. Reason for crack as determined by structural engineer should be corrected and wall should be taken down as necessary and relaid. (photo 018 & 019)



Photo 018



Photo 019

4. WEST FAÇADE SPECIFIC ITEMS

- a. Diagonal cracking continues at lower section of building, both ends of building. See previous corrective suggestion (photo 020 & 021)
- b. Open joint at brick pilaster needs filled. (photo 022)
- c. While copper downspouts are generally in good overall condition, some joints have been sloppily repaired with contrasting sealant. These should be cleaned and repaired in more sympathetic manner. (photo 023)
- d. Wood canopies over doors and door frames have deteriorated. Some wood trim needs replaced and entire canopy repainted. (photo 024 & 025)



Photo 020

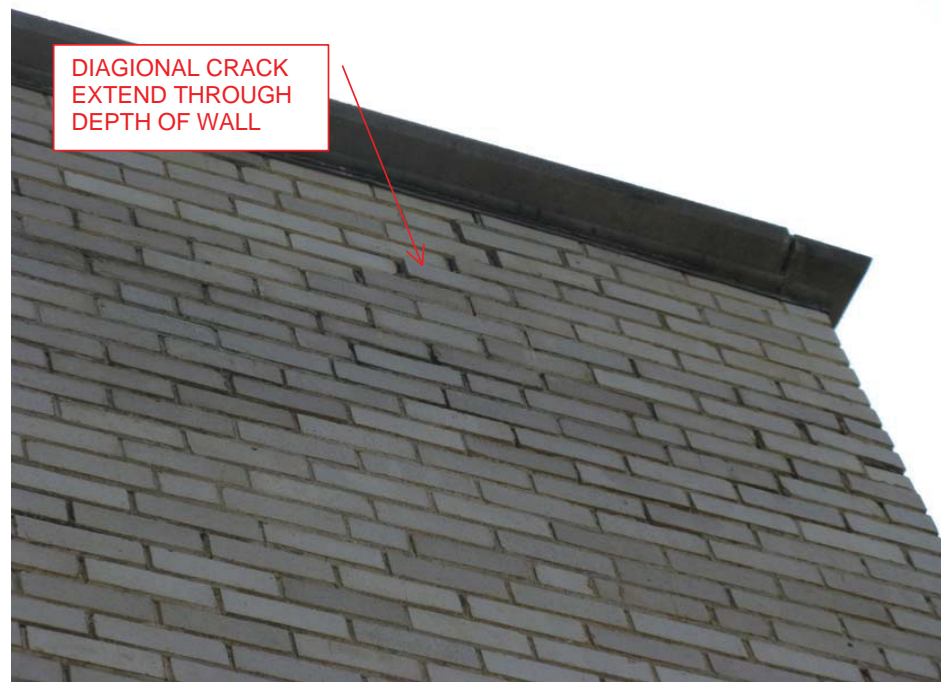


Photo 021



Photo 024

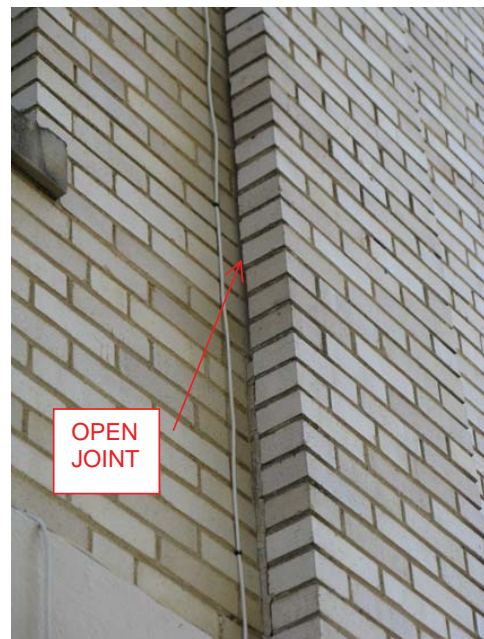


Photo 022



Photo 023



Photo 025

Appendix D.4: Fieldhouse: Architectural Facility Assessment

5. SOUTH FAÇADE SPECIFIC ITEMS

- a. At lower section of building on the west end of the building is a significant diagonal crack that extends through the depth of the wall. Reason for crack as determined by structural engineer should be corrected and wall should be taken down as necessary and relaid. (photo 026 & 027)
- b. Spalled concrete at intersection of lower west section of building to higher gymnasium section. Wall should be patched and repainted (photo 028)
- c. Concrete window head spalled off. Wall should be patched and repainted. (photo 012)
- d. Some spalled brick at pilaster. Brick should be replaced. (photo 029)
- e. Wood canopies over doors and door frames have deteriorated. Some wood trim needs replaced and entire canopy repainted. (Similar photo 024 & 025)

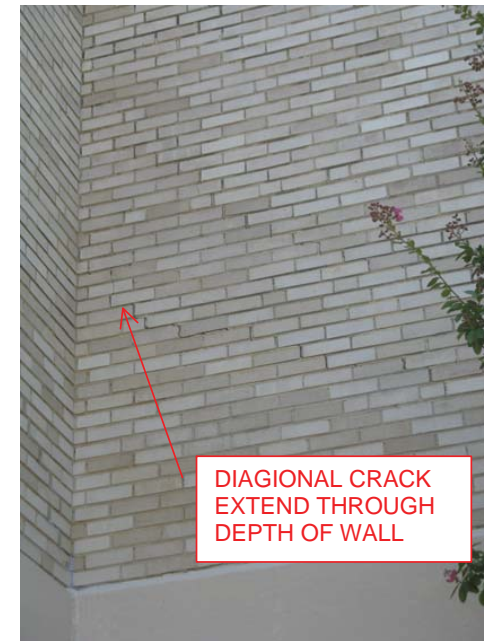


Photo 027

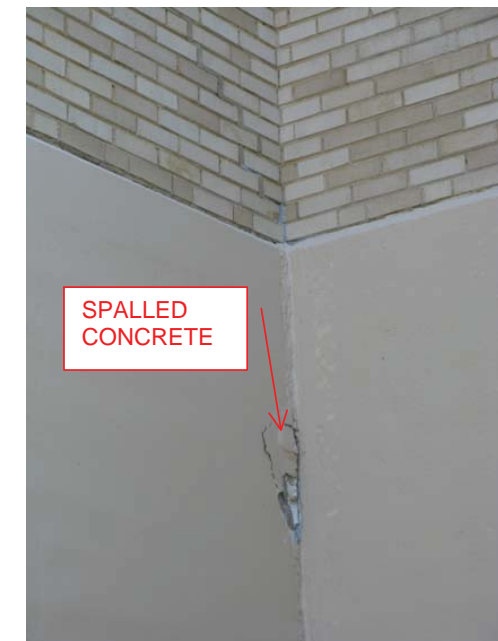


Photo 028

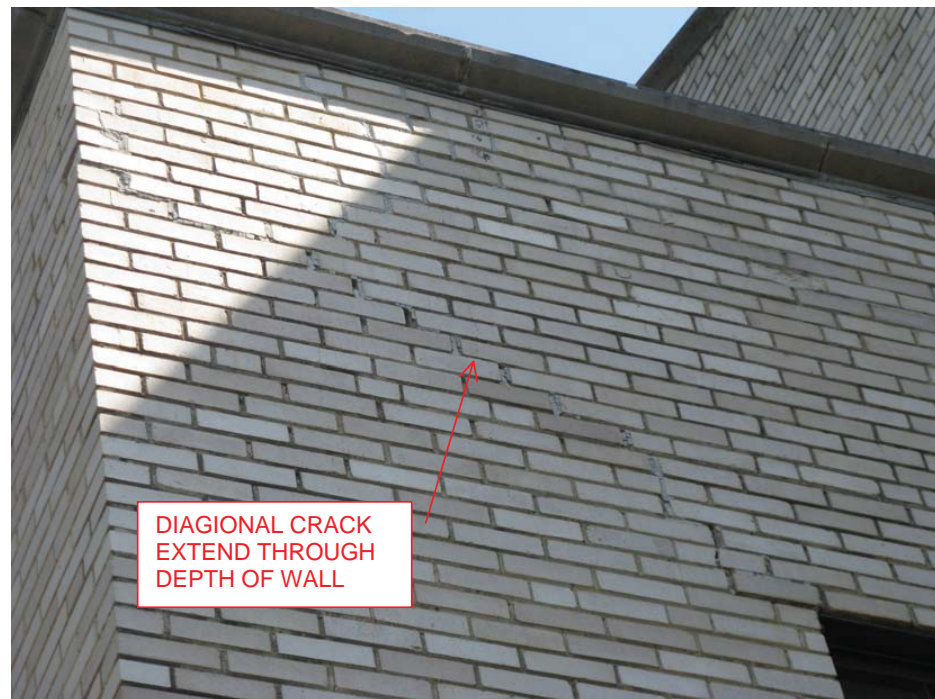


Photo 026



Photo 029

6. GENERAL SUMMARY OF RECOMMENDATIONS

- a. In many locations repointing of the brick is recommended with historically appropriate mortar.
- b. Overall cleaning of the brick is recommended.
- c. Replace spalled brick to match existing.
- d. Reset cap stones as necessary and replace mortar in top joints with rod and sealant.
- e. Replace single pane uninsulated windows with historically appropriate modern thermally broken insulated windows.
- f. As part of a future conditioning of gymnasium close off louvered openings to prevent air infiltration.
- g. Structural reason for diagonal cracking at lower section at back of building should be corrected. Wall should be taken down as necessary and relaid.

B- ROOF

There are three different roof area conditions. The flat roof over the main entry is a sprayed foamed roof with a granular topping. Although not possible to tell it is probably installed over an earlier roof membrane. The sloped roof over the main gymnasium area is an asphalt type shingle (original drawings indicate is was an asbestos shingle) over a 2x wood decking. The flat roof at the rear of the building seems to be a built-up type roof with a pea gravel ballast.

1. ENTRY AREA FLAT ROOF

- a. There are numerous blisters in the sprayed foamed overlay. Many have compromised the membrane topping. (photo 030, 031, & 032)
- b. It looks like the roof allows ponding of water and doesn't provide continuous drainage to drain. (photo 033)
- c. Sprayed foam insulation has greatly reduced the opening of vent piping. (photo 034 & 035)
- d. Flashing around pipe penetration looks like it will allow blowing rain to go into old chimney. (photo 036)

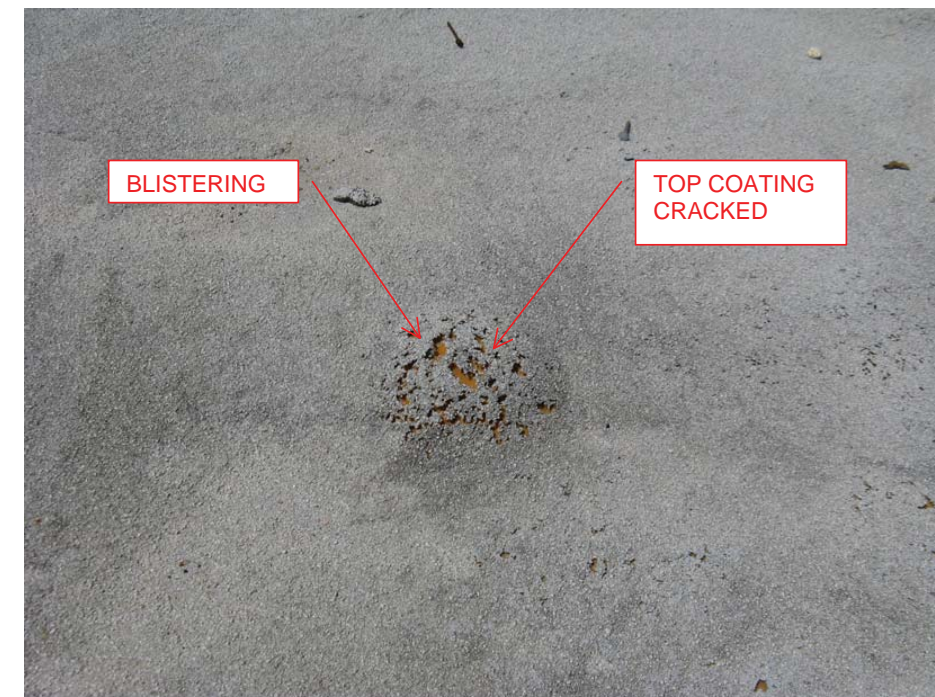


Photo 030

Appendix D.4:
Fieldhouse: Architectural Facility Assessment



Photo 031



Photo 033



Photo 032



Photo 034



Photo 035



Photo 036

23

2. SLOPED ROOF OVER GYMNASIUM AREA

- Shingle roof is in terrible condition. Shingles are old and brittle. Many have broken. Roof on south side is worse than the north. Several repairs have been with newer shingles. (photo 037 & 038)
- Stepped counter flashing along edge of roof is loose and coming away from wall. Sealant has been applied apparently to prevent leakage. (photo 039 & 040)
- Parapet caps are missing mortar and sound probably be taken off and reset to make them sound. (photo 041 & 042)
- Copper guttering and downspouts are generally in good shape. They should be went over and straighten in some locations and made sure they are secured. Snow guard may be advised. (photo 043)



Photo 037

24

Appendix D.4:
Fieldhouse: Architectural Facility Assessment

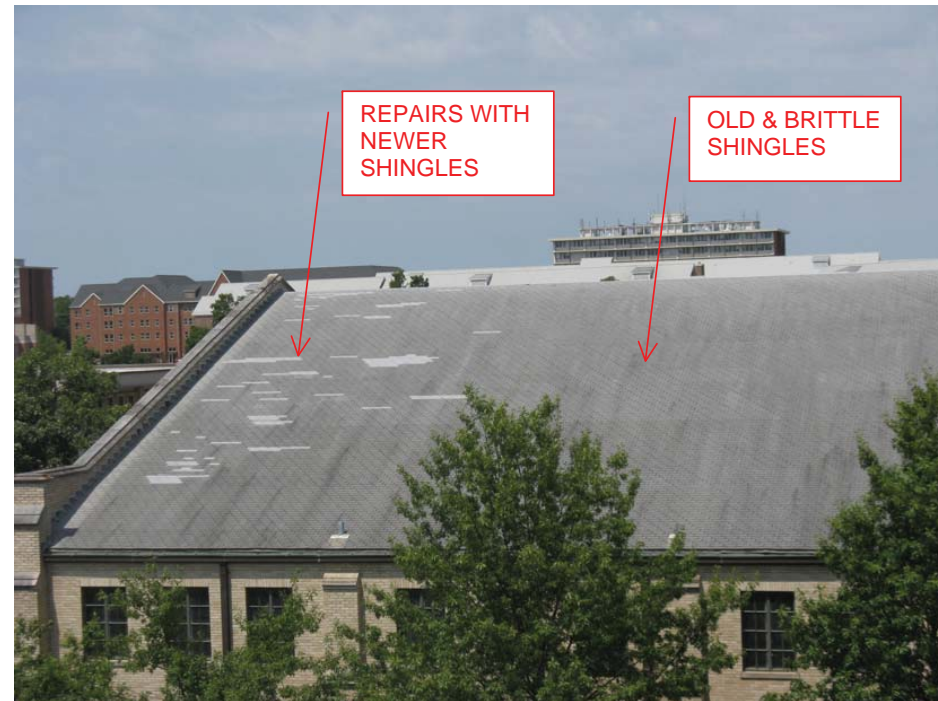


Photo 038



Photo 039

25



Photo 040



Photo 041

26



Photo 042



Photo 043

3. BACK FLAT ROOF AREA

- a. Roof seems to be a built-up type roof with pea gravel that has been patched for installation of new equipment. (photo 044) Roof shows generally to be sound but showing age. (photo 045 & 046)
- b. Flashing around vent penetration damaged. (photo 047)



Photo 044

Appendix D.4:
Fieldhouse: Architectural Facility Assessment



Photo 45



Photo 047



Photo 046

4. CANOPY ROOFS

- a. Flat copper roofing over canopies seems generally in good shape in locations where it was visible. Closer inspection of seams and clean of some locations would be advisable. (photo 048)



Photo 048

GENERAL ROOFING SUMMARY CONCLUSION

All roofs should be replaced with appropriate new roofing materials.

Appendix D.4: Fieldhouse: Architectural Facility Assessment

C- SITE

The front entrance side of the building has stone steps up to broken ashlar stone terrace platform leading to the entry doors. A concrete ramp has been added to one side of the steps to provide accessibility. On either side of the step platform there is grass lawn approximately 9 feet +/- above the basement level below. On the north side of the building there is a concrete sidewalk with a concrete gutter separating it from the building taking the water west to the back of the building. The top of the gutter is approximately 2 ½ feet above the basement level. The west side of the building is at grade with the basement door on that side. The south side of the building has landscaping approximate at grade with the basement level on the west end and gently sloping up to the near the east end where it steps up in grade from approximately 3 feet to the 9 feet level in the last 20 feet.

1. GENERAL EXTERIOR SITE CONDITIONS

- a. There is no indication on the original drawings or in site observations that the concrete walls retaining earth above the basement level have waterproofing. There is some indication that there may have been some water problems along the north side of the building by attempts to seal the joint between the concrete gutter and the building. (photo 049)



Photo 049

33

2. EAST (ENTRY) SITE CONDITIONS

- a. Several of the stone steps have been damaged. Attempts to patch some have been made. Movement has occurred in some. (Photo 050 & 051)
- b. Stones in the ashlar terrace have moved over time and the mortar has deteriorated. (Photo 052)
- c. Concrete sidewalk in front of step platform at entry is broken and uneven. (Photo 053)
- d. A concrete ramp provides wheel chair accessibility to main front entry. (Photo 054)



Photo 050

34

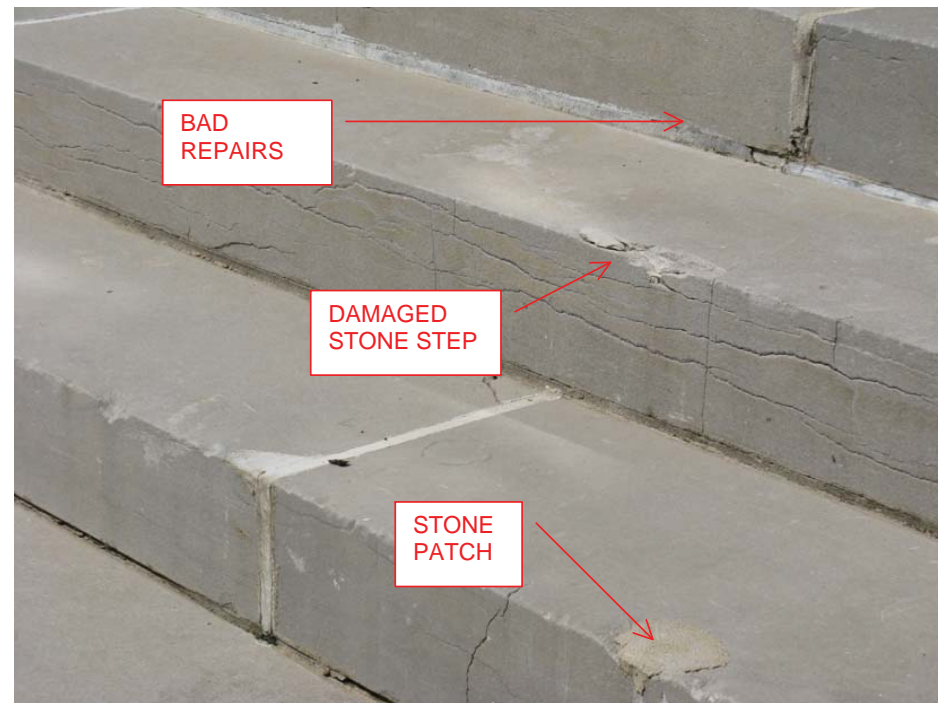


Photo 051

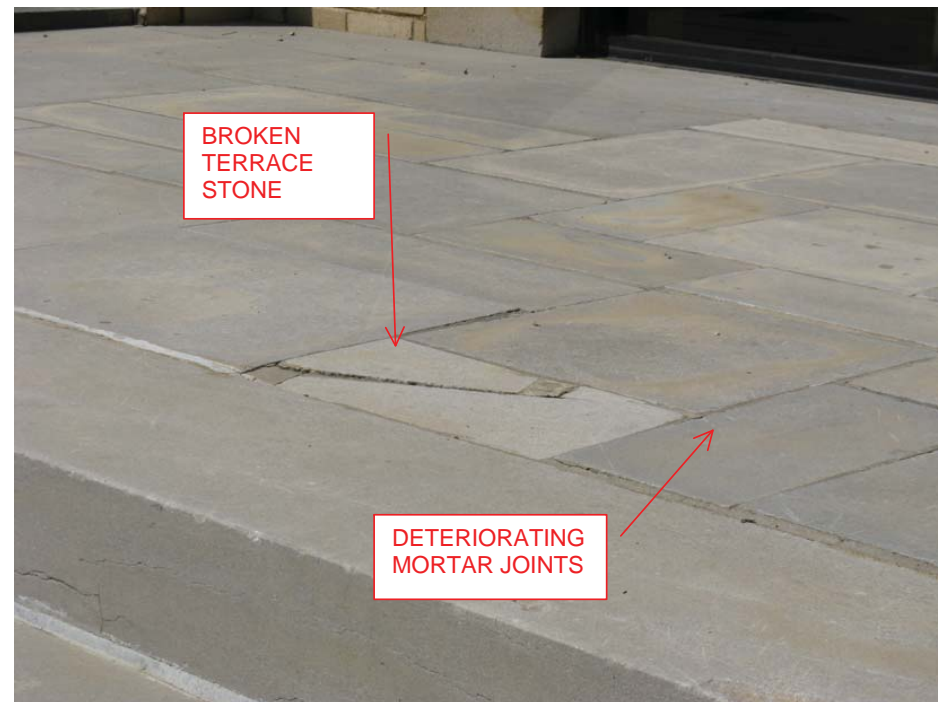


Photo 052

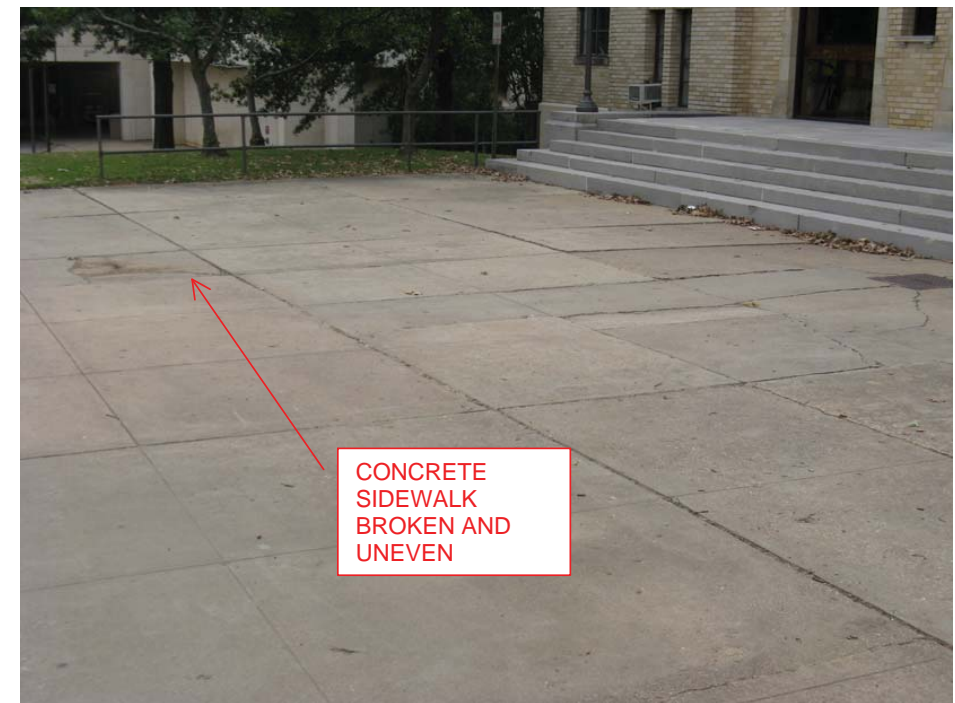


Photo 053



Photo 054

Appendix D.4: Fieldhouse: Architectural Facility Assessment

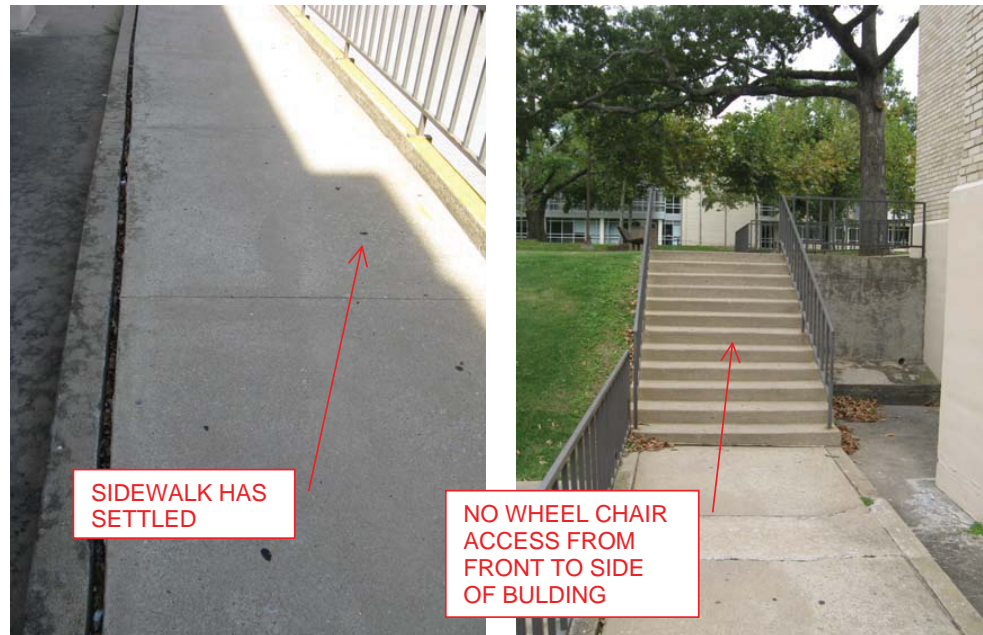
C. NORTH SITE CONDITIONS

- a. Sidewalk along north side of the building has settled. (Photo 055)
- b. Steps should be replaced with wheelchair accessible access if possible from front of building to side. (photo 056)
- c. Joint between concrete gutter and face of building has been patched in what looks like an attempt to prevent water from coming into building. (Photo 057)



PATCHING TO
SEAL JOINT
BETWEEN
GUTTER & WALL

Photo 057



SIDEWALK HAS
SETTLED

NO WHEEL CHAIR
ACCESS FROM
FRONT TO SIDE
OF BUILDING

Photo 055.....Photo 056

GENERAL SUMMARY OF RECOMMENDATIONS

- a. Any major renovation in the future should probably incorporate regrading around the building to prevent water infiltration or installation of waterproofing.
- b. Entry steps and terrace along the front of the building should be relaid replacing any damaged stones as necessary.
- c. Sidewalk should be replaced to make even

End of Report on Old Men's Gymnasium

D.5

UNION + FIELDHOUSE

Structural

Facility Assessment

Engineering Consultants, Inc.

Appendix D.5: Union + Fieldhouse: Structural Facility Assessment

Engineering Consultants, Inc.
401 West Capitol Avenue, Suite 305
Little Rock, AR 72201-3401

Existing Facility Structural Assessment
Student Union Building and Addition
& Gymnasium/Museum
University of Arkansas
Fayetteville, Arkansas

Prepared for:

AFH&J Architects
100 West Center Street, Suite 302
P.O. Box 790
Fayetteville, AR 72702

Perry, Dean, Rogers|Partners
177 Milk Street
Boston, MA 02109

October 6, 2009

Our Project #08-237

Introduction

AFH&J Architects and Perry, Dean, Rogers|Partners (PDRP) has retained Engineering Consultants, Inc. (ECI) to provide structural assessment and consulting services for the proposed renovation study of the Student Union Buildings and the Old Gymnasium located on the campus of the University of Arkansas in Fayetteville, Arkansas.

ECI was the structural engineering firm of record on both the 1969 original building and the 1998 addition to the Student Union buildings. (But not on the Gymnasium) The engineers-of-record were one of ECI's founding principal engineers Lee W. Bransford, PE (deceased) and Frank M. Allison, PE (current ECI Vice-president) for the original building and the addition, respectively.

The information in this report is based on the following:

- Review of the existing building structural drawings;
- Walk-thru visual observation of the building conducted by S. Grant Jordan, PE on August 13, 2009.
- Conversations with Laleh Amirmoez, AIA, & John Krug, AIA, of AFH&J, and Frank M. Allison, PE of ECI.

Neither the site visit nor this report are intended to cover architectural, mechanical, electrical or other aspects of the project, except as noted in the body of the report or when specifically requested by the other members of the assessment and study team.

Structural System Description

- Circa 1969 Original Building (West Wing)

The original building drawings are dated June 2, 1969 (6-2-69). It has 3 areas shown on the Key Plan (areas A, B & C). Area A (the back or west wing) is separated from the other 2 areas by an Expansion Joint. Area A is approximately 190 feet long and 135 feet wide. The exterior is cast-in-place concrete wall panels with an alternating rough and smooth off-white aggregate finish.

The substructure consists of drilled concrete piers founded in the native rock. The basement walls are conventionally reinforced cast-in-place concrete. The basement and ground floors are slab-on-grade.

The columns are conventionally reinforced cast-in-place concrete. The elevated slab structure consists of a conventionally reinforced cast-in-place concrete pan joist system with conventionally reinforced beams and slabs. The slab thicknesses vary from 3" to 4" to 4-1/2" at the typical pan joists and up to 7-1/2" at some flat slabs. The lateral force resisting system is ordinary reinforced concrete shear walls and ordinary reinforced concrete moment frames.

Areas B & C (the front or east wings) are essentially one piece broken up for drawing purposes only. Together they are approximately 335 feet long and approximately 94 feet wide. The structural system is similar to Area A.

The bridge/plaza over Garland Avenue was also built as part of the original structure. It is also cast-in-place concrete with conventionally reinforced concrete pan joists, beams and columns with the exception of the main beams that run north and south. The main beams are composite steel wide flange beams encased in concrete.

- Circa 1998 Addition (East of the Garland Avenue Bridge)

The East Addition drawings are dated February 1, 1998. The building is approximately 197 feet long and 107 feet wide. There is an exterior colonnade on each end of the East Façade that extends from the ground floor up to terraces on the second floor. The exterior is brick veneer with pre-cast concrete accents.

The East Addition is structurally independent of the original building. There is also a covered walkway on the bridge that connects the East Addition of the Student Union to the original Union Building. There is an expansion joint between the bridge walkway and the original Union Building.

The substructure of the East Addition consists of drilled concrete piers founded in the native rock. The perimeter slab is at or near finished grade, so shallow grade beams were used to transfer the wall loads to the drilled piers. The ground floor slab is slab-on-grade.

The superstructure of the East Addition consists of structural steel framing. The elevated floors are 6" normal weight concrete slabs on 1-1/2" galvanized steel composite deck. The floor beams are designed as composite with the concrete slab. The columns are wide flange and hollow tube steel sections. The lateral force resisting system is ordinary concentrically braced frames.

Building Condition & Observation Assessment

On August 13, 2009, a visual observation assessment of the Student Union and Gymnasium/Museum structures was conducted. Some areas of the structures were inaccessible to view due to hard ceilings and other finishes. However, representative samples of most of the structural conditions were observed. Overall, the building structures are in good condition. Although the Gym and original Student Union buildings are showing their age in a few places, the serviceability and durability of the structures have served their purposes very well and can continue to do so for many more years. There are no major visible structural deficiencies. I did observe a few issues that are addressed below that may need to become part of a maintenance plan or renovation effort. These issues are as follows:

On the original Student Union Building:

- The exterior of the original building has many places where the concrete panels show signs of offset cold joints, cracks, honeycombs, chips, broken corners, or rust stains due to water infiltration (See photos #O-1 thru #O-33). Most of these blemishes do not need repair or attention, but some routine maintenance and monitoring is recommended. Mitigating water penetration should be a priority in any maintenance schedule.
- At the Northwest corner stair, there are (2) expansion bolts missing from the steel stair connection. (See photos #O-34 & #O-35). I recommend adding a new steel plate in the skewed wall to install the (2) expansion bolts and field weld the new plate to the existing plate.
- Along the ground level east wall (under the Garland Avenue Bridge) the finished grade and sidewalk have settled. (See photos #O-36 thru O-45) In a few locations the settlement is as much as 5-1/2 inches. At the northeast end of the east side, the sidewalk now holds water against the building and could cause water damage. The slab has dirt and dried algae on it now that are signs of ponding.
- In the Ballroom in the back wall of the stage, there is a crack in the plaster. The crack runs the full width of the stage and has a lateral offset. (See photos #O-46 thru #O-50) The cause of this crack is unknown. The structure above is cast-in-place concrete and should be in decent condition. It is doubtful that this is a structural problem. However, if the Ballroom stage is remodeled, it would be a good idea to have this area re-inspected once more if the structure is exposed above or below this wall.

Appendix D.5: Union + Fieldhouse: Structural Facility Assessment

- Outside on the west side of the south wing, there was some excavation ongoing. A portion of an existing “footing” was exposed. (See photo #O-51) This footing does not appear on the original design drawings and was likely placed to provide a platform for the grade beam/wall pour. The footing is not required, so it may be removed as desired. However, it would be a good idea to make sure that the area is not left accessible to pests, water infiltration or frost penetration, which could cause uplift forces on the structure.
- In the area C floor, there is a crack across the corridor. (See photo #O-52 & #O-53) This crack likely occurs in the slab-on-grade as well as the flooring. The crack has not appeared to move laterally or vertically, so the condition seems to be stable.
- At the interface of each fire stair attachment to the west levels of the building, there were cracks in the slab. These cracks are likely in the concrete structure as well as the flooring (terrazzo). (See photos #O-54 thru #O-57) The cracks do not appear to have moved laterally or vertically, so the conditions seem to be stable.
- In the fire stair, there are a few hairline cracks in the plaster. (See photos #O-58 & #O-59) These cracks appear to be cosmetic and should not be a structural concern.
- The exposed concrete pan joists are in excellent condition. (See photos #O-60 & #O-61)
- The exposed areas of the high roof and atrium space also appeared to be in good condition. (See photos #O-62 thru #O-64)

On the East Addition to the Student Union:

- The exterior of the addition appears to be in good condition. (See photos #A-1 & A-2)
- There is a brick crack at the northwest corner. (See photo #A-3)
- At one of the precast window heads on the west side, there is some separation between the brick and the precast. (See photo #A-4) The precast is supported by the steel floor beam, so it is possible that this is the result of some beam deflection. The deflection appears to be within tolerance, so it should not be a problem. If there are water concerns, then the joint should be caulked. Do NOT add mortar.

- At one of the precast bands on the west side, there is staining along the bottom. (See photo #A-5) There is a steel shelf angle below the precast that is supported by the steel floor beam. This area should be cleaned and caulked to seal the joint and to prevent water from rusting the angle.
- Also along the west side at one of the window openings, there is a stain on the bottom of the precast beam soffit. (See photo #A-6) There is an pop-out hole in the bottom of the beam and apparently a piece of rebar is exposed and beginning to rust. I recommend cleaning the area, applying some rust inhibitive primer on the rebar and patching the pop-out with an adhesive grout mixture or other repair substrate. A precast contractor should likely be contacted for information on matching the patch color.
- At the base one of the window recesses, there is a precast watertable with a damaged edge and several precast block head joints without mortar or sealant. (See photo #A-7) It would be difficult to patch the precast, but all of the head joints should be stuffed with backer rod and properly sealed with caulk or mortar.
- At one of the recessed openings on the south side, there is a deep pop-out in one of the precast jambs. (See photo #A-8) This pop-out is deep enough to be repairable with an adhesive grout mixture. A precast contractor should likely be contacted for information on matching the patch color.
- At the porches on the east side, there is some water staining on the wood soffit. (See photos #A-9 & #A-10) The moisture is likely penetrating down from the porch floors above. There were a few hairline cracks in the porch slab (See photo #A-11) and some gaps around the base of the handrails that could be the sources of the water infiltration.
- At one of the interior columns near the doors into the bridge, there is a crack and some honeycombing in the concrete. (See photo #A-12)

On the Gymnasium/Museum building:

- The exterior of the Old Gym is in good condition considering its age. (See photos #G-1 thru #G-4)
- The concrete stem wall base has several hairline cracks in the concrete. (See photos #G-5 thru #G-9) These cracks are being held together by the reinforcing, so occasion maintenance (such as fresh paint) should be enough to prevent further deterioration.

- There is some settlement and cracking of the exterior sidewalk on the north side. (See photo #G-10)
- On the north and south sides of the low roof area on the west end of the building, there are very visible diagonal cracks in the masonry. (See photos #G-11 thru #G-22) These cracks appear to be due to thrust on the low roof area of the building by the high roof (Gym) area. At the northwest corner the brick is offset laterally. (See photo #G-16 thru #G-18) The cracks have been sealed with caulked. This should become part of a regular maintenance schedule. This problem will not improve and should be monitored periodically. The northwest corner should be monitored closely and often, so that the offset bricks do not become loose enough to become a hazard.
- On the west side, there is some apparent water damage to the brick veneer near a downspout. (See photo #G-24) The brick has been caulked in several places and should be monitored and maintained.
- On the west side, two of the concrete base wall pilasters have a seam-like vertical crack in the concrete. (See photos #G-25 thru #G-27) The cracks appear to be cold-joint (pour joint) locations. However, there is a caulk joint beside each pilaster, so it would seem odd to place a cold-joint in the pilaster also. The crack/joints have been rubbed and patched and appear to be in decent condition, so this should not be a structural problem.
- In the south west corner there is a piece of spalling concrete. (See photo #G-28) It appears that it might be deep enough to be able to repair with an adhesive and grout mixture.
- On the south side near the east corner, there is a piece of spalling above one of the basement window openings. (See photo #G-29) This too might be repairable with patch material.
- Inside the stairwells on the west end, there is cracking in the interior brick that matches the exterior cracks. (See photos #G-22 & #G-30) This is related to the issues seen in photos #G-11 thru #G-22. These cracks should be caulked periodically.
- There is a small visible crack in the second floor slab above one of the west stairwells. (See photo #G-31) There should not be a structural concern with this condition, but periodic monitoring would be prudent.
- Overall, the concrete slab and beam structure appears to be in good condition. (See photos #G-34 thru G-35)

- Another crack in the second floor slab is visible in one of the basement corners. (See photo #G-36) There should not be a structural concern with this condition, but periodic monitoring would be prudent.
- Inside the pre-engineered metal building type structure appears to be in good condition. (See photos #G-37 thru #G-42) There is a lateral (portal type) truss brace that frames into the tall CMU endwalls. It appears that the connections align with the bolted plates on the exterior wall above the roof. (See photos #G-43 thru #G-44)
- The building frame base condition is a pinned-ended support. (See photo #G-45) This is an interesting connection that appears to be performing well.
- Above the west end roof, there is some brick cracking that has been caulked. (See photo #G-46) This area should continue to be maintained and monitored in the future to prevent water infiltration.

On the Garland Avenue Bridge:

- There is some minor staining, cracking and honeycombs in several of the concrete beams and columns. (See photos #B-1 & #B-2)
- During construction of the Union Addition, part of the guardrail in the center section, was removed to place a building column. (See photos #B-2 & #B-3) These locations have some cracks in the guardrails. This might be of concern, except all of the other guardrails have similar cracks. (See photos #B-12 thru #B-15) Also, the guardrails are designed to cantilever vertically, so the vertical cracks should not diminish the design strength of the railing.
- There are several hairline cracks and pour offsets in the beams and columns. (See photos #B-4 thru #B-10) There is also some lime paste coming out of some of them. These cracks should be monitored periodically, but should not be major concerns.
- The soffit panels are loose, stained and charred in some locations. (See photo #B-11) These are not structural, but could become a hazard if not kept securely fastened or maintained.
- There are hairline cracks in the guardrails of the plaza at several locations. (See photos #B-12 thru #B-15) These cracks should not be of structural concern, unless there is moisture penetration that could corrode the reinforcing steel. I recommend that these cracks be monitored and maintained with a sealant (paint or sealer) periodically.
- There is a bulging crack in the brick pavers at one location on the plaza above the bridge. (See photo #B-16) This is likely caused by water penetrating below the paving and then freezing and causing the bricks to

Appendix D.5: Union + Fieldhouse: Structural Facility Assessment

heave. This problem will only get worse if the water penetration is not prevented. It should not do irreparable structural damage to the bridge, but it could cause a trip hazard in the pavers.

