

**Updated Architectural Program**

**A New Building**  
for the  
**College of Business Administration**



**April 26, 2014**

**Prepared By**



**The Ebert Mayo Design Group**  
Architects & Planning Consultants

# Programming Committee

## College of Business Administration

- **Dr. Ali Malekzadeh**  
Ederly Family Dean  
Professor
- **Dr. Anand Desai**  
Associate Dean for Academic Administration  
Capitol Federal Distinguished Chair in Finance  
Associate Professor
- **Dr. Stacy Kovar**  
Associate Dean for Academic Programs  
PricewaterhouseCoopers Faculty Fellow  
Professor
- **Brian Kovar**  
Building Design Committee Chair  
Department of Management  
Instructor

## Division of Facilities

- **Mark George**  
Project Manager  
Director of Campus Planning and Facilities Management
- **Michael Mayo**  
President  
The Ebert Mayo Design Group, Architects & Planning Consultants
- **Michael Schaadt**  
Principal  
PGAV Architects

# Table of Contents

<b>Introduction.....</b>	<b>1</b>
Current Situation.....	1
Competitive Market.....	1
Usable Space for Students.....	2
Per Student Analysis of Business Schools.....	3
Plans for Growth.....	3
Expansion of Academic Programs.....	3
<b>Updated Programmed Space.....</b>	<b>5</b>
Space Requirements.....	5
<b>Building Design.....</b>	<b>10</b>
Architectural Design.....	10
Building Elements.....	10
Applicable Codes and Regulations.....	10
Building Code Highlights.....	11
HVAC Systems.....	11
Electrical Systems.....	11
Plumbing Systems.....	12
Fire Protection Systems.....	12
Water Distribution Infrastructure.....	12
Sanitary Sewer Infrastructure.....	13
Storm Water Infrastructure.....	13
Storm Water Management.....	13
Streets and Drives.....	13
Exterior Plazas.....	14
<b>Project Budget, Funding and Timeline.....</b>	<b>15</b>
<b>Updated Programmatic Design.....</b>	<b>16</b>
<b>Appendix A - General Building Requirements.....</b>	<b>26</b>
<b>Appendix B - Site Utilities Map.....</b>	<b>27</b>

## Architectural Program

# A New Building for the College of Business Administration

## Introduction

Kansas State University engaged The Ebert Mayo Design Group to conduct existing site conditions analyses and programming for construction of a new facility to meet the needs of the College of Business Administration. The work for programming and special needs assessment is the initial stage for acquisition of the new facility. The information in this program includes written descriptions of key considerations, numeric and written space requirements, conceptual plans, project budget, and supporting data.

The program documents the efforts of the University to build a new 156,000 square foot building for the College of Business Administration to house all faculty, staff, and students in the College, as well as provide an inviting place for the alumni and the business community. The estimated cost of the project is \$55 million, the majority of which will be raised from private donations. The remaining portion of the cost will come from bonding authority repaid with University resources, mostly tuition funding. A new building for the College of Business Administration will allow their Calvin Hall building to be utilized for University general classroom needs.

## Current Situation

Calvin Hall is the home of the College of Business Administration. Built 105 years ago, it has undergone several major renovations, the most recent being in 1998. The building has 51,781 square feet of space which includes nine classrooms and offices for 70 faculty members and 10 staff. This building serves more than 2,600 students who major in business.

Calvin Hall has reached its capacity and has no more space for the expansion needed to offer new academic programs. Similarly, Calvin Hall cannot accommodate innovative spaces for entrepreneurship, research labs, and other essential spaces which can support the faculty's teaching and research, as well as students' activities and professional development. The building was originally designed to serve only the students and faculty, and as such it cannot accommodate the needs of alumni and business executives who are, in increasing numbers, becoming heavily involved with the College.

## Competitive Market

Data from K-State's Office of Admissions shows that students who are interested in K-State's business programs also apply to the College's top six competitors – the University of Kansas, Wichita State University, University of Missouri, Oklahoma State University, University of Arkansas, and the University of Nebraska. Students also apply to other Big 12 schools.

In general, the College of Business Administration's competition is in the Midwest. Analyses show that all of the business schools in the competitive market have built new buildings, renovated their existing buildings, or are in the process of building a new building. The University of Kansas is in the process of designing their new building, and Oklahoma State recently unveiled its plans for a 200,000 square foot business school building. Around the country, more than 50 other business schools are constructing new buildings.