Building Code Review & Compliance Assessment

A copy of the existing building structural drawings (on all of the facilities) was made available to us. A review of the drawings and design was made to determine whether the existing buildings are in or can be brought into compliance with the current Building Code.

First, a determination of the Construction Type Classification needed to be made. A complete review of this item may be found in the report by Rolf Jensen & Associates, Inc., the Fire Protection Consultants. A review of the existing drawings was required to assess the thicknesses of the concrete structural members for making a fire resistance rating determination. The typical slab thickness in the original structure is 4-3/4" in the pan joist slab areas. There is an occasional atypical location where there is a 3" slab and a 4" slab. It is probable that the existing concrete contains limestone aggregate which should qualify as carbonate aggregate concrete. Carbonate has a slightly higher fire resistance rating than siliceous aggregate concrete. If necessary, it is possible to take core samples of some concrete to determine the aggregate type. In this instance, I doubt it should be necessary since we tested the Library structure and since the typical aggregate in NW Arkansas is limestone based. The floor slab in the Addition is a 6" slab on 1-1/2" deep composite steel deck. The floor slab in the Gym is a minimum 5" solid one way slab. There are areas of thicker slabs in the Gym.

Second, a study of the lateral force resisting systems was made. The Original Building is braced by ordinary reinforced concrete shear walls. The walls appear to be sufficient to brace the building against the Building Code prescribed load combinations (combinations which include dead load, live load, wind load and seismic load). The Addition is braced by ordinary steel concentrically braced frames. The braces appear to be sufficient. The Old Gym is braced by a combination of ordinary steel moment frames and plain masonry shear walls on the upper level. It is braced by ordinary reinforced concrete shear walls on the lower level. The masonry shear walls on the west end are showing signs of being overstressed (as described in the building assessment section of this report where the masonry cracks are visible). Also, the current Building Code does not allow the use of plain reinforced masonry shear walls in Seismic Design Category C. But, assuming a Seismic Site Class of B, this building would likely fall into Seismic Design Category A or B. Thus the plain masonry shear walls should comply with the Building Code even though they are not all functioning as well as we would like.

Third, it has been common to find in our other studies of older concrete buildings that the column reinforcing often does not comply with newer design criteria (ACI Codes). The minimum longitudinal rebar cross-sectional area or the maximum horizontal tie spacing and minimum cross-sectional area are often violated due to recent code revisions. The longitudinal rebar in all of the columns in this

structure is within the code prescribed limits and the tie spacings are within the code prescribed maximums.

Last, a few of the typical joists and beams were analyzed for load capacity using the Dead and Live Load criteria. The typical joists, slabs and beam are sized and reinforced such that it appears that the typical structural elements are in compliance with the current Building Code prescribed Load conditions.

Conclusion

The structure of both the original building and the addition are in very good condition. The design of each wing appears to meet almost all criteria of the current Building Code. There are a few minor structural issues that were observed and addressed in this report. None of them appear to be problems that require immediate attention or that cannot be reasonably addressed during an expansion and renovation project.

If you have any questions concerning the information in this report, please contact me.

Sincerely,

S. Grant Jordan, PE



Photo #O- 1



Photo #O- 3



Photo #O- 2

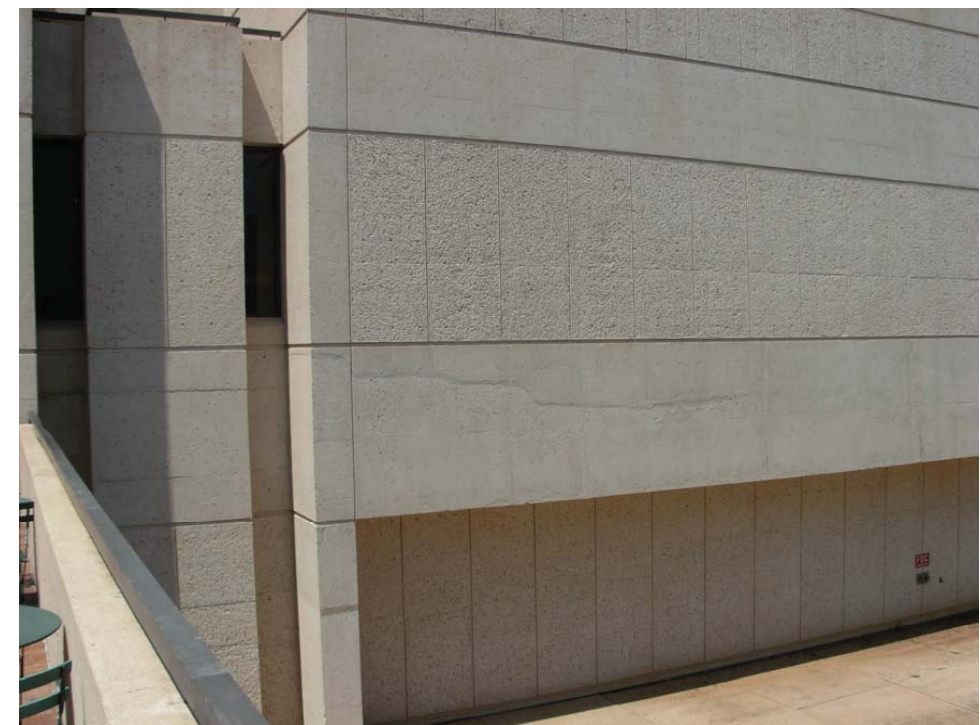


Photo #O- 4

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Union + Fieldhouse: Structural Facility Assessment



Photo #O- 5



Photo #O- 7



Photo #O- 6



Photo #O- 8



Photo #O- 9

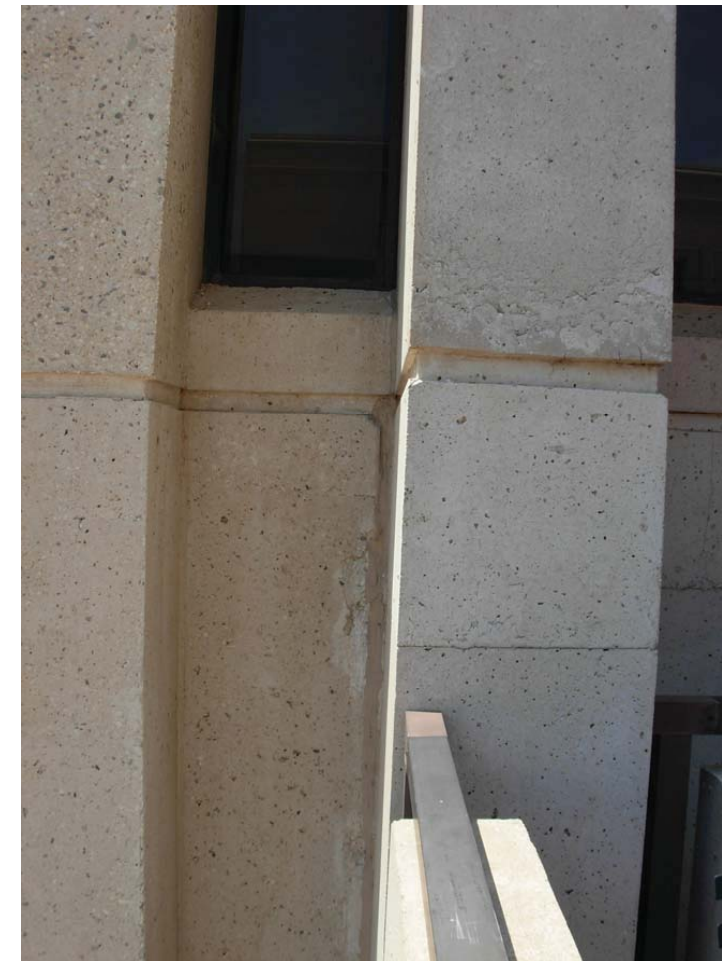


Photo #O- 10

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Photo #O- 11



Photo #O- 13

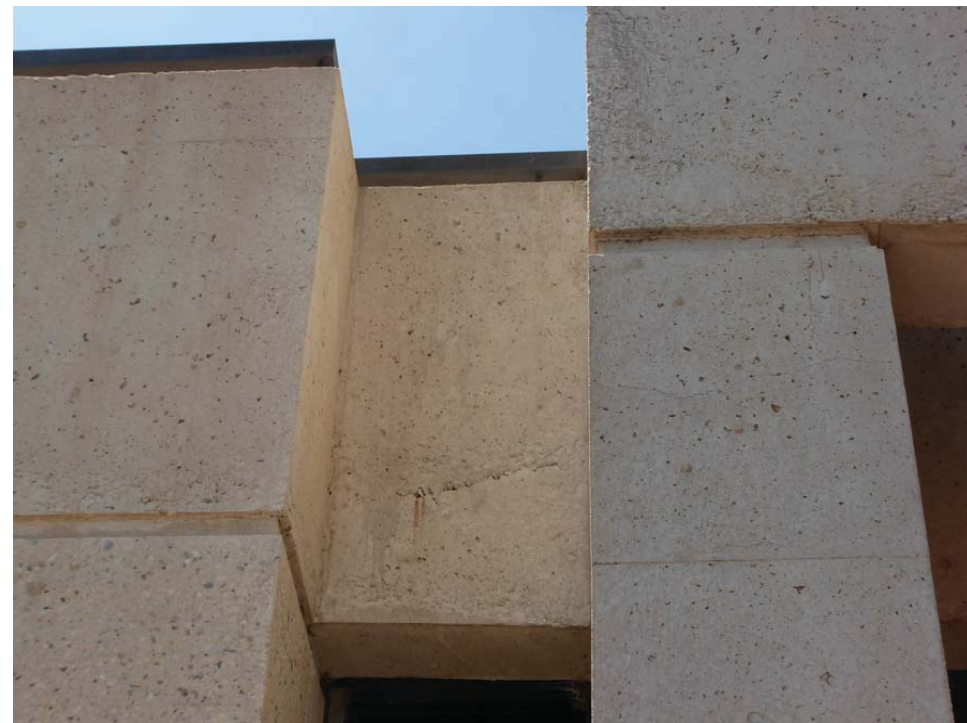


Photo #O- 12



Photo #O- 14

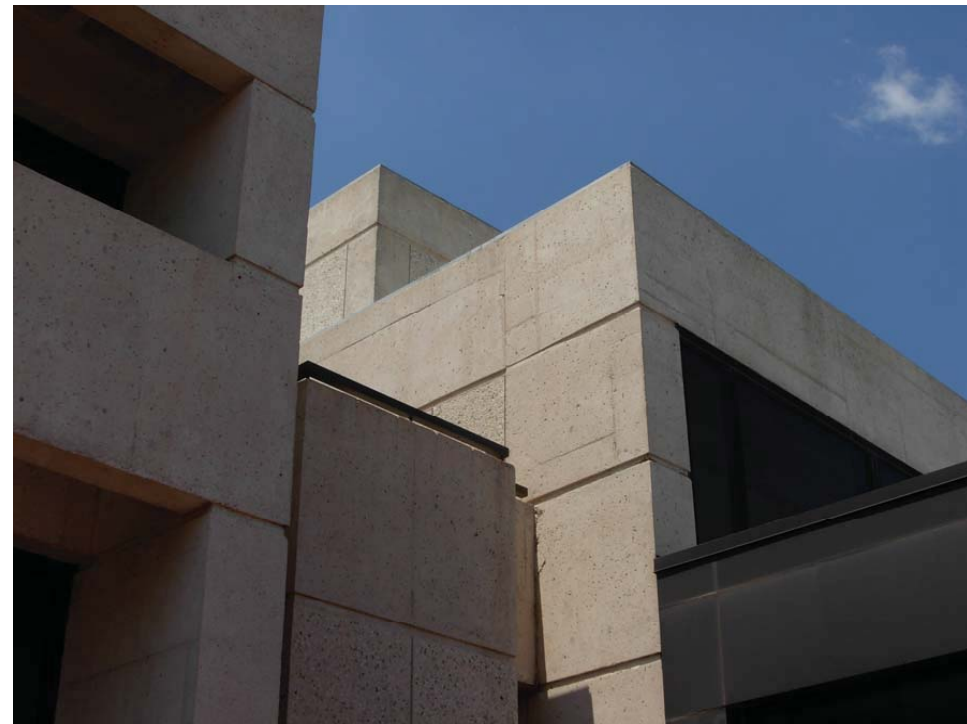


Photo #O- 15



Photo #O- 17



Photo #O- 16



Photo #O- 18

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Photo #O- 19



Photo #O- 21



Photo #O- 20



Photo #O- 22

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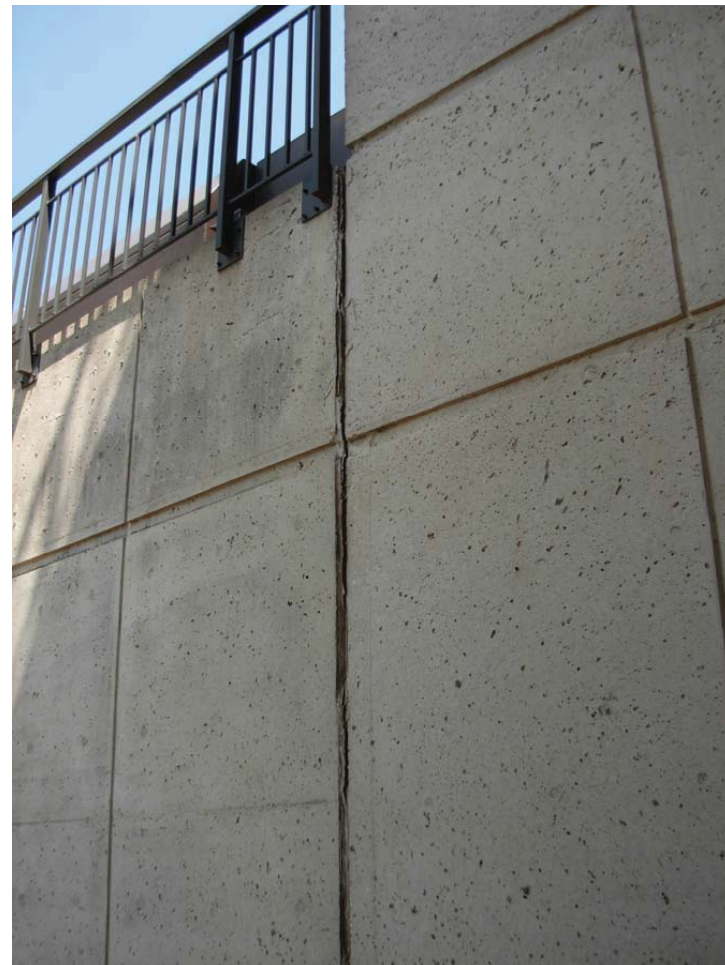


Photo #O- 23



Photo #O- 24

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Photo #O- 25

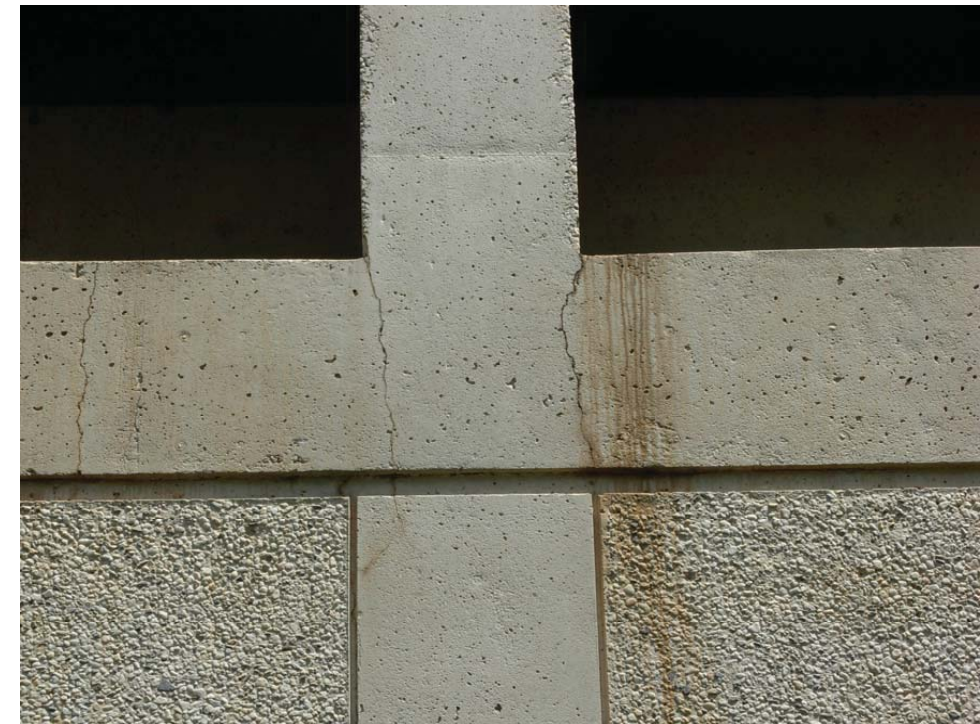


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Photo #O- 27

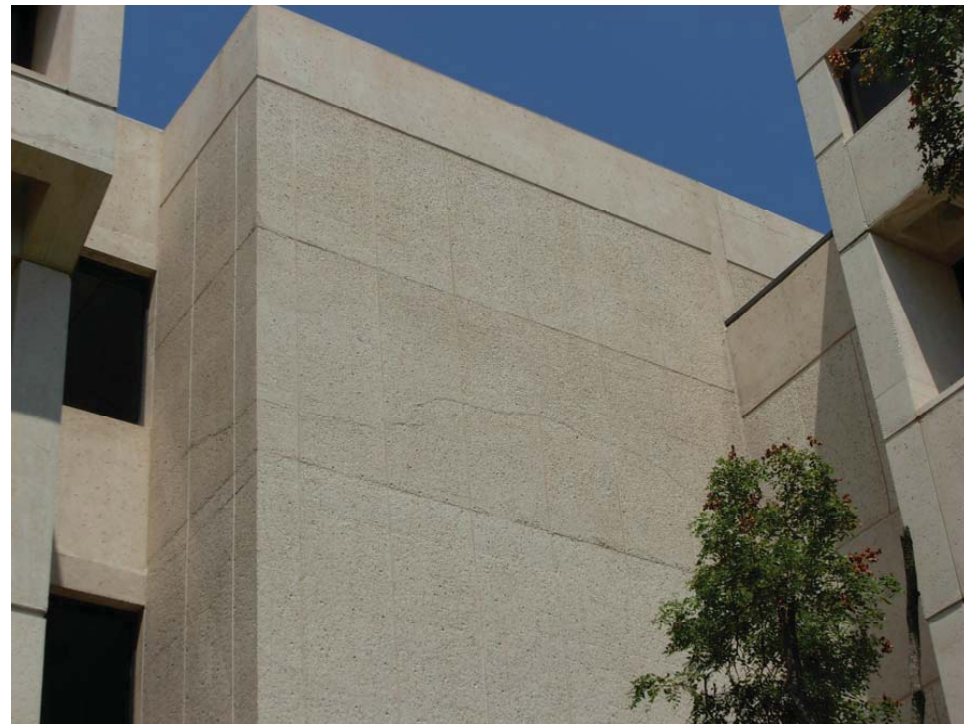


Photo #O- 28



Photo #O- 30

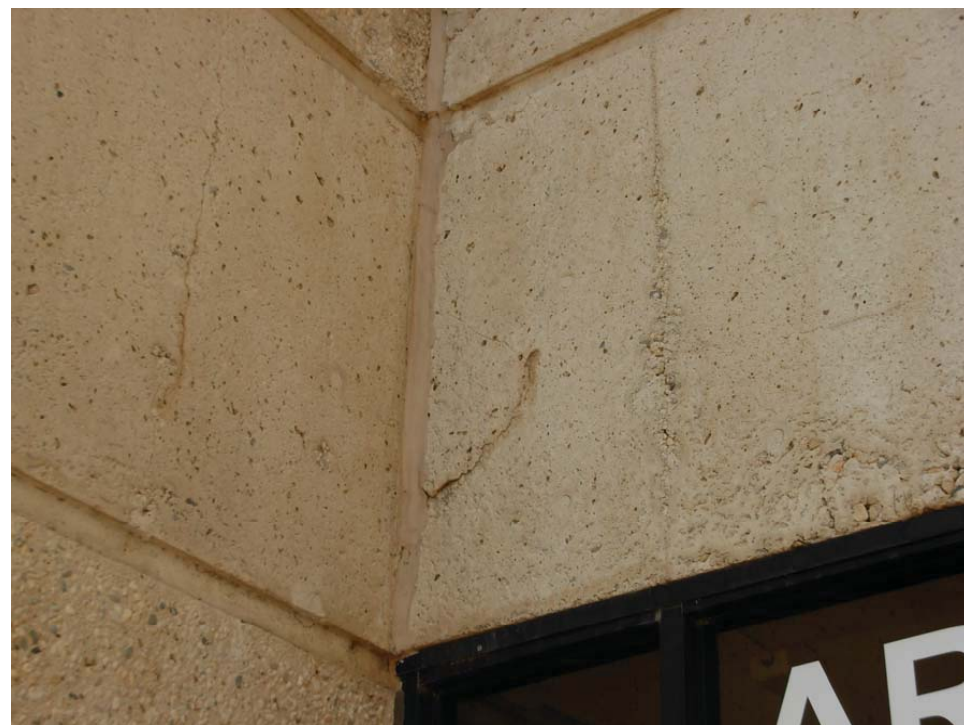


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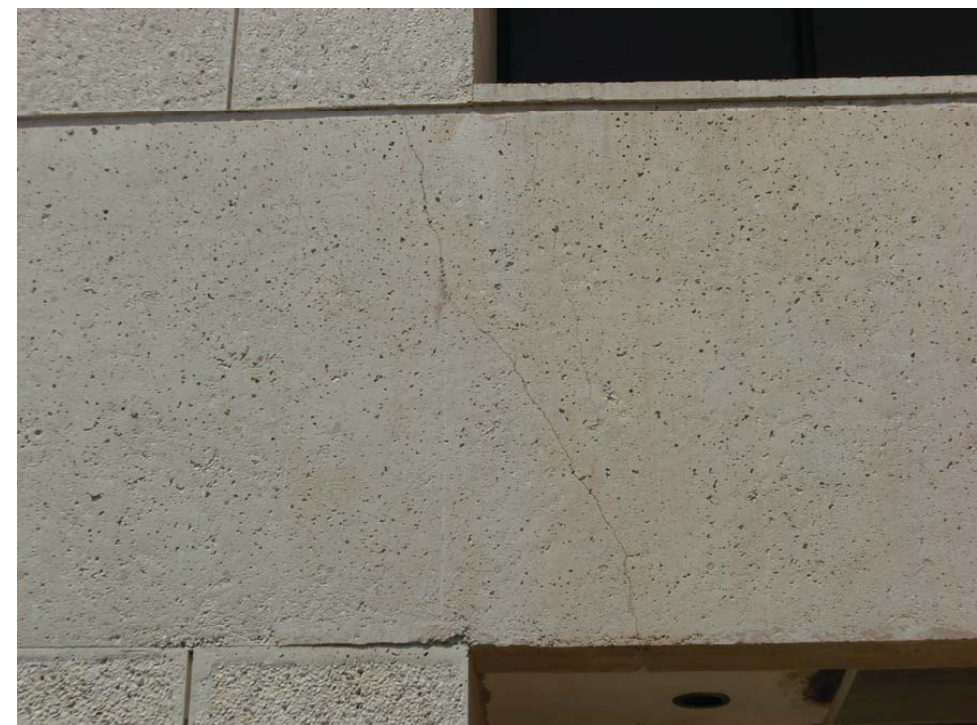


Photo #O- 31

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Photo #O- 32



Photo #O- 34



Photo #O- 33



Photo #O- 35



Photo #O- 36



Photo #O- 38



Photo #O- 37

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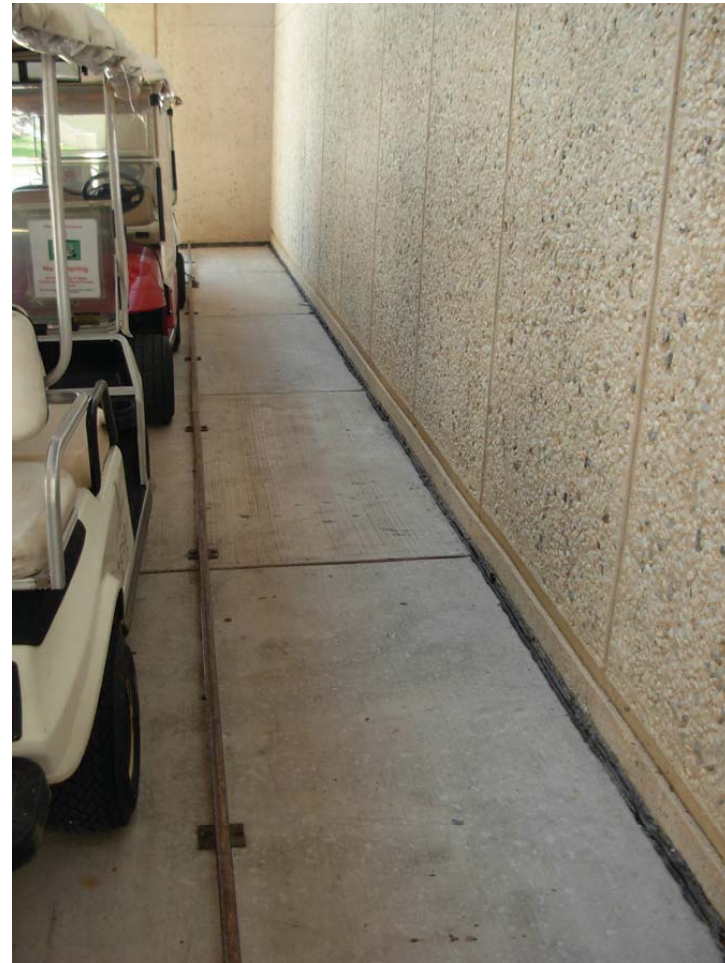


Photo #O- 39



Photo #O- 40

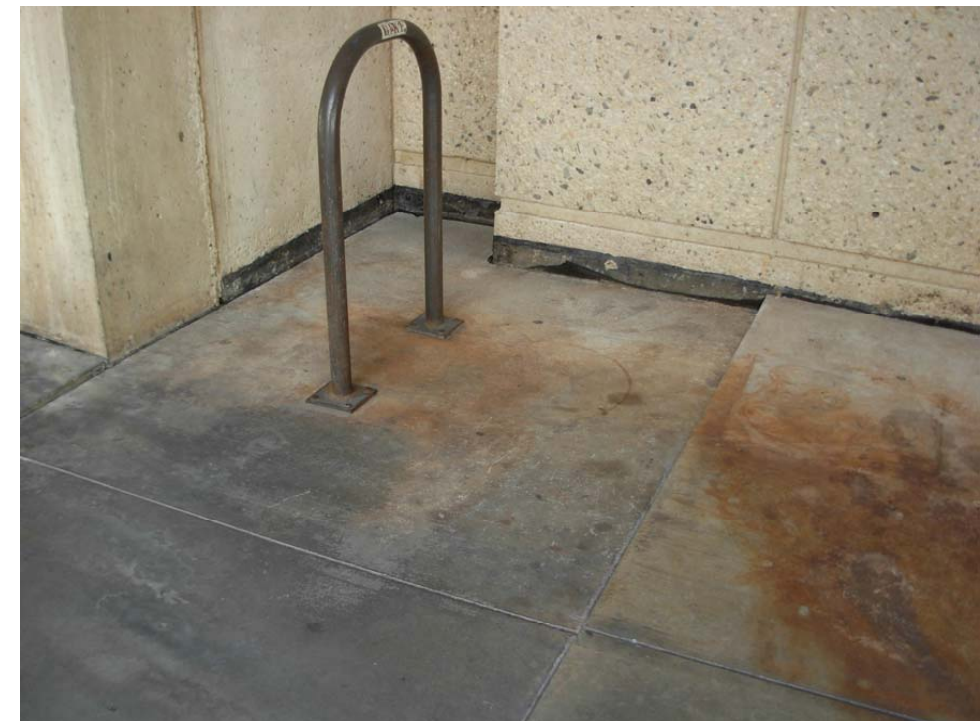


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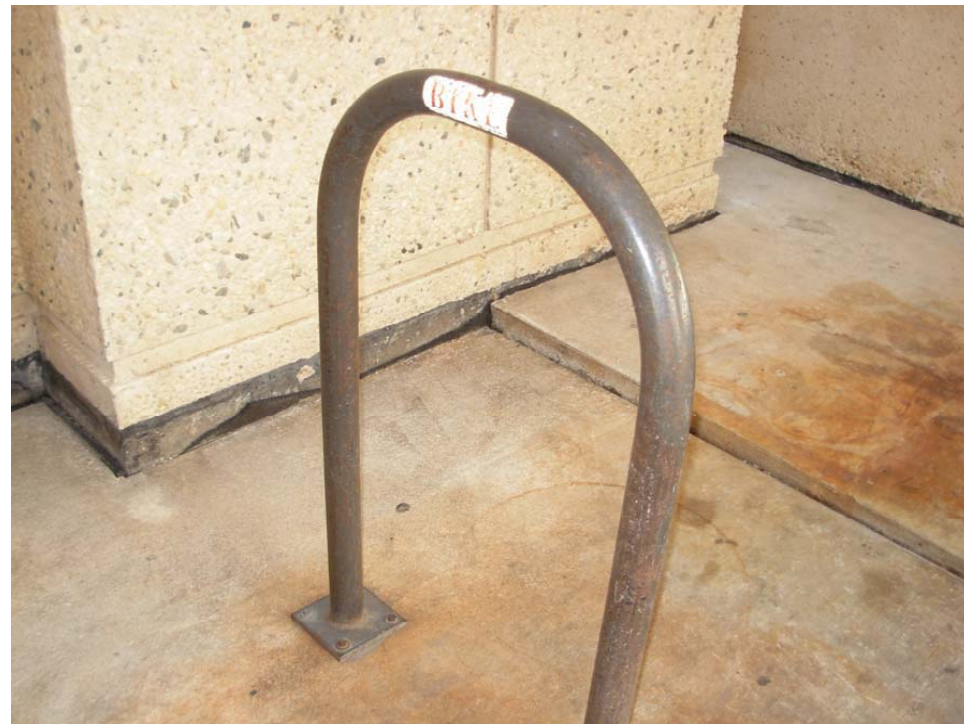


Photo #O- 42



Photo #O- 44



Photo #O- 43

Appendix D.5:
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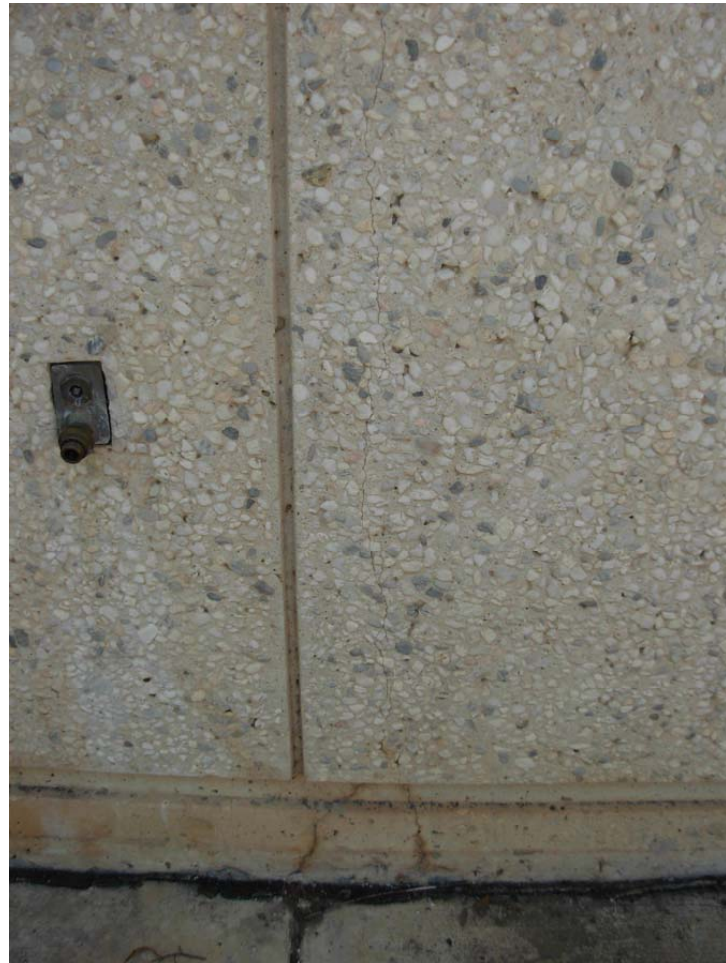


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Photo #O- 46

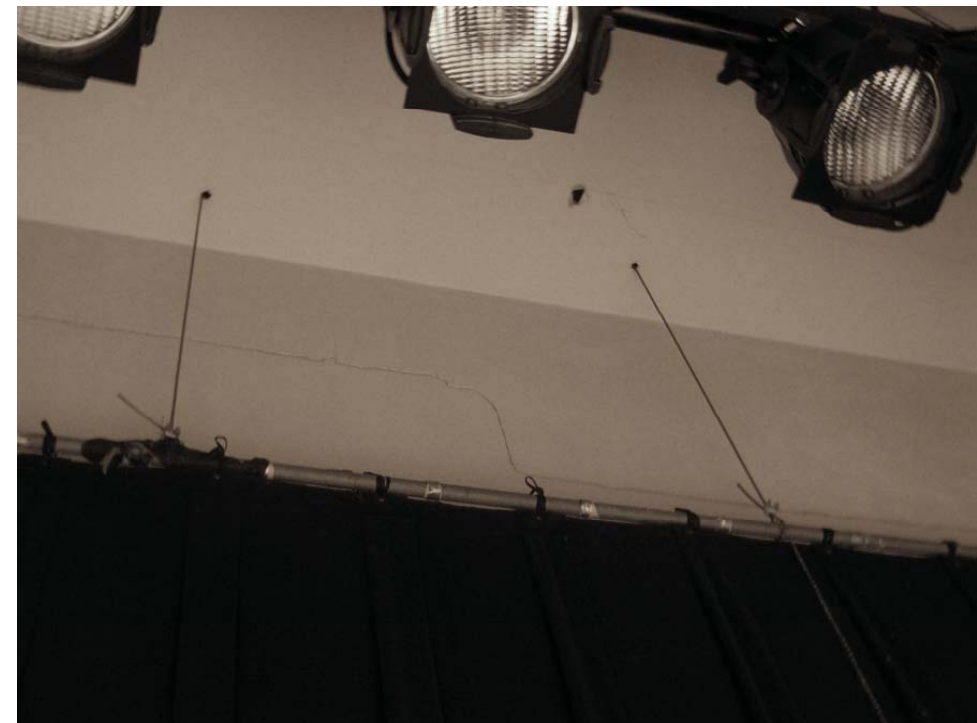


Photo #O- 47



Photo #O- 48



Photo #O- 50

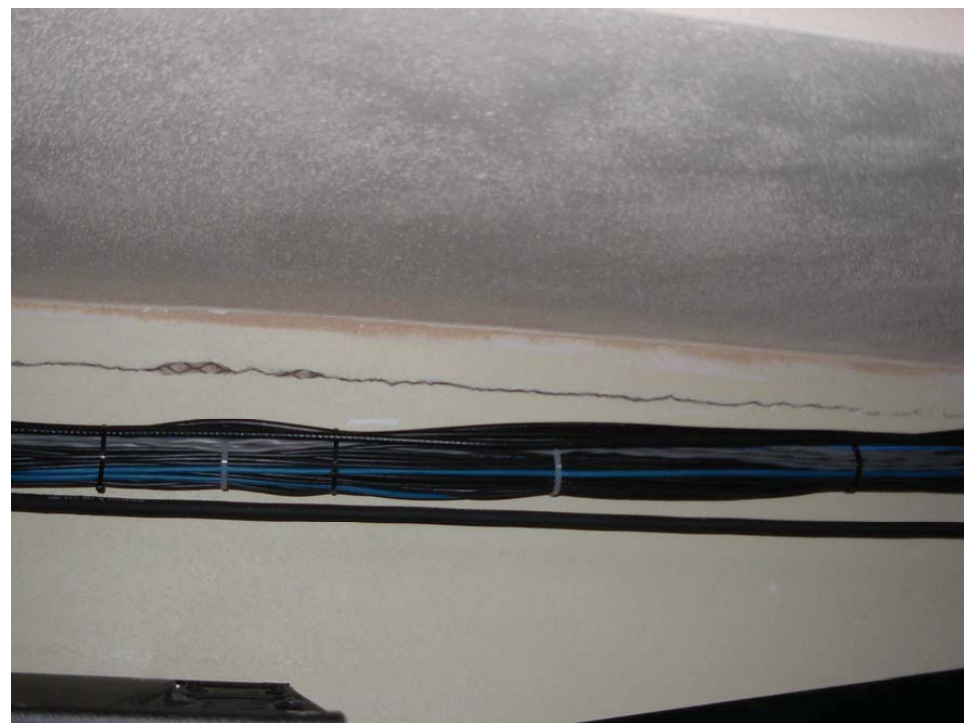


Photo #O- 49



Photo #O- 51

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Photo #O- 52

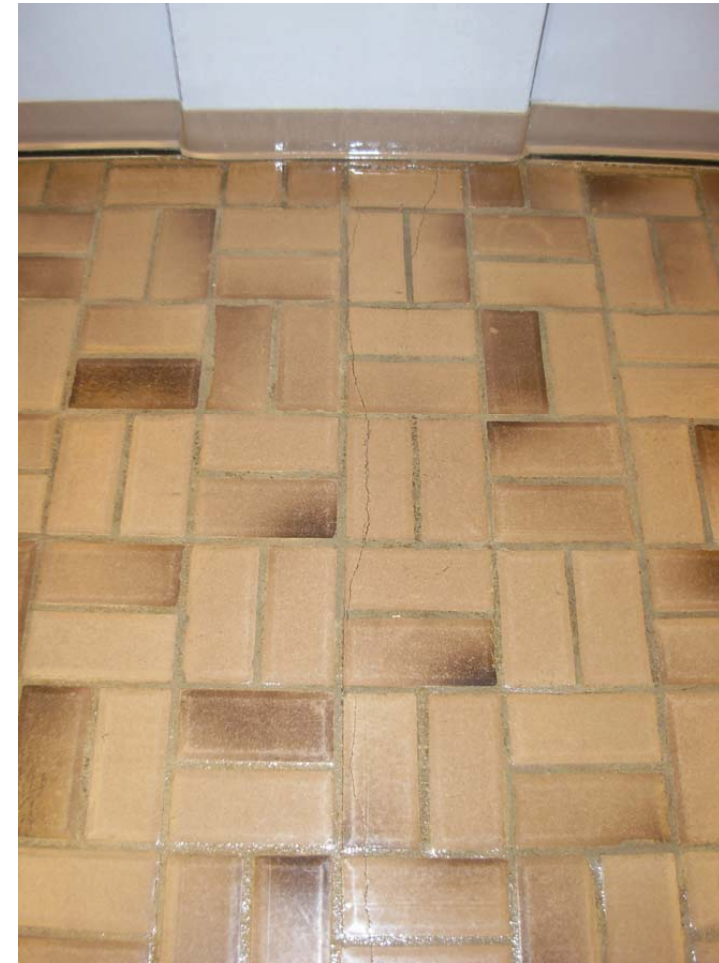


Photo #O- 53



Photo #O- 54



Photo #O- 56



Photo #O- 55



Photo #O- 57

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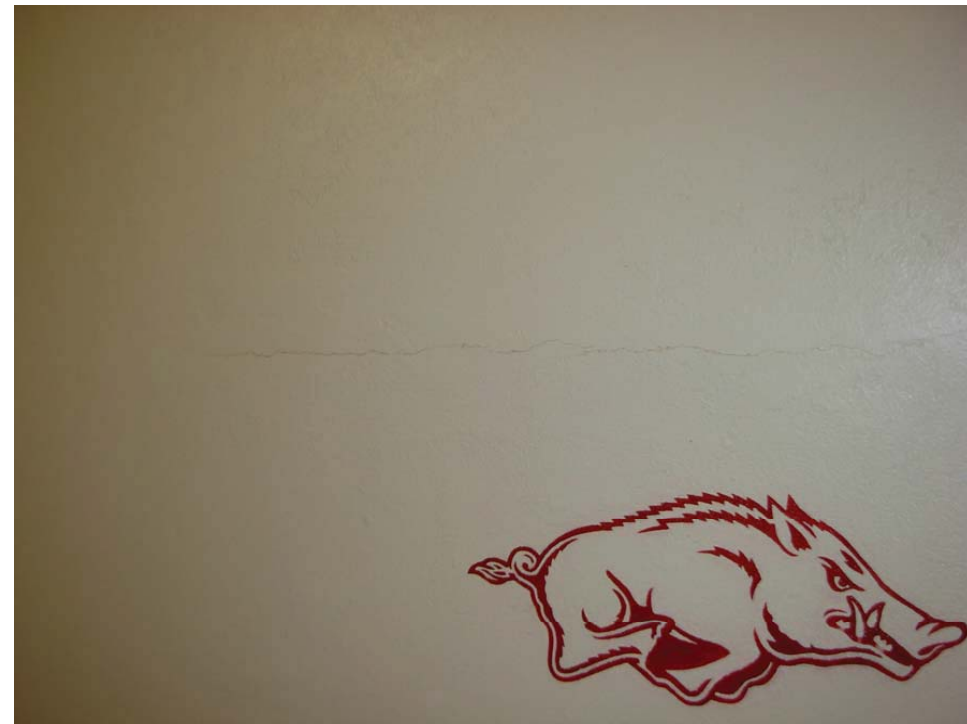


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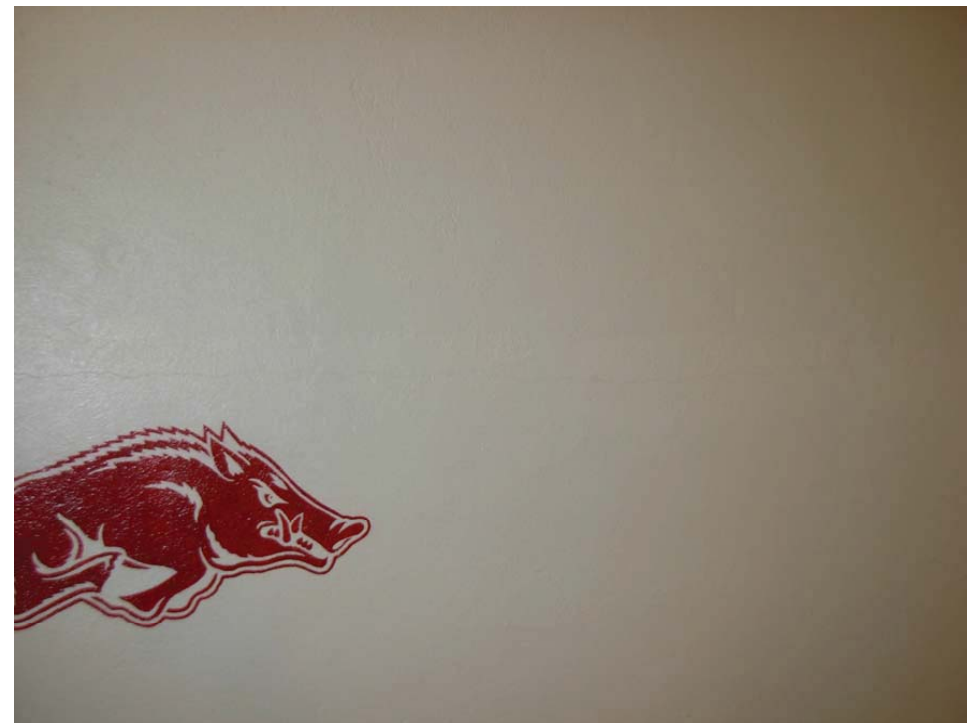


Photo #O- 59



Photo #O- 60

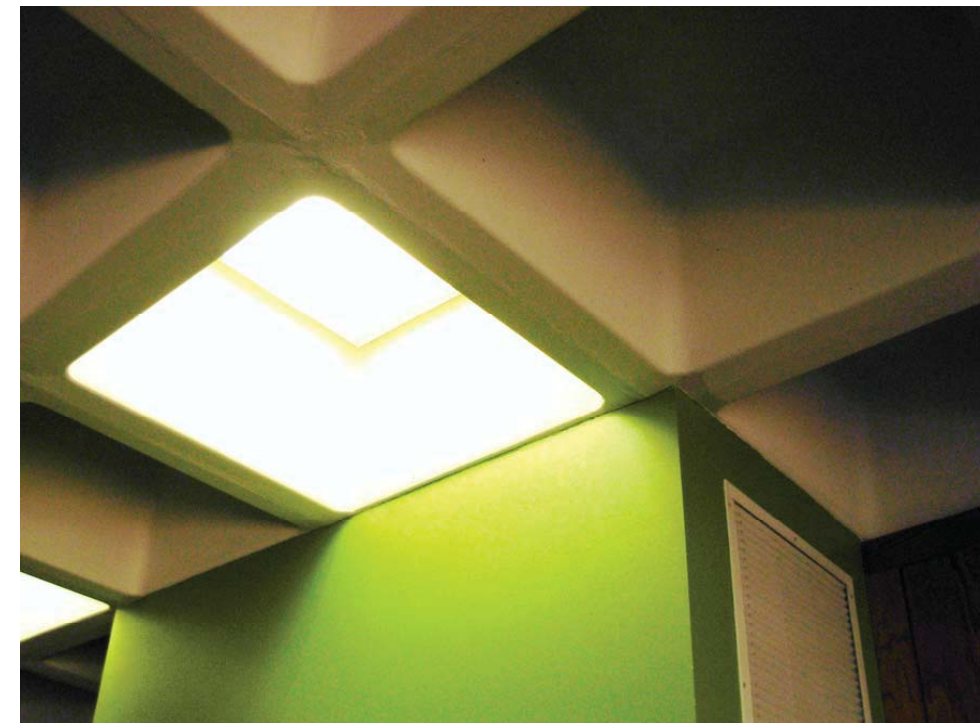


Photo #O- 61



Photo #O- 62



Photo #O- 64



Photo #O- 63

Appendix D.5:
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PHOTO #A- 1



PHOTO #A- 2



PHOTO #A- 3



PHOTO #A- 4



PHOTO #A- 5

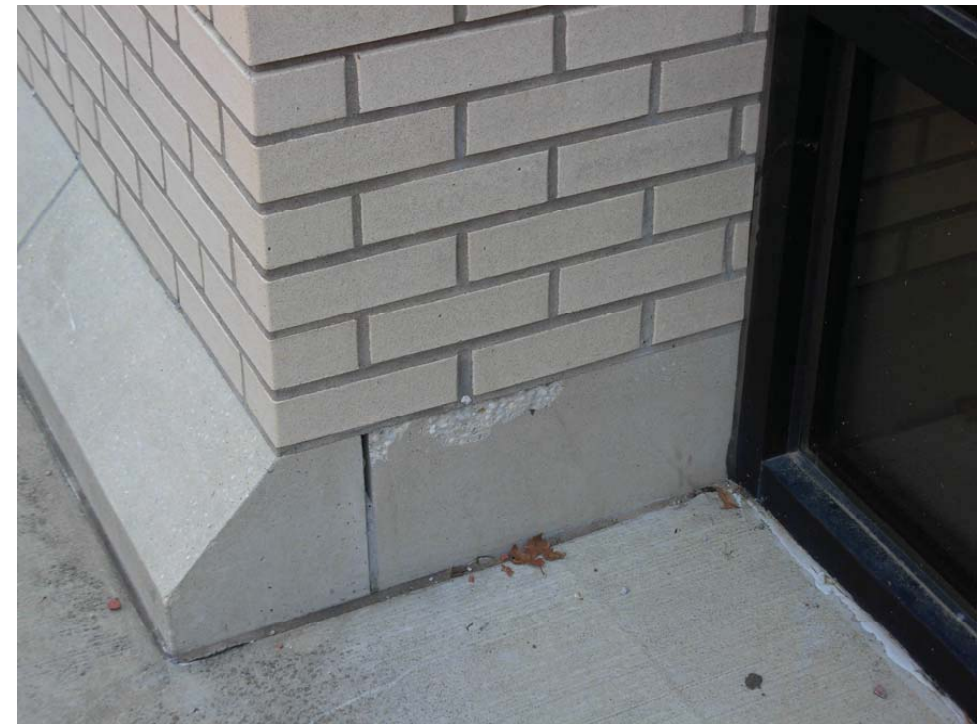


PHOTO #A- 7



PHOTO #A- 6



PHOTO #A- 8

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PHOTO #A- 9



PHOTO #A- 10



PHOTO #A- 11



PHOTO #A- 12



Photo #G- 1



Photo #G- 3



Photo #G- 2

Appendix D.5:
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Photo #G- 4



Photo #G- 5



Photo #G- 6



Photo #G- 7

Appendix D.5:
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Photo #G- 8



Photo #G- 10



Photo #G- 9



Photo #G- 11



Photo #G- 12

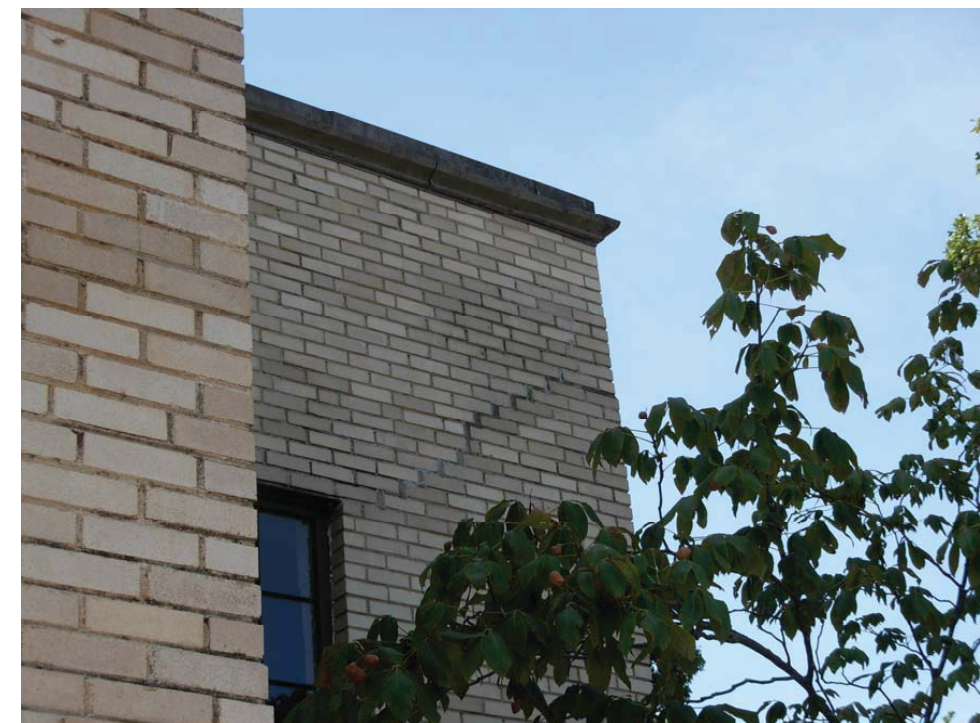


Photo #G- 13

Appendix D.5:
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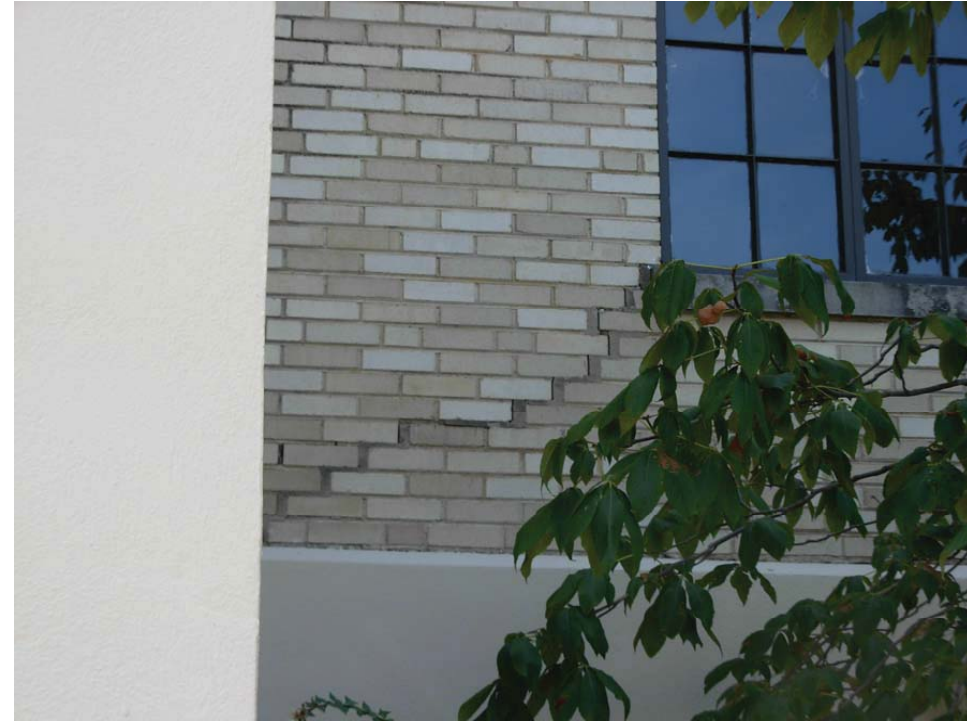


Photo #G- 14



Photo #G- 15



Photo #G- 16



Photo #G- 17



Photo #G- 18



Photo #G- 20



Photo #G- 19

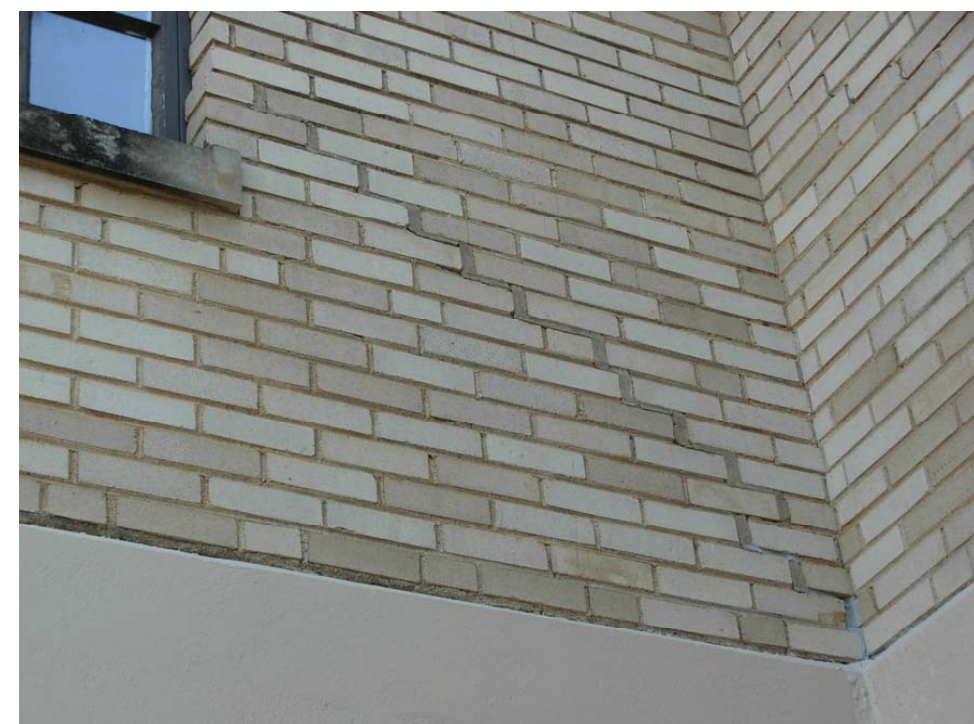


Photo #G- 21

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Photo #G- 22



Photo #G- 23



Photo #G- 24



Photo #G- 25



Photo #G- 26

Appendix D.5:
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Photo #G- 27



Photo #G- 29



Photo #G- 28



Photo #G- 30



Photo #G- 31



Photo #G- 33



Photo #G- 32

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Photo #G- 34

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Photo #G- 35



Photo #G- 36



Photo #G- 37



Photo #G- 38



Photo #G- 39



Photo #G- 40

Appendix D.5:
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Photo #G- 41



Photo #G- 42

80

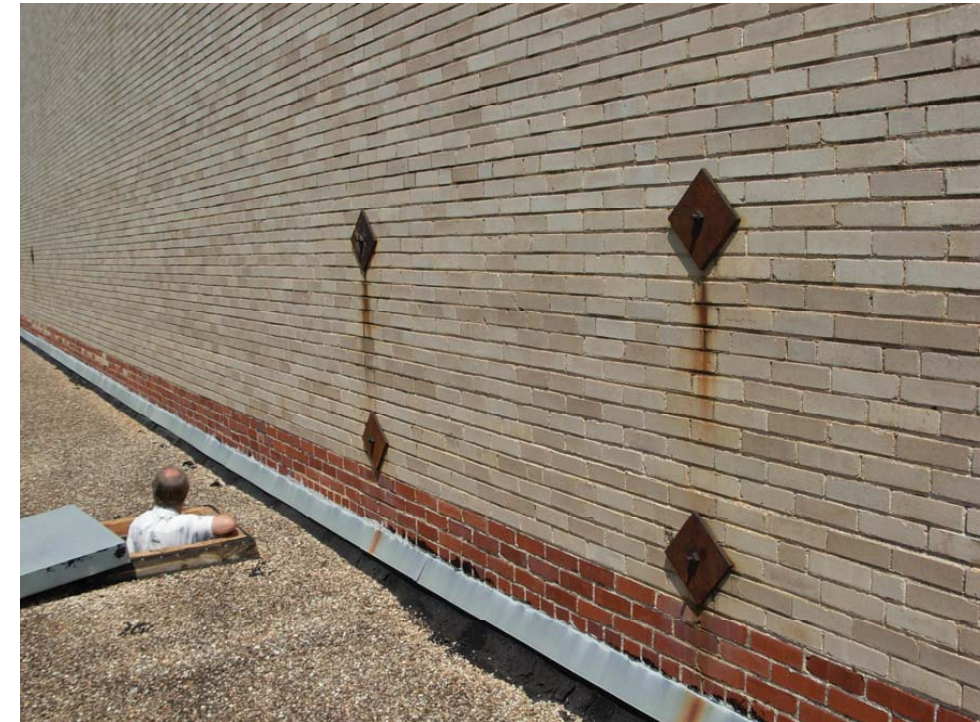


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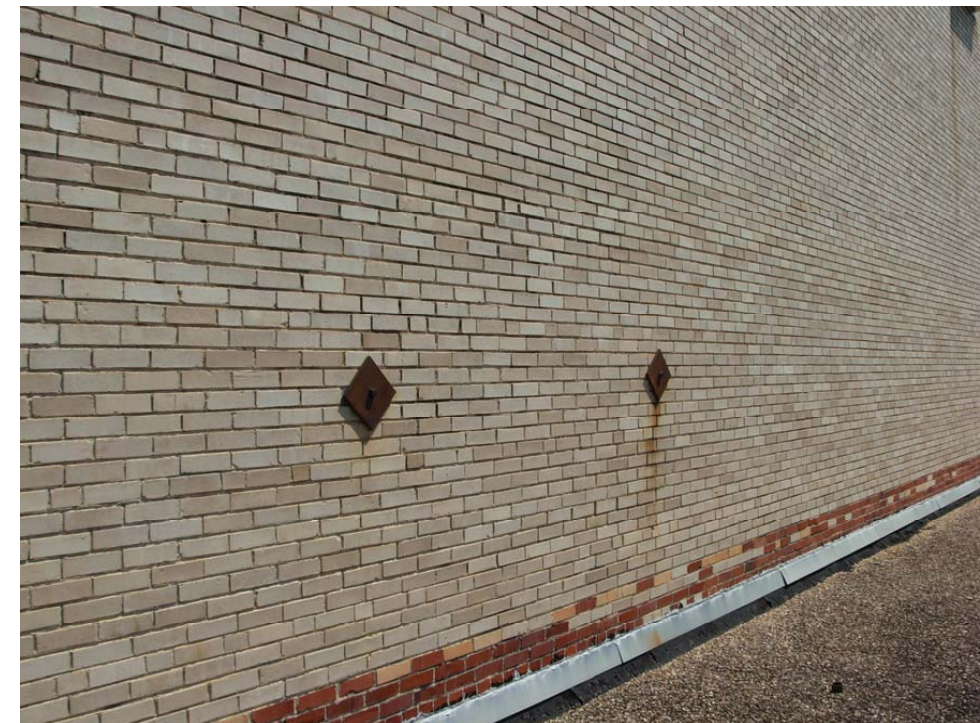


Photo #G- 44

81



Photo #G- 45



Photo #G- 46



Photo #B- 1

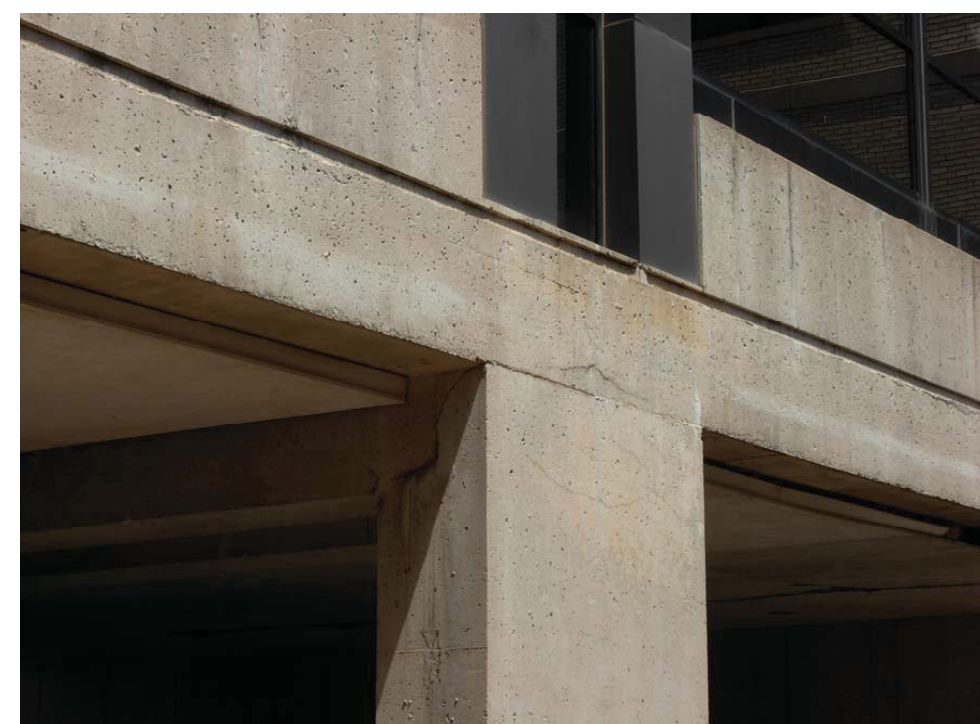


Photo #B- 2

Appendix D.5:
Union + Fieldhouse: Structural Facility Assessment



Photo #B- 3



Photo #B- 4

84



Photo #B- 5



Photo #B- 6

85



Photo #B- 7



Photo #B- 8



Photo #B- 9



Photo #B- 10

Appendix D.5:
Union + Fieldhouse: Structural Facility Assessment



Photo #B- 11

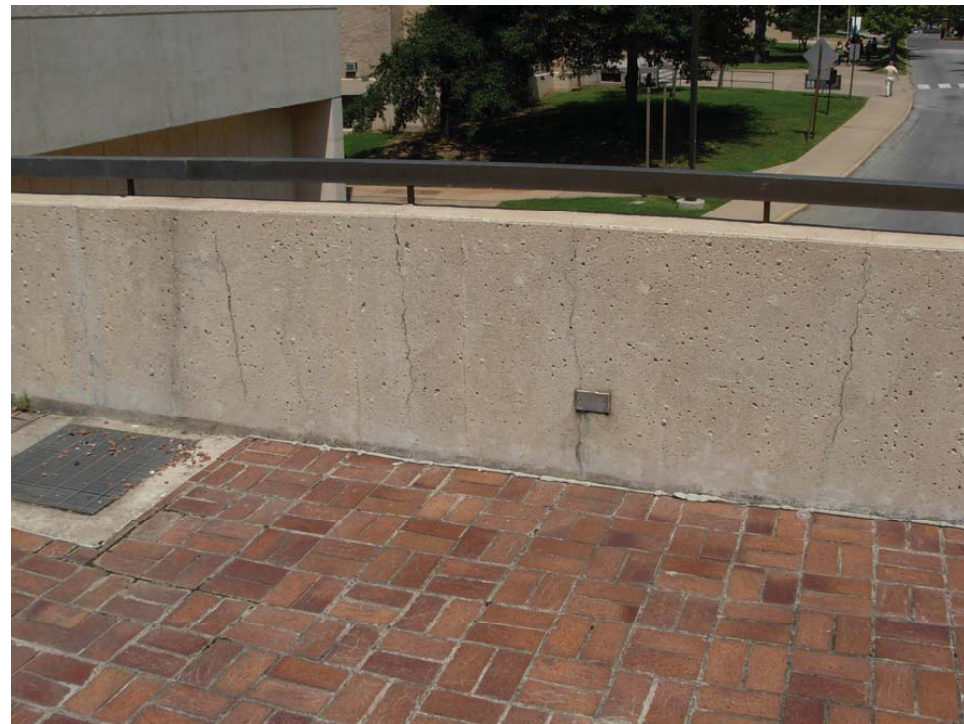


Photo #B- 12

88



Photo #B- 13



Photo #B- 14

89



Photo #B- 15



Photo #B- 16

D.6

UNION

MPE

Facility Assessment

Henderson Engineering, Inc.



UNIVERSITY OF ARKANSAS – STUDENT UNION
MEP CONDITIONS STUDY REPORT
SEPTEMBER, 2009

1. GENERAL

A. Building

1. The original building was constructed in 1969 with renovations in 1981 and 2001. An addition, spanning Garland Avenue, was added onto the east side of the original structure in 1998 bringing the total building area to approximately 228,619 SF.
2. Building consists of 6 levels plus a rooftop penthouse (mechanical room). Level 1 contains the campus Post Office plus other various tenant spaces including the building's main electrical and mechanical rooms with corresponding utility services to them. Level 2 houses the Razorback Shop, Campus Bookstore, and large commercial kitchen. Level 3 (main entrance lobby) consists of various spaces such as the Computer lab, Food Court, and Campus Bookstore including smaller remote electrical and data rooms. Level 4 is comprised of various offices, a small movie theater, and theatrical auditorium. Level 5 contains several conference rooms as well as a large ball room. Level 6 in the original building is comprised of offices and Level 6 in the addition also contains office spaces including small campus radio stations. Level 7 is the rooftop for the addition and consists of a small penthouse for mechanical equipment.

2. SUMMARY

A. Mechanical/Plumbing

1. Original Building
 - a) The mechanical systems are mostly original to the building and in marginal to poor condition. The central air handlers are in need of repairs and/or replacement. The building may be underventilated and may not meet current codes for the required amount of outside air. Any major renovation should include overhauling or replacement of most of the existing mechanical systems as well as evaluation of the outside airflows for the entire building.
 - b) The major plumbing systems appear to be original to the building. Any major renovation should include replacement of the domestic water heating system and upgrading the plumbing fixtures to more efficient fixtures.
2. Addition
 - a) The mechanical systems are of high quality and in very good condition. In their current state, the mechanical systems should be adequate for many more years of service and could also be reconfigured for renovation of the existing building. A major renovation may require upgrading of the outdoor air ventilation capabilities for the air handlers.
 - b) The plumbing systems are in good condition. The only recommendation is that the existing plumbing fixtures be upgraded to more efficient fixtures.

B. Electrical

1. Original Building
 - a) The electrical distribution components (i.e. switchboard, panel boards, transformers, and wiring) mostly appear to be original to the building and reflect this in their overall condition. Numerous instances of minor changes to the buildings original system exists that would not meet current codes. Overall the original electrical systems distribution components are beyond their intended life cycle and would allow very limited support of any future renovations. With this limited support would also come the challenges of maintaining near obsolete equipment in addition to the life safety hazards associated with an aging electrical system from 1969. The 3000amp electrical service alone should be able to support any modest renovations within the current buildings structure but could be limited in effectively supporting any significant additional square footage added to the building.

- b) Over the years thru renovations most of the building's interior lighting has been changed from the original design. Various styles and types of lighting exist throughout depending on the space, linear fluorescent T-12 and T-8 type fixtures are utilized predominantly. Any significant renovations would most likely involve the replacement of many of these fixtures in order to meet current energy code requirements and to provide an updated appearance to the public spaces.
 - c) The Data/Communications system appears to have gone through various modifications over the years but its overall capacity for future additions could not be determined at this time.
2. Addition
 - a) The electrical distribution components (i.e. switchboard, panel boards, transformers, and wiring) appear to have been done in a professional manner and should be able to effectively support the respective portion of the building in its current arrangement.
 - b) The lighting is comprised of current linear fluorescent and compact fluorescent technologies which appear to serve their respective areas in an effective yet efficient manner. These fixtures should be utilized as part of any major renovations.
 - c) The Data/Communications system appears to be done in an acceptable manner but its overall capacity for future additions could not be determined at this time.

3. MECHANICAL/PLUMBING SYSTEMS

A. Chilled Water

1. Chilled water is provided to the original building with 10" piping from the University's central utility tunnel tie-in located in the northeast corner of Level One of the original building. The chilled water pump appears to be the original pump and is in poor condition and in need of replacement. Chilled water for the addition is provided by 4" piping from the University's central utility tunnel as well. The chilled water pump for the addition is in good condition and should provide many more years of service. Both chilled water pumps are equipped with VFDs and function as secondary pumps. They operate when the pressure in the campus chilled water loop cannot satisfy the building's cooling requirements. The chilled water system is adequately sized for the current loads in the original building and the addition. Any major renovations or additions would require additional evaluation.

B. Steam/Condensate

1. Steam is provided to the entire building through the University's utility tunnel. Existing steam main is 6 inch and 100 psig. Existing condensate main is 3 inch. Several pressure reducing stations (PRVs) step steam pressure down from high pressure to 20 psi before it is distributed to the equipment. Several steam to hot water converters and pumps distribute hot water for radiant heating in the dining area and office areas on Level 3 of the original building, for the large washer in the Level 2 Kitchen, and for the reheat loop serving the meeting rooms on Level 5. In the Penthouse Mechanical Room of the addition, steam is converted to heating water and pumped to the air handlers and VAV boxes for re-heat. The steam/condensate system is adequately sized for the existing building and its current loads. Like the chilled water system, any major renovations or additions would require additional evaluation.

C. HVAC Controls

1. HVAC controls were originally pneumatic, but have been significantly upgraded through various renovations and are currently Johnson Metasys direct digital controls (DDC). These renovations took place in the mid to late 1990s. Any remaining pneumatic controls should be replaced during any major renovations. The controls in the addition are DDC and are a recent enough vintage that the building is controlled efficiently. The DDC controls in both buildings should be reused in any major renovation and could be reconfigured for any changes in the building's usage.

D. Domestic Water

1. A 4 inch domestic water main with parallel backflow preventers is located in Mechanical Room 109. This unit appears less than five years old and is in very good condition.
2. Domestic hot water for both buildings is produced via a steam-to-hot water heat exchanger and storage tank in the original building. The tank and recirculation pump appear to be original and are approaching their life expectancy. Any major renovations or additions should implement newer, more efficient equipment and controls.
3. The plumbing fixtures have been steadily upgraded over the years and are comprised of fixtures with varying levels of efficiency and automation. Overall, the fixtures in the original building and the addition are in good

condition. Any major renovations or additions should look at implementing low flow fixtures with automatic sensors.

E. Sanitary Sewer

1. A 6 inch sanitary sewer line exits the original building and is adequately sized for the building in its current configuration. The sanitary system for the addition was unable to be verified during the site visit.

F. Air Handling Systems

1. The original building is served by nine built-up air handlers located on various levels of the building. Six of these units are dual duct, variable volume units with variable frequency drives (VFDs) on the supply fans. Two units are single zone, variable volume units with VFDs on the supply fans. One of these two units serves the large kitchen on Level 2 and is 100% outside air. The other unit serves the large ballroom and meeting spaces on Level 5 and utilizes hot water reheat at the terminal devices. The ninth unit is a single zone constant volume unit serving the auditorium on Level 4. Six of these units have return fans serving them and these fans have been equipped with VFDs as well. The addition is served by three built-up air handlers that are single zone, variable volume units with VFDs on the supply fans. All twelve air handlers are capable of 100% outdoor air economizer function. The air handlers for the original building are the original units. They are approaching the end of their life expectancy. There are some major leaks around valves on some of the units. If the units are not replaced during a major renovation, they should at least have their coils and valves replaced.
2. Terminal devices for the original building are a mixture of constant volume dual duct boxes that have had dampers added to both air streams making them variable volume and newer variable volume dual duct boxes. The terminal devices in the addition are single duct variable volume boxes with hot water reheat. All of the air terminal units for the entire building have DDC controls. Due to their age and condition, all of the modified constant volume dual duct boxes should be replaced during a major renovation. The newer dual duct boxes and the boxes in the addition could be reused in a major renovation.

G. Exhaust Systems

1. The commercial kitchen area on Level 2 has several large hoods and exhaust fans with the makeup air provided by AHU-7. It appears that these exhaust fans run continuously (24 hours a day, 7 days a week) due to the varied use of the building and wide range of activities and times that the spaces are utilized. The Food Court on Level 3 was remodeled in 1998 and consists of six hoods served by five exhaust fan/makeup air systems located on the roof of the original building. These hoods and exhaust fans are controlled manually based on use. During any major renovations, the opportunity to optimize the control of the mechanical exhaust and makeup air system for the commercial kitchen on Level 2 should be investigated.

4. ELECTRICAL SYSTEMS

A. Electric Service and Distribution

1. The building is served by 12,470 volt primary service with (3) 500kva transformers (located in dedicated transformer room on 1st floor level) providing 480Y/277 volt service power via 6-sets of 1000kcmil copper conductors connected to busduct. This equipment appears to be in good functional condition.
2. The 480Y/277 service serves the buildings existing "MDB" via 3000 amp 3ph 4w busduct, which appears to be in functional condition but yet is original to the building and reflects this in its condition posing some hazardous conditions for future operation and maintenance.. This switchboard directly serves remote distribution panels throughout the building including the addition.
3. Each floor is served by local 480Y/277v panelboards, transformers, and 208Y/120v panelboards which appear to have adequately supported their various served loads. System components added from the new addition appear to have been done in a professional manner and are in good functional condition. However, components original to the building have already or will soon pose issues typical to operating and maintaining an electrical system from 1969.
4. The building is supported by (2) Emergency Generators, one original to the 1969 construction (located in 1st floor room #109) and another newer unit from the 1998 renovations (located outside of building). Both Generators support the buildings emergency power requirements via transfer switch located in their respective locations. Both of these generators operates off of natural gas and appear to be in functional condition.

B. Lighting

1. The Original Building's lighting is mainly comprised of linear fluorescent including some incandescent and fluorescent down lighting. A large portion of the buildings original lighting has been replaced in various

renovations. Most of the public corridor areas primarily utilize linear T-8 fluorescent fixtures. Typical foot-candles levels at waist height on average are +/- 30fc. Generally these fixtures are operational but some do show excessive signs of age in their overall condition. Overall these areas appear acceptable with the current surrounding furnishing finishes but could benefit with newer type of fixtures installed in a very similar fashion.

2. The Addition's lighting is comprised of various indirect linear fluorescent and compact fluorescent down lights which appear to have been done in a professional manner and of good functional condition. Typical foot-candles levels at waist height on average are an acceptable +/- 45fc.

C. Data/Communications

1. The Original building's Communications system appears to enter through the 1st floor level and terminate within a larger distribution cabinet which then distributes to various smaller remote distribution cabinets throughout the building. From limited scope of this system it's hard to judge the actual capacity and condition other than from its appearance to be a combination of original and more recent components working in conjunction to serve the buildings communication needs
2. The Addition's Data/Communications system appears to enter through the basement level via fiber optic cable and terminate to a distribution hub that tie in various remote locations throughout the building. From limited scope of this system it's hard to judge the actual capacity and condition other than from its appearance to be comprised of fairly recent components installed in an acceptable manner to serve the buildings Data/Communication needs.