State-of-the-art facilities, coupled with excellent and innovative academic and professional development programs, will enable the College to recruit and retain the best business students and faculty, fulfill the University's land grant mission, and be responsive to the needs of the alumni and corporate partners.

## Usable Space for Students

The variety of spaces designated for specific uses in today's business schools is remarkable and are becoming standard in most new buildings. Those spaces include:

- Individual study rooms
- Group study rooms
- Areas for student and professional organizations
- Meeting rooms
- Computer labs
- Research labs
- Financial trading rooms
- Interview rooms for sales training
- Space for student-run businesses
- Areas for team work

As savvy shoppers, prospective business students often have a checklist of their educational needs. During campus visits they note these types of spaces and the extracurricular activities and services which the different schools offer and base their decisions on what they have observed.

The average square footage per student in several competitors' business schools is revealing. The College of Business Administration currently occupies the smallest building of all its competitors. However, a more compelling indicator of need is viewed as square feet per student. The College currently averages only 19.60 square feet of space per student. Most of the College's competitors have twice, or in one case seven times, the space available in Calvin Hall.

<b>Per Student Analysis of Business Schools</b>			
Business School	Enrollment <sup>1</sup>	Building Size (Square Feet)	Square Feet Per Student
<b>Kansas State University</b>	<b>2,642</b>	<b>51,781</b>	<b>19.60</b>
<b>Top Competitors</b>			
University of Kansas	1,656	56,640	34.20
Wichita State University	2,146	82,692	38.53
University of Missouri	4,100	150,000	36.59
Oklahoma State University	4,727	200,000 <sup>2</sup>	42.31
University of Arkansas	3,640	120,000	32.97
University of Nebraska-Lincoln	3,410	101,900	29.88
<b>Big 12</b>			
University of Texas-Austin	5,980	350,000	58.53
University of Oklahoma	3,087	110,000	35.63
Texas Tech University	4,293	140,000	32.61
Iowa State University	3,513	111,000	31.60
<b>Others</b>			
University of Wisconsin	2,488	350,000	140.68
Indiana University (Undergraduate Only)	4,720	411,000	87.08
University of Michigan	3,103	270,000	87.01
Oregon State University	3,090	200,000	64.72
Texas A&M University	5,623	340,000	60.47
University of Colorado-Boulder	3,346	165,000	49.31
Colorado State University	3,414	161,000	47.16
University of Minnesota	5,650	243,000	43.01
University of Tennessee (Undergraduate Only)	4,615	174,000	37.70
University of Iowa	5,168	187,000	36.18
<sup>1</sup> Enrollment numbers are for the 2010-2011 academic year.			
<sup>2</sup> Planned new building.			

## Plans for Growth

K-State's *Vision 2025* states that the University aspires to be ranked among the top 50 research universities in the nation. Following this vision, the College of Business Administration intends to become a top 50 business college, and differentiate itself by providing practical, hands-on learning experiences for the students. The College plans to grow its academic programs and increase enrollment by 15% in the next few years. To be able to accomplish these goals requires a flexible, state-of-the-art building which accommodates a larger number of faculty, staff and students, and also allows opportunities for innovative experiential academic programs. The new building will be designed to be welcoming to the alumni and business executives who will assist the College in mentoring students, providing access to their corporations, serving on various advisory boards, and helping to accomplish fundraising goals. It will also be designed for future expansion (to the south).

## Expansion of Academic Programs

The College faculty has been reluctant to design new programs primarily because of a lack of space. One example is a state-of-the-art data mining and data security laboratory. If space were available the College could provide a study program that would allow the College to offer a Management Information Systems specialization in Data Security. Such a specialization in curriculum could lead to collaborative efforts with the Computer Science faculty and K-State's Biosecurity Research Institute. There are significant government and corporate grants available in data security which could fund faculty and undergraduate student research.

Another area of expansion is Entrepreneurship. The College of Business Administration could collaborate with the College of Engineering and the College of Architecture, Planning & Design to have project teams of students from all three colleges launch businesses, build products, and market those products. An Entrepreneurship space can be used to encourage all K-State students to start businesses and do it in the College's new building.

Beyond Data Security and Entrepreneurship, the College of Business Administration needs innovative and expanded academic programs in the Capital Markets arena. The College's most successful alumni majored in Accounting and Finance and can help design new programs which lead to attractive careers for the students. Any new major in this area requires expanded research labs with the latest databases available to the faculty and students.

Beyond collaboration with the colleges of Engineering and Architecture, the College of Business Administration is exploring partnerships with the colleges of Arts & Sciences, Veterinary Medicine, Agriculture, Human Ecology, and Education. These innovative opportunities will become reality in a new, well-designed building.

# Updated Programmed Space

## Space Requirements

The programmed spaces on the following pages are to be integrated into the design of the new facility in accordance with the design considerations established in this document.

Space Requirements							
	Qty	Occ	SF per Occ or Area	SF per Space	Total NASF	GSF/NASF Factor	Total GSF
<b>General Academic Spaces</b>							
Lecture Hall	1	250	25	6,250	6,250	1.3	8,125
Lecture Hall Control Room	1	-	100	100	100	1.5	150
General Classrooms	13	50	21	1,050	13,650	1.3	17,745
Tiered Seating Classrooms	3	80	25	2,000	6,000	1.4	8,400
Computer Classrooms	3	50	25	1,250	3,750	1.4	5,250
<b>Totals</b>					<b>29,750</b>		<b>39,670</b>
<b>Specialty Instruction, Research and Support Spaces</b>							
<b>Shared Spaces</b>							
Reception and Help Desk	1	12	30	360	360	1.4	504
Laboratory Attendant/Support Desk	1	1	80	80	80	1.4	112
Observation Room	1	-	100	100	100	1.4	140
Conference Room	1	15	25	375	375	1.4	525
Role Play/Behavior Research Rooms	6	2	40	80	480	1.6	768
Print Support Area	1	-	120	120	120	1.4	168
<b>Financial Research Laboratory</b>							
Main Trading Room	1	35	40	1,400	1,400	1.4	1,960
Investor Funds Trading Room	1	12	40	480	480	1.4	672
<b>National Strategic Selling Institute</b>							
Director's Office	1	1	180	180	180	1.5	270
Administrative/Faculty Offices	2	1	120	120	240	1.5	360
<b>Entrepreneurship Center</b>							
"Company" Open Office Space	1	48	50	2,400	2,400	1.4	3,360
Director's Office	1	1	120	120	120	1.5	180
Associate Director's Office	1	1	120	120	120	1.5	180
Faculty Office	1	1	120	120	120	1.5	180
<b>Management Information Systems Suite</b>							
Senior MIS Studio	1	40	25	1,000	1,000	1.4	1,400
Junior MIS Studio	1	40	25	1,000	1,000	1.4	1,400
Networking Laboratory/Mobile Development	1	20	25	500	500	1.4	700
Business Analytics Laboratory	1	20	25	500	500	1.4	700
<b>Behavioral Research Laboratory</b>							
Multi-Purpose Research Laboratory	1	20	21	420	420	1.4	588
Storage Support Room	1	-	120	120	120	1.5	180
<b>Totals</b>					<b>10,115</b>		<b>14,347</b>



	Qty	Occ	SF per Occ or Area	SF per Space	Total NASF	GSF/NASF Factor	Total GSF
<b>Academic Support Spaces</b>							
Faculty Offices	80	1	120	120	9,600	1.5	14,400
Faculty Offices	10	2	50	100	1,000	1.6	1,600
Executive-In-Residence Offices	5	2	80	160	800	1.5	1,200
GTA Offices	6	1	80	80	480	1.6	768
Graduate Student Open Office Space	1	12	50	600	600	1.3	780
Student Clubs Open Office Space	1	10	80	800	800	1.3	1,040
Student Clubs Storage Space	1	-	200	200	200	1.5	300
Small Independent Study Rooms	9	2	25	50	450	1.5	675
Medium Independent Study Rooms	20	4	22	88	1,760	1.5	2,640
Large Independent Study Rooms	16	6	18	108	1,728	1.5	2,592
Informal Study Spaces	-	-	-	-	4,000	1.4	5,600
<b>Totals</b>					<b>21,418</b>		<b>31,595</b>
<b>Academic Department Administrative Support Spaces (* Shared)</b>							
Waiting	6	4	40	160	960	1.4	1,344
Administrative Reception	6	2	80	160	960	1.4	1,344
Department Heads' Offices	6	1	180	180	1,080	1.4	1,512
Conference Rooms *	3	12	30	360	1,080	1.4	1,512
Open Office Spaces	6	2	100	200	1,200	1.4	1,680
File Storage	6	-	100	100	600	1.5	900
Storage	6	-	30	30	180	1.5	270
Kitchenettes *	3	-	30	30	90	1.5	135
Conference Room/Classroom *	1	25	30	750	750	1.4	1,050
<b>Totals</b>					<b>6,900</b>		<b>9,747</b>