APPENDICES

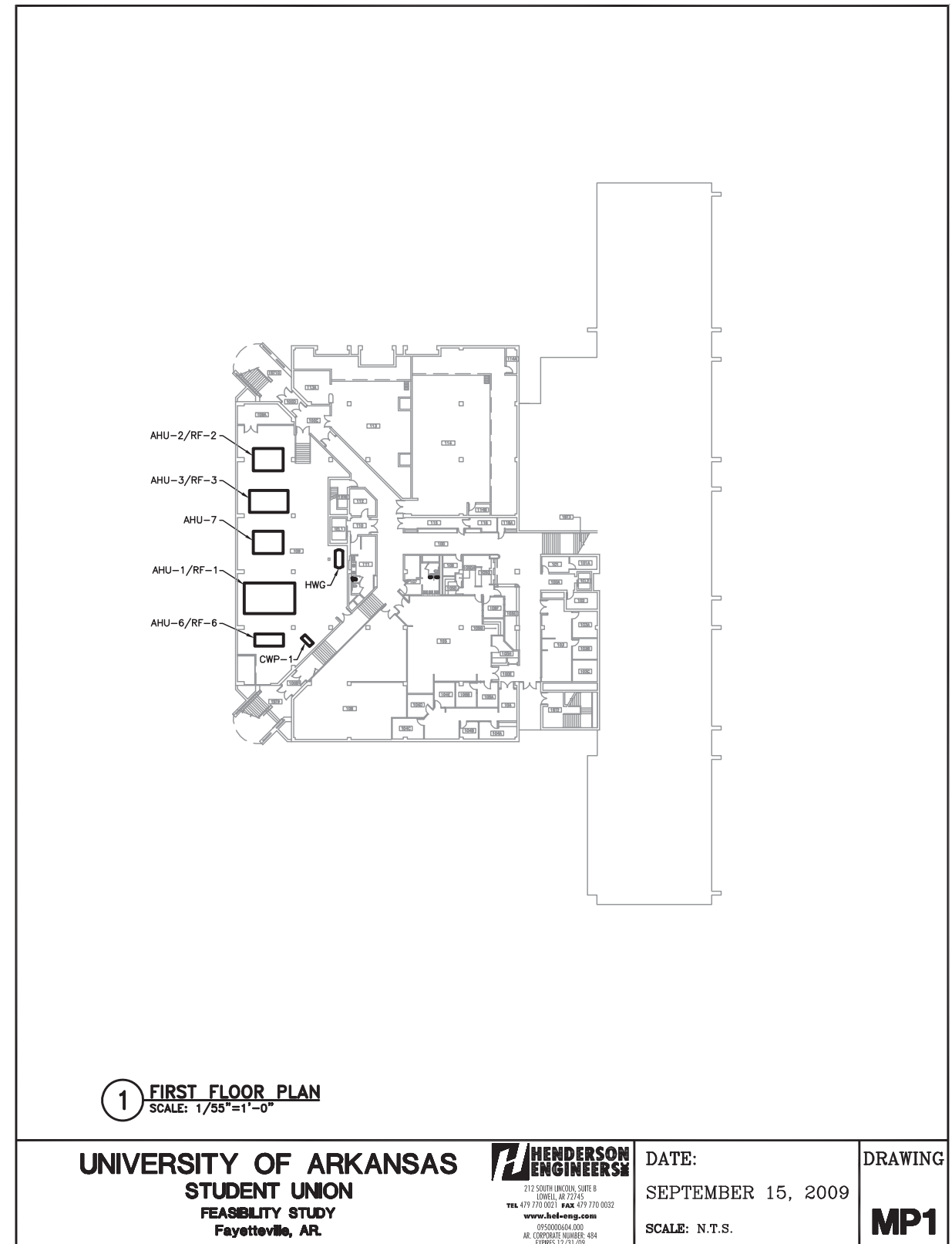
APPENDIX A: MECHANICAL AND PLUMBING EQUIPMENT LOCATION PLANS

APPENDIX B: SUMMARY OF MAJOR MECHANICAL AND PLUMBING EQUIPMENT

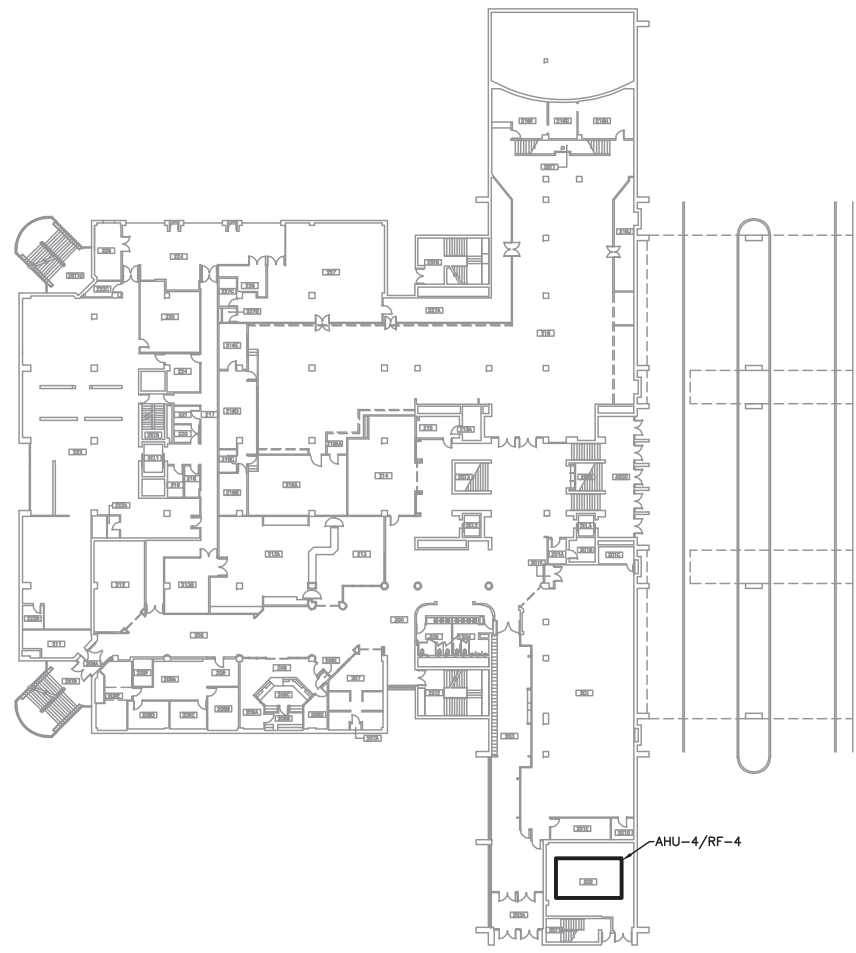
APPENDIX C: ELECTRICAL EQUIPMENT LOCATION PLAN

APPENDIX D: SUMMARY OF MAJOR ELECTRICAL EQUIPMENT

**APPENDIX A:
 MECHANICAL AND PLUMBING EQUIPMENT
 LOCATION PLANS**



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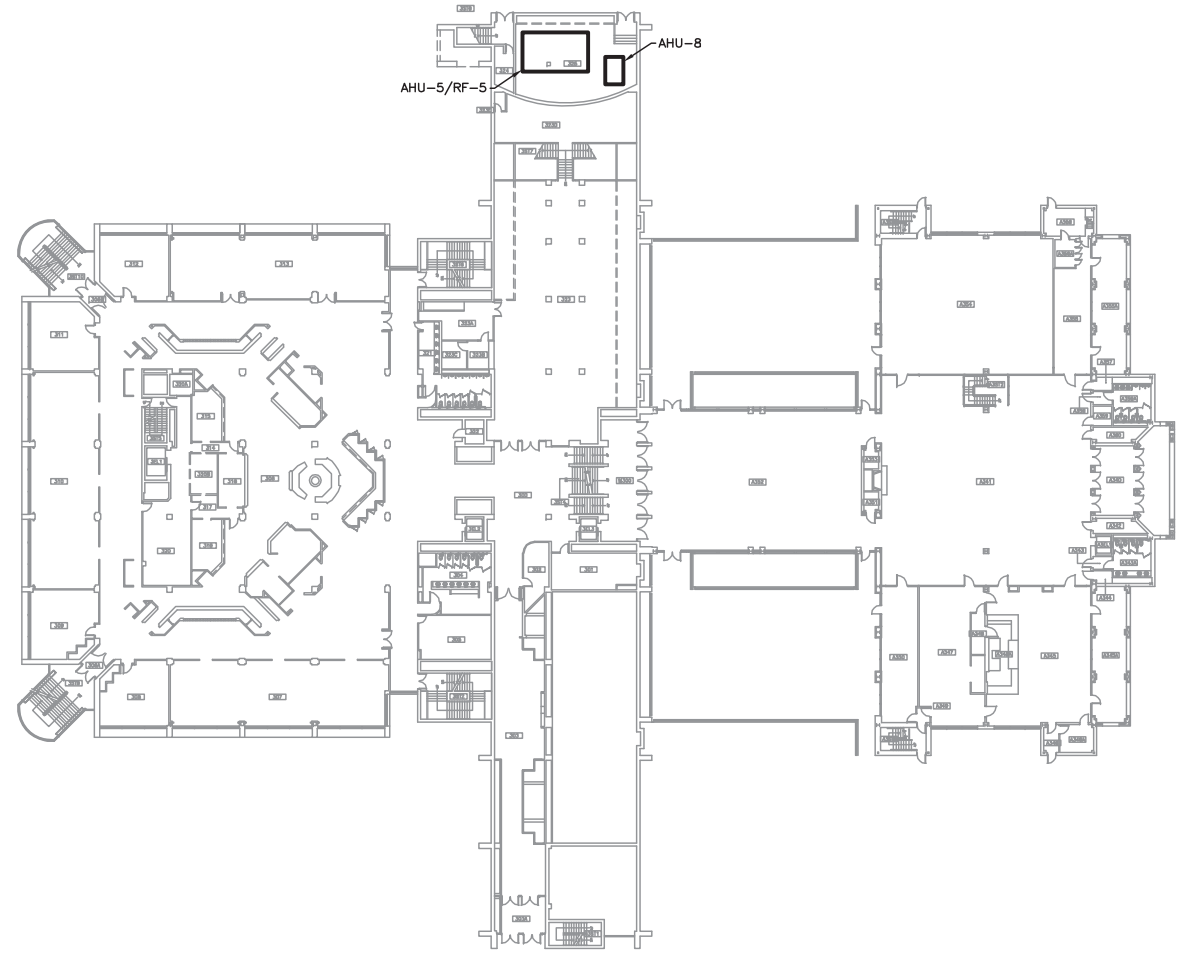
1 SECOND FLOOR PLAN
SCALE: 1/55"=1'-0"

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1 THIRD FLOOR PLAN
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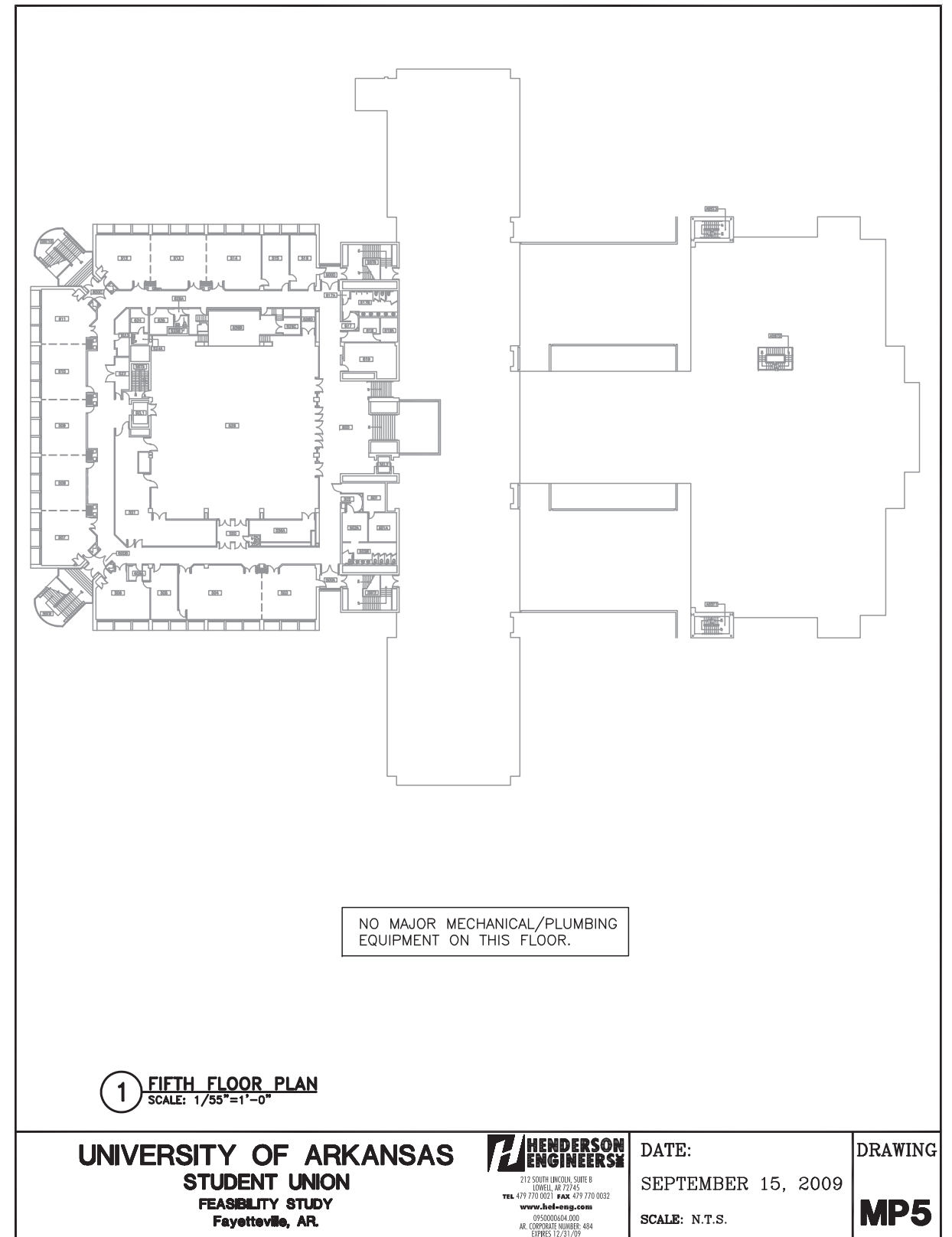
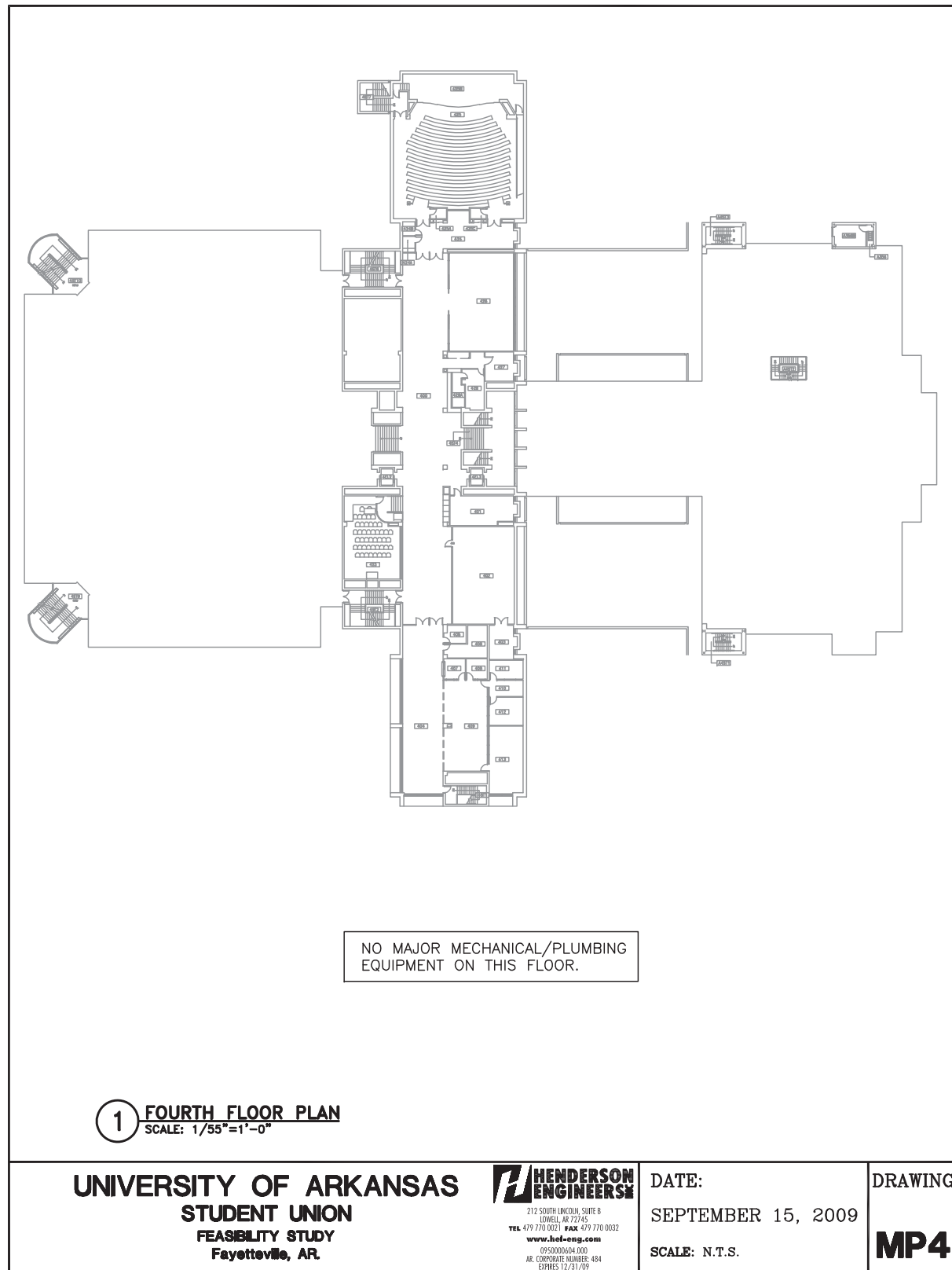
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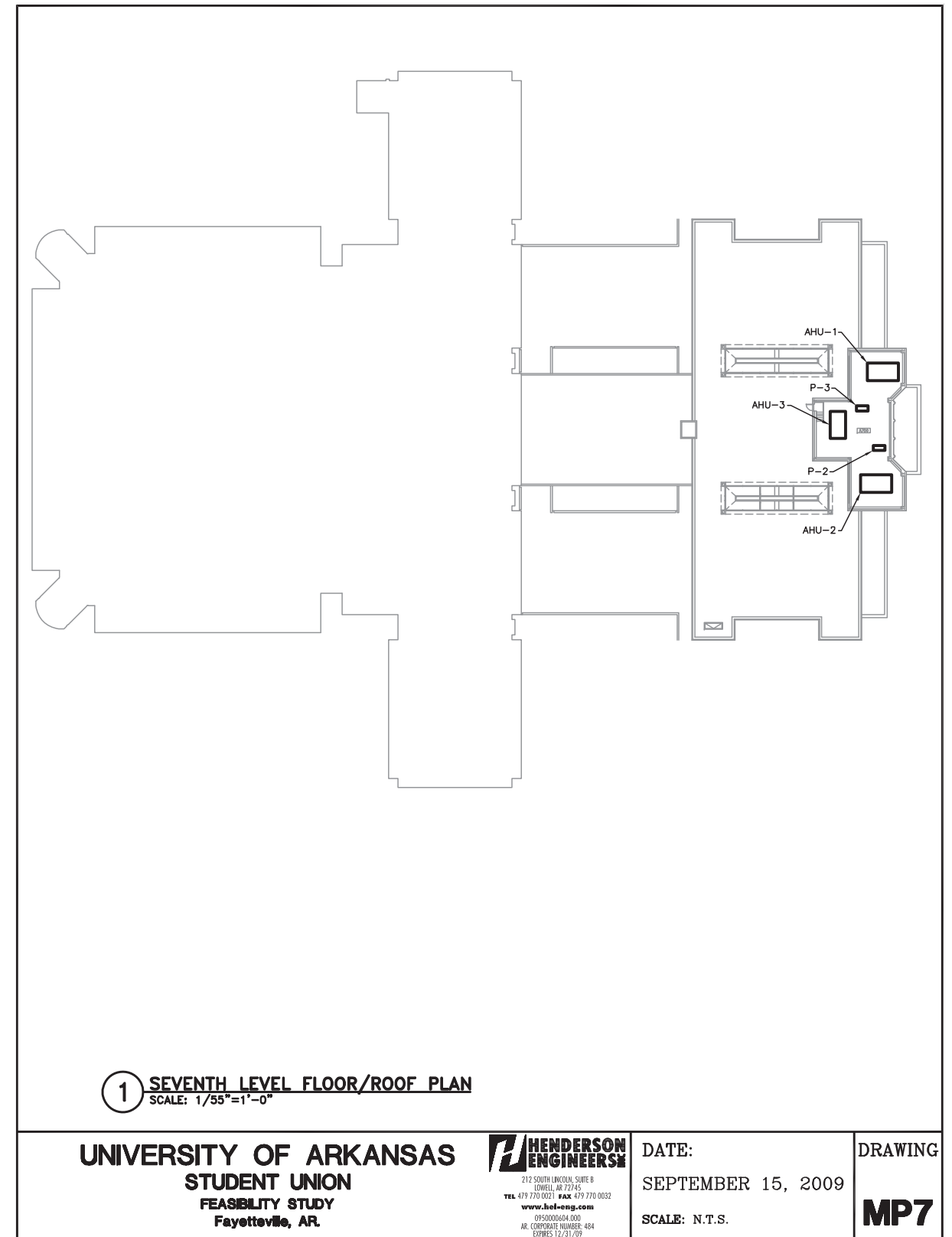
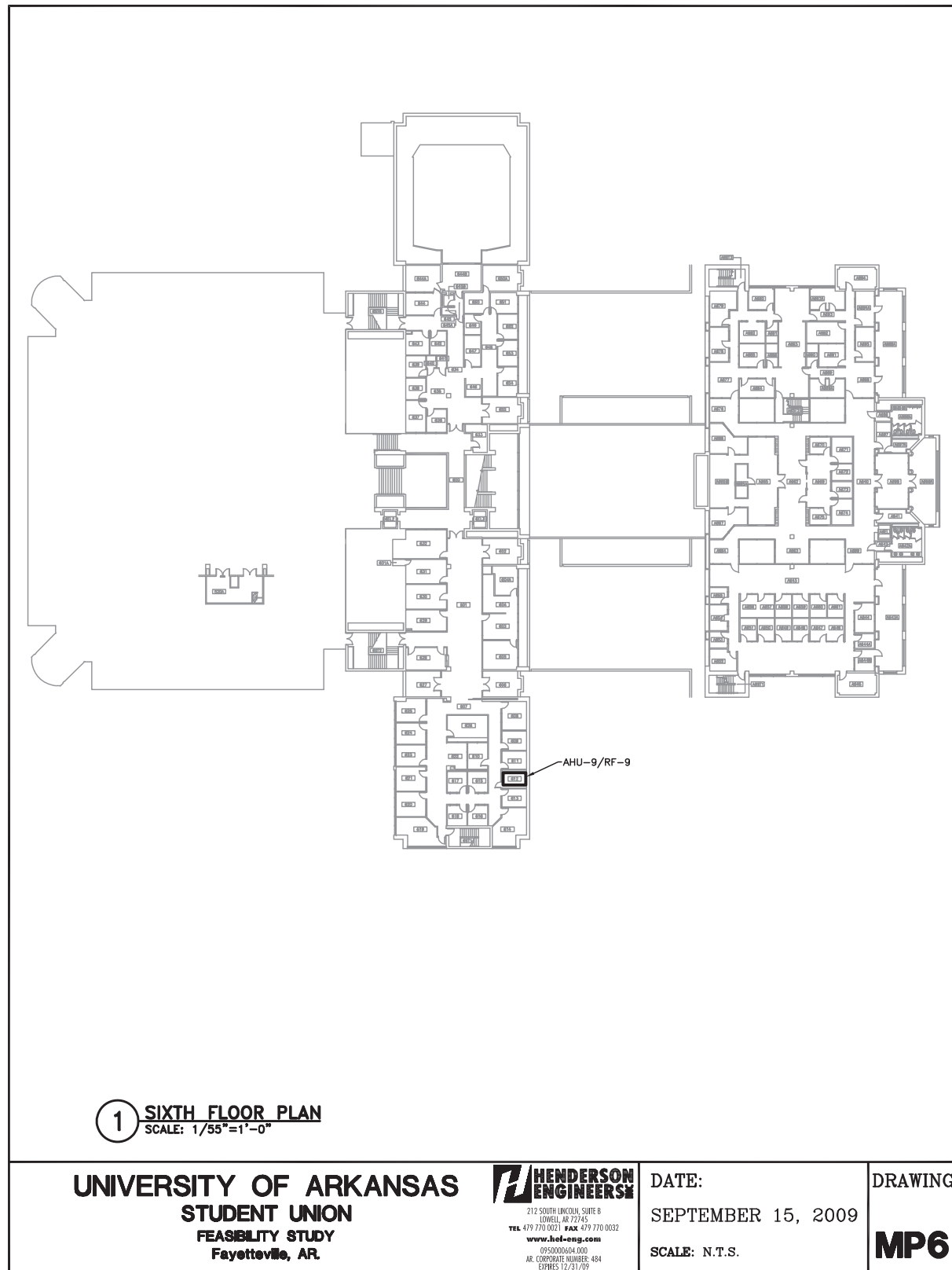
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Appendix D.6:
 Union: MPE Facility Assessment

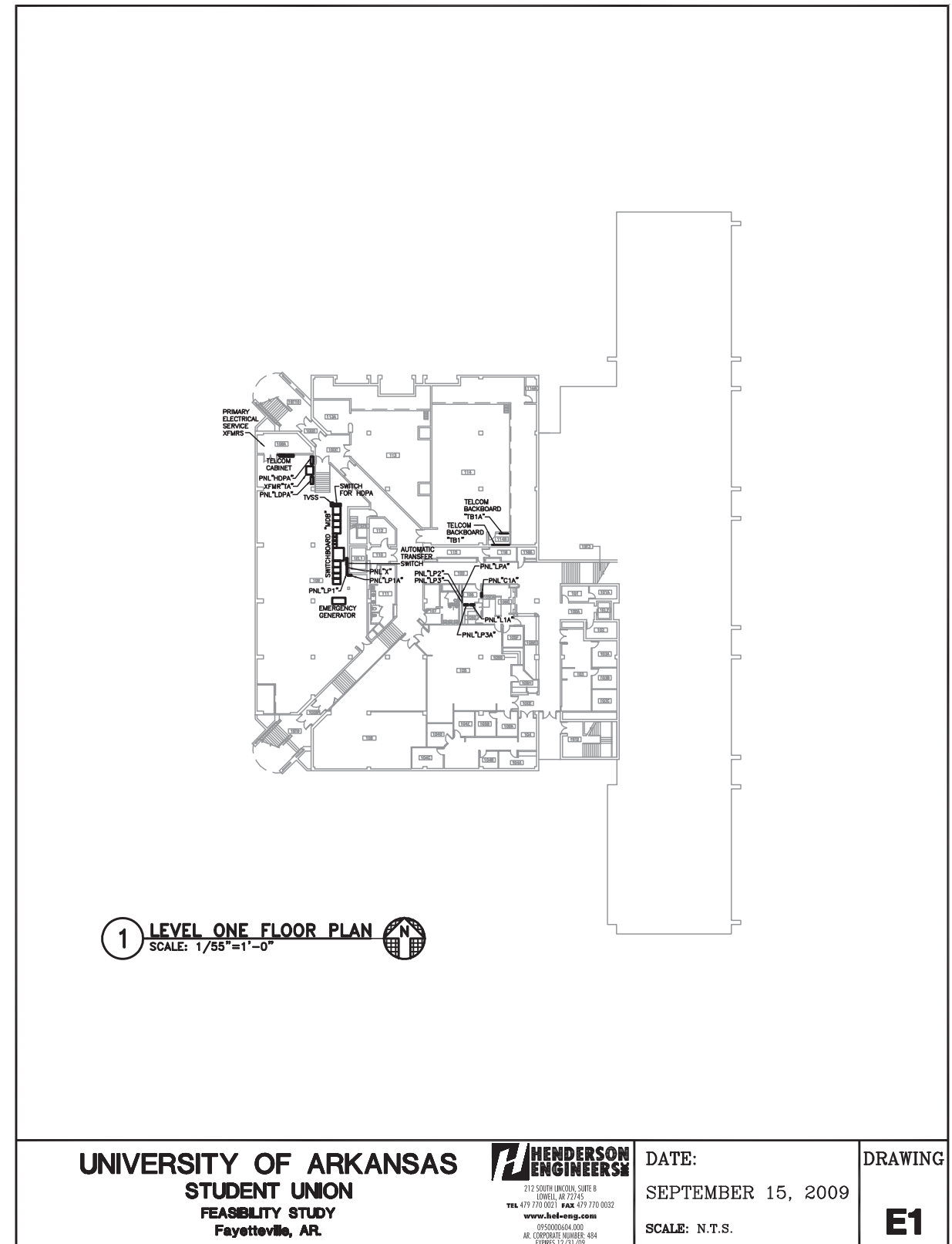




APPENDIX B:
SUMMARY OF MAJOR MECHANICAL AND PLUMBING EQUIPMENT

SUMMARY OF MAJOR MECHANICAL AND PLUMBING EQUIPMENT (STUDENT UNION)											
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	CAPACITY					COMMENTS
						TOTAL CFM	MIN OA CFM	CHW GPM	HW GPM	LBS-STM/HR	
Air Handlers	Main Mechanical Room 109	AHU-1	Marlo M2T	Various Levels - West spaces	~40yrs old	35,500	3,550	280	---	1,430	Dual Duct; VFD
	Main Mechanical Room 109	AHU-2	Marlo F2R	Level 5 - Ballroom	~40yrs old	20,000	5,000	180	---	620	Single Zone; VFD
	Main Mechanical Room 109	AHU-3	Marlo M2S	Level 3 - Dining/Cafeteria	~40yrs old	32,000	8,500	333	---	1,760	Dual Duct; VFD
	Mechanical Room 202	AHU-4	Marlo M2S	Levels 3,4,5 - Southeast spaces	~40yrs old	32,000	3,200	220	---	1,330	Dual Duct; VFD
	Mechanical Room 325	AHU-5	Marlo M2S	Levels 3,4,5 - Northeast spaces	~40yrs old	29,685	4,500	224	---	1,550	Dual Duct; VFD
	Main Mechanical Room 109	AHU-6	York AP-305	Level 1 & 2 - South spaces	~12yrs old	13,750	750	136	---	687	Dual Duct; VFD
Main Mechanical Room 109	AHU-7	Marlo F2R	Level 2 - Kitchen	~40yrs old	20,000	20,000	264	---	935 Pre-Heat 935 Re-Heat	Single Zone; VFD; 100% Outside Air	
Mechanical Room 325	AHU-8	Marlo F2K	Level 4 - Auditorium	~40yrs old	8,500	2,000	75	---	445	Single Zone; Constant Volume - No VFD	
Mechanical Room 612	AHU-9	Temtrol BDP-11	Level 6 Offices	~29yrs old	5,000	475	40	---	190	Dual Duct; VFD	
Penthouse Mechanical Room	AHU-1	York AP-400	Level 3 - Addition	~12yrs old	20,250	4,145	165	31	---	Single Zone; VFD	
Penthouse Mechanical Room	AHU-2	York AP-360	Level 6 - Addition	~12yrs old	17,620	1,760	120	36	---	Single Zone; VFD	
Penthouse Mechanical Room	AHU-3	York AP-400	Program Lounge - Addition	~12yrs old	8,000	1,125	49	7	---	Single Zone; VFD	
Return Air Fans	Main Mechanical Room 109	RF-1	Buffalo Type B - Size 48	AHU-1	~40yrs old	32,000	---	---	---	---	VFD
	Main Mechanical Room 109	RF-2	Buffalo Type B - Size 36	AHU-2	~40yrs old	18,000	---	---	---	---	VFD
	Main Mechanical Room 109	RF-3	Buffalo Type B - Size 42	AHU-3	~40yrs old	23,500	---	---	---	---	VFD
	Mechanical Room 202	RF-4	Buffalo Type B - Size 48	AHU-4	~40yrs old	28,800	---	---	---	---	VFD
	Mechanical Room 325	RF-5	Buffalo Type B - Size 42	AHU-5	~40yrs old	25,185	---	---	---	---	VFD
	Main Mechanical Room 109	RF-6	Acme 2133	AHU-6	~12yrs old	13,000	---	---	---	---	VFD
Chilled Water Pump	Main Mechanical Room 109	CWP-1	Chicago DP 8011	Chilled Water System - Original Building	~40yrs old	---	---	1,748	---	---	VFD
Chilled Water Pump	Penthouse Mechanical Room	P-3	Paco LF 3070-7	Chilled Water System - Addition	~12yrs old	---	---	342	---	---	VFD
Heating Water Pump	Penthouse Mechanical Room	P-2	Paco LF 2595-5	Heating Water System - Addition	~12yrs old	---	---	152	---	---	Constant Volume - No VFD
Domestic Hot Water	Main Mechanical Room 109	HWG	Steam to Hot Water Generator	Entire Building	~40yrs old	---	---	---	1,085 Gallons	---	Set at 120°F; includes recirculation pump

**APPENDIX C:
ELECTRICAL EQUIPMENT LOCATION PLAN**



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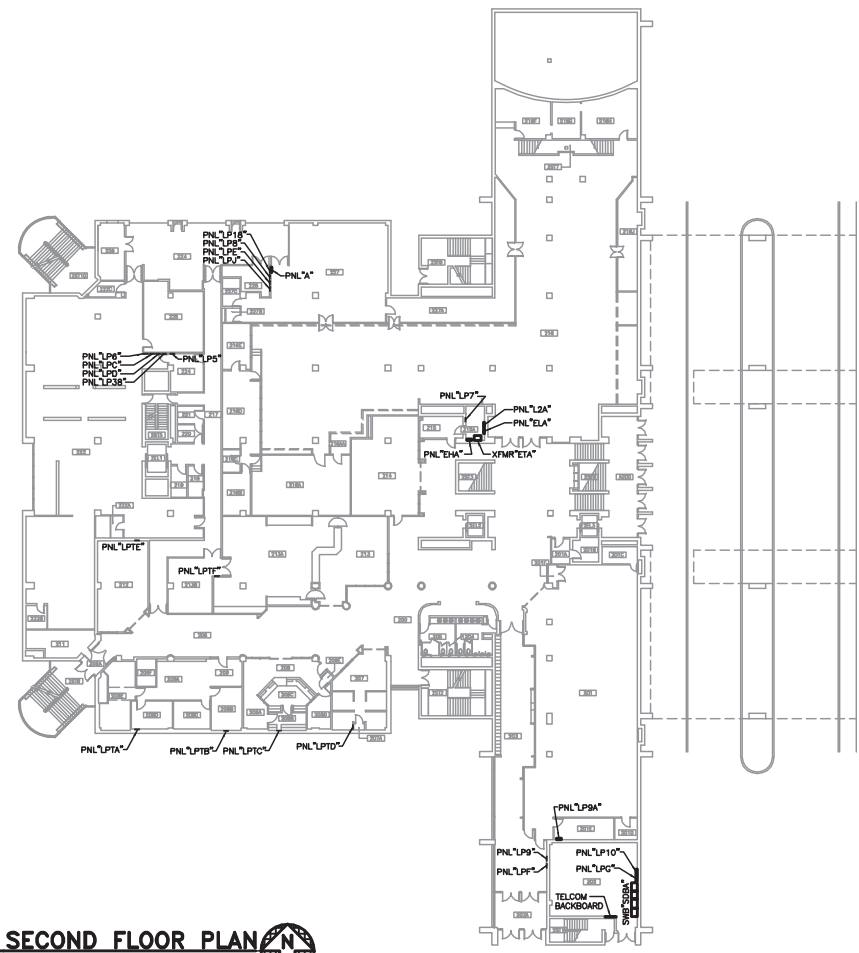
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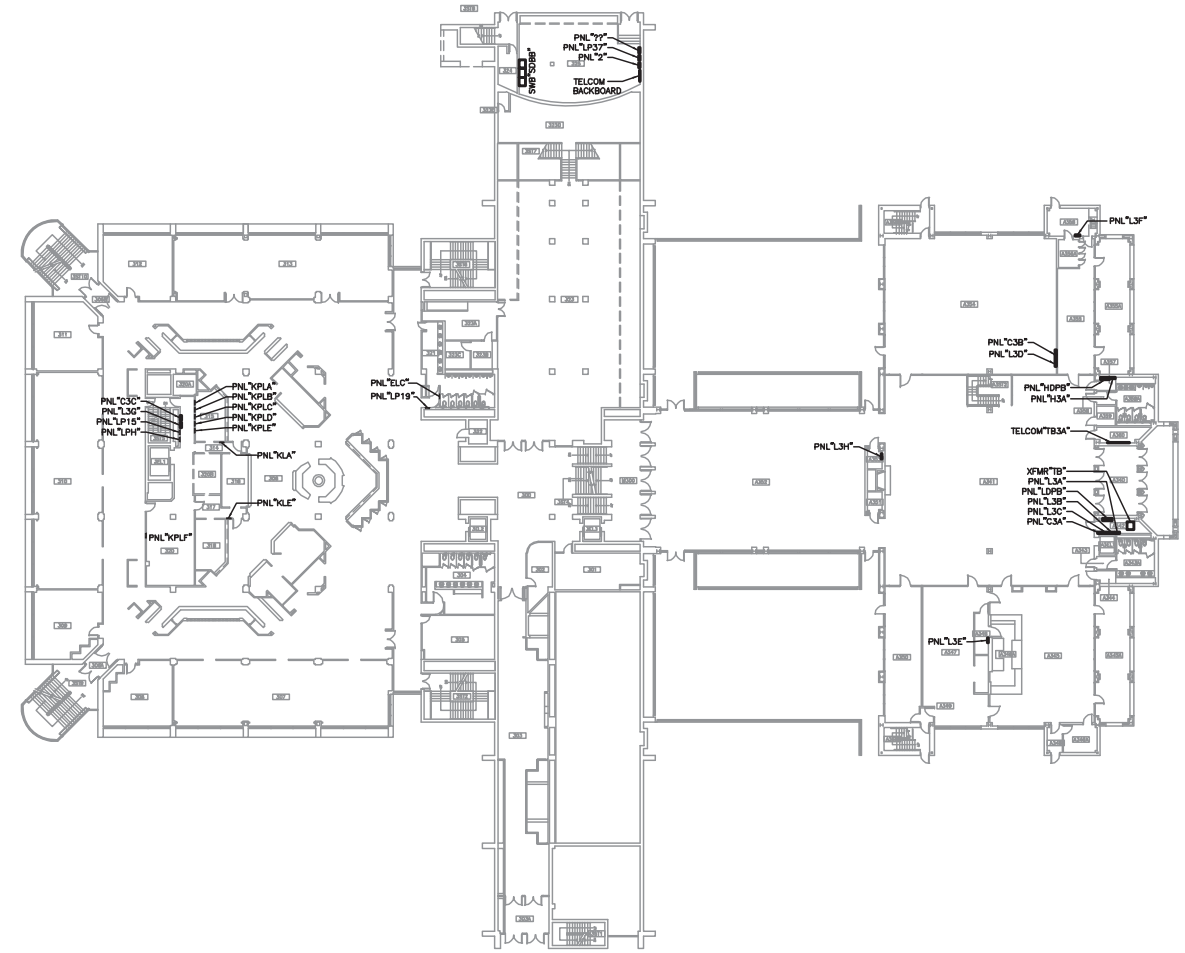
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1 SECOND FLOOR PLAN
SCALE: 1/55"=1'-0"



1 THIRD FLOOR PLAN
SCALE: 1/55"=1'-0"

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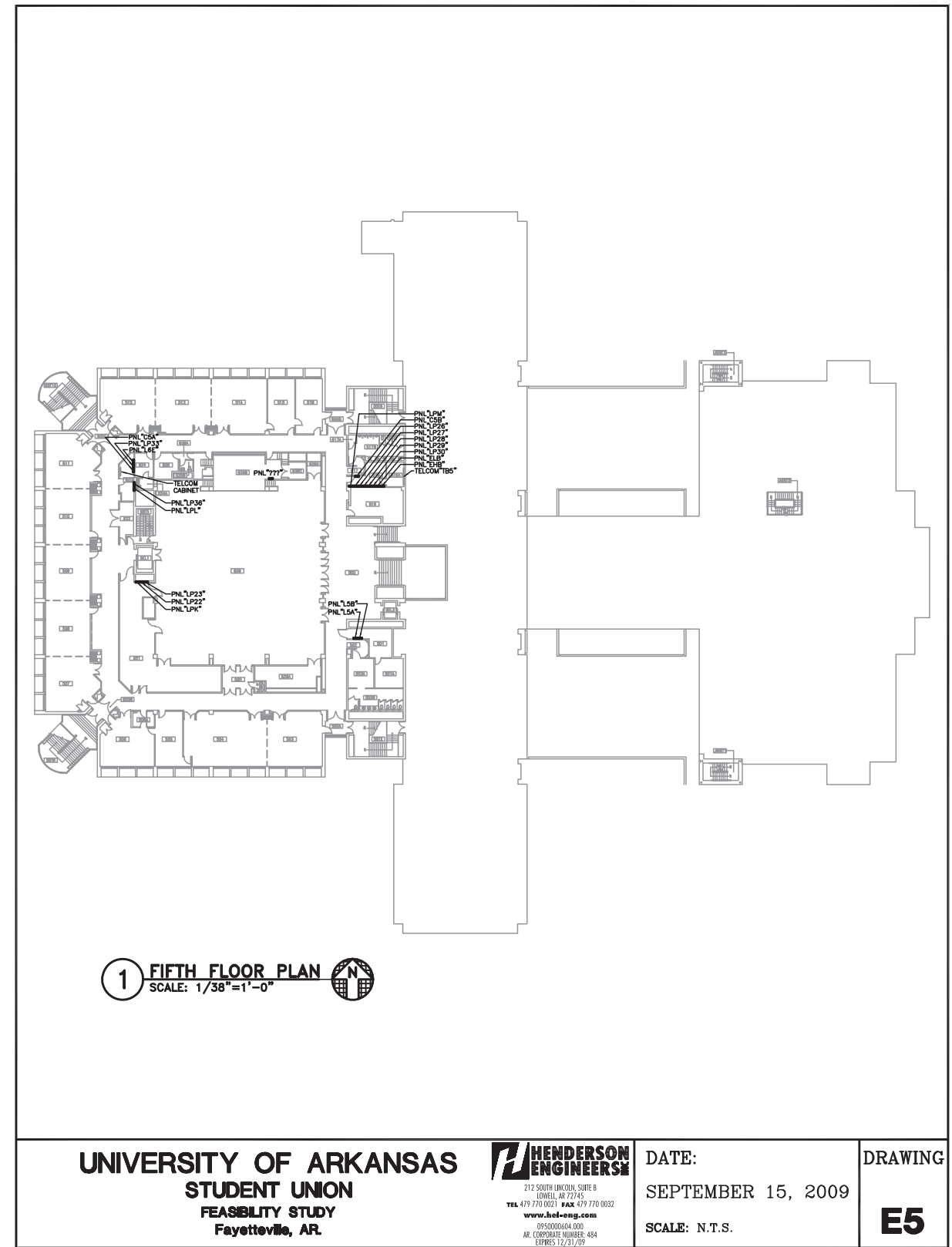
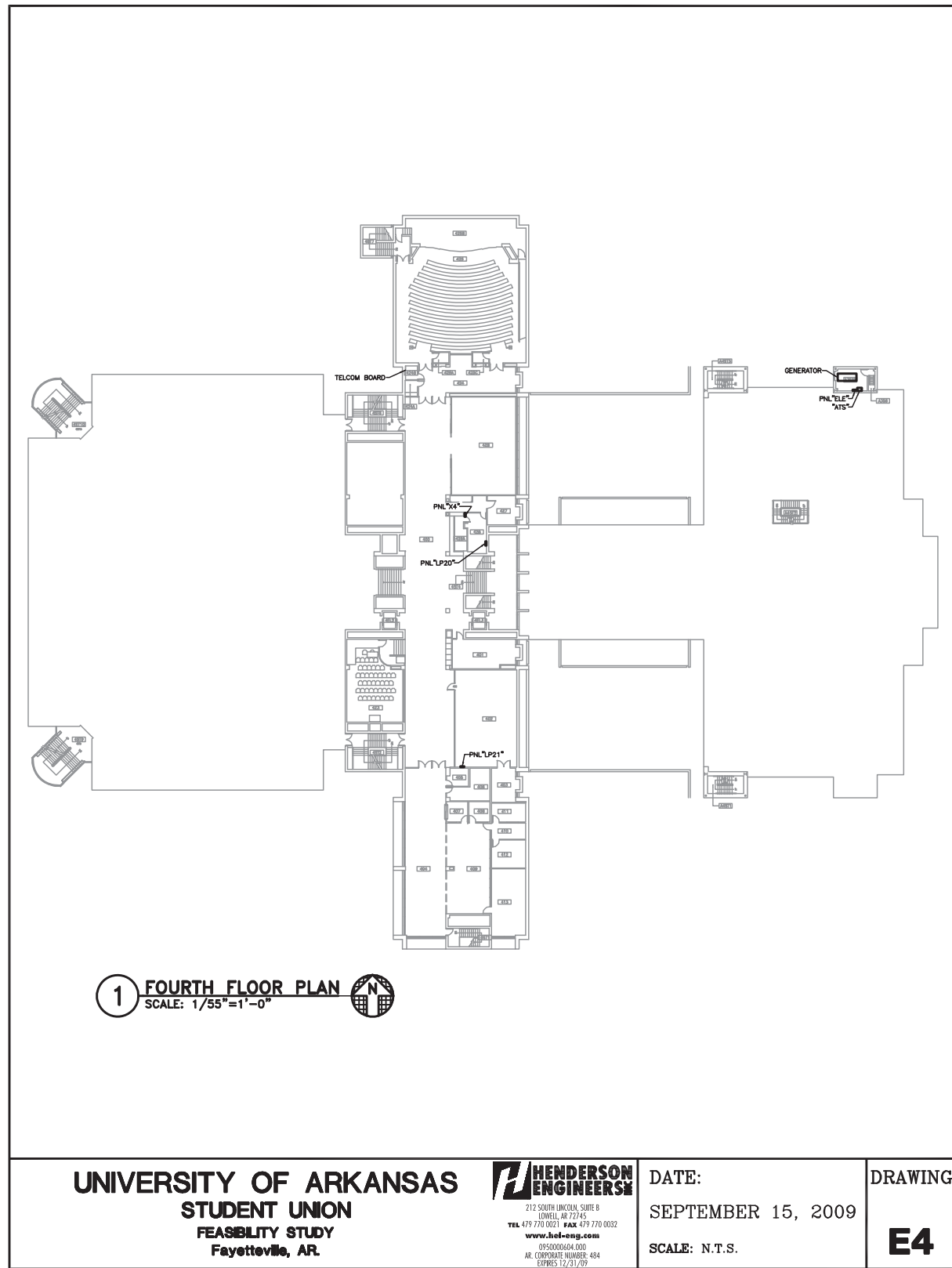
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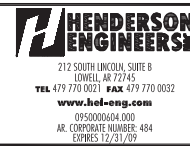


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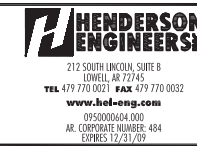
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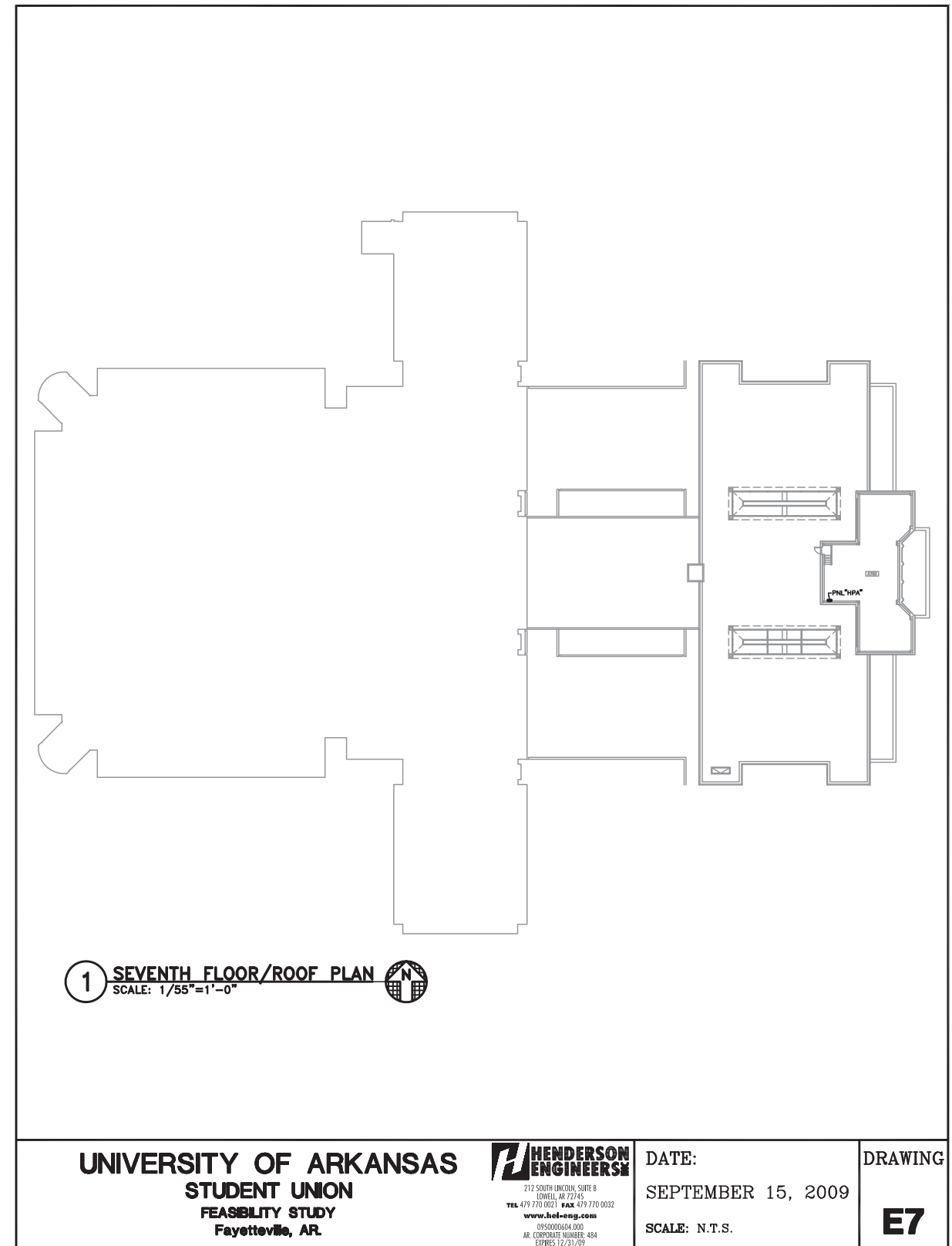
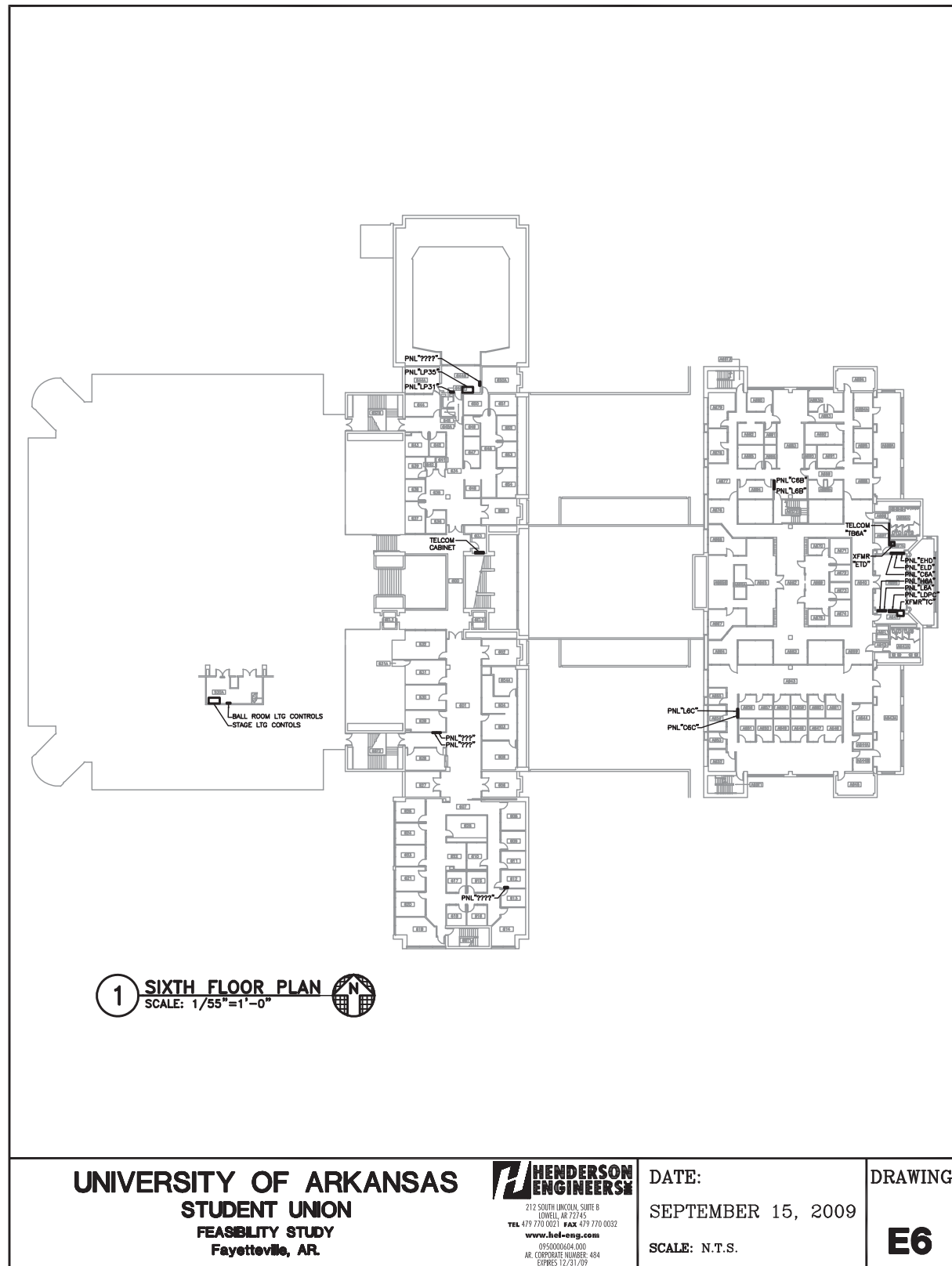
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Appendix D.6:
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APPENDIX D:
SUMMARY OF MAJOR ELECTRICAL EQUIPMENT

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION							
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS	
Power	1st Floor Level; Rm #109 (Main Mech/Electrical room)	MDB	Zinsco distribution Switchboard and Motor Control Center with integral Transformer. Total of 13-sections; comprised of Main Switch, 480v distribution, 480v Motor Controls, and 208v distribution. Retro fitted with SQ-D power logic monitor.	Appears to serve the entire facilities electrical service requirements.	Original construction from 1969	Manufacturer is no longer in business, thus the availability of replacement parts is limited. Due to the design this equipment must be shut down prior to adding or removing devices, although opening any of the "Pringle" switches is not recommended due to the probability of not being able to close them again without problems or damage. Superficially this equipment appears to be in fair condition considering it's age.	
		MDB section #1	Zinsco switchboard (480/277v 3ph 4w); 3000amp rated section	3000amp Fused Switch (mfg by Pringle), appears to serve as the buildings main service disconnect.			
		MDB section #2	Zinsco switchboard (480/277v 3ph 4w); 3000amp supply / 1200amp rated section	600a FS serves "SDBB", 400a FS serves "SDBA"			
		MDB section #3	Zinsco switchboard (480/277v 3ph 4w); 1200amp supply / 1000amp rated section	600a FS serves "MDB1" (section #4 of MDB), 400a FS serves "MCC1" (Motor Control Center section #5, #6, #7, and #8 of MDB), and 1200a FS (mfg by Pringle) serves "1000KVA TRANSFORMER" (section #9 of MDB).			
		MDB section #4 (MDB1)	Zinsco switchboard (480/277v 3ph 4w); 600amp supply / 600amp rated section	400a FS serves panel "LPC", 400a FS serves panel "LPD", 60a FS serves panel "LPA", 60a FS serves panel "LPH", 60a FS serves panel "LPL", 60a FS serves unidentified load, 60a FS serves panel "LPK", and 60a FS serves panel "LPM".			
		MDB section #5 (MCC1)	Zinsco Motor Control Center (480v 3ph 3w); 300amp rated section	Bucket #1 serves 75hp "C.W. PUMP P-1", Bucket #2 serves "AH #7".			
		MDB section #6 (MCC1)	Zinsco Motor Control Center (480v 3ph 3w); 300amp rated section	Bucket #1 serves 7-1/2hp "R.A. FAN #1", Bucket #2 serves "rm 402-2", Bucket #3 serves 30hp "A.H. UNIT #2", Bucket #4 serves "AIR HANDLING UNIT #3".			
		MDB section #7 (MCC1)	Zinsco Motor Control Center (480v 3ph 3w); 300amp rated section	Bucket #1 serves 5hp "R.A. FAN #2", Bucket #2 serves 5hp "R.A. FAN #3", Bucket #3 serves 5hp "WATER PUMP #P-3", Bucket #4 serves 5hp "WATER PUMP #P-2", and Bucket #5 serves 50hp "A.H. UNIT #1".			
		MDB section #8 (MCC1)	Zinsco Motor Control Center (480v 3ph 3w); 300amp rated section	Bucket #1 serves 5hp "C.R. PUMP #P-5A", Bucket #2 serves 5hp "C.R. PUMP #P-5B", Bucket #3 serves 10hp "ELEVATOR #2", Bucket #4 serves 3/4hp "C.R. PUMP #P-8B".			
		MDB section #9	Zinsco Transformer type HFUTO (480v-208Y/120v 3ph 4w) 1000kva	Serves "MDB2" (208v distribution sections #10, #11, #12, and #13 of MDB).			
		MDB section #10 (MDB2)	Zinsco switchboard (208/120v 3ph 4w); 3000amp supply / 1200amp rated section	600a FS serves panel "LP34", 400a FS serves panel "LP35", 400a FS serves panel "KPLA", and 400a FS serves panel "KPLF".			
		MDB section #11 (MDB2)	Zinsco switchboard (208/120v 3ph 4w); 3000amp supply / 1600amp rated section	400a FS serves panel "KPLB", 400a FS serves panel "LP22", 200a FS serves panel "LPTF", 200a FS serves panel "KPLD", and 200a FS serves panel "KPLE".			
		MDB section #12 (MDB2)	Zinsco switchboard (208/120v 3ph 4w); 3000amp supply / 800amp rated section	200a FS serves panel "LPG", 200a FS serves panel "LP21", 200a FS serves panel "LP33", 200a FS serves panel "LP23", 200a FS serves panel "LP15", and 200a FS serves panel "LP5".			
MDB section #13 (MDB2)	Zinsco switchboard (208/120v 3ph 4w); 3000amp supply / 800amp rated section	100a FS serves panel "X", 100a FS serves panel "C5A", 100a FS serves panel "LP3", 60a FS serves undefined load, 30a FS serves "VEG COOLER", 30a FS serves "COOLER", 30a FS serves "BAKERY COOLER", 100a FS serves panel "LPTE", 100a FS serves panel "LP1", 100a FS serves panel "LP25", 100a FS serves panel "LP36", 60a FS serves panel "LP38", 30a FS serves "DAIRY COOLER", 30a FS serves "SPARE", 30a FS serves undefined load, 100a FS serves panel "LP3A", 200a FS serves panel "L1A", and 200a FS serves panel "KPLC".					
Power	1st Floor Level; Rm #109 (Main Mech/Electrical room)	Remote Main Switch for HDBA	GE Spectra series Enclosed Disconnect (480v 3ph 4w) 1200amp rated disconnect.	1200a Fused Switch serves "HDBA".	Appears to be from 1998 Renovation	From initial investigation it appears that this equipment is fed directly from MDB, most likely tapped from the load side buss in section #1. Superficially this equipments appears to be in good functional condition.	
Power	1st Floor Level; Rm #109 (Main Mech/Electrical room)	Remote TVSS for HDBA	Current Technology DP Plus TVSS, status watch, dignostic monitoring	TVSS protection for "HDBA".	Appears to be from 1998 Renovation	Superficially this equipments appears to be in good functional condition.	
Power	1st Floor Level; Rm #109 (Main Mech/Electrical room)	LP1A	SQ-D QO Load Center 1-section 18-circuit 208/120v 3ph 4w 100a MLO panel.	Serves various kitchen freezer loads	Undetermined	Has (1) 2-pole space and (2) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good functional condition.	

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SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Power	1st Floor Level, Rm #109 (Main Mech/Electrical room)	LP1	Zinsco 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local miscellaneous and mechanical loads.	Original construction from 1969	Has (1) 2-pole space and (2) 1-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	1st Floor Level, Rm #109 (Main Mech/Electrical room)	X	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves Fire Alarm and various egress lighting loads.	1998 Renovations	This panel is backed up by the generator (located in this room) via local transfer switch to serve the emergency power requirements. Has (2) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	1st Floor Level, Rm #109 (Main Mech/Electrical room)	Generator Transfer Switch	Onan Transfer Switch model #LTD100-4 / 8596B rated at 208/120v 3ph 4w 100amps. Nema-1 hinged enclosure.	Serves panel "X".	Original construction from 1969	This transfer switch is served from the generator located in this room with #4awg copper conductors. Superficially this equipments appears to be in functional condition considering its age.
Power	1st Floor Level, Rm #109 (Main Mech/Electrical room)	HDBA	GE Spectra series APN Plug-In style 1-section 480/277v 3ph 4w 1200a MLO panelboard.	800/3 serves panel "HDPB", 450/3 serves transformer "TA", 60/3 serves "AHU-6 SUPPLY FAN", and 20/3 serves "AHU-6 RETURN FAN".	1998 Renovations	Has 15' of bussed space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	1st Floor Level, Rm #109 (Main Mech/Electrical room)	TA	GE type QL 480v-208Y/120v 3ph 4w 300kva transformer.	Serves "LDPA"	1998 Renovations	Superficially this equipments appears to be in good functional condition.
Power	1st Floor Level, Rm #109 (Main Mech/Electrical room)	LDPA	GE Spectra series APN Plug-In style 1-section 208/120v 3ph 4w 1200a MCB panelboard.	150/3 serves panel "L2A", 200/3 serves panel "L3G", 200/3 serves panel "LPTA", 200/3 serves panel "LPTB", 200/3 serves panel "LPTC", 100/3 serves panel "LPTD", 150/3 serves panel "LPTG", and 300/3 serves panel "L5A".	1998 Renovations	Has 12' bussed space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	1st Floor Level, Rm #106 (Maint./Storage room)	C1A	Cutler Hammer PRL1A series 1-section 30-circuit 208/120v 3ph 4w 200% rated neutral 100a MLO panelboard with integral Current Technology TVSS.	Serves various local Isolated ground receptacles.	1998 Renovations	Has (2) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	1st Floor Level, Rm #106 (Maint./Storage room)	L1A	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	100/3 serves panel "C1A", additional 20/1 circuit breakers serve various local receptacles.	1998 Renovations	Has (1) 3-pole space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	1st Floor Level, Rm #106 (Maint./Storage room)	LP3A	SQ-D QO Load Center 1-section 42-circuit 208/120v 3ph 4w 100a MLO panel.	Serves various local plug loads.	Undetermined	Has (1) 1-pole space to serve additional future load. Equipment appears to be from around 1980 but documentation could not be located to support this. Superficially this equipments appears to be in fair condition.
Power	1st Floor Level, Rm #106 (Maint./Storage room)	LP3	Zinsco 1-section 42-circuit 208/120v 3ph 4w 100a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Has no spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	1st Floor Level, Rm #106 (Maint./Storage room)	LP2	Zinsco 1-section 18-circuit 208/120v 3ph 4w 50a MCB panelboard with integral line-side control contactor.	Serves various local lighting loads.	Original construction from 1969	Has (1) 1-pole space to serve additional future load. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	1st Floor Level, Rm #106 (Maint./Storage room)	LPA	Zinsco 1-section 20-circuit 480/277v 3ph 4w 30a MCB panelboard with line-side contactor.	Serves various local lighting loads.	Original construction from 1969	Has (1) 2-pole space and (2) 3-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Rm #207 (Union Hair Care)	LPTD	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Tenant space loads.	2001 Alterations	Has (6) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	2nd Floor Level, First Security Bank	LPTC	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Tenant space loads.	2001 Alterations	Current configuration and condition of equipment could not be assessed due to restricted access in this location.
Power	2nd Floor Level, First Security Bank	LPTB	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Tenant space loads.	2001 Alterations	Current configuration and condition of equipment could not be assessed due to restricted access in this location.
Power	2nd Floor Level, Rm #209 (Charwell Administration)	LPTA	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Tenant space loads.	2001 Alterations	Has (6) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	2nd Floor Level, Rm #212 (Flower Shop Tenant)	LPT E	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Tenant space loads.	2001 Alterations	Current condition of equipment could not be assessed due to restricted access in this location.
Power	2nd Floor Level, Rm #213B (Union Copy Center)	LPT F	Cutler Hammer PRL1A series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Tenant space loads.	2001 Alterations	Has no space to serve additional future loads. Superficially this equipments appears to be in good condition.

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Power	2nd Floor Level, Rm #202 (Mech/Elec room)	SDBA	Zinsco Switchboard and Motor Control Center with integral Transformer. Total of 4-sections; comprised of 480v Distribution/Motor Controls and 208v distribution.	Serves as one of the original buildings remote distribution boards.	Original construction from 1969	Manufacturer is no longer in business, thus the availability of replacement parts is limited. Due to the design this equipment must be shut down prior to adding or removing devices. Superficially this equipment appears to be in fair condition considering its age.
		SDBA section #1 (SWB/MCC)	Zinsco Motor Control Center (480v 3ph 4w); 400amp rated section	200a FS serves panel "LPF", 60a FS serves panel "LPG", 60a FS serves panel "LPN", 60a FS serves "ELEV 1", 60a FS serves "SPARE", and 100a FS serves "AHU #4".		
		SDBA section #2 (SWB/MCC)	Zinsco Motor Control Center (480v 3ph 4w); 400amp rated section	30a FS serves "SPARE", 30a FS serves "AHU-9", 30a FS serves "CR PUMP-7", 30a FS serves "CR PUMP-7", 30a FS serves "FAN #4", 30a FS serves "PUMP #4", and 200a FS serves "100KVA TRANSFORMER".		
		SDBA section #3	Zinsco Transformer type HFWTO (480v-208Y/120v 3ph 4w) 100kva	Serves 208v distribution sections #4 of "SDBA".		
		SDBA section #4 (SWB)	Zinsco switchboard (208/120v 3ph 4w); 200amp supply / 200amp rated section	100/3 CB serves UNDEFINED LOAD, 100a FS serves panel "LP9A", 100a FS serves panel "LP39", 100a FS serves panel "LP9", 200a FS serves panel "LP32", and 200a FS serves panel "LP10".		
Power	2nd Floor Level, Rm #202 (Mech/Elec room)	LPG	Zinsco 1-section 20-circuit 480/277v 3ph 4w 100a MLO panelboard.	Serves exterior lighting under plaza bridge.	Original construction from 1969	Has (1) 1-pole space and (3) 3-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Rm #202 (Mech/Elec room)	LP10	Zinsco 1-section split buss 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local Lighting and Plug loads.	Original construction from 1969	Has no spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Rm #203 (Hallway)	LP9	Zinsco 1-section 42-circuit 208/120v 3ph 4w 70a MCB panelboard.	Serves various local Display Lighting and Plug loads.	Original construction from 1969	Has (1) 1-pole space and (2) 2-pole spaces to serve additional future loads, missing blank plates from these spaces. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Rm #203 (Hallway)	LPF	Zinsco 1-section 18-circuit 480/277v 3ph 4w 100a MCB panelboard.	Serves various local Lighting loads.	Original construction from 1969	Has (2) 1-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Rm #201E (Razorback Shop Storage)	LP9A	SQ-D QO Load Center 1-section 30-circuit 208/120v 3ph 4w 100a MCB panel.	Serves various local tenant space loads.	Undetermined	Has (2) 2-pole spaces to serve additional future loads. Equipment appears to be installed prior to 1998 renovations but documentation could not be located to identify exact age. Superficially this equipments appears to be in fair condition.
Power	2nd Floor Level, Rm #215A (Janitor rm)	LZA	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local Cove Lighting and Plug loads.	1998 Renovations	Has no space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	2nd Floor Level, Rm #215A (Janitor rm)	ELA	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 150a MCB panelboard.	60/3 serves panel "ELC", additional 20/1 circuit breakers serve smoke dampers, emergency lighting, and other various critical.	1998 Renovations	This panel is backed up by the exterior emergency generator. Has (1) 1-pole space and (1) 2-pole space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	2nd Floor Level, Rm #215A (Janitor rm)	ETA	GE type QL 480v-208Y/120v 3ph 4w 45kva transformer.	Serves panel "ELA"	1998 Renovations	Superficially this equipments appears to be in good functional condition.
Power	2nd Floor Level, Rm #215A (Janitor rm)	EHA	GE A-Series 1-section 24-circuit 480/277v 3ph 4w 125a MLO panelboard.	70/3 serves transformer "ETA", additional 20/1 circuit breakers serve emergency egress lighting.	1998 Renovations	This panel is backed up by the exterior emergency generator. Has (1) 1-pole, (1) 2-pole, and (3) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	2nd Floor Level, Rm #215A (Janitor rm)	LP7	Zinsco 1-section 12-circuit 208/120v 3ph 4w 30a MCB panelboard with integral line-side control contactor.	Serves various local lighting loads.	Original construction from 1969	Has (2) 1-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Kitchen outside of Rm #224	LP6	Zinsco 1-section 42-circuit 208/120v 3ph 4w 125a MCB panelboard.	Serves various local kitchen plug loads.	Original construction from 1969	Has no space to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level, Kitchen outside of Rm #224	LPC	Zinsco 1-section 42-circuit 480/277v 3ph 4w 200a MCB panelboard.	Serves various local kitchen equipment loads.	Original construction from 1969	Has no space to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Power	2nd Floor Level; Kitchen outside of Rm #224	LPD	Zinsco 1-section 42-circuit 480/277v 3ph 4w 225a MCB panelboard.	Serves various local lighting and kitchen equipment loads.	Original construction from 1969	Has (2) 2-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Kitchen outside of Rm #224	LP38	Zinsco 1-section 30-circuit 208/120v 3ph 4w 30a MCB panelboard.	Serves various local kitchen equipment loads.	Original construction from 1969	Has (1) 1-pole and (2) 3-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Rm #224 (Kitchen Office)	LP5	Zinsco 1-section 42-circuit 208/120v 3ph 4w 150a MCB panelboard.	Serves various local kitchen loads.	Original construction from 1969	Has (1) 3-pole space to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Rm #228 (Trash rm)	LP18	Zinsco 1-section 42-circuit 208/120v 3ph 4w 70a MCB panelboard.	Serves limited bookstore lighting and various plug loads.	Original construction from 1969	Has no space to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Rm #228 (Trash rm)	LP8	Zinsco 1-section 42-circuit 208/120v 3ph 4w 125a MCB panelboard.	60/3 serves panel "A", additional 20/1 circuit breakers serve various local plug loads.	Original construction from 1969	Has no space to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Rm #228 (Trash rm)	LPE	Zinsco 1-section 30-circuit 480/277v 3ph 4w 50a MCB panelboard.	Serves Bookstore Lighting.	Original construction from 1969	Has (2) 3-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Rm #228 (Trash rm)	LPJ	Zinsco 1-section 20-circuit 480/277v 3ph 4w 40a MCB panelboard.	Serves Bookstore Lighting.	Original construction from 1969	Has (3) 1-pole and (2) 3-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	2nd Floor Level; Rm #227 (Bookstore storage rm)	A	SQ-D NQOD series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various Bookstore plug loads.	Undetermined	Has (1) 2-pole and (8) 3-pole spaces to serve additional future loads. Equipment appears to be installed after the 2001 alterations but documentation could not be located to identify exact age. Superficially this equipments appears to be in excellent condition.
Power	3rd Floor Level; Rm #321 (Mens Restroom Alcove)	LP19	Zinsco 1-section 30-circuit 208/120v 3ph 4w 70a MCB panelboard.	Serves Lobby and Corridor lighting.	Original construction from 1969	Has (2) 2-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	3rd Floor Level; Rm #321 (Mens Restroom Alcove)	ELC	GE A-Series 1-section 24-circuit 208/120v 3ph 4w 125a MLO panelboard.	Serves Fire Suppression, Smoke dampers, and various emergency egress lighting.	1998 Renovations	This panel is backed up by the exterior emergency generator. Has (2) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #314 (Hallway)	KLA	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 125a MLO panelboard.	Serves local food service equipment.	Undetermined	Has (1) 1-pole, (1) 2-pole, and (1) 3-pole space to serve additional future loads. Equipment appears to be installed during the 1998 renovations but documentation could not be located to identify exact age. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #317 (Hallway/Office)	KLE	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 125a MLO panelboard.	Serves local food service equipment.	Undetermined	Has (1) 1-pole and (3) 3-pole spaces to serve additional future loads. Equipment appears to be installed during the 1998 renovations but documentation could not be located to identify exact age. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	KPLF	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 400a MLO panelboard.	Serves local food service equipment.	1998 Renovations	Has no space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	LPH	Zinsco 1-section 20-circuit 480/277v 3ph 4w 20a MCB panelboard.	Serves lighting loads.	Original construction from 1969	Has (1) 3-pole space to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	LP15	Zinsco 1-section split buss 42-circuit 208/120v 3ph 4w 125a MCB panelboard with integral line-side control contactor.	Serves various local lighting loads.	Original construction from 1969	Has (2) 1-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	L3G	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	100/3 serves panel C3C, additional branch circuits serve various local plug loads.	1998 Renovations	Has (1) 1-pole, (1) 2-pole, and (1) 3-pole space to serve additional future loads. Superficially this equipments appears to be in good condition.

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Power	3rd Floor Level; Rm #320 (Food Service Prep)	C3C	GE A-Series 1-section 30-circuit 208/120v 3ph 4w 125a MLO panelboard with integral Current Technology TVSS.	Serves local Food court registers.	1998 Renovations	Has no space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	KPLE	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	100/3 serves pnel KLE, additional branch circuits serve various food service loads.	1998 Renovations	Has (1) 1-pole, (1) 2-pole, and (2) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	KPLD	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various food service loads (Wok space).	1998 Renovations	Has (1) 1-pole space to serve additional future load. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	KPLC	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various food service loads.	1998 Renovations	Has (1) 1-pole and (10) 3-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	KPLB	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various food service loads (Chick-Fil-A space)	1998 Renovations	Has no spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #320 (Food Service Prep)	KPLA	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various food service loads (Burger King space)	1998 Renovations	Has (2) 1-pole and (2) 2-pole spaces to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #325 (Mech/Elec room)	??	SQ-D QO Load Center 1-section 16-circuit 240/120v 1ph 3w 100a MLO panel.	Serves various local loads.	Undetermined	Has (2) 1-pole and (4) 2-pole spaces to serve additional future loads. Equipment appears to be installed after the 1998 renovations but documentation could not be located to identify exact age. Superficially this equipments appears to be in fair condition.
Power	3rd Floor Level; Rm #325 (Mech/Elec room)	LP37	Zinsco 1-section split buss 42-circuit 208/120v 3ph 4w 225a MLO panelboard with integral line-side control contactor.	Serves various local lighting and plug loads.	Original construction from 1969	Has (2) 1-pole spaces to serve additional future loads. Manufacturer is no longer in business, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering its age.
Power	3rd Floor Level; Rm #325 (Mech/Elec room)	2	SQ-D NQOD series 1-section 30-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local exterior lighting loads.	Undetermined	Has (1) 1-pole and (3) 3-pole spaces to serve additional future loads, missing (4) blank plates. Equipment appears to be installed after the 1981 remodel but documentation could not be located to identify exact age. Superficially this equipments appears to be in fair condition.
Power	3rd Floor Level; Rm #325 (Mech/Elec room)	SDBB	Zinsco Switchboard and Motor Control Center with integral Transformer. Total of 3-sections; comprised of 480v Distribution/Motor Controls and 208v distribution.	Serves as one of the original buildings remote distribution boards.	Original construction from 1969	Manufacturer is no longer in business, thus the availability of replacement parts is limited. Due to the design this equipment must be shut down prior to adding or removing devices. Superficially this equipment appears to be in fair condition considering it's age.
		SDBB section #1 (SWB/MCC)	Zinsco Motor Control Center (480v 3ph 4w); 400amp rated section	60a FS serves panel "LPE", 60a FS serves panel "LPJ", 30a FS serves "CR PUMP-6", 30a FS serves "AH UNIT #8", 30a FS serves "RA FAN #5", 30a FS serves "CR PUMP-6", 100a FS serves "AH UNIT #5", and 600a FS serves "225KVA TRANSFORMER".		
		SDBB section #2	Zinsco Transformer type HPWTO (480v-208Y/120v 3ph 4w) 225kva	Serves 208v distribution sections #3 of "SDBB".		
		SDBB section #3 (SWB)	Zinsco switchboard (208/120v 3ph 4w); 600amp supply / 600amp rated section	200a FS serves panel "LP37", 200a FS serves panel "LP20", 200a FS serves panel "LP8", 100a FS serves panel "LP26", 100a FS serves panel "LP18", 100a FS serves panel "LP19", 60a FS serves panel "LP30", 60a FS serves panel "LP31", 60a FS serves panel "LP28", 60a FS serves panel "LP29", 60a FS serves panel "LP7", 60a FS serves panel "LP27".		
Power	3rd Floor Level; Rm #A353	L3H	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local lighting and plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A356	L3F	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local tenant space loads (Grab & Go).	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A354	C3B	GE A-Series 2-section 84-circuit 208/120v 3ph 4w 400a MLO panelboard with integral Current Technology TVSS.	Serves Computer Center isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A354	L3D	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local tenant space loads (Computer).	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A357	HDPB	GE Spectra series 1-section 480/277v 3ph 4w 800a MCB panelboard.	100/3 serves panel "H3A", 400/3 serves transformer "TB", 100/3 serves "ELEVATOR", 225/3 serves panel "H3A", 300/3 serves transformer "TC", and 150/3 serves "Generator ATS".	1998 Renovations	Has 15' of bussed space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A357	H3A	1-section 42-circuit 480/277v 3ph 4w 125a MLO panelboard.	Serves various local lighting loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A342	TB	GE type QL 480v-208Y/120v 3ph 4w 300kva transformer.	Serves "LDPB"	1998 Renovations	Superficially this equipments appears to be in good functional condition.
Power	3rd Floor Level; Rm #A342	L3A	1-section 42-circuit 208/120v 3ph 4w 125a MLO panelboard.	Serves various local plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.