	Qty	Occ	SF per Occ or Area	SF per Space	Total NASF	GSF/ NASF Factor	Total GSF
<b>College Administrative Support Spaces</b>							
Waiting	1	6	40	240	240	1.3	312
Administrative Reception	1	2	80	160	160	1.6	256
Dean's Office	1	1	300	300	300	1.3	390
Associate Dean's Office	1	1	200	200	200	1.4	280
Conference Room	1	8	25	200	200	1.4	280
Executive Conference Room	1	60	40	2,400	2,400	1.3	3,120
Administrative Assistant's Office	1	1	160	160	160	1.5	240
Administrative Assistant's Office	1	1	120	120	120	1.5	180
Accounting Offices	3	1	120	120	360	1.5	540
General Staff Offices	2	1	120	120	240	1.5	360
Kitchenette	1	-	50	50	50	1.5	75
Secure Storage	1	-	40	40	40	1.5	60
Supply Storage	1	-	120	120	120	1.6	192
Development Staff Offices	3	1	120	120	360	1.5	540
Communications Staff Office	1	1	120	120	120	1.5	180
Development/Communications Storage	1	-	120	120	120	1.6	192
Communications Graduate Student Work Space	1	2	80	160	160	1.5	240
Central File Archive	1	-	120	120	120	1.6	192
Corporation Temporary Offices	3	2	100	200	600	1.5	900
Corporation Temporary Storage	1	-	40	40	40	1.5	60
Corporation Kitchenette	1	-	30	30	30	1.6	48
Central Copy Center	1	-	180	180	180	1.6	288
<b>Totals</b>					<b>6,320</b>		<b>8,925</b>

	Qty	Occ	SF per Occ or Area	SF per Space	Total NASF	GSF/ NASF Factor	Total GSF
<b>College Student Services Support Spaces</b>							
<b>Shared Spaces</b>							
Shared Waiting	1	15	40	600	600	1.3	780
Undergraduate Reception	1	2	80	160	160	1.4	224
EMPA Reception	1	1	80	80	80	1.4	112
Graduate Reception	1	1	80	80	80	1.4	112
Conference Room	1	15	30	450	450	1.4	630
Central Copy/Work Area	1	-	180	180	180	1.4	252
Linear File Storage	1	-	120	120	120	1.5	180
Kitchenette	1	-	30	30	30	1.5	45
General Storage	1	-	100	100	100	1.5	150
<b>Graduate Student Services</b>							
Associate Dean's Office	1	1	200	200	200	1.4	280
Assoc Dean's Graduate Student Support	1	1	80	80	80	1.6	128
Assistant to Dean's Office	1	1	120	120	120	1.6	192
PMBA Program Director's Office	1	1	120	120	120	1.6	192
<b>EMPA</b>							
EMPA Director's Offices	2	1	120	120	240	1.6	384
Program Associate PA Office	3	1	110	110	330	1.6	528
<b>Undergraduate Services</b>							
Undergraduate Services Director's Office	1	1	120	120	120	1.6	192
Office Manager's Office	1	1	110	110	110	1.6	176
Undergraduate Advisor's Offices	8	1	110	110	880	1.5	1,320
Support Staff Office	1	1	110	110	110	1.6	176
Student Records Office	1	1	110	110	110	1.6	176
Undergraduate Recruiting Office	1	1	120	120	120	1.6	192
Graduate Student Support	1	1	80	80	80	1.4	112
<b>Diversity Office</b>							
Assistant Dean for Diversity's Office	1	1	120	120	120	1.6	192
Asst Dean's Graduate Student Support	1	1	80	80	80	1.4	112
<b>Totals</b>					<b>4,620</b>		<b>6,837</b>