Appendix D.6: Union: MPE Facility Assessment

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Power	3rd Floor Level; Rm #A342	LDPB	GE Spectra series 1-section 208/120v 3ph 4w 1000a MCB panelboard.	200/3 serves panel "L3A", 100/3 serves panel "L3B", 150/3 serves panel "L3C", 150/3 serves panel "L3D", 150/3 serves panel "L3E", 150/3 serves panel "L3F", 100/3 serves panel "C3A", 400/3 serves panel "C3B", and 200/3 serves panel "L3H", (2) 100/3 CB.	1998 Renovations	Has 12" of bussed space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A342	L3B	1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard.	Serves various local plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A342	L3C	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local lighting and plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A342	C3A	GE A-Series 1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard with intergal Current Technology TVSS.	Serves local isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	3rd Floor Level; Rm #A348	L3E	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local tenant space loads (Coffee shop)	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	4th Floor Level; Rm #428	LP20	Zinsco 1-section 36-circuit 208/120v 3ph 4w 100a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	4th Floor Level; Rm #402	LP21	Zinsco 1-section 42-circuit 208/120v 3ph 4w 125a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	4th Floor Level; A356B (Mezz generator rm)	ELE	1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard.	Serves local generator support loads.	1998 Renovations	This panel is backed up by the exterior emergency generator. Superficially this equipments appears to be in good condition.
Power	4th Floor Level; A356B (Mezz generator rm)	ATS	Transfer Switch rated at 600v 3ph 4w 150amps.	Serves emergency power panels.	1998 Renovations	This transfer switch is served from the generator located in this room with #10awg copper conductors. Superficially this equipments appears to be in functional condition considering is age.
Power	5th Floor Level; Rm #523	C5A	GE A-Series 1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard with intergal Current Technology TVSS.	50/3 serves panel "C5B", additional branch circuits serve local isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #523	LP33	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	100/3 serves dimmer panel "DPA", additional branch circuits serves various local lighting loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #523	L6E	1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard.	Serves various local plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #523	LP36	Zinsco 1-section 12-circuit 208/120v 3ph 4w 70a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #523	LPL	Zinsco 1-section 20-circuit 480/277v 3ph 4w 40a MCB panelboard.	Serves various local lighting loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #521	LP23	Zinsco 1-section 42-circuit 208/120v 3ph 4w 125a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #521	LP22	Zinsco 1-section 30-circuit 208/120v 3ph 4w 200a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #521	LPK	Zinsco 1-section 20-circuit 480/277v 3ph 4w 40a MCB panelboard.	Serves various local lighting loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #501	L5A	1-section 42-circuit 208/120v 3ph 4w 400a MLO panelboard.	Serves various local HVAC loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #501	L5B	1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard.	Serves various local HVAC loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #518	LPM	Zinsco 1-section 20-circuit 480/277v 3ph 4w 30a MCB panelboard.	Serves various local lighting loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #518	C5B	GE A-Series 1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard with intergal Current Technology TVSS.	Serves local isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #518	LP26	Zinsco 1-section 42-circuit 208/120v 3ph 4w 90a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #518	LP27	Zinsco 1-section 42-circuit 208/120v 3ph 4w 30a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #518	LP28	Zinsco 1-section 42-circuit 208/120v 3ph 4w 30a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
	5th Floor Level; Rm #518	LP29	Zinsco 1-section 42-circuit 208/120v 3ph 4w 30a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
	5th Floor Level; Rm #518	LP30	Zinsco 1-section 42-circuit 208/120v 3ph 4w 20a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	5th Floor Level; Rm #518	ELB	1-section 24-circuit 208/120v 3ph 4w 30a MCB panelboard.	Serves local egress lighting loads.	1998 Renovations	This panel is backed up by the exterior emergency generator. Superficially this equipments appears to be in good condition.
Power	5th Floor Level; Rm #518	EHB	1-section 18-circuit 208/120v 3ph 4w 125a MLO panelboard.	Serves local egress lighting loads.	1998 Renovations	This panel is backed up by the exterior emergency generator. Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #644B	LP31	Zinsco 1-section 20-circuit 208/120v 3ph 4w 50a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	6th Floor Level; Rm #601	LP32	Zinsco 1-section 42-circuit 208/120v 3ph 4w 125a MCB panelboard.	Serves various local plug loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	6th Floor Level; Rm #601 (Hallway)	LPN	Zinsco 1-section 18-circuit 480/277v 3ph 4w 30a MCB panelboard.	Serves various local lighting loads.	Original construction from 1969	Manufacturer is no longer in bussiness, thus the availability of replacement parts is limited. Superficially this equipments appears to be in fair condition considering is age.
Power	6th Floor Level; Rm #612	LP39	1-section 30-circuit 208/120v 3ph 4w 100a MCB panelboard.	Serves various local plug loads.	1981 Remodel	Superficially this equipments appears to be in fair condition considering is age.
Power	6th Floor Level; Rm #A643 (Hallway)	L6C	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A643 (Hallway)	C6C	GE A-Series 1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard with intergal Current Technology TVSS.	Serves local isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A683 (Hallway)	C6B	GE A-Series 1-section 30-circuit 208/120v 3ph 4w 100a MLO panelboard with intergal Current Technology TVSS.	Serves local isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A683 (Hallway)	L6B	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A697A	ETD	GE type QL 480v-208Y/120v 3ph 4w 45kva transformer.	Serves panel "ELA"	1998 Renovations	Superficially this equipments appears to be in good functional condition.
Power	6th Floor Level; Rm #A697A	EHD	1-section 30-circuit 480/277v 3ph 4w 150a MCB panelboard.	100/3 serves panel "EHB", 40/3 serves transformer "ETD", additional branch circuits serve various local emergency lighting loads.	1998 Renovations	This panel is backed up by the exterior emergency generator. Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A697A	ELD	1-section 30-circuit 208/120v 3ph 4w 100a MCB panelboard.	50/3 serves panel "ELE", additional branch circuits serve various local emergency lighting and plug loads.	1998 Renovations	This panel is backed up by the exterior emergency generator. Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A697A	C6A	GE A-Series 1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard with intergal Current Technology TVSS.	Serves local isolated ground receptacles.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A641	H6A	1-section 30-circuit 480/277v 3ph 4w 125a MLO panelboard.	Serves various local lighting loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A641	L6A	1-section 42-circuit 208/120v 3ph 4w 225a MLO panelboard.	Serves various local plug loads.	1998 Renovations	Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A641	LDPC	GE Spectra series 1-section 208/120v 3ph 4w 600a MCB panelboard.	200/3 serves panel "L6A", 150/3 serves panel "L6B", 150/3 serves panel "L6C", 150/3 serves panel "C6A", 100/3 serves panel "C6B", 100/3 serves panel "C6C", and 100/3 serves panel "C5B".	1998 Renovations	Has 16" of bussed space to serve additional future loads. Superficially this equipments appears to be in good condition.
Power	6th Floor Level; Rm #A641	TC	GE type QL 480v-208Y/120v 3ph 4w 225kva transformer.	Serves "LDPC"	1998 Renovations	Superficially this equipments appears to be in good functional condition.
Power	7th Floor Level/Roof Top (Mechanical room)	HPA	1-section 30-circuit 480/277v 3ph 4w 225a MLO panelboard.	20/3 serves "PUMP P-2", 80/3 serves "AHU-1", 40/3 serves "AHU-3", 20/3 serves "PUMP P-3", 80/3 serves "AHU-2", and 60/3 serves "H6A".	1998 Renovations	Superficially this equipments appears to be in good condition.
Telecom	1st Floor Level; Rm #109 (Main Mech/Electrical room)	Telcom Cabinet	Telecommunications Cabinets (est. 91" wide) served by (4) communication multi-pair trunk lines.	Appears to serve as the buildings communications demark.	Original construction from 1969	Location of demark appears to have been established during the original 1969 construction with various modifications over the years. Exact age and capacity of this equipment could not be verified. Superficially this equipments appears to be in functional condition.
Telecom	1st Floor Level; Rm #114B	TB1	Data/Communications backboard (4x8)	Communications distribution	1998 Renovations	Capacity for future expansion could not be verified.
Telecom	2nd Floor Level; Rm #202 (Mech/Elec room)	Telcom Backboard	Data/Communications backboard	Communications distribution	Original construction from 1969	Capacity for future expansion could not be verified.
Telecom	3rd Floor Level; Rm #325 (Mech/Elec room)	Telcom Backboard	Data/Communications backboard	Communications distribution	Original construction from 1969	Capacity for future expansion could not be verified.

SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - STUDENT UNION						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Telecom	3rd Floor Level; Rm #A360 (addition)	TB3A	Data/Communications backboard	Communications distribution	1998 Renovations	Capacity for future expansion could not be verified.
Telecom	4th Floor Level; Rm #424B	Telcom Board	Data/Communications backboard	Communications distribution	Original construction from 1969	Capacity for future expansion could not be verified.
Telecom	5th Floor Level; Rm #523	Telcom Cabinet	Telecommunications cabinet	Communications distribution	Original construction from 1969	Capacity for future expansion could not be verified.
Telecom	5th Floor Level; Rm #518A	TB5	Data/Communications backboard	Communications distribution	1998 Renovations	Capacity for future expansion could not be verified.
Telecom	6th Floor Level; Rm #633	Telcom Cabinet	Telecommunications cabinet	Communications distribution	1981 Remodel	Capacity for future expansion could not be verified.
Telecom	6th Floor Level; Rm #A697 (addition)	TB6A	Data/Communications backboard	Communications distribution	1998 Renovations	Capacity for future expansion could not be verified.

D.7

FIELDHOUSE

MPE

Facility Assessment

Henderson Engineering, Inc.



UNIVERSITY OF ARKANSAS – MUSEUM (OLD FIELD HOUSE)
MEP CONDITIONS STUDY REPORT
SEPTEMBER, 2009

1. GENERAL

A. Building

1. The original building's exact year of construction appears to be in question due to the lack of construction documentation, but a general estimate would put the building constructed in the mid-1930s. Over the years, the building appears to have had various interior renovations, but still remains approximately 38,000 SF.
2. Building consists of 3 levels. The Level 1 (basement level) contains various offices and work spaces including the buildings main electrical room with utility services to them. Level 2 (main entrance lobby) is at grade level and consists of some offices and a large gallery area. Level 3 is mainly comprised of various office spaces.

2. SUMMARY

A. Mechanical/Plumbing

1. The mechanical system is comprised of window air conditioning units and radiant steam heating. The window units vary in age and condition and appear to be anywhere from brand new to older than 10 years. The steam heating system is in good condition and appears to have more than enough capacity to serve the building in its current configuration. The building is under ventilated and does not meet current codes. Any major renovation should include replacement of all of the mechanical systems.
2. The plumbing systems are in good condition. The only recommendation is that the existing plumbing fixtures be upgraded to more efficient fixtures. The water heater and recirculation pump appear to be adequately sized for the building in its current configuration.

B. Electrical

1. The electrical distribution components (i.e. switchboard, panel boards, and wiring) appear to be a mix of installations older than 25yrs to installations within the past couple years and reflect this in their overall condition. Overall the original electrical systems distribution components and any load center panel older than 25 years are beyond their intended life cycle and would allow very limited support of any future renovations. With this limited support would also come the challenges of maintaining, in some cases, near obsolete equipment in addition to the life-safety hazards associated with an aging electrical system. The newer switchboard and panels appear to have been done in a professional manner and should be able to support the respective portion of the building in its current arrangement but could be limited in effectively supporting any significant additional square footage added to the building.
2. The lighting fixtures typically have a dated appearance and in places provide minimally adequate lighting. Any significant renovations would dictate the replacement of many of the general illumination fixtures in order to meet current energy code requirements and the addition of emergency lighting throughout most of the building to meet current life-safety code requirements.
3. The Data/Communications system appears to have gone through various modifications over the years but its overall capacity for future additions could not be determined at this time.

3. MECHANICAL/PLUMBING SYSTEMS

A. HVAC Systems

1. The building does not have central air conditioning. The existing window air conditioning units do a marginal job of conditioning the office spaces. The large gallery (Room 204) is very warm and humid during the summer months. Any major renovations or additions would require the installation of air handling units with the capability of conditioning enough outside air to meet current code requirements for ventilation.
2. Steam is provided to the entire building from the University's central utility piping as it passes through the

building on Level One. The meter and pressure reducing station (PRV) are located in Mechanical Room 114. The combination of the various steam heating units does a good job of keeping the building comfortable in the winter. While the current steam heating system is in good condition, any major mechanical system improvements would probably replace it with a hydronic system for improved efficiency and ease of maintenance.

3. There are four wall-mounted, propeller exhaust fans mounted in the gables on each end of Room 204. Their capacities and conditions were unable to be determined during the site visit. They are manually operated.
4. The restrooms on each floor in the northeast corner of the building appear to be underventilated for the number of fixtures in each room. The remainder of the restrooms are adequately ventilated and meet current codes.
5. The building does not have any direct digital controls (DDC) for the mechanical systems. The mechanical systems are controlled by either non-programmable thermostats or manual switches. A DDC system should be considered as part of any major renovation or addition to the building to ensure efficient operation of the mechanical systems.

B. Plumbing Systems

1. A 3 inch domestic water main with parallel backflow preventers is located in Mechanical Room 114. This unit appears to be less than five years old and is in very good condition.
2. Domestic hot water is provided by a 40 gallon electric water heater and a recirculating pump which are also located in Mechanical Room 114.
3. The building's sanitary system was unable to be verified during the site visit.
4. In general, the plumbing fixtures appear to be in good condition. For improved water efficiency, the only recommendation would be to replace existing water closets and urinals throughout the building with low flow fixtures and to replace lavatories with low flow, sensor operated faucets.

4. ELECTRICAL SYSTEMS

A. Electric Service and Distribution

1. The building is served by 12,470 volt primary service with the primary transformers (located in dedicated transformer room on 1st floor level) providing 208Y/120 volt service power. This equipment appears to be in functional condition.
2. The 208/120 service serves switchboards "X1" and "X2" located in room #114 on 1st floor level. Switchboard "X1" appears to be original to the building and reflects this in its condition posing some hazardous conditions for future operation and maintenance. Switchboard "X2" appears to have been added sometime after switchboard "X1" so as to increase the buildings service capacity. Generally speaking "X2" appears to be in good functional condition and has capacity to serve future additional loads. Both of these switchboards serve as the building's main distribution, serving remote branch circuit panels throughout the building.
3. Each floor is served by various local 208Y/120v panelboards which appear to have adequately supported their various served loads. System components added in recent years appear to have been done in a professional manner and are in good functional condition. However, components original to the building or load center panels installed 25 years or more ago have already or will soon pose issues typical to operating and maintaining a dated and in some cases deteriorating electrical system.

B. Lighting

1. The building's interior lighting is mainly comprised of linear fluorescent, incandescent and track lighting. The entire 1st floor level including 2nd and 3rd floor offices utilize a lay-in or suspended style linear fluorescent light fixture, many (not all) of these have been retro fitted from T12 to more efficient T8 type lamps. The 2nd floor level gallery utilizes multiple rows of track lighting to light the space. While the buildings stairwells, 2nd floor Lobby, and 3rd floor hallway utilize single incandescent lamp "globe" fixtures for illumination. Typical foot-candles levels in the office type areas on average are +/- 40fc. Typical foot-candles levels in all other areas (excluding gallery) on average range from 30fc to 10fc depending on fixture placement and natural light contributions. Light levels in the Gallery appeared to be less than adequate in several locations mainly due to fixture placement and design. Generally all fixtures are operational but most show excessive signs of age in their overall condition. Many of the areas appear much drabber due to the surrounding furnishing finishes but would benefit with new more efficient type of fixtures installed in a very similar fashion.
2. The building's exterior egress appears adequately identified at each door with appropriate illuminated exit signage. However, the building's paths of egress do not appear to be supported with the minimum

emergency lighting as required by code, thus posing potential issues and problems during a power outage.

C. Data/Communications

1. The building's Communications system appears to enter through the basement level and terminate at the telephone backboard which then distributes to various device locations throughout the building. From limited scope of this system it is hard to judge the actual capacity and condition other than from its appearance to be a combination of original and more recent components working in conjunction to serve the buildings communication needs.

APPENDICES

APPENDIX A: MECHANICAL AND PLUMBING EQUIPMENT LOCATION PLANS

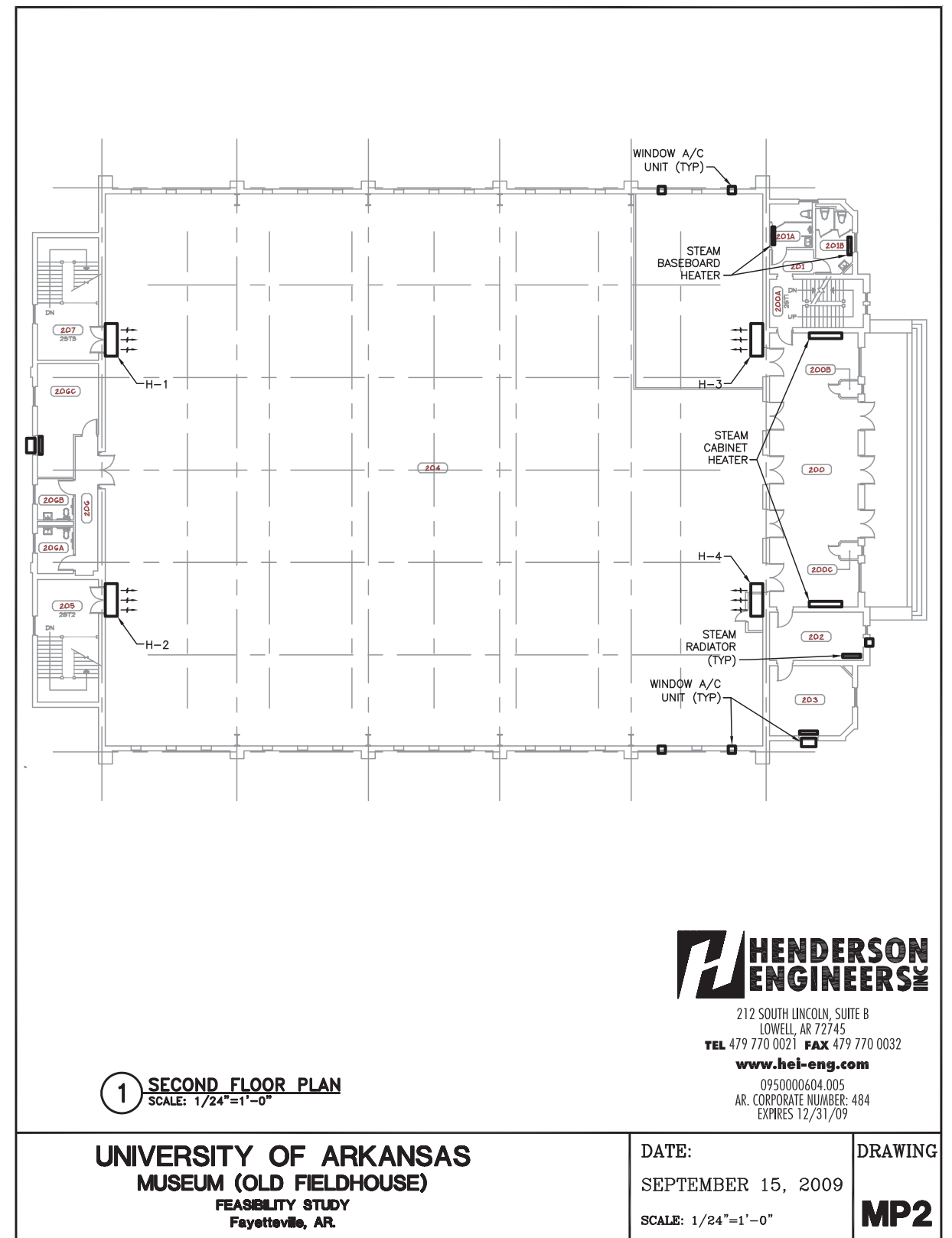
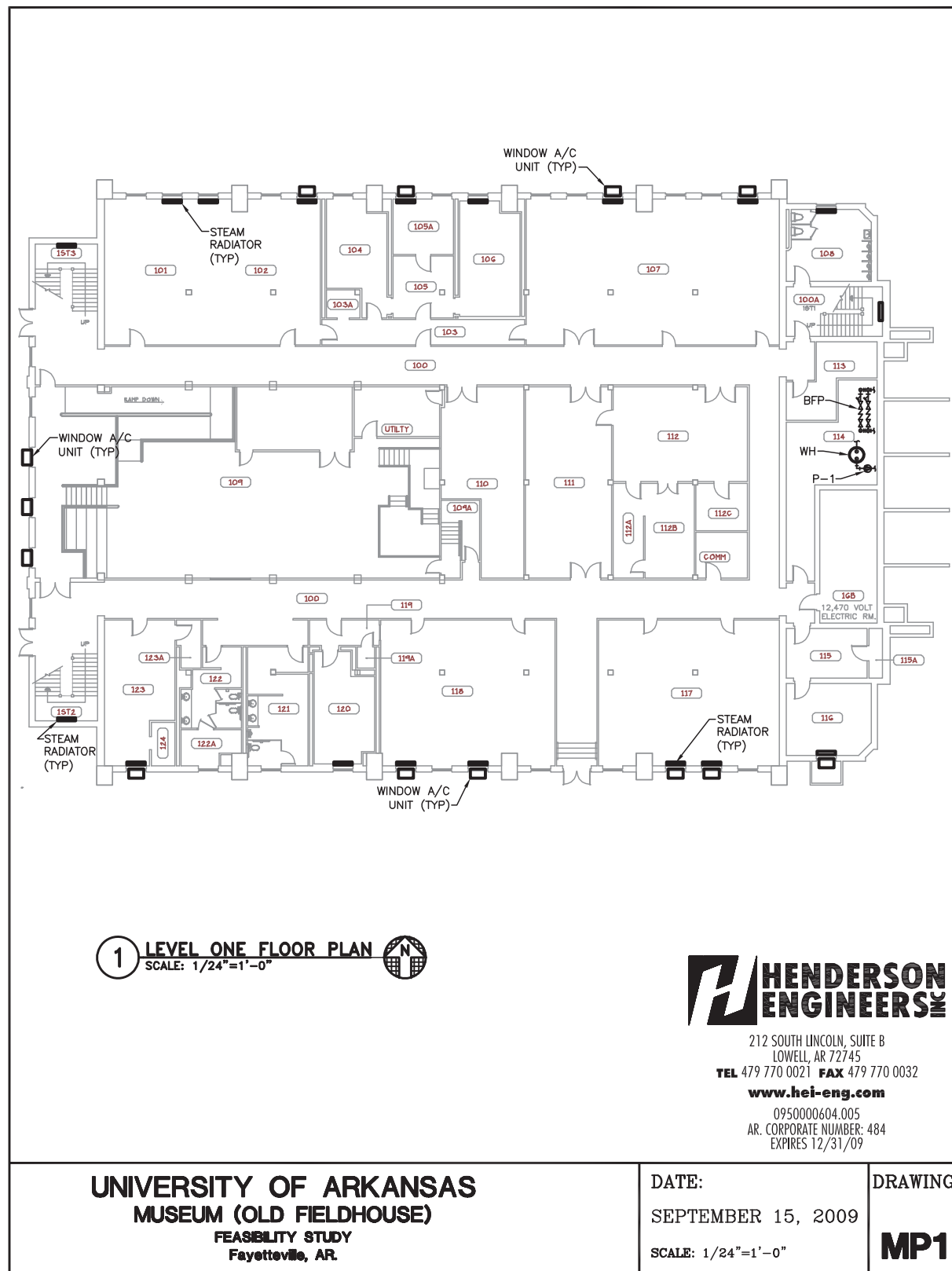
APPENDIX B: SUMMARY OF MAJOR MECHANICAL AND PLUMBING EQUIPMENT

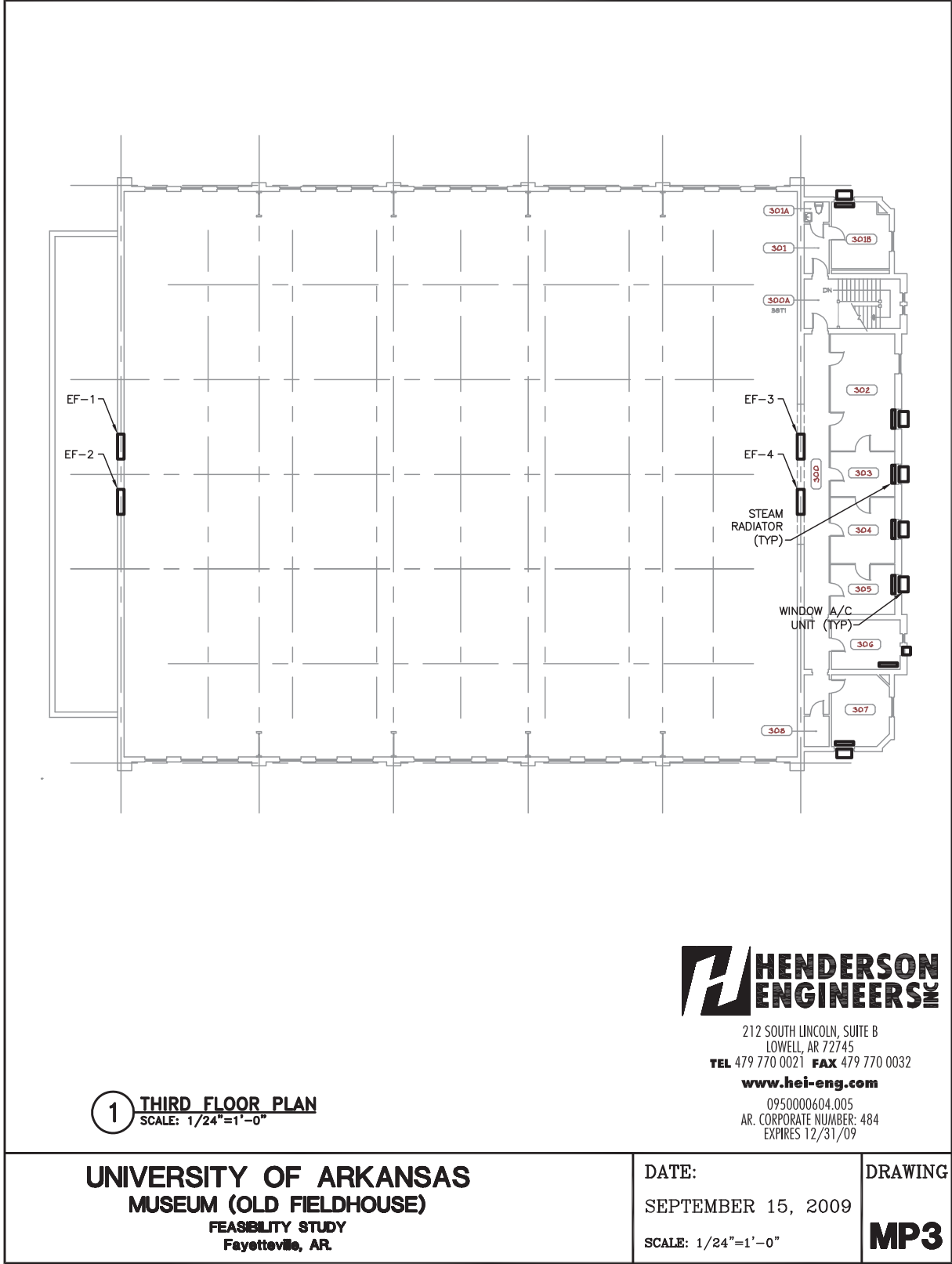
APPENDIX C: ELECTRICAL EQUIPMENT LOCATION PLAN

APPENDIX D: SUMMARY OF MAJOR ELECTRICAL EQUIPMENT

**APPENDIX A:
MECHANICAL AND PLUMBING EQUIPMENT
LOCATION PLANS**

Appendix D.7:
Fieldhouse: MPE Facility Assessment





**APPENDIX B:
SUMMARY OF MAJOR MECHANICAL AND
PLUMBING EQUIPMENT**

**UNIVERSITY OF ARKANSAS
MUSEUM (OLD FIELDHOUSE)
FEASIBILITY STUDY
Fayetteville, AR.**

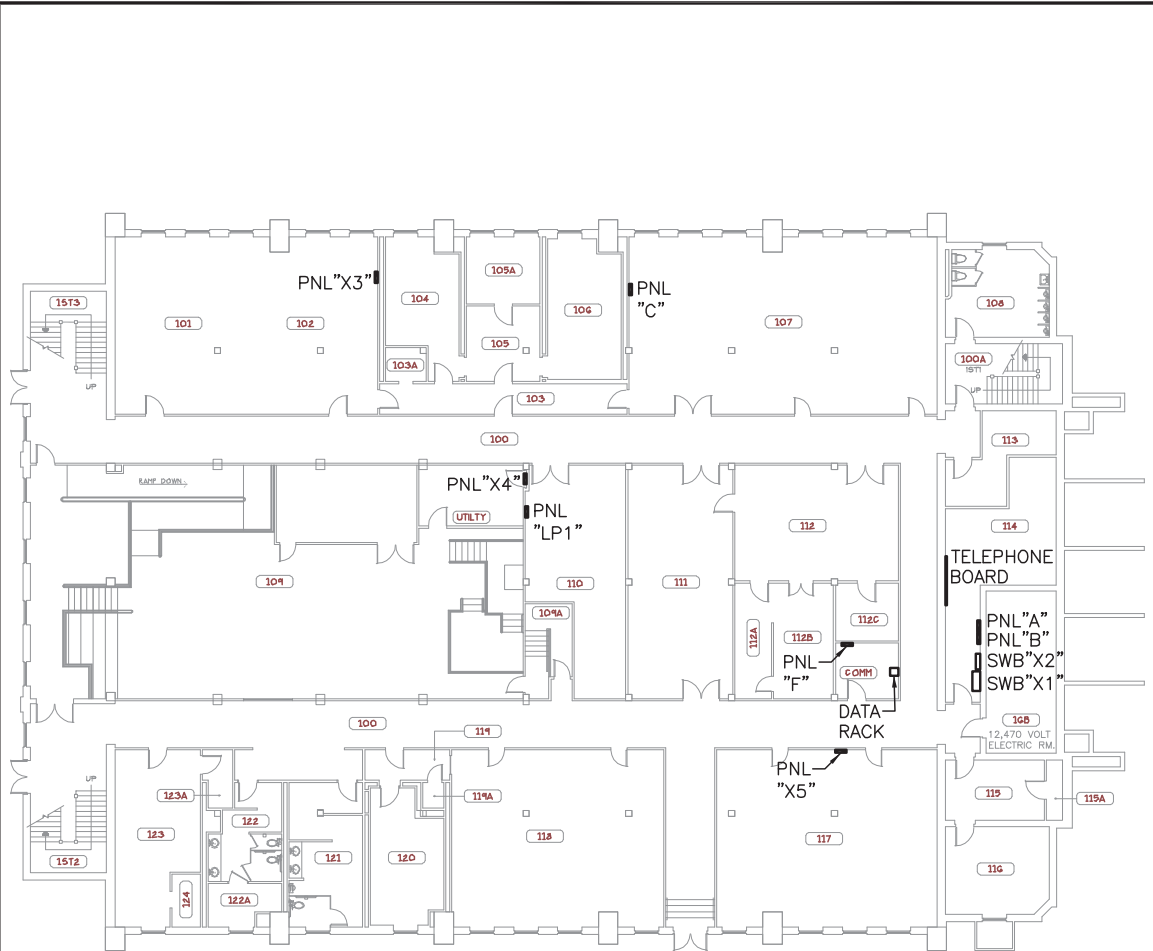
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SEPTEMBER 15, 2009
SCALE: 1/24"=1'-0"

DRAWING
MP3

212 SOUTH LINCOLN, SUITE B LOWELL, AR 72745 TEL 479 770 0021 FAX 479 770 0032 www.hei-eng.com

SUMMARY OF MAJOR MECHANICAL AND PLUMBING EQUIPMENT - MUSEUM (OLD FIELD HOUSE)						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Large Area Heaters	2nd Floor Level - Room 204 (Gallery)	H-1	Steam radiator with blower fan	Gallery	Appears to be +25yrs old	Tenant uses only two of these heaters to condition the space. Per tenant, one of the four heaters is not operational.
	2nd Floor Level - Room 204 (Gallery)	H-2	Steam radiator with blower fan	Gallery	Appears to be +25yrs old	
	2nd Floor Level - Room 204 (Gallery)	H-3	Steam radiator with blower fan	Gallery	Appears to be +25yrs old	
	2nd Floor Level - Room 204 (Gallery)	H-4	Steam radiator with blower fan	Gallery	Appears to be +25yrs old	
Large Exhaust Fans	3rd Floor Level - Room 204 (Gallery)	EF-1	Wall-mounted, propeller fan	Gallery	Unable to determine	Exhaust fans are controlled manually.
	3rd Floor Level - Room 204 (Gallery)	EF-2	Wall-mounted, propeller fan	Gallery	Unable to determine	
	3rd Floor Level - Room 204 (Gallery)	EF-3	Wall-mounted, propeller fan	Gallery	Unable to determine	
	3rd Floor Level - Room 204 (Gallery)	EF-4	Wall-mounted, propeller fan	Gallery	Unable to determine	
Domestic Water	1st Floor Level - Room 114 (Main Mechanical Room)	BFP	Reduced pressure zone backflow preventer	Entire building	Appears to be less than 5yrs old	Two 3" backflow preventers in parallel.
Domestic Hot Water	1st Floor Level - Room 114 (Main Mechanical Room)	WH	Rheem Model #81V40D, 40 gallon, 4.5kW water heater	Entire building	Appears to be 12yrs old	
	1st Floor Level - Room 114 (Main Mechanical Room)	P-1	Bell & Gossett Series 100 A90 recirculation pump	Entire building	Appears to be less than 5yrs old	

**APPENDIX C:
ELECTRICAL EQUIPMENT LOCATION PLAN**



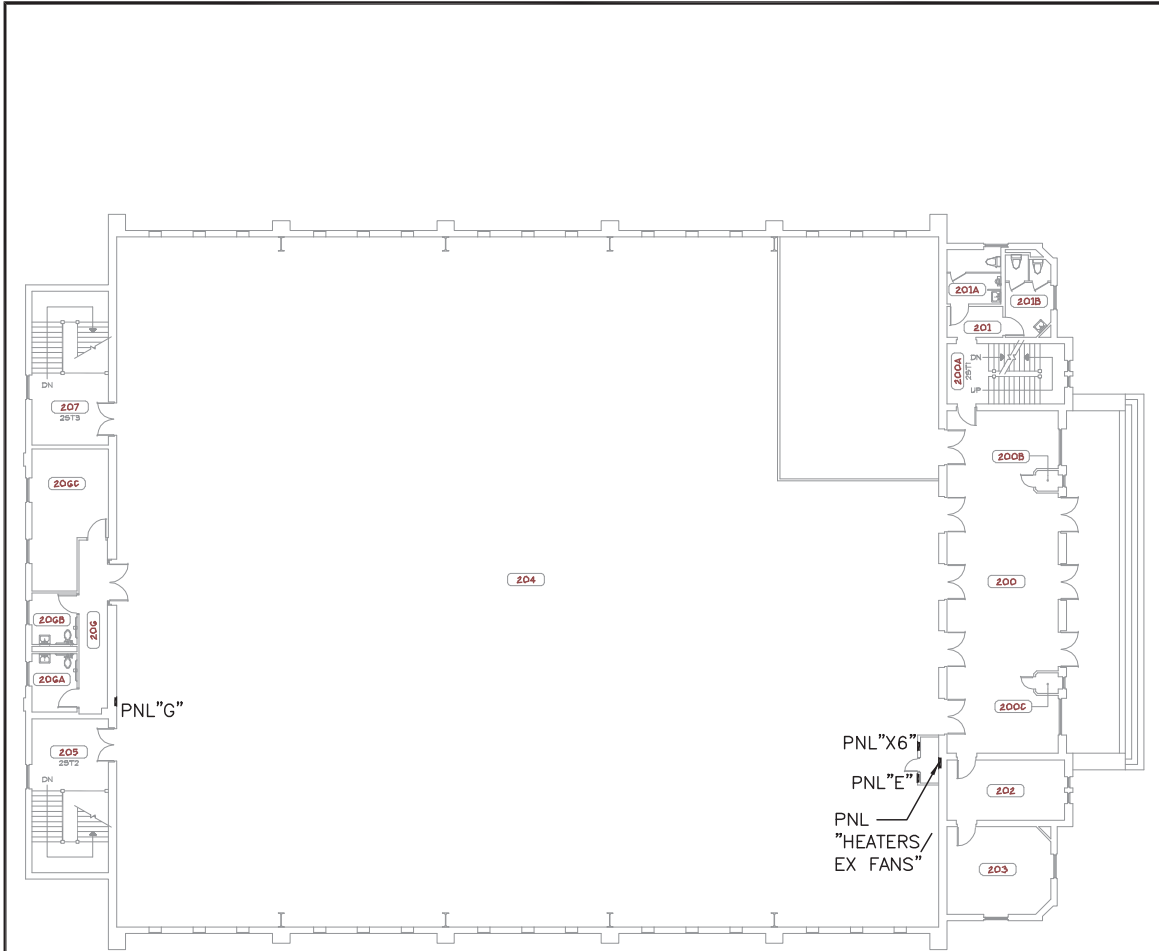
1 LEVEL ONE FLOOR PLAN
SCALE: 1/24"=1'-0"

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 MUSEUM (OLD FIELDHOUSE)
 FEASIBILITY STUDY
 Fayetteville, AR.

DATE:
 SEPTEMBER 15, 2009
 SCALE: 1/24"=1'-0"

DRAWING
E1



1 LEVEL TWO FLOOR PLAN
SCALE: 1/24"=1'-0"

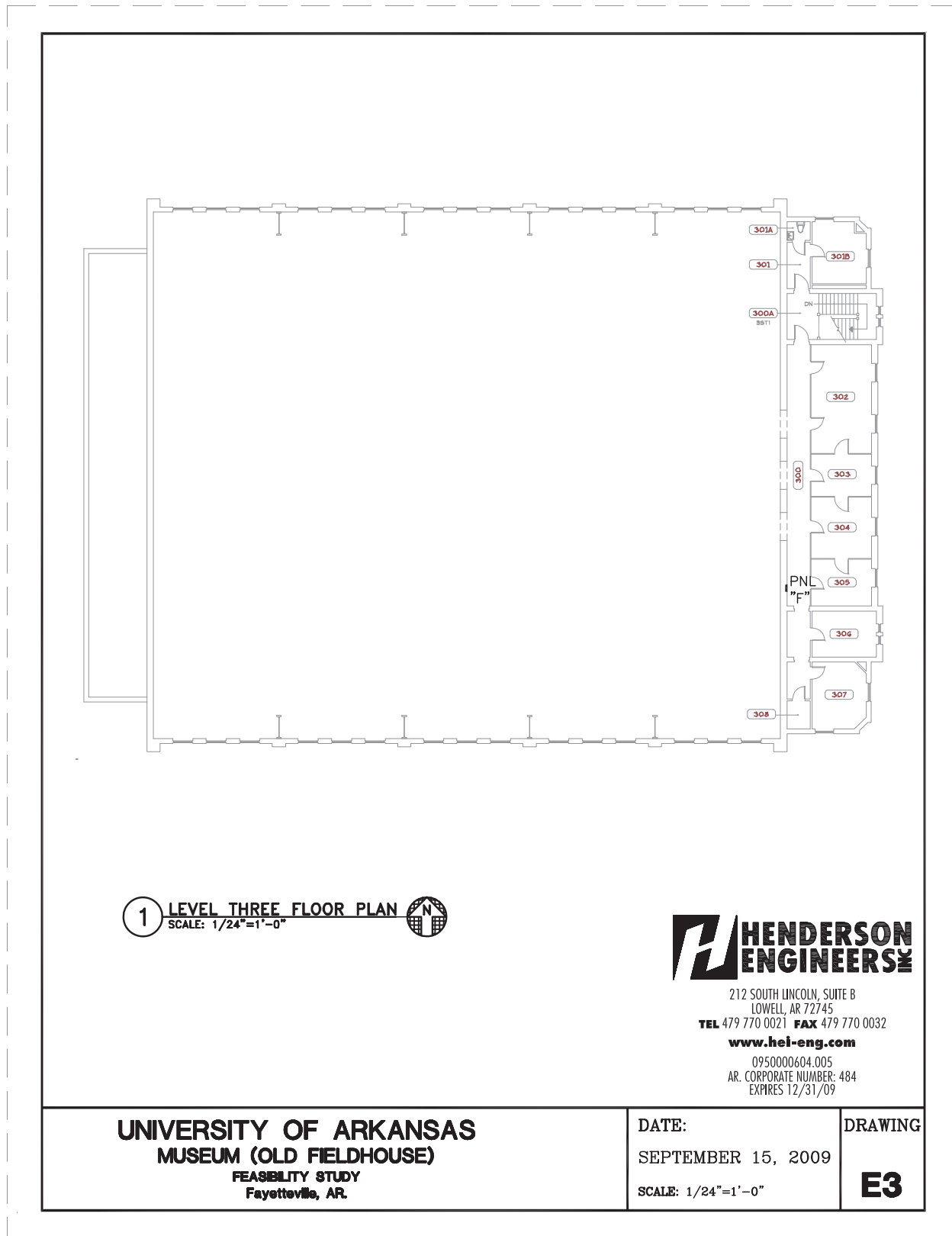
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 SCALE: 1/24"=1'-0"

DRAWING
E2

Appendix D.7:
Fieldhouse: MPE Facility Assessment



**APPENDIX D:
SUMMARY OF MAJOR ELECTRICAL EQUIPMENT**

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SUMMARY OF MAJOR ELECTRICAL EQUIPMENT - MUSEUM (OLD FIELD HOUSE)						
SYSTEM	LOCATION	DESIGNATION or MARK	DESCRIPTION	SERVES	AGE	COMMENTS
Power	1st Floor Level; Rm #114 (Main Electrical room)	Unlabeled Switchboard "X1"	Single Section 208/120v 3ph 4w 400amp rated buss with main fused switch. Square-D "QMB SAFLEX DISTRIBUTION"	Panel "A" (100/3), panel "B" (100/3), panel "C" (100/3), panel "F" 3rd floor (100/3), and other various undefined building loads.	Appears to be +25yrs old	Manufacturer discontinued this product line in early 1980s, thus the availability of replacement parts is limited. Overall this equipment appears to be in marginal condition.
Power	1st Floor Level; Rm #114 (Main Electrical room)	Unlabeled Switchboard "X2"	Single Section 208/120v 3ph 4w 400amp MCB, Square-D "HCM I-LINE"	Panel "D" (200/3), panel "E" (200/3), panel "F" 1st floor (200/3), and unidentified load (200/3).	Appears to be 10yrs old	Has (2) 3-pole spaces available to serve additional future loads. Overall this equipment appears to be in good functional condition.
Power	1st Floor Level; Rm #114 (Main Electrical room)	B	1-section 42-circuit 208/120v 3ph 4w 100a MLO. Square-D QO Load center panel.	Serves various local branch lighting and receptacle loads.	Appears to be +25yrs old	Has (1) 2-pole spaces available to serve additional future loads. Overall this equipment appears to be in fair functional condition.
Power	1st Floor Level; Rm #114 (Main Electrical room)	A	1-section 42-circuit 208/120v 3ph 4w 100a MLO. Square-D QO Load center panel.	Serves various local branch lighting and receptacle loads.	Appears to be +25yrs old	Overall this equipment appears to be in fair functional condition.
Power	1st Floor Level; Rm #107 (Flight Instrument Lab)	C	1-section 42-circuit 208/120v 3ph 4w 100a MLO. Square-D QO Load center panel.	Serves various local A/C units, branch lighting and receptacle loads.	Appears to be +25yrs old	Has (2) 1-pole spaces available to serve additional future loads. Contains multiple single pole tandem circuit breakers. Overall this equipment appears to be in fair functional condition.
Power	1st Floor Level; Rm #102	Unlabeled panel "X3"	1-section 20-circuit 240/120v 1ph 3w 100a MCB. Square-D QO Load center panel.	Serves various local branch receptacle loads.	Appears to be 5yrs old	Has (1) 1-pole space and (2) 2-pole spaces available to serve additional future loads. Overall this equipment appears to be in good functional condition.
Power	1st Floor Level; Rm #109 (utility closet in this room)	Unlabeled panel "X4"	1-section 24-circuit 208/120v 3ph 4w 100a MLO. Square-D NQOD panelboard.	Serves various local A/C units, branch lighting and receptacle loads.	Appears to be 5yrs old	Has (1) 1-pole space available to serve additional future loads. Overall this equipment appears to be in good functional condition.
Power	1st Floor Level; COMM Rm.	F	1-section 42-circuit 208/120v 3ph 4w 225a MLO. Square-D NQOD panelboard.	Serves unidentified panel in rm #117 (100/3) and local A/C units.	Appears to be 5yrs old	Has (2) 1-pole spaces, (1) 2-pole space and (10) 3-pole spaces available to serve additional future loads. Overall this equipment appears to be in good functional condition.
Power	1st Floor Level; Rm #117 (clean room)	Unlabeled Panel "X5"	1-section 24-circuit 208/120v 3ph 4w 100a MLO. Square-D NQOD panelboard.	Serves clean room A/C units, lighting and receptacle loads.	Appears to be 5yrs old	Has (1) 1-pole space and (1) 2-pole space available to serve additional future loads. Overall this equipment appears to be in good functional condition.
Power	2nd Floor Level; Rm #204 (outside east wall)	Unlabeled Panel "X6"	1-section 42-circuit 208/120v 3ph 4w 200a MLO. Square-D QO Load center panel.	Serves various local branch lighting and receptacle loads.	Appears to be +25yrs old	Has (1) 2-pole space available to serve additional future loads. Overall this equipment appears to be in functional condition.
Power	2nd Floor Level; Rm #204 (inside east wall closet)	HEATERS/EX. FANS	Single Section 208/120v 3ph 4w, ampacity not identified. Square-D "SAFLEX JUNIOR PANELBOARD"	Serves various local exhaust fans and heaters.	Appears to be +25yrs old	Manufacturer discontinued this product line in early 1980s, thus the availability of replacement parts is limited. Overall this equipment appears to be in marginal condition.
Power	2nd Floor Level; Rm #204 (outside east wall)	E	1-section 42-circuit 208/120v 3ph 4w 200a MLO. Square-D QO Load center panel.	Serves local branch lighting loads.	Appears to be +25yrs old	Has (1) 1-pole and (2) 3-pole spaces available to serve additional future loads. Overall this equipment appears to be in functional condition.
Power	2nd Floor Level; Rm #204 (west wall)	G	1-section 42-circuit 208/120v 3ph 4w 200a MLO. Square-D QO Load center panel.	Serves various local AC units, branch lighting and receptacle loads.	Appears to be +25yrs old	Has (1) 1-pole space, (1) 2-pole space, and (1) 3-pole space available to serve additional future loads. Overall this equipment appears to be in marginal condition. Panel cover has been improperly modified to fit panel.
Power	3rd Floor Level; Hall #300 (west wall)	F	1-section 42-circuit 208/120v 3ph 4w 100a MLO. Square-D QO Load center panel.	Serves various local AC units, branch lighting and receptacle loads.	Appears to be +25yrs old	Has (4) 1-pole spaces, (1) 2-pole space and (7) 3-pole spaces available to serve additional future loads. Overall this equipment appears to be in functional condition.
Telecom	1st Floor Level; Rm #114 (Main Electrical room)	--	Telephone backboard located on west wall (8'x4'), four punch-down blocks. PA and router switch.	Appears to serve entire building.	undetermined	
Telecom	1st Floor Level; COMM Rm.	--	Wall mounted data rack located on east wall, fiber optic connection, (2) multi-port patch panels, and (2) multi-port switches.	Appears to serve entire building.	undetermined	

E

Meeting Minutes

Date 8 January 2009

Project Arkansas Union
Programming and Planning

Project No 8036

Re Project Launch Meetings

Present Ned Collier, PDRP
Rick Jones, PDRP
Alberta Bailey, Mullins Library
Susan Adkins, UITS
Craig Edmonston, Athletics
David Martinson, Business Affairs
Bill Zemke, Chartwells
Ashley Tull, Student Affairs
Jerrid Freeman, Union
Stacey Doran, Union
Lynne Williams, Student Affairs
Peggy Boyles, Development
Gary Smith, Transportation
Jill Anthes, Campus Planning
Todd Furgason, Campus Planning
Greg Wachalski, B&D
Thomas Falice, B&D
James Milner, Facilities
Jay Huneycutt, Facilities
Nianzer Anderson, Union
Carter Ford, Student Gov't President

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new business	action	item	description
	None	Agenda	NC outlined the agenda for the day: <ul style="list-style-type: none"> 8:30-10: B&D summary 10-11: Code and Life-Safety Summary 11-1: Brainstorming 1-2:30: Summary and Next Steps
		B&D Report:	TF walked through a general summary of the findings. See attached pdf

new business	action	item	description
		Student Survey Results	of the B&D ppt show included as part of these minutes for detailed review of the survey results.
		B&D Report: Demand Analysis	GW explained that demand analysis tries to quantify the space requirements for different activities. Fifteen spaces were tested for breadth (frequency) and depth (duration) of usage. Priority of spaces were as follows: Computer Lab, convenience store/market, lunch, dinner, quiet lounge, copy/print center, social/TV lounge, coffeehouse, bowling, game room, breakfast, multipurpose/theater/auditorium, small study rooms, razorback shop (logo apparel), large/special event programming space. See attached pdf of the B&D ppt show included as part of these minutes for detailed review of the demand analysis.
		B&D Report: Database Comparison	GW walked through the database comparison. B&D has 75 recent student unions in their database as a means of comparison. They then broke out 16 select Unions that have an enrollment between 17 and 22K students. They then compared this to the Arkansas Union existing SF allocations. See attached pdf of the B&D ppt show included as part of these minutes for detailed review of the database comparison.
		B&D Report: Preliminary Conclusions	Strategic Asset Value Story: <ul style="list-style-type: none"> Priority Order of Space Needs: leisure and formal meeting spaces Architectural and Construction Quality: openness and quality of space to improve Target Markets and Campus Location: student and faculty/staff at current location Operating paradigm: loss of bookstore and financial model Preliminary Conclusions: <ul style="list-style-type: none"> Food Service: No resizing recommended, but it is acknowledged that access and visibility are an issue. Ballroom: Undersized relative to database averages. B&D would expect a 10K sf ballroom for a campus of this size, and the quality of the existing ballroom could be equally improved. Conference + Meeting Space: Size consistent with B&D overall database. It is a low-priority for small study groups, apparently b/c students go to Mullins for this activity. JF reported that 66% of the Union Meeting Rooms are booked by non-student clients – this will shift this number.

Appendix E:

Meeting Minutes: Project Kickoff

new business	action	item	description
			<ul style="list-style-type: none"> Lounge Spaces: Larger than B&D database averages if you include Connections Lounge and some other spaces. In reality however, the connections lounge does not currently function like traditional lounge space – it is a circulation space. Proximity to the living room lounge is a challenge for transforming this space into a lounge – is this too much lounge in a single space? Computer Lab: Size could double to meet peak demand based on survey. Consider a distributed approach, Information Commons, staffing and FF&E improvements to existing computer lab. Coffeehouse: Size is OK according to survey including TV room. Convenience Store: Size is OK according to survey and database comparison. Recreation/Game Room: Demand for about 2500 sf which could be distributed into pool tables, ping pong, video gaming, etc. Consider partnership with IT services with video gaming.
		B&D report Q's and discussion	<p>A discussion ensued:</p> <ul style="list-style-type: none"> TF asked about the target student population assumed in the numbers? GW stated it was based on 20K. It was asked that the design team assume 25K as the student population. It was also asked that since this is the target population, B&D adjust the select group of peer schools from 17-22K population to 22-27K population. It was also suggested that we look at peers that have done recent remodels as opposed to new construction. The priority of ballroom as opposed to meeting rooms was discussed. Both are important, and they are interrelated (meeting rooms are used for breakout sessions from the ballroom, food service support space is critical, etc). Budget discussion ensued. GW reported that in preliminary conversations with JF and Don Pederson, a cap of \$30-35M was discussed for the project. Without an increase in student fees, there is no way that this could be supported by speculative income alone, requiring an increase in the university contribution. NC asked whether the broader university usage (faculty, staff, et al), would justify an increased university contribution to the revenue? It appears that current demand can be met in the existing

new business	action	item	description
			building with reconfiguration. Future demand will require an addition.
		Code and Life-Safety Report	<p>RJ reviewed the code and life-safety report. The overall report is attached to these minutes. I would draw your attention to the conclusions and recommendations on p. 44-46 of this report.</p> <ul style="list-style-type: none"> It was asked that the design team check the emergency lighting. At the crux of the recommendations are two key issues: the status of the firewall and providing fire protection throughout the whole building. The firewall status will dictate overall building size, and providing fire protection throughout will give more latitude to the interior planning.
		Financial Approach	<p>NC asked that we talk about the financial approach. As a design team, we are accustomed to working against a budget. In this case, are we being asked to arrive at a recommended budget through a series of phases and incremental projects?</p> <p>JF confirmed that student fees are not a possible approach, and that E&G support will be a challenge given other institutional pressures. The intent of the study is to prove the case that work needs to be done, and the hope is that the funding will follow on that.</p> <p>NC asked whether we were not only assisting with the programming, but helping to build a project justification.</p>
		Brainstorming Session - Mission	<p>A couple of clarifications to start:</p> <p>The term “guests” indicate Fayetteville community members, “Friends”, parents, local business leaders, mayoral debates, revolving artwork from the local town, etc.</p> <p>“Wooo Pig Soooie”.</p> <ul style="list-style-type: none"> Razorback presence – it is the Arkansas Union, not anyone else’s. Unique to Arkanas. Do not want to look like an athletic facility, but want it to look FUN, and exhibit school spirit. Supportive of University tradition. Connecting students to the activity therein. That Union wants me to be there – no matter the student type. <p>Are there demonstrable ways in which the existing building supports the mission?</p> <ul style="list-style-type: none"> Auditorium usage as scheduled 250 seat classroom.

new business	action	item	description	new business	action	item	description
			<ul style="list-style-type: none"> Computer Lab and Tech Center (laptop checkout and IT support). Print services are also available here. Multi-media center + gaming is envisioned here. Quiet labs have been found to be popular as well. We need to be careful about redundancy with the library program adjacent. The east façade on the 1999 addition facing the plaza is a strong façade with a strong relationship to the plaza. It could be more pavilion like, addressing all three sides with entries. This will build on the potential synergy with the library and plaza. Programs and services serve the students, but it works incrementally – freshman may not be looking for the career center, multi-cultural center, etc b/c they do not need to. Over time, they ‘grow into’ the building; we want to accelerate that growth. The proximity of the transportation hub is a potential synergy that is not fully utilized. Strengthening this connection could be more of an asset – if this lies on the path of circulation of students who arrive on campus, then it will enliven the union. There is a potential synergy with the redevelopment of Garland Avenue, and pedestrian circulation from the housing, along Garland, to the business school could enliven the building. 				<ul style="list-style-type: none"> The presence of the building from down-slope is not as strong. The fact that the building is more impenetrable from the west side and there is not a destination. The approach from the North is through the loading dock – there is not a good entry along this side. Although the connection to the plaza is very strong from the outside, it is not as strong back to the exterior when you are inside the space.
			<p>Are there demonstrable ways in which the existing building impedes the mission?</p> <ul style="list-style-type: none"> Admission and retention – this is a stop on an admissions tour, and it is “hard”, and “not inviting”. Wayfinding through the building is challenging, and the curb appeal is limiting. The dining is not visible enough and getting there can be disorienting. Visibility of activities and functions is hampered by the lack of transparency. The building does not allow activities to be seen and accessed vicariously. The connection lounge is not a space, it is a corridor. Many of the lounges at the upper floor feel like wide hallways rather than lounges. Wayfinding from the exterior of the building is also a challenge. 			Brainstorming Session – 2006 Master Plan Topics and Criteria	<p>B&D’s recommendations and findings appear to be in-line with the Mission and Tenets. The one missing audience could be the guests?</p> <ul style="list-style-type: none"> Gameday brings people to the logo shop and food venues. TVs are set up for SportsCenter. The Union (particularly from down-slope) does not ‘advertise’ itself. If it can make its presence more known, particularly <i>remote from the building, from long-distances</i>, then it will be more successful. From Maple and Garland, this is also the case. <p>RJ outlined (4) main topics that seemed to underpin the projects identified in 2006 plan.</p> <ul style="list-style-type: none"> Circulation Systems Technology Experience <p>Other criteria for consideration?</p> <ul style="list-style-type: none"> Flexibility Destinations Funding
						Roundtable	<p>NC led a roundtable discussion, soliciting input from everyone as to their aspirations for the project.</p> <ul style="list-style-type: none"> ThomasF sees the funding issue as central to where things stand now, acknowledging that it is going to continue to evolve. The ballroom is the key programmatic piece. Defining the building as a true student union, or a broader campus center serving faculty and staff more wholly is also critical. GW reiterated the concern about the funding issue, and how this impacts the wrap-up of their financial model. Integration

Appendix E:

Meeting Minutes: Project Kickoff

new business	action	item	description
			of the east annex is central – it currently exists like a mini-student union of its own. On the funding, there are two potential solutions: fundraising (maybe more appealing to donors in a phased approach), or a hotel. This is a bit out of the box, but can be a good funding source.
			<ul style="list-style-type: none"> o ToddF feels that anticipating the 25K student population is important for long-term goals. This building has (2) different architectural characters, and there is concern about an addition being a third? Or integral to one of the (2) existing. Improvement of the connection to the existing landscape and context. General improvement of the architectural character inside and out. o JA echoed Todd and GW's architectural comments. Her hope is that they can arrive at a better process for identifying and managing projects with multiple sources of funding, especially when both E&G's and Auxiliaries are involved. o GS (transport and parking) is looking for a more meaningful link to the parking structures. From a parking perspective, the ballroom is well-served in its current location. o PB stressed the use of color in some of the renovations to date, and feels that this is a first small step in the right direction to aesthetics of the building. From a fund-raising perspective, the Ballroom is named (Alltell), but identifying other potential funding opportunities. o LW described a previous study on the 1999 food service areas and explained that they were looking for some short-term solutions. She also shared some survey results of students: union improvements, sustainability both scored high. She stressed that we need to read between the lines of all of our survey results and interpret the feedback correctly (they don't know what they don't know). o AB talked about extended hours in the library (12am extended to 2am, and 24 hr count was initiated over the last finals period). The students want the library to do extended hours all the time! Group study is in demand in the library, and AB was interested to see the results of B&D's survey in this light. She felt that there are potential synergies between the library and union learning commons (social learning more on the union, academic learning more on the library). o SD echoed the funding, and added that consideration of the phasing would be critical. In her opinion, as a priority, the

new business	action	item	description
			ballroom and meeting space would be foremost in her minds.
			<ul style="list-style-type: none"> o JF is concerned about the political nature of the decision-making; we need to stick together. What's best for the University? His other concern is driving the decision-making and building a sense of urgency. o AT feels that balancing what we need to do (code and life-safety, systems, O&M, etc), and what we want to do (transparency, aesthetics, wayfinding, etc) will be the biggest challenge. He is also concerned about the 25K population target and how this will impact the program size. He also reminded the team that the staff in the building will need additional, improved office space to support the renovated building. He echoed the concern about the funding source. o CF echoed synergy and politics of working together and that this is improved since last semester even. The Union and the football stadium define the campus in his mind. o DM understands the budget concerns, but feels optimistic in that Arkansas is not laying off people or slashing budgets yet. He thinks that the Union is the campus living room or parlor. He wants to think of this as part of the tapestry of the campus and the larger community. This campus gathering place is the thing that people rally around. This Union is important to the campus at large, and that needs to be central to the message of the project justification. Building identity is a big issue, particularly for campus visitors. o CE echoed the importance of the collaborative endeavor of this process that JF raised in his comments. He stressed the distinction of the Campus Center or Student Union from a funding standpoint; acknowledging that it needs to be "student-centered" regardless of the funding model. CE spoke to the developing trail system and the ability to tie into this with some bike storage and such. CE also echoed the external identity of the building, and challenged the duration of the destination stay (2-3 hours max?). o SA felt that IT needs to do a better job raising awareness of the services, software, and range of things that they provide. IT is becoming so enmeshed with the student's daily life. She is looking for a strong identity and presence in the Union and the Library in different ways, and we need to be careful to consider the appropriate synergies. RJ reiterated the need to evaluate the reducible and irreducible components of the IT program across the Library and Union. NC asked whether the

new business	action	item	description
			<p>need for IT in the library is more highly specialized, and in the Union it is broader. Library is academic and knowledge generation. Union is social learning and gaming.</p> <ul style="list-style-type: none"> ○ JH would like to see the first phase as so successful that we can get the second phase of the study funded, along with the landscape study. JH would like to see a broader sustainable mission. He feels that the use is central and appropriately located in the campus context. The curb appeal is one of the biggest challenges. ○ RJ echoed others comments and made a broader plea for sustainable design considerations. ○ NC offered that the design team would like to help with being integral to assisting with the financial aspects of the project. We are also looking for a highly integrated process allowing for early identification of project challenges. We want to help you arrive at a clear and bold vision for the Union that can be implemented sooner rather than later. Last, NC reiterated the importance of campus landscape and the part that it plays with the perception of the building from the exterior. ○ NA sees the Union as the place for the whole campus community. He sees a deficit in the identity of the building from the exterior (from close and far). The ballroom is extremely important to consider – they are turning away some potential clients b/c of the size of their events. ○ JM sees the best outcome as improving life-safety, and HVAC systems in a way that supports the larger agenda. He cautioned that phasing will present challenges to planning life-safety and more systemic improvements.
		Summary and Next Steps	<p>NC provided a quick summary and next steps. Key issues identified for study going forward are as follows:</p> <ul style="list-style-type: none"> ○ External perception of the building ○ Project funding ○ Phasing and associated timeline ○ Code assessments (firewall, allowable area, etc) and analysis of the impacts ○ B&D's program documentation ○ Known internal planning issues <p>Design Charrette:</p>

new business	action	item	description
			<ul style="list-style-type: none"> ○ Feb 10-12th is the scheduled time slot. The first two days would be a combination of structured and unstructured workshops. ○ Demonstration architecture – unstructured rolling workshop wherein we are working on a physical model and a 3d computer model, sketching on plans, etc., and students are walking up at any time to engage in our process and discuss the project. ○ Structured sessions – TBD with Arkansas Union ○ Building Committee meeting would be on the morning of the 12th, to bring everyone up to speed on our progress, and what we have learned during the course of the charrette.

new business	action	item	description
			academic space for computer labs/technology would be adjacently located to fill out the available space.
			Project 04 – New Retail Arcade along Garland Avenue: Floors 2 & 3 (West) would be extended approximately 24’ east along Garland Avenue. This addition would allow current retail space to reverse its orientation and face the Garland Avenue pedestrian corridor, as well as adding a new building entrance at the north, next to the Fieldhouse. The current drop-off lane would be discontinued, with the circular drive at the IMTF serving this function. The roof of the Retail Arcade addition would be planted, to help address sustainability goals in addition to aesthetically “softening” the blank facades of the Union West building.
			Project 05 – Landscaping Improvements: The existing hardscape directly north and south of Floor A6 (East) would be terraced to create more usable spaces, as well as lowering the concrete wall along the east side of Garland Avenue. Plantings would reinforce the “rails” of the main campus circulation paths and provide a buffer along the west side of Garland Avenue.
			Project 06 – Retail Arcade Extensions: The Retail Arcade would extend north and south as an open-sided colonnade, creating sheltered pedestrian links between the Union and both the Fieldhouse and the IMTF. The colonnade would further serve to provide a visual backdrop to the Central Quad, which can be seen as extending to Garland Avenue.
			Project 07 – Union East “Front Door” Improvements: The south side of Floor A3 (East) could possibly be moved to Floor A3 (West), creating a synergy with RZ’s and the retail components. The current RZ’s space would house new computer and technology programs, working with the existing Computer Lab to produce an enlarged Technology/Media Center. Programs that currently reside on Floor 4 (West), like the Anne Kittrell Art Gallery, the Video Theater and the 4 th Floor Lounge would be relocated to Floor A6 (East), where they would visually benefit from a Central Quad adjacency. (The space on Floor 4 currently occupied by these spaces would be filled out with additional student organization spaces.)
			Project 08 – Union West Entrance: The two exterior stairs at the NW and SW corners of Union West would be removed, and a central entrance with a grand stair and elevator would be situated on the west façade, on the central building/campus axis.
	Initial Building Committee		JA indicated that the Building Committee needed to further discuss project/program priorities. NC stated that the projects as presented

new business	action	item	description
		Discussion	needn’t be seen as literally suggesting a phasing order.
			AT noted that additional meeting rooms could be placed in the Fieldhouse as part of the Alltell Ballroom project, if the ballroom and associated functions did not occupy the total amount of available space within the Fieldhouse.
			JA reminded that sound isolation needed to be considered if meeting rooms were to be maintained around perimeter of potential recreation/Entertainment space on Floor 5 (West).
			JS asked if north and south entrances to Connection Lounge would remain if terraces above Garland Avenue were removed. JA advised that it was important to begin to look at the Arkansas Union Planning Study and the Garland Avenue Improvement Study in light of each other.
			JA asked the Design Team to consider a green wall as well/instead of a green roof when looking into various sustainable strategies. JA asked if the Design Team received any feedback during the Charette that indicated any interest in sustainability on the students’ part. HS stated that at least 1/3 of students he talked to over the previous two days expressed a great interest in sustainability, particularly as applied to a potential Union expansion/renovation project.
			JA expressed enthusiasm that the Design Team’s ideas involved bringing more users into the center of the building.
			JM asked for clarification of Retail Arcade entrances.
			JM asked if the proposed terracing of exterior space north and south of the Union East would preclude grade-level entrances at those areas. HS outlined an approach that would allow the stepped levels to co-exist with such entrances.
			TF stated that the concrete steps that currently exist where the campus “rails” hit Garland Avenue should be considered for reconfiguration as part of this study.
			JA expressed gratitude that the Design Team’s building ideas and landscape ideas worked well together.
			JM expressed the importance of keeping Wayne Brashear in the loop at all key moments during the course of this study. He also reminded that all new work needed to work within any limitations imposed by the Code Evaluation Reports that are a part of this study. HS indicated that although the Design team awaits final confirmation regarding the permitting and Construction Type of the Union East, strategies (such as adding extra fireproofing to beams and columns) are already being considered which would provide a reasonably high level of confidence that the Union West and East will ultimately be considered a code-

Appendix E:

Meeting Minutes: Design Charrette

new business	action	item	description
			complaint, singular building, with opportunities for non-fire separated additions.
		Around-the-table Discussion	<p>SA indicated that the Computer/Technology Center should be mainly concentrated but many of its functions could be distributed throughout the building.</p> <p>DM applauded the Design team's moves, for the added interest and accessibility they would add to the Union. Considers the Recreation/Entertainment component to be very important.</p> <p>JM considers Project 01 – Lounge Concourse to be the most important of the presented projects. He expressed concern over maintenance of green roofs, and reminded that important/expensive technological spaces might not be best located directly underneath them.</p> <p>PB expressed satisfaction that no meeting room space is intended to be reduced as a result of this study.</p> <p>AT indicated that he thought the study thus far contained many curb-appeal improvements, which would provide a great deal of impact, both visually and functionally.</p> <p>BZ expressed a desire for Garland Avenue to be a main circulation artery. Was concerned about the recommendation that RZ's be moved to the Union West, as he likes the current location and is concerned that grouping it with additional retail space could create a "strip mall" environment. Would like to see the Loading Dock area re-done, at least rendered more aesthetically pleasing. Thinks the link between the Union and the Fieldhouse needs to be considered in light of the potential Alltel Ballroom relocation, with major kitchen facilities for both Union and Ballroom remaining in the Union. Reminded that attention must be paid to the servicing of the retail spaces, if they are reconfigured to face east.</p> <p>SD asked for clarification on the Ballroom-to-Fieldhouse proposal. Was this project back on the table? DM indicated that he felt the University has been waiting for the right project with which to occupy the Fieldhouse, and that he considered the Ballroom to be that project.</p> <p>JF expressed concern about funding, constituent buy-ins, and how to use the information this study produces to move forward. Of particular importance is to get the Fieldhouse involved, and potentially integrating this study with other FAM projects.</p> <p>GS considered the opening of sightlines within the building to be a good idea, as well as eliminating the Garland Avenue terraces and creating the West Entrance.</p> <p>JA indicated that the Retail Arcade colonnade extensions needed to be</p>

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new business	action	item	description
			studied; they are not currently a part of the UARK model.
		Next Steps	<p>JA indicated that the ideas presented by the Design Team offered a good range of solutions, and should comprise the Final Report. She also stated that the graphics that will accompany the narratives in the Final Report should reinforce the big picture. Also, the "sustainability story" should be clarified in the report (building re-use vs. demo/new construction), which will also help further cement the project justification.</p> <p>NC proposed that a Draft Report be transmitted to JA, for distribution among the Building Committee. Comments received would ultimately be incorporated into the Final Report. NC offered that the Design Team would require approximately three weeks to complete the Draft Report.</p>

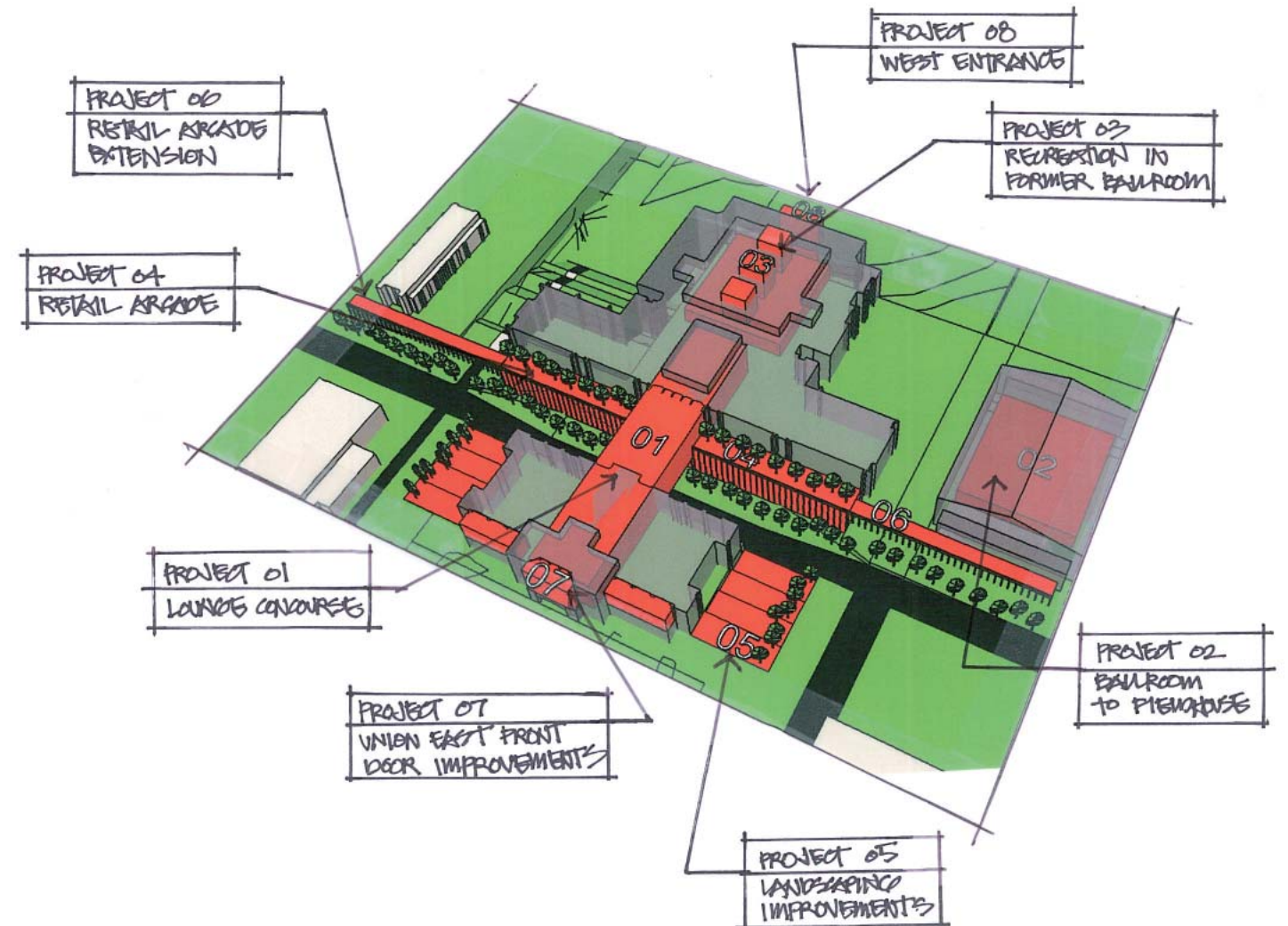
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Feb. 10, 2009

Arkansas Union
Target Programs

		Current ASF	Target ASF	Net Change
Group 1:	Food Service	22,586	22,586	none
Group 2:	Ballroom	7,292	11,000	+3,800 ASF
Group 3:	Conf/Mtg. Rooms	10,460	10,460	none
Group 4:	Bookstore	3,435	3,435	none
Group 5:	Retail	8,680	8,680	none
Group 6:	Theater/Auditorium	5,282	5,282	none
Group 7:	Recreation/Ent.	0	3,500	+3,500 ASF
Group 8:	Lounge Spaces	11,300	11,300	none
Group 9:	Academic	3,036	10,000	+7,000 ASF
Group 10:	Student Orgs.	4,609	9,200	+4,600 ASF
Group 11:	Admin. Offices	13,848	13,848	none
Group 12:	Multicultural Centers	2,731	2,731	none
Group 13:	Special/Misc.	1,312	4,300	+3,000 ASF
		94,571	116,322*	+21,751 ASF

* Current Arkansas Union is roughly 200,000 GSF, implying a 50% building efficiency. Thus, overall target program translates into roughly 232,000 GSF. Net change is roughly 40,000 GSF. Overall Arkansas Union target program diminishes if the Alltel Ballroom is relocated to the Fieldhouse.



Appendix E: Meeting Minutes: Programming

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

MEETING SUMMARY

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

Meeting Date 12 August 2009 (10:00-12:00) 13 August 2009 (10:00-12:00)

Project Arkansas Union
Project No. 8036

Re Student Affairs Leadership Sessions 1 and 2

Invited Attendees: Barbara Batson (BB) Director, Career Development Center
Parice Bowser (PB) Greek Life
Shelia Burkhalter (SB) Director, First Year Experience
Taj Cobbs (TC) Director, Student Support Services
Mary Coonley (MC) Director, Student Services
Erika Gamboa (EG) Interim Director, Veterans Resource and Information Center
Monica Holland (MH) Director, Community Standards and Student Ethics
Annie Jannarone (AJ) Director, Center for Educational Access
Cedric Kenner (CK) Director, Multicultural Center
Patrick Monroney (PM) Director, Center for Leadership and Community Engagement
Charles Robinson (CR) Director, African American Studies
Sylvia Scott (SS) Director, Off Campus Connections
Sue Theiss (ST) Director, Off Campus Connections
Steve Wilkes (SW) Director of Student Media
Ashley Tull (AT) Senior Associate Dean of Students
Robert Mock (RM) Associate Vice Provost
Mary Alice Serafini (MAS) Assistant Vice Provost, Director, Pat Walker Health Center
Judd Harbin (JH) Associate Dean of Students
Aisha Kenner (AK) Associate Dean of Students
Peggy Boyles (PB) Director of Development
Scott Flanagan (SF) Director of Communication, Facilities Management
Gina Ervin (GE) Pre-College Outreach
Ella Lambey (EL) Office of Diversity
Adrian Smith (AS) Center for Leadership and Community Engagement
Michael Freeman (MF) International Students and Scholars
Angella Williams (AW) Career Development Center

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner

1|3

Hank Scollard (HS) Perry Dean Rogers Partners
Dan Rogers (DR) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

New Business:

1. This meeting summary is a representation both Student Affairs Leadership sessions which occurred on August 12-13.
 - a. *General Comments.* The Building, as it exists now, is not ADA compliant. This will be addressed and corrected improving circulation. The retail portion of the program could be improved by reorienting it to a highly visible and highly trafficked area. A suggestion was made to introduce a signage component to help occupants better navigate the space and to make the building more user friendly. An integrated electronic notification system and information kiosks were discussed. This system could include touch screen maps to locate faculty and offices more easily. There is a need for better organized, open office space where one may still have a private conversation. There is a need for additional storage including bringing off-site storage back into the building.
 - b. *Meeting Space.* The recommendation, from the Brailsford & Dunlavey survey, was to double the square footage of the meeting space. The attending staff confirmed the meeting rooms were very popular and there is a need to double the space.
 - c. *Lounge Space.* The general consensus was that there is enough lounge space for students but it is underutilized. It needs a facelift with warmer, more residential scale and features.
 - d. *Student Workspace.* A large, flexible work space with computers can act as a shared, well-equipped workspace for multiple departments which will be used day and night. Security for this space may need to be studied more closely.
 - e. *Student Support Services.* Student Support Services would like to be in the Union and need more office, meeting and storage space. Doubling the space would be too much. It can be better organized with 5 individual offices, computer lab, storage, 15-20 workstations, multipurpose space and reception area.
 - f. *Radio Station.* It was discussed whether or not to move the radio station to a more prevalent position. No decision was made.

2|3

- g. *Center for Educational Access.* The Center for Educational Access needs to meet/exceed ADA requirements for handicap access, it is very important to their space. It would be best suited within close proximity to the assigned handicapped parking areas and include five offices, a reception area, a testing area and a room for Braille conversion.
- h. *Veterans Resource and Information Center.* This space was described as an office but desired to be a Center by combining with the commuter area. It would be best served with at least three offices, computer lab, classroom and adequate storage.
- i. *International Students and Scholars.* The current divisible ballroom is a good size to serve the functions of the International Students and Scholars, a 200 person space. The Union having meeting rooms the size of classrooms would also be beneficial.
- j. *Pre-College Outreach.* The idea of high tech gaming is positive. It was noted that other colleges have begun offering things like bowling lanes and UARK would benefit from an element like this. There was concern with the Circulation Lounge being too big and, it was thought, may be better served with subdivisions. The Union, it was discussed, would benefit from material finishes which were “warm” and “felt more like home.”
- k. *Center for Leadership and Community Engagement.* This department would be best served with ten staff offices, seven additional offices and a RSO area situated in a high traffic area near ASG. A bigger, wider space with a project and a screen would be better than the current long, rectilinear layout. The noise from the hallway will have to be remedied.
- l. *Office of Diversity.* The Office of Diversity is content with the amount and arrangement of space they have now but would like to look at expanding in the future.
- m. *Greek Life.* Greek life will require some security features for private files.

Meeting Date 12 August 2009 (1:00-2:00)

Project Arkansas Union
Project No. 8036

Re Intramural and Recreational Sports

Invited Attendees: Craig Edmonston (CE) Director, Intramural and Recreational Sports
Jeremy Battjes (JB) Senior Associate Director, Intramural and Recreational Sports

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Dan Rogers (DR) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

New Business:

1. With the proposed relocation of the Ballroom from the Union to the Field House, PDR|P suggested the possibility of using this space to add fitness/gaming component to the program. This meeting focused on looking at the possibility of integrating a portion of Intramural and Recreational Sports into the Union.
 - a. It was uncertain how to program the space to make it successful. **Action: UARK would review the needs of Intramural and Recreational Sports and the Brailsford & Dunleavy study and make recommendations.**
 - i. *24-hour, satellite mixed-use space* without free weights. There was no definition as to what program would make this space successful. **Action: UARK would provide PDR|P with the Brailsford & Dunleavy study for review.**
 - ii. *Group Exercise.* Currently there was not a space designed for group exercise in the HPER Building. This would include, but is not limited to, storage,

- lockers, and a work out space with a new floor, ventilation system and audio equipment.
- iii. *Administration Space.* May include classrooms, offices and meeting spaces for clubs.
 - iv. *18-Hour Private Faculty Facility.* It was suggested that this idea, although a popular idea with faculty, would not be appropriate within the Union because it is a facility primarily funded by students.
 - v. *Visibility.* Visibility is an important factor in layout of exercise and fitness rooms.

Meeting Date 12 August 2009 (2:15-3:15)
Project Arkansas Union
Project No. 8036

Re Facilities and Audio Visual

Invited Attendees: Steve Bobbit (SB) Media Tech Assistant
Danny Bowerman (DB) Skilled Tradesman
Mark Clark (MC) Institutional Service Superintendent
Jan Crouch (JC) Institutional Service Superintendent
Hill Easterwood (HE) Audio Visual Lab Assistant
Heather Schneller (HS) Associate Director, Conferences
Tim Wages (TW) Skilled Tradesman

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Dan Rogers (DR) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

New Business:

1. The Facilities and Audio Visual staff expressed some of their concerns about how the Union functions and suggest some improvements which would improve the buildings performance.
 - a. *Storage.* There is a pressing need for better organized, additional storage. Currently, the storage is scattered in various locations and floors throughout the Union and is not easily accessible.

- b. *Circulation.* Circulation through the building is unorganized and does not meet ADA requirements. It was agreed the proposed addition connecting of the 6th floor would make a substantial, positive impact in the way one moves through the building.
 - i. The freight elevator does not connect to all floors and there was an interest in proposing an additional elevator.
 - ii. A suggestion was made to include an integrated electronic notification system and information kiosks to aid occupants in the building as well. This system could use touch screen maps to locate faculty and offices.
 - iii. Portions of flooring will need to be replaced. As it exists, it is causing interruptions and is not suitable to be in the Union.
- c. *Windows.* Windows with vertical mullions are preferred and easier to clean.
- d. *Ballroom/Meeting Space.* The proposed relocation of the Ballroom from the Union to the Field House will help accommodate meeting space needs for larger groups. Using “smart” meeting rooms will eliminate the relocation and storage of audio visual equipment. It was suggested to use the current ballroom to make a sub-divisible meeting space for meetings of all sizes and types.
 - i. Room 504 should be seen as the prototype for all meeting rooms
- e. *Security.* There is not enough security in the Union. A security office could be introduced with a complete systems upgrade including additional video surveillance.
- f. *Theatres.* There was mention of upgrading a promoting the use of theatres. They were thought of as an underutilized asset.

Meeting Date 12 August 2009 (3:30-5:00)

Project Arkansas Union
Project No. 8036

Re University Information Technology Services

Invited Attendees: Bob Zimmerman (BZ) Associate Vice Chancellor, University Information Technology Services
Susan Adkins (SA) Associate Director, University Information Technology Services
Donnie Blagg (DB) Director, Customer Service Operations
Eric Gorder (EG) Director, Multimedia Resource Center

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Dan Rogers (DR) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

New Business:

1. The University Information Technologies Department expressed a desire to have a larger, more unified facility and referenced Temple University’s TECH Center as a precedent for study and further analysis. It was estimated the new facility would occupy 20,000 sq ft and be located in the Union. **Action: UARK would provide PDR|P with additional information on their specific needs and the TECH Center which had been referenced in the meeting.**
 - i. *Computer Center.* The Computer Center would be a large group of fixed workstations and loaner laptops and a series of adjoining breakout rooms equipped with video editing, recording booths, graphic design, music composition, a “quiet” zone and other advanced technologies.