	Qty	Occ	SF per Occ or Area	SF per Space	Total NASF	GSF/NASF Factor	Total GSF
<b>Event and Event Support Spaces</b>							
Atrium	1	400	35	14,000	14,000	2.0	28,000
Coffee Bar	1	50	30	1,500	1,500	1.4	2,100
Atrium Storage	1	-	500	500	500	1.3	650
Catering Kitchen	1	-	800	800	800	1.4	1,120
General Storage	8	-	100	100	800	1.3	1,040
<b>Totals</b>					<b>17,600</b>		<b>32,910</b>
<b>Information Technology Support Spaces</b>							
Director's Office	1	1	120	120	120	1.5	180
Support Technician's Office	1	1	120	120	120	1.5	180
Staff Office	2	1	100	100	200	1.5	300
Graduate Assistant Work Space	1	4	80	320	320	1.4	448
Video Control Room	1	-	180	180	180	1.3	234
KSU iTAC Head-End Technology Room	1	-	80	80	80	1.3	104
CBA Head-End Technology Room	1	-	170	170	170	1.3	221
Technology Closets	16	-	50	50	800	1.3	1,040
<b>Totals</b>					<b>1,990</b>		<b>2,707</b>
<b>General Building Support Spaces</b>							
Toilet Rooms (Pairs)	4	-	600	600	2,400	1.6	3,840
Family Restroom	4	-	50	50	200	1.7	340
Lactation Room	2	-	50	50	100	1.7	170
Custodial Rooms	4	-	100	100	400	1.3	520
Receiving/Loading Dock/Area	1	-	200	200	200	1.7	340
Building Manager's Office	1	1	120	120	120	1.5	180
Mechanical/Electrical Equipment Rooms	-	-	-	-	3,000	1.3	3,900
<b>Totals (Non-Assignable)</b>					<b>6,420</b>		<b>9,290</b>
<b>Summary</b>							
Total Net Assignable Square Feet					<b>105,133</b>		
Total Gross Square Feet					<b>156,028</b>		
Total Building Efficiency Ratio (NASF/GSF)					<b>67%</b>		
Average Building Efficiency Ratio of This Building Type					65%		

# Building Design

## Architectural Design

The new building is planned for a prominent location along North Manhattan Avenue. Campus buildings nearby include the Beach Museum of Art and All Faiths Chapel/Danforth Chapel to the south; the President's Residence to the west; and Justin Hall and Bluemont Hall to the north. The vernacular of these buildings is as varied as their era of construction.

A successful design for this new structure will respect the existing architectural language of the campus while simultaneously imparting the corporate image of the business industry which the College of Business Administration serves. This is complicated by a need for the building to appear that it has literally grown on the Main Campus of the University rather than having been transplanted onto the campus.

Construction materials should be selected which conform with University design standards which simultaneously complement the entire facility. It should be sensitive to existing adjacent spaces as well as proposed new development in accordance with the University Master Plan.

It is expected that the Architect will validate required assignable spaces in this program based on the continually evolving needs of a university curriculum. Non-assignable spaces such as circulation corridors, mechanical rooms, and storage should be validated based upon occupancy needs. Collaborative and independent study spaces are intended to be interwoven throughout the building to support opportunities for impromptu interactions between students, faculty, and visitors.

Although LEED certification is not a design requirement, the Architect should incorporate sustainable features including daylighting, passive solar, energy recovery and other features which are readily achievable and have a sound financial basis within the construction budget.

## Building Elements

The structural system should be a conventional system, steel frame/steel joist/metal deck/concrete slab. The minimum floor load capacity should be dead load plus 80 pounds per square foot to provide flexibility in re-purposing floor space for unknown future needs.

Three elevators should be provided. They should be one 3,500 and two 2,500 pound capacity, electric traction, combination passenger/freight service, with landings at each floor. The cabs and controls are to be ADA compliant.

The building should have integrated vertical and horizontal chase systems to permit future flexibility and adaptability of mechanical, electrical, plumbing, and telecommunications systems.

## Applicable Codes and Regulations

The new facility must meet applicable codes and standards adopted by the State of Kansas. At the time of this programming, it includes the following:

- International Building Codes
- Kansas Fire Prevention Code or NFPA 101, 2000 Addition
- Americans with Disabilities Act and Americans with Disabilities Act Architectural Guidelines
- Kansas Statutes
- Regulations from the Office of Facilities and Property Management
- Regulations from the Kansas State Fire Marshal
- Kansas State Boiler Code KSA 44-913
- ANSI/ASME A17.1 Elevator Code
- ASHRAE 90.1

Other Applicable Codes, Standards and References:

- 2002 NFPA 10 Portable Fire Extinguishers
- 2002 NFPA 13 Installation of Sprinkler Systems

- Code of Federal Regulations 29 CFR 1910 Occupational Safety and Health Standards
- State of Kansas, Office of Facilities and Property Management (OFPM) Building Design and Construction Manual

## Building Code Highlights

General building requirements are indicated as follows:

- **Occupancy Classifications:** Type B Business (primary), with accessory support spaces of other occupancies such as storage; Type A-3 Assembly, with accessory support spaces.
- **Construction Type:** Type I-B construction is anticipated.
- **Automatic Sprinklers:** Required.
- **Exits Required:** Based on Use Group Classifications A and B.
- **Maximum Dead-End Corridor Distance:** 50 feet.
- **Minimum Corridor Width:** Not less than 44 inches (84 inches desired).
- **Travel Distances:** 200 feet maximum (in fully sprinklered building).
- **Common Path of Travel:** 100 feet maximum (in fully sprinklered building).
- **Minimum Plumbing Fixtures Required:** Based on Use Group Classifications A and B.
- **Accessibility:** An accessible route is required throughout the entire building except in mechanical spaces.
- **Emergency Egress Lighting:** Emergency lighting is required at one footcandle (minimum) along the exit path extending to the public way.
- **Fire Extinguishers:** Fire extinguishers as required per Section 906 of the International Fire Code, located so that the maximum travel distance does not exceed 75 feet. (Fire extinguishers provided by Owner.)

## HVAC Systems

Based on the concept design floor plans and occupant loads it is estimated that the heating and cooling system will need to provide approximately 720 tons of cooling and 6,400 LB/HR of steam heating (includes building heating and heating of domestic water).

- Heating and cooling will be provided by a combination of air handling units and fan coil units to provide individual room temperature control for all classrooms, offices and common public areas. Each unit will be equipped with a chilled water cooling coil and either steam or hot water heating coil.
- Dedicated outside air systems will provide outside air conditioned to room-neutral conditions per ASHRAE 62. The fresh air quantity will be demand-limited in response to occupancy and/or space carbon dioxide levels for reduction in operating energy. Heat recovery from exhaust air streams will be included in the design of the outside air systems.
- Toilet rooms will be exhausted per the International Mechanical Code requirements.
- A Honeywell Direct Digital Control system will monitor all utility meters and control the operation of all HVAC systems. This system will communicate with the campus system in Dykstra Hall.
- Chilled water supply, steam and condensate piping will be connected to the campus central plant distribution. Variable speed pumps will circulate chilled water to building loads. The University standard chilled water bridge and controls will be installed at the chilled water entrance to the building.

## Electrical Systems

Based on the design development floor plans, the calculated load per the NEC is 1,440 kVA.

- A connection to the campus 12,470 volt primary distribution loop will serve a pad-mounted transformer to provide 277/480 volt, 3-phase power to the building.

- Electrical distribution equipment including switchboards, step-down transformers and branch panels will be strategically located in the building. This equipment will be manufactured by Square D per the University standard.
- Lighting systems will utilize high efficiency fixtures meeting the University standards.
- The lighting and lighting controls will be designed in accordance with the International Energy Code.
- Exit signage and emergency egress lighting will meet the requirements of the International Building Code.
- A Honeywell addressable fire alarm system will be installed in the building which will communicate with the central campus system in Dykstra Hall.

## Plumbing Systems

Based on the design development floor plans and occupant loads, estimated peak plumbing loads are 160 GPM for the domestic water and sanitary sewer; 1,662 GPM for storm roof drainage (does not include any site storm drainage); and 200 CFH for natural gas.

- New sanitary sewer, storm sewer and water services will be extended to the building from site mains.
- The plumbing design will meet the requirements of the University standards and the International Plumbing Code.

## Fire Protection System

Based on the design development floor plans, estimated peak load for the fire protection system is 1,475 GPM.

- A new fire protection service will be extended to the building from site mains.
- A wet fire sprinkler system will be installed to serve all building areas per NFPA 13.
- Wet standpipes will be located in stair towers per NFPA 14.
- The fire protection systems will be designed to meet the requirements of the University Standards and the City of Manhattan.

## Water Distribution Infrastructure

The following are applicable for water distribution needs for the proposed site. See Appendix E for additional information.

There are currently conflicts with the existing distribution system based upon the proposed location of the new building.