- ii. *Smart "Team" Rooms.* A series of study rooms that can sit 6-8 and 10-12 and are fully equipped with latest audio and visual equipment.
- iii. *Frontline Support.* An area of support staff, possibly with offices, to oversee and aid student activity.

Meeting Date 13 August 2009 (8:30-9:30)

Project Arkansas Union
Project No. 8036

Re Transportation/Transit and Parking/Deliveries

Invited Attendees: David Martinson (DM) Associate Vice Chancellor for Business Affairs
Gary Smith (GS) Director, Transit and Parking
Lynne Williams (LW) Director, Business Services
Morgan Stout (MS) Chartwells Dining Services
Tim Wages (TW) Skilled Tradesman

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Dan Rogers (DR) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

New Business:

1. This meeting discussed the impacts the proposed renovation would have on different aspects of the transportation department.
 - a. *Accessibility.* The building does not meet ADA requirements and will need to be brought up to code.
 - b. *Bus Overpass.* The future use of hybrid busses will require an additional 12"-16" clearance at the overpass. The bus runs every two minutes and the turnoff area is not required. It may be used for another purpose. The west side of the overpass was described more positively than the east. Plantings, a more exciting entrance and a raised sidewalk were ideas suggested to make this space more pleasant.

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

- c. *Loading Docks.* The changes in building use will directly change the way the loading dock functions. The copy center, post, retail and kitchens are serviced by the loading dock. As a minimum, it was requested to extend the dock 3'-4' and make a canopy over the extension.
- d. *Side Entry.* The side entry was explained as being very important and highly trafficked. Ideas about entry kiosks and signage were shared. Some thought was also given to adding a retail component to this entry sequence being serviced by a 550 space garage.
- e. *Façade.* The importance of the façade being studied over time was brought to the attention of PDR|P. In the future, the completion of Oakridge Trail and planned forest replanting may alter the point of view and location of some more predominant views.
- f. *Catering.* The square footage of the kitchen servicing the ballroom is sufficient although it suffers from the same sort of ADA accessibility issues as the rest of the Union.

Appendix E: Meeting Minutes: Programming

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

MEETING SUMMARY

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

Meeting Date 5 October 2009 (2:00-3:00)

Project Arkansas Union
Project No. 8036

Re Intramural and Recreational Sports

Attendees: Craig Edmonston (CE) Director, Intramural and Recreational Sports
Jeremy Battjes (JB) Senior Associate Director, Intramural and Recreational Sports

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Lynne Williams (LW) Director, Business Services
Dan Street (DS) Construction Coordinator, Facilities Management

Hank Scollard (HS) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Attachments: Intramural Recreational Sports Space requirements hand-out

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. Recreation representatives (CE) distributed priorities and activities that they see as critical to their incorporation of the Union. Note that all of them include/require shower and locker room facilities. HS took note of this and explained that the design team will incorporate these thoughts.
2. HS explained what the design team has been doing to date. Established the program, and available coverage of sq ft in the Union once the phased renovation and addition is spelled out. There appears to be approximately 20K gsf of available space. A quick review of CE's document reveals that 20K gsf is within reach.
3. HS explained that we have conceived of Union WEST as a single block of space where we can (to shift the "door" of the space as far to the east as is possible.
4. HS explained that there is approximately 28-29K gsf on the first and second floors available for the recreation programs. It also provides a highly visible entrance to the west and a separate exterior entrance if that is desirable.
5. The location proposed by HS was well-received by the recreation user group.

1 | 3

6. CE offered that if that much space (28-29K gsf) is available, then that may alter the program that they would like to include. HS explained that our next step is to go back and re-jig the planning based on what we hear this trip, and the spreadsheet provided by CE is a great start for us to incorporate more detail.
7. CE also offered that a potential double-height space gives them an opportunity to include the climbing wall. They need 35 ft min. for this. Lower heights would work for bouldering, but not climbing.
8. HS reviewed the "ballroom basement" option for the fitness center. CE explained that the bouldering, wellness, and group fitness were studied in this location previously. DS offered to forward this study to the design team.
9. CE expressed continued reservations about students wanting to come up to the Union and "work out". DS asked whether the bouldering functions were really about "working out"? CE agreed that this is a team-building, academic, recreational, and competitive activity.
10. CE also expressed a need for personal training space. Goal is to have 1500-2000 personal training sessions per year. This requires a selection of machines in a smaller room with individual attention.
11. CE thinks that if it looks and feels like a spa/club rather than a high school workout room, then it will be much more successful. It would likely draw more "single-use" users, for short periods (1-hr), as opposed to the main fitness/rec center where people come to play racquetball, run/walk, and swim all in a single session. The program provided by CE today is a good nucleus for this type environment. The addition of some fitness machines for personal training would help to fill this out.
12. Hours would depend on what is located there. The current main fitness/rec center is open from 6am-12pm.
13. Potential for energy-related or health-related juice bar as part of this program.
14. CE also feels that the target audience could expand to include staff and faculty in addition to the core residential student audience.
15. CE would also see as the locker and shower facilities as an opportunity for commuter employees who cycle.
16. Group exercise needs to address vibration and acoustic concerns.
17. The fitness/rec group offered a good reminder to the design team that fitness is also a social activity.
18. Visibility was discussed – club sport offices, and recreation activities need to be visible and open to the public.
19. Ideally, all of these functions are accessed through a single point of entry. The Club Sport offices could be an exception to this – they could be accessed without having to go through the gym "front door".
20. There was a request for natural light, if possible, to improve visibility and transparency.
21. Electronic gaming was discussed as a potential synergy between fitness/rec and IT/gaming. It is a social activity, where you need to see people doing other things. The overlap between Wii, electronic golf, etc and actual fitness is potential that we should tap.
22. Simulcasting or piping feed to/from Group Ex rooms to make particular teachers more accessible is another potential overlap with technology.
23. Rehab or physical therapy room/program was also discussed as a potential program to be considered.

2 | 3

24. Massage therapy rooms would help add to the spa/club feel and they do not currently have good space for this.
25. Nutrition room that functions as a teaching kitchen. Could be coupled with the Juice Bar functionally?
26. Manicure/Pedicure was a popular programming request when the fitness/rec group met with students.
27. Summary – spa/club branding seems central to the programming and design of this space.

**Intramural Recreational Sports Space Requirements
For
Arkansas Union Activity Areas**

Activity	Space Requirements	Description
Outdoor Connection Center Bike Shop Operations	<ul style="list-style-type: none"> 5,000 sq. feet. + storage Minimum 35-40 foot tall space (accommodate climbing wall) 	<ul style="list-style-type: none"> Amenities to include climbing and bouldering wall, rental shop: tents, sleeping bags, camp stoves, kayaks, canoes, backpacks, trekking poles, lifejackets, paddles, dry bags, etc., bike maintenance/repair/rental shop.
Club Sport Office Space Practice Facility	<ul style="list-style-type: none"> 35 Club Sport offices at 80 sq. ft. 2,800 sq. ft. 3,000 sq. ft. combative's room, with storage space 	<ul style="list-style-type: none"> Offices could serve as work areas for clubs to complete and file paperwork as well as functional meeting and planning space for club activities. An office for <u>Club Sport Director</u> would be necessary. The combative's room would serve as a practice facility for Martial Arts, Tae Kwon Do, Boxing Club, Fencing Club, and Aikido.
Group Exercise	<ul style="list-style-type: none"> 2 Rooms at 3,450 sq. ft + storage 	<ul style="list-style-type: none"> Classes could include: TurboKick, Body Sculpt, Hard Core, Yoga, Pilates, PiYo, Group Cycle Classes Other Considerations Include: Loud Music, Specialize Flooring
Men's and Women's Locker rooms and Showers	<ul style="list-style-type: none"> 5,000 users 2,400 sq. ft (1,200 men and 1,200 women) 	<ul style="list-style-type: none"> Shower bays Locker Bays Grooming Bays Restrooms

Providing support facilities for these programs at an alternative location would open up several thousand square feet in the HPER Building for additional programming and staffing. Options in HPER could include: (1) additional staff offices (2) group exercise studio (3) more events/classes in spaces that the other programs would vacate.

Handwritten notes:
 - MASSAGE ROOMS IMPORTANT
 - NUTRITION ROOM (TEACHING KITCHEN)
 * PERSONAL TRAINING IMPORTANT
 - DESIGN AS UPSHORES CLUB (CLUB HOUSE ON DIXON STREET)
 2 HRS. C.A. TIME
 ** GROUP ACTIVITIES
 HEALTHY FOOD/JUICE BAR
 REPAIRS ROOM?
 * PERSONNEL IMPORTANT
 REPAIR/STAFF/COMMUNICATOR STUDENTS?

Appendix E: Meeting Minutes: Programming

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

MEETING SUMMARY

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

Meeting Date 5 October 2009 (3:30-4:30)

Project Arkansas Union
Project No. 8036

Re Student Accounts / Cashier's Office

Attendees Jean Shook (JS) Associate Vice Chancellor / Treasurer
Jo Ann Pepper (JP) Financial Systems Coordinator, Accounting Office
Lee Ann Slamons (LS) Fiscal Support Supervisor, University Cashiers / Student Accounts

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Lynne Williams (LW) Director, Business Services
Dan Street (DS) Construction Coordinator, Facilities Management

Hank Scollard (HS) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. Jean Shook, Associate Vice Chancellor for the Treasurer's Office.
2. JS explained that in late August, they were approached about opening up space in Silas Hunt Hall, which is needed for other functions. Mid-Sept space in the copy center became available and they are planning to move there.
3. Currently, they are housed in two different buildings, and they would not all fit in the copy center space.
4. JF explained that the move happened kind of in a vacuum, and it has been a recent surprise to him as well. It was an immediate need that was filled. Copy center is relocating principal services to Razorback Rd, and will maintain a small presence in the post office here.
5. They are a clearinghouse for all financial exchanges between students and the University (tuition, student loans), and inter-departmental financial activity; essentially like a "bursar's office". Services provided and needs include:
 - a. Queueing space for surge periods
 - b. Self-service kiosks to handle credit card transactions
 - c. Cashiering in the traditional sense (like a bank) may be going away, and will be replaced by a cashier overseeing (4) self-service kiosks

1|2

- d. Privacy issues for those students who need to talk privately (12 offices +/- counselors). Desk plus (2) guest chairs.
6. Staff level:
 - a. (5) staff – 3 collectors who deal with "past-due", 1 deals with "3rd party accounts", 1 deals with employee payroll deductions
 - b. (2) front-desk receptionist staff
 - c. (2) cashiers + (1) head cashier + supervisor
 - d. Supervisor of a through c; needs a larger office for meeting with parents
 - e. (4) accountants + supervisor (less interaction with students)
 - f. Accounting section – (3) open office cubicles + supervisor – handles all of the check printing for the University. Safe, envelope stuffing machine, printers.
 - g. Project person.
 - h. Tech-support person.
 - i. Conference room 12 ppl.
 - j. Silent alarm where cashiering and check printing occurs.
7. Visibility not critical for the front door of the Union, but it is a vital need for the students and should be accessible.
8. Currently hours are 8-5, M-F, after which, employees have card swipe access.
9. The academic year:
 - a. 2 wks before school starts to 2 wks after school starts is the busiest time
 - b. Spring semester it is the week prior and a month into start of school
 - c. Early registration weeks (2 wk period) in both the fall and spring
10. Other spaces:
 - a. File room (downstairs in admin bldg); moving toward electronic
 - b. Storage
 - c. Breakroom and bathroom would be nice, but is a luxury that they had not considered.
11. Overall GSF needed: 20 offices + conf rm = 2250 nsf, or 3500 (?) gsf. Intuitively JS feels that the current computer store + the copy center is about the right amount of space.
12. HS inquired about other programmatic synergies with current Union occupants – bank? Student I.D.'s?
13. Currently in Hunt Hall, they have registrar, financial aid co-located. This is a benefit that they will lose. It would be good to have space available for the registrar and financial aid to be present during peak periods identified above, as a "triage" so students don't feel as if they are being dragged all over the place.

2|2

Meeting Date 6 October 2009 (8:30-10:00)

Project Arkansas Union
Project No. 8036

Re Food Service / Chartwells

Attendees: Bill Zemke (BZ) Resident District Manager, Chartwells
Morgan Stout (MS) Director of Operations, Chartwells
Lynne Williams (LS) Director, Business Services

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner
Todd Furgason (TS) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Ned Collier (NC) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. HS outlined (3) key talking points for the discussion today.
 - a. Ballroom move to the fieldhouse – what are associated catering support functions?
 - b. Food court existing conditions – no additional space need be allocated, but redesign of the servery could be considered if appropriate
 - c. RZ's location, larger/smaller, etc.
2. RA and JF reinforced that the existing ballroom would like to be retained as multi-purpose space – flexible meeting space that could be opened up into a single large space. If this is the direction, then Chartwell's expressed concern that appropriate support (catering) functions would need to be provided.
3. RZ's location. Chartwell's feels that its current location serves the plaza well, and works well between the Union and the Library, as well as with the lounge/lobby entry to the building from the plaza. There was resistance to considering a move of this program function. NC and HS recapped the overall planning approach and couched the options for RZ's in this context.

- a. There remains concern about the distance from the library when RZ's is relocated to the retail concourse area.
 - b. Chartwell's position is that there needs to be a central, single location shared by the library and the Union. They do not believe that there is enough demand to support both functions. Chartwell's is seeing coffee shops being hugely successful in the library venues.
4. NC and HS backed up and gave an overall view of where the planning study stands as a whole. The basic strategy is to move the "front door" of the program on the west side as far to the east as is possible. HS walked through each floor plate and the overall strategy. Comments included:
 - a. Ballroom lower floor – use as meeting space seemed to be well-rec'd b/c of maximizing infrastructure (catering/support) investment, and consolidating breakout meeting rooms with the larger ballroom function.
 - b. Larger site circulation seemed to be an issue – PDRP should look at a larger site diagram showing how the interior planning of the building fits into the larger site movement.
 - c. A discussion ensued about the program "fit" as to whether this is more of a student union or a campus center. It does not have to be either/or – it can be both/and.
 5. Ballroom in fieldhouse is a consensus with this group.
 - a. Services at the first floor for food service: warming/finishing kitchen, plating, dishroom.
 - b. Access to the ballroom would require service elevator.
 - c. Ideally, and enclosed connection between the two buildings is the best circumstance. PDRP to study an "embedded" condition – can we take advantage of the slope between the two buildings? Can the service corridor be below-grade from the up-slope condition and above-grade from the down-slope condition?
 - d. The ballroom would not be utilized exclusively for dinners and events – it could be expo center for career day, etc.
 6. Chartwell's voiced a concern about their offices remaining proximal to the servery for the purposes of cash-handling. They do not want to be moving money back and forth from the servery to some remote office location.
 7. Chartwell's is of the opinion that the food court is ready for an update as well, particularly if this could contribute to the overall strategy for the building.

Appendix E: Meeting Minutes: Programming

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

MEETING SUMMARY

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

Meeting Date 6 October 2009 (10:30-Noon)

Project Arkansas Union
Project No. 8036

Re Ballroom, Meeting Rooms and Conference/Event Support

Attendees: Bill Zemke (BZ) Resident District Manager, Chartwells
Morgan Stout (MS) Director of Operations, Chartwells
Lynne Williams (LW) Director, Business Services
Jay Idleman (JI) Director of Catering, Arkansas Union
Heather Schneller (HS) Associate Director, Conferences, Arkansas Union
Trish Nicholson (TN) Special Events and Reservation Coordinator, Arkansas Union

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner
Todd Furgason (TF) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Ned Collier (NC) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. NC explained that the overall ballroom approach is to take over the field house for ballroom functions.
2. HS explained the approach to accommodating the program in the ground and first floors of the ballroom.
 - a. Upper floor – main ballroom space (11K gsf), back-of-house and staging space with green rooms and an office, entry and lobby space, and bathrooms.
 - b. Lower floor – storage room (700 nsf), warming kitchen (320 nsf), office space (catering?), meeting rooms (11K nsf)
 - c. Capacity. Furniture arrangement studies:

1|2

i. Dinner – 640 seats at 8 tops. Preference is 72” round table.

ii. Theater/presentation – 792 seats.

3. Comments on the planning included:
 - a. Storage for tables and chairs needs to be accommodated.
 - b. Need a backstage area for servers to queue up at the same floor as the dining/event.
 - c. Permanent stage not necessarily required. It could be a demountable stage. This could free up back-of-house space for staging of food prep.
 - d. Retaining the natural light seemed to be considered an advantage, assuming blackout shades to control light for projection purposes when required.
 - e. AV/IT orientations could be large screen in the direction of the long-axis and dual (smaller) screens in the direction of the short axis.
 - f. Shallow U-shaped balcony (at high window level) with service corridors, hors d'oeuvres and bar service, and storage tucked beneath balcony.
 - g. 600 for dinner is minimum. 800 for theater/presentation is minimum. In either case, it would require the appropriate service corridors and support space.
 - h. As a means of comparison, PDRP is to take our table/chair spacing criteria and apply it to the existing ballroom to see what we think that they should accommodate.
 - i. Loading dock – not a full-blown one – but materials will certainly be brought directly to the building that require loading.
 - j. Trash and recyclables need to be considered as well.
 - k. Bathrooms – the committee feels that they could migrate down one floor; retain a handful of ADA bathrooms at the main floor.
 - l. 30-40 person mtg rooms at the ground floor would be ideal – if they could be able to be combined, then that would be best. The group acknowledges that the ceiling height could be a limiting factor to the aspect ratio/use of the meeting room.
4. NC produced a sketch for the group summarizing the above points.
5. Given the new venue, what is the implication for the *existing ballroom and meeting rooms*? Keep the meeting room functionality of the ballroom and the meeting rooms at the upper floor. They would like to look at how the ballroom could be more functional and flexible as part of a renovated scheme, but the capacity is not going away.
6. What is the justification for the ballroom?
 - a. More demand than can be met (anecdotal and actual proof)
 - b. Vast potential of revenue generation (capture community events that go elsewhere)
 - c. Strong donor opportunity for the fieldhouse (standalone project with a history to the building)
7. RA moved that the fieldhouse proposal and retaining the meeting/ballroom capacity for the upper floor of Union West be approved as far as the building committee is concerned. There was consensus about this from the group.

2|2

Meeting Date 6 October 2009 (1:30-3:00)

Project Arkansas Union
Project No. 8036

Re Retail / Business Services

Attendees: Lynne Williams (LW) Director, Business Services
Ali Sadeghi (AS) Director, University Bookstore
Bill Zemke (BZ) Director, Chartwells
Paul Wilson Scott (PS) Director, Arkansas Union Food Court
Morgan Stout (MS) Director of Operations, Chartwells
Vickie Peterman (VP) Satellite Operations
Rich Bundsgaard (RB) Director, Print Mail Copy Solutions
Stew Kyle (SK) Copy Center
Penny Bellard (PB) Mail Center
Doug Norwood (DN) Operations Manager, U.S. Post Office
Donnie Blagg (DB) Director, Customer Service Operations
Jered Guist (JG) Computer Support Technician, Student Technology Center
David Furr (DF) Union Hair Care
Courtney, First Security Bank
Kelley Line (KL) Manager, Campus Card Office

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management

Hank Scollard (HS) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. Attendees – See above
2. Print/Mail/Copy - Doug – Current location is not optimal b/c it is so embedded in the building. They get incoming mail for the University/departmental groups. They have dedicated parking in the adjacent deck that they use for vehicles, but the main campus is delivered on foot. Very recently, basic (small) copy service area has been added to their program. (10)

- employees – (2) FTE in the post office, (1) copy, (2) customer windows. USPS-certified service. Rent boxes – 180 rented total 500 - \$30/year. Also handle FedEx and UPS pick up.
- a. RA asked a question about student mail not being delivered to residence halls (4700 residents), but coming to the student union instead. Doug explained that this has cost implications (staffing, boxes, mail address changes).
 - b. Size of space is adequate – notwithstanding the copy service that has been added.
 - c. Access to loading dock.
 - d. 8-5 operation.
3. Union Hair Care – David – Current space is meeting his needs. Higher visibility would be desirable. They are a destination for most people more than an impulse. It is a 4-chair shop with individual work areas divided by mirrors. Sink at each work area. Front counter and waiting area; storage closet.
 - a. 8-5 operation.
 4. Razorback Shop – Ali – Current location works for size. The visibility could be improved. Orientation (summer) happens in the Union, and they are a key part of this – important for them to have a footprint for this purpose. Also, proximity to the stadium on game days is a good source of foot traffic and revenue. Seasonally, they are also looking at bringing in different revenue sources – Bed Bath and Beyond, satellite bookstore function, furniture, buyback, planogram layout, etc. Access to loading dock important.
 - a. 8-5 operation.
 5. Card Office – Kelly – Make all ID cards (faculty, staff, alumni, community, students). Technology heavy. They make 10K cards annually. Football ticket pick-up occurs here (9K subscribers w/ 4 locations for pickup of which this is one). Surging population over the course of the semester. Current space allocation is inadequate from a size standpoint: storage and people/equipment (2 ID machines now, could add 1 or 2). All registers on campus are managed by them through 2 servers (meal plans, vending, etc). They have to keep boxes and packaging for all of these readers to return damaged material if needed! Workbench area and deck for tech employee.
 - a. Security is critical – cameras in current location.
 - b. Treasurer's office could be a good fit as a neighbor.
 - c. There is a lot of work that Kelly does with Chartwells.
 - d. Increased pay to print may increase the ITS associations as well.
 - e. Razorback (online credits/debits to card account) about 25% of exchange activity - the rest is in person
 - f. 8-5 operation.
 - g. Safe in the office.
 6. ITS – Donnie – Current space is the general access lab (85 seats), and checkout (250 laptops and support). This should be maintained. Looking to be a more centralized, general technology center. This would include the multi-media resource center, offices. This would include a faculty media support center that is distinguished from the student media support center for purposes of privacy. Technicians with workbenches and offices. Help desk / service center would be moving here. Security – cameras and card swipes. Storage needs include paper, toner, etc. Visibility is also critical; it is about serving the campus population. Loading access for supplies is key. Printing area (specialized color, large format printing, large file-size printing). Gaming center is a popular request from students.

7. Chartwell's – beyond RZ's and the main servery food court...
 - a. Office location and security of money needs to be considered.
 - b. From 1130-1 at the outset of the semester in particular, the food court gets overwhelmed. They are looking for another opportunity to expand and provide a complement to the food court.
 - c. Loading dock area is so critical. There are currently too many people and not enough space. That will be relieved somewhat with the departure of the bookstore, but this is a good reminder that this needs to be well-orchestrated.
 - d. Loading dock height is too low and there is no leveler.
 - e. Storage issues – too distributed across all of the floors – could be more consolidated.
 - f. Food court/servery is adequate in size, but needs to be reconsidered in design. The flow doesn't help with security – people can get their food and leave if not observed.
 - g. Fitness Center / Rec Center – juice bar – will there be sufficient traffic to support this program.
 - h. One big challenge is getting food from the Union West to the Union East or the plaza.
8. Bank – Courtney – Size of the bank is sufficient in its current location; if the student population increases, then they may benefit from a small increase. Visibility is not great. They have a lot of business that surges over the course of the semester. They have affiliation with the student accounts (Treasurer) and the card office. They are an 8-5 operation.
9. Self-serve venues about which we cannot forget –
 - a. Copiers.
 - b. DVD kiosks.
 - c. ATM's
 - d. Parking garage meter
10. Other venues not represented today:
 - a. Convenience store
11. HS explained the basic planning approach that we have looked at thus far. Comments included.
 - a. JF pointed out an area at the first floor that has an excavated, dirt floor area which could be finished off as storage space to free up space elsewhere in the building.
 - b. Mail is currently exposed to the weather when they leave the building to get to the parking garage (where they park their vehicles). It would be a benefit to have this under protection.
 - c. Razorback Shop would be best served at the *lower level* of retail, proximal to the Garland St bus drop-off.
 - d. Question raised about the west entry – or making the west side more appealing? This is still in our study, but it is not as central to our planning as the balance of the work given the return for the dollar required.
 - e. RA asked about the site circulation shifting to the north of the fieldhouse, allowing for a more robust service court to exist on that side between the two buildings, serving them both.

Meeting Date 6 October 2009 (3:30-5:00)

Project Arkansas Union
Project No. 8036

Re Technology Center

Attendees: Susan Adkins (SA) Associate Director, University Information Technology Services
Donnie Blagg (DB) Director, Customer Service Operations
Eric Gorder (EG) Director, Multimedia Resource Center

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Dan Street (DS) Construction Coordinator, Facilities Management
Jill Anthes (JA) Campus Planner
Todd Furgason (JA) Campus Planner

Hank Scollard (HS) Perry Dean Rogers Partners
Ned Collier (NC) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Attachment: Information Technology Services Tech center Requests, Arkansas Union

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. Susan Adkins distributed a bullet point list of desired program for the ITS Technology Center. PDRP will go back and do some tests of these spaces to allocate appropriate nsf.
2. The goal is to consolidate the entire student service face of the ITS in the Union.
3. General purpose lab
 - a. Rather than rows of computers, it could be looser with some opportunities for collaborative work
 - b. RJ explained the East and West Commons at GaTech. They felt that this is a good model; ref. Temple University as the exemplar of what they are looking for.
4. Spaces for teaching teachers would not be included in this program.
5. Gaming –
 - a. Mixing with pool, ping pong, and more traditional recreation is OK.
 - b. Space dedicated for team online gaming.

- c. Events – LAN parties. Social, team-building gaming.
- 6. NC explained that there is a rival with ITS for location in the building (not area, location); RZ's is looking at the same real estate as the ITS. HS went through the basic planning. Comments included:
 - a. RA asked about the available nsf as shown in the diagrams. HS confirmed that there is 11K nsf allocated to ITS in the planning.
 - b. Extracting the gaming center from the core ITS program and coupling it with recreation (pool, ping pong) is another means to offload program.
 - c. Splitting the program over the lounge space in the East Union is not an issue – they would parse the program accordingly (general purpose on one side, help desk and multimedia on the other, etc).
 - d. Concentrate the extended hour program in the same area (ITS, RZ's).
 - e. Ideally, for SA, they would be consolidated – at least visible to one another if separated.
 - f. ITS has a strong preference for the East Union location. They do also have a lot of infrastructure in place in the East Union, and they prefer the visibility and proximity to the library. RA and the design team talked through the pros + cons of the retail (red) location vs the ITS (yellow) location.
 - g. The concept of RZ's as an island in the concourse was discussed. This needs to be raised with Chartwell's.
 - h. Clarify the student org (light brown) space as distinguished from the professional office space. PDRP to update our plan diagrams.
- 7. Help Desk could co-exist with general information desk. It also could co-locate all ITS functions; their personnel are relatively cross-trained.
- 8. The East Union was discussed as the 24/7 portion of the building – the design team needs to think about what this means programmatically – RZ's, ITS, recreation (pool/ping pong), gaming – coming forward to this area. The East Union could be a “21st century living room”.
- 9. Areas NOT considered to be 24/7 within the ITS program include: presentation/training room, conference room, some office spaces.

Information Technology Services Tech Center requests, Arkansas Union

Labs

•General purpose lab

- 85 total lab seats, to include 35 higher-end workstations
- Lab op station for two staff
- Quiet lab area, 15 lab seats
- 1 private office space in area

•Speciality labs, multimedia

- Music, 2 audio workstations
- 3D, 3 workstations
- CD/DVD Duplication Station, 1
- Multimedia/Higher-end, 15 workstations
- Video, 5 workstations
- recording room/studio/WhisperRoom™
- with supporting staff offices

•Lab Technician work space and offices for 2 tech staff

- Lab servers, provide office space and work space for server management, image development, repair work

Gaming Center

- 3 or so large screen displays
- ability to connect own laptops to support online gaming
- stations for current gaming systems such as Wii, xbox, playstation

Printing Center

- Scanning
- Plotters
- Specialty printing
- Copying
- Staff area for 1

Conference Rooms

- One dedicated to ITS for 12 people
- Access to shared ones

Presentation/Training Room

- With podium, projection, screen, whiteboard, computers, for 20 people

Breakout/Team/Collaboration Rooms, 4

- 4 rooms holding 6 - 8
- projection and screen
- connectors for laptops and av connectors
- whiteboard

Help Desk and Service Center and Laptop Checkout Center

- area for walk-in assistance, with 3 or 4 staff "up front"
- area for laptop checkouts
- carrels for phone support staff, 1st tier help desk
- carrels for desktop support, upper tier support approximately 12-15
- areas to store laptops, currently 250
- areas to image laptops and configure laptops (workspace)

Office Space, can be disconnected, 4-6

Wiring Closets and Server space

Secure Storage

- Dedicated key or card access for ITS
- Convenient access to exterior delivery area or dock
- Many cases of printer paper and toners
- Spare computers, printers, parts, cleaning supplies, office supplies, etc

Susan Adkins, sadkins@uark.edu
Donnie Blagg, dblagg@uark.edu
Eric Gorder, egorder@uark.edu

479 575-2901

Meeting Date 7 October 2009 (8:30-9:30)

Project Arkansas Union
Project No. 8036

Re Latin American Studies, African American Studies, Multicultural Center

Attendees: Charles Robinson (CR) Vice Provost for Diversity
Steven Bell (SB) Director, Latin American Studies

Randy Alexander (RA) Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman (JF) Director, Student Affairs Auxiliary Facilities
Lynne Williams (LW) Director, Business Services
Dan Street (DS) Construction Coordinator, Facilities Management

Hank Scollard (HS) Perry Dean Rogers Partners
Ned Collier (NC) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. There is a need for a classroom/mtg room – that could be used for meetings, classes, programs. It could be joint space with Latin American studies. They are thinking that this is a 35-40 person classroom with AV-IT capability. Flexible furniture system to support different arrangements.
2. Office space – for directors (2), and staff.
3. Computer lab space – there seemed to be interest in this, but more for cultural studies than gaming, which can be a challenge for the students. Having computer work space for 4-6 students (x2).
4. They are both in support of moving classroom and computer lab space (academic). They like the idea of joining social, cultural, and academic programs.
5. Likes the idea of students hanging out and interacting in the space near to the directors of these area studies programs. Mentoring.
6. Culture / world news / media room / reading room.
7. Lectures, movies, meetings often occur in an ad hoc fashion as opposed to in a structured fashion, or having space that supports these activities in a particular way. These are typically for no more than 50 ppl for film and lecture.

8. The problem with the multi-cultural center is not visibility or its location, it appears to be its inclusiveness. It is for minority *and* majority students, and this mission needs to be made more clear. Can this be done through programming by incorporating classroom and more public functions that bring students of all types to the center? Increasing visibility could also allow people to participate vicariously in the activities of the center before deciding to participate.
9. RA asked about other programs – Charles explained that Asian studies, American studies, Gender studies, could also be potential partners in a broader “area studies” center. Middle-eastern studies has new space in Old Main so may not be interested.
10. Community service, and integration/cooperation of the student groups and academic components is central to their mission.
11. Administratively, the groups are governed by the ASG, but the center reports to the Fulbright College.
12. Encourage people to see the multicultural center as a place for *all of the area studies to convene*.
13. They do catered functions – so some support is needed for this type of activity.
14. NC asked whether this is an appropriately broad vision. Charles felt that the Asian studies would be a good potential partner.
15. It is about blending the African and Latin-American studies programs with the multicultural center, while giving them space and identity of their own *at the same time*. This is part of the mission of the University – growing these two student populations.

Meeting Date 7 October 2009 (10:00-Noon)

Project Arkansas Union
Project No. 8036

Re Site Visit Summary and Wrap-up

Invited Attendees: **Arkansas Union Steering Committee**

Randy Alexander Executive Director of Housing and Student Affairs Auxiliary Facilities
Jerrid Freeman Director, Student Affairs Auxiliary Facilities
Ashley Tull Senior Associate Dean of Students
Susan Adkins Associate Director, University Information Technology Services
Lynne Williams Director, Business Services
Heather Schneller Associate Director Conferences, Arkansas Union
Dan Street Construction Coordinator, Facilities Management
Jill Anthes Campus Planner, Facilities Management
Todd Furgason Campus Planner, Facilities Management

Arkansas Union Advisory Committee

Alex Wilson Chair
Joseph Beachner Vice-Chair
Edwin Velasco Secretary
Lauren Simmons Public Relations Chair
Timothy Wallace Student At-Large
Marilyn Breaux Student At-Large
Maggie McGriff Advisor

Student Affairs Core Team (*optional attendees*)

Danny Pugh Vice Provost for Student Affairs, Dean of Students
Marsha Norvell Executive Assistant to the Vice Provost for Student Affairs, Dean of Students
Ashley Tull Senior Associate Dean of Students
Robert Mock Associate Vice Provost
Mary Alice Serafini Assistant Vice Provost; Director, Pat Walker Health Center
Judd Harbin Associate Dean of Students
Aisha Kenner Associate Dean of Students
Peggy Boyles Director of Development
Scott Flanagan Director of Communications, Student Affairs

Hank Scollard (HS) Perry Dean Rogers Partners
Ned Collier (NC) Perry Dean Rogers Partners
Rick Jones (RJ) Perry Dean Rogers Partners

Appendix E: Meeting Minutes: Programming

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

Please review the following meeting minutes and consider whether we properly interpreted and documented the discussion. If you find that an item below is inconsistent with your recollection, we would ask that you alert us to the issue so that we can adjust the minutes accordingly.

1. NC gave an overview of the agenda for our meeting today:
 - a. Who we have met with over the course of the past couple days
 - b. Review of the planning with an eye toward what we heard and what recommendations we are proposing as a result of our meetings the past couple days
 - c. Deliverables, incl. facility assessment reports
 - d. Process and next steps
 - e. Student feedback
2. Who have we met with over our two programming sessions:
 - a. Student Affairs Leadership (Student Support Services, Center for Educational Access, Veterans Resource and Information Center, International Students and Scholars, Pre-College outreach, Center for Leadership and Community Engagement, Office of Diversity, Greek Life); Intramural and Recreational Sports (Part 1); Facilities and Audio-Visual; University Information Technology Services (Part 1); Transportation/Transit and parking/Deliveries; Student Accounts/Cashier's Office; Intramural and Recreational Sports (Part 2); Food Service/Chartwells; Ballroom/Meeting Rooms and Events; Retail Business Services; University Information Technology Services (Part 2); Latin-American/African-American Studies/Multicultural Center
3. Review of the planning. In general terms, the initial conceptual ideas have been supported by the programming effort. That is not to say that there are not changes or things to discuss. What we have heard, by floor, is as follows:
 - a. Overall diagram – NC explained that the general approach to Union West is to *move the front door of programs in the union west as far to the east as is possible* to avoid the labyrinthine network of corridors that exist today. Concept of Main and Market street intersection.
 - b. First Floor Plan –
 - i. Intramural and recreational sports and Fitness Center. They came back with a very constructive recommendation of program elements that are more of a club/spa identity than straight fitness. It encompasses the more social aspects of their programs – group exercise, cycling center, outdoor center, combative sports, massage therapy, nutrition kitchen, juice bar, physical therapy.
 - ii. Challenge of west entrance and approach from the parking to the West (“the pit”). The design team needs to look at these larger site circulation patterns for confirmation.
 - c. Second Floor Plan –
 - i. Fitness Center (continued from floor below)
 - ii. Retail arcade, lower level – grouping the retail components that are 8-5 operations – student accounts/cashier office, bank, hair care, post office

2|5

PERRY DEAN ROGERS | PARTNERS ARCHITECTS

- iii. Fieldhouse, lower level – meeting rooms, food service support space, covered connection to the Union for food service to move material back and forth
- d. Third Floor Plan –
 - i. Retail arcade, upper level – group the retail components whose hours extend beyond 8-5 operations - Razorback Shop, additional food component
 - ii. Existing food service and dining room – clear expression from Chartwell's about updating the servery/food court space
 - iii. Fieldhouse – ballroom function space with 640 ppl at tables, and 800 ppl in lecture/presentation layout
 - iv. Concourse/Lounge – principle connecting element from plaze through to food court
 - v. RZ's coffee shop – conceived of as *part of the concourse/lounge*.
 - vi. ITS suite – to either side of main entry concourse. The Union East is conceived as the 24/7 pavilion portion of the building. It is the 21st century living room. ITS and RZ's on this floor, and the recreation and game room on the upper floor contribute to this feeling.
- e. Fourth Floor Plan –
 - i. Fieldhouse – mezzanine space for additional seating capacity
 - ii. Theater – remains
 - iii. Pre-function space in front of the theater
 - iv. Office space – design team needs to distinguish the “tan/orange” color – admin office vs student org office vs multi-cultural center.
 - v. Stair modification – NC explained the sight line down to the food service space and the reorganization of the stair to open up the relationship of the concourse to the servery.
- f. Fifth Floor Plan –
 - i. Ballroom – remains as multi-function and flexible meeting space. Some updates to support space is required.
 - ii. Meeting rooms – remain
- g. Sixth Floor Plan –
 - i. Admin/Office/Student Org functions – as noted above, needs to be distinguished a bit more.
 - ii. In Union East, recreation and game room on the upper floor contribute to this feeling.
 - iii. Open to below space connects the lower level of the concourse to the upper floor, visually, to give student org space greater identity and visibility.
- h. Comments & Questions –
 - i. Post office location? In the retail area at the lower floor.
 - ii. Treatment of Union East façade on the plaza? More transparency, but not fundamentally changing the massing or scale of the building. We feel that this is appropriate.
 - iii. Academic program (African-American Studies and Latin American Studies) moving into building? RA asked about other programs? Middle Eastern

3|5

- seems content with their space in Old Main. Asian Studies and American Studies were identified as other potential entities.
- iv. Fieldhouse? DP asked about the interior planning of the Fieldhouse. NC and HS walked through the more detailed planning documents for the Fieldhouse. DP asked whether the theater group would like to have access to this space and have they been consulted? JA agreed that this is desirable, and the design team offered that this would be a flexible space that could support multiple activities. At the schematic design level, this would all be shaken out in more detail. We are confident that at a conceptual level, this can be accommodated.
4. Deliverables that the design team will be providing to the University.
 - a. Spreadsheet form – summary of program
 - b. Re-working plan diagrams and program distribution
 - c. Re-working original concepts to coordinate with plan and program
 - d. Conceptual cost estimate
 - e. Phasing (fewer, larger phases)
 - f. Operational cost assessment / financial operation of the Union
 - g. Facility Assessments: LA gave a summary of the findings of the existing condition of the Union and the Fieldhouse. Structurally the Union is in very good shape. Fieldhouse lower wall facing the loading dock have some cracks interior and exterior that need to be addressed. From an MEP standpoint, the mechanical and plumbing systems in the original 1960's building are at the end of their useable life. Electrical systems are in fairly good shape by comparison. The 1990's addition has systems that are in much better shape, given their age. The Fieldhouse would require MEP overhaul in total. Taken through the LEED lens, the required systems efficiency needs to be addressed.
 - i. JA reminded the group that this building is in the newly established Historic District on campus and any modifications will need to be respectful of this.
 - ii. JA and TF confirmed that a re-roofing of the gymnasium is in process at this point.
 - iii. JA reminded the team that there are Energy Service Performance contracts in motion to which the design needs to be responsive.
 - iv. Questions arose as to the existing exterior stairs – the design needs to revisit this with keeping the ballroom in mind.
 5. Next Steps:
 - a. Renderings for fund-raising or referendum support?
 - b. Referendum Support from Brailsford & Dunlavey?
 - c. Detailed budgetary analysis?
 6. Overall questions and comments:
 - a. RA asked about two options for the Union East building. One showing ITS filling the whole first floor. Another showing ITS + RZ's.
 - b. RA is looking for a clear description of fitness/spa and the ITS suite so he can best communicate this to the students.
 - c. RA is looking for more detail on the distribution of the retail space.
 - d. RA reinforced differentiating the student org space from the admin/office space.

- e. RA asked that we include windows along the south side lower floor for the fitness/spa space.
 - f. RA is planning to look for student feedback. End of October works.
 - g. RA would like to see an interim version of the Fieldhouse and the ITS suite options.
 - h. Design team to send RA example renderings of other projects that we have done to gauge a level of detail and articulation, as well as pictures of precedents.
7. Phasing:
 - a. Fieldhouse first to relieve pressure in Union West, and to provide swing space in the basement
 - b. RA would like it as a single package beyond this.

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