- An existing 8" diameter water main crosses the proposed building site from the east side of the site (Kearney Street Extended) and travels northwest to Lover's Lane. This main will need to be abandoned.
- An existing water main that serves the east side of the President's Residence and/or irrigation is served from the 8" main requiring abandonment.
- An existing water main that serves a yard hydrant to the south of the proposed building is also served from the 8" water main and requires abandonment.

Water distribution improvements will be required to provide the necessary domestic and fire flow requirements of the new building.

- A new connection to the existing 8" water distribution main will be required just east of Wilson Court along Lover's Lane.
- A new 8" water main will be required heading south from new connection to connect to existing water main servicing President's Residence and/or irrigation, and to provide domestic and fire flow requirements to the new building.
- A new 8" water main will be required heading east of the new connection along the north side of the proposed Lover's Lane Realignment to just west of the existing North Manhattan Avenue wall.
- This new 8" water main will need to continue to the south to connect into the existing City of Manhattan main just west of the North Manhattan Avenue wall.

## Sanitary Sewer Infrastructure

The following are applicable for sanitary sewer needs for the proposed site. See Appendix E for additional information.

There is currently one conflict with the existing sanitary sewer system based upon the proposed location of the new building. An existing 6" gravity sanitary sewer service crosses the proposed site that currently serves the President's Residence and will require abandonment west of the proposed site.

A new manhole will be required west of the site and gravity sanitary sewer will be required to be installed south of the building and then head east to connect to the existing sanitary sewer main west of North Manhattan Avenue. This relocation could also provide sanitary sewer service to the new building as well if desired during the design.

## Storm Water Infrastructure

The following are applicable for storm water needs for the proposed site. See Appendix E for additional information.

There is currently an existing 30" arch storm sewer collection pipe located to the north of the proposed building along the existing alignment of Lover's Lane. Based upon the preliminary location of the proposed building, it does not appear that this main would be required to be abandoned. This should be verified upon final building location. It should also be noted that there would be a conflict between this storm water pipe and the existing sanitary sewer currently located north of this pipe if realignment would be necessary.

The only improvements currently expected to be required would be to reconnect any new storm water inlets that may be installed with the Lover's Lane realignment to the existing 30" arch storm water collection pipe.

## Storm Water Management

The following are applicable for storm water management needs for the proposed site. See Appendix E for additional information. The storm water management criteria is based upon current City of Manhattan regulations for minimizing post-developed flows to no greater than pre-developed flows.

- Pre-Developed Flows for the site are approximately:

10-Year Storm = 9.9 CFS  
100-Year Storm = 18.5 CFS

- Developed Flows for the site without detention are approximately:

10-Year Storm = 18.2 CFS  
100-Year Storm = 28.8 CFS

- Proposed Post-Developed Flows for the site are approximately:

10-Year Storm = 9.9 CFS  
100-Year Storm = 18.1 CFS

Two underground arch chambers are proposed to facilitate the detention required. Potential locations for the chambers are shown to the east and south of the site.

## Streets and Drives

The designs are based on the University's realignment of Lover's Lane in accordance with the campus master plan. Connections to this realigned street, and drives which meet fire department access requirements and building maintenance access, are included in this project.



## **Exterior Plazas**

The design development plan provides significant exterior space for individual and group activities throughout the year when weather conditions are conducive to outside use. Spaces are to be designed for flexibility of uses, and provide opportunities of extending functions of interior spaces to the exterior.

The exterior plazas are to connect to the sidewalk along North Manhattan Avenue at Kearny Street for access to the residential neighborhood east of the campus and to Aggieville.

# Project Budget, Funding and Timeline

## Budget

The estimated project costs for this new building totals \$55 million.

Building and Site Improvements	\$40,900,000
Furniture, AV Equipment & IT Infrastructure	8,800,000
Architect/Engineer Design Fees & Miscellaneous	3,300,000
Project Contingency	<u>2,000,000</u>
<b>Total Project Cost</b>	<b>\$55,000,000</b>

## Funding

The project will be funded by a combination of private gifts and bond funds to be repaid with University resources.

## Maintenance and Operation

No additional funds will be requested for maintenance of this building. The funding for maintenance will be endowed through private gifts.

Using the KBOR-FY 2007 formula with the FY 2013 revisions, this building will require 11.22 FTE for salaries of \$414,691. The utility rate is figured at \$546,000 (156,000 GSF @ \$3.50/SF), and other operating expenditures at \$88,920 (156,000 GSF @ \$0.57/SF). The total expenses for this building are \$1,049,611.

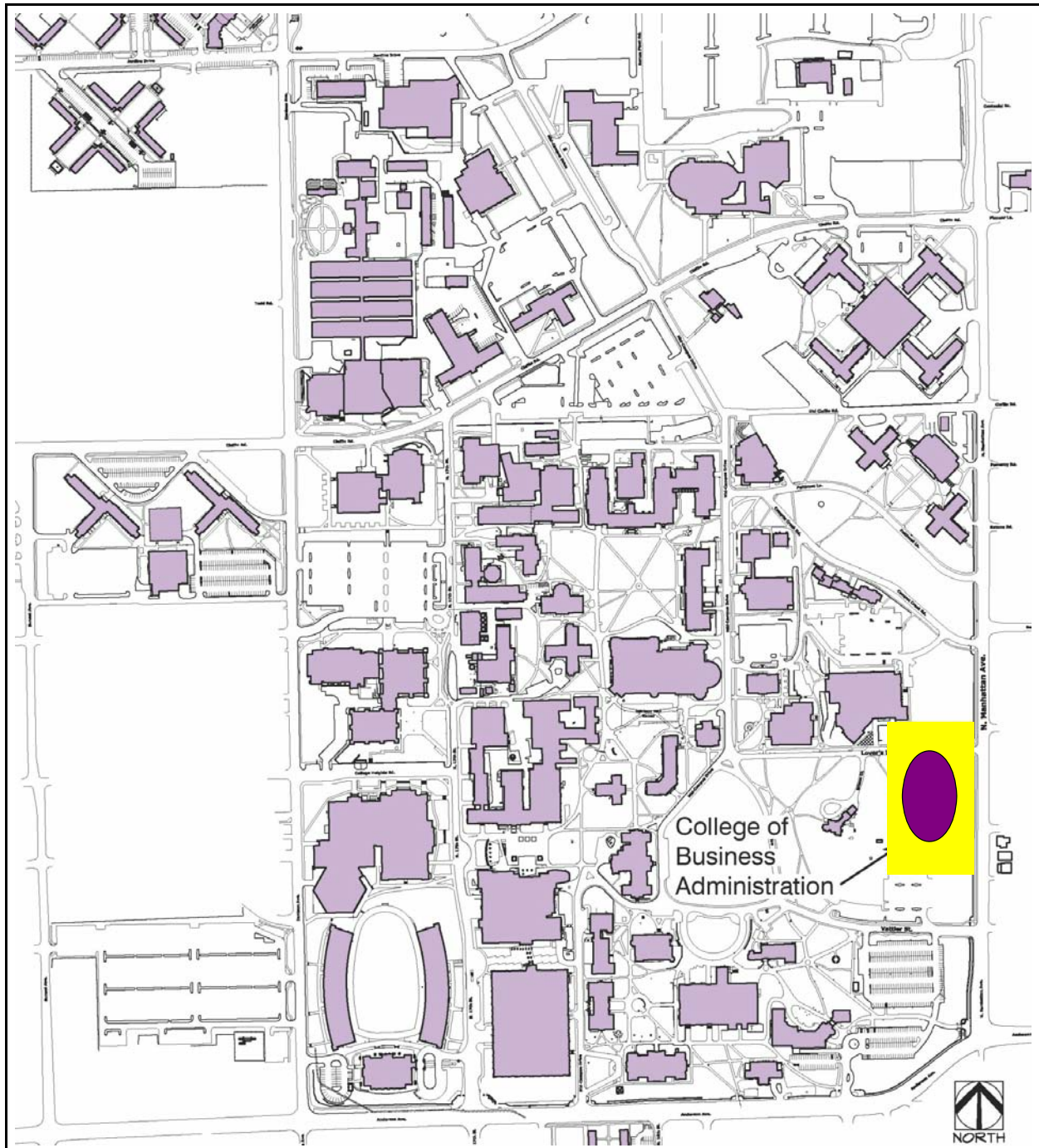
## Timeline

Original Board of Regents Approval	April 2013
Original Legislative Authorization	May 2013
Original Architect/Engineer Selection	June 2013 - August 2013
Design/Construction Documents	August 2013 - July 2014
Construction	August 2014 - June 2016
Completion/Occupancy	July 2016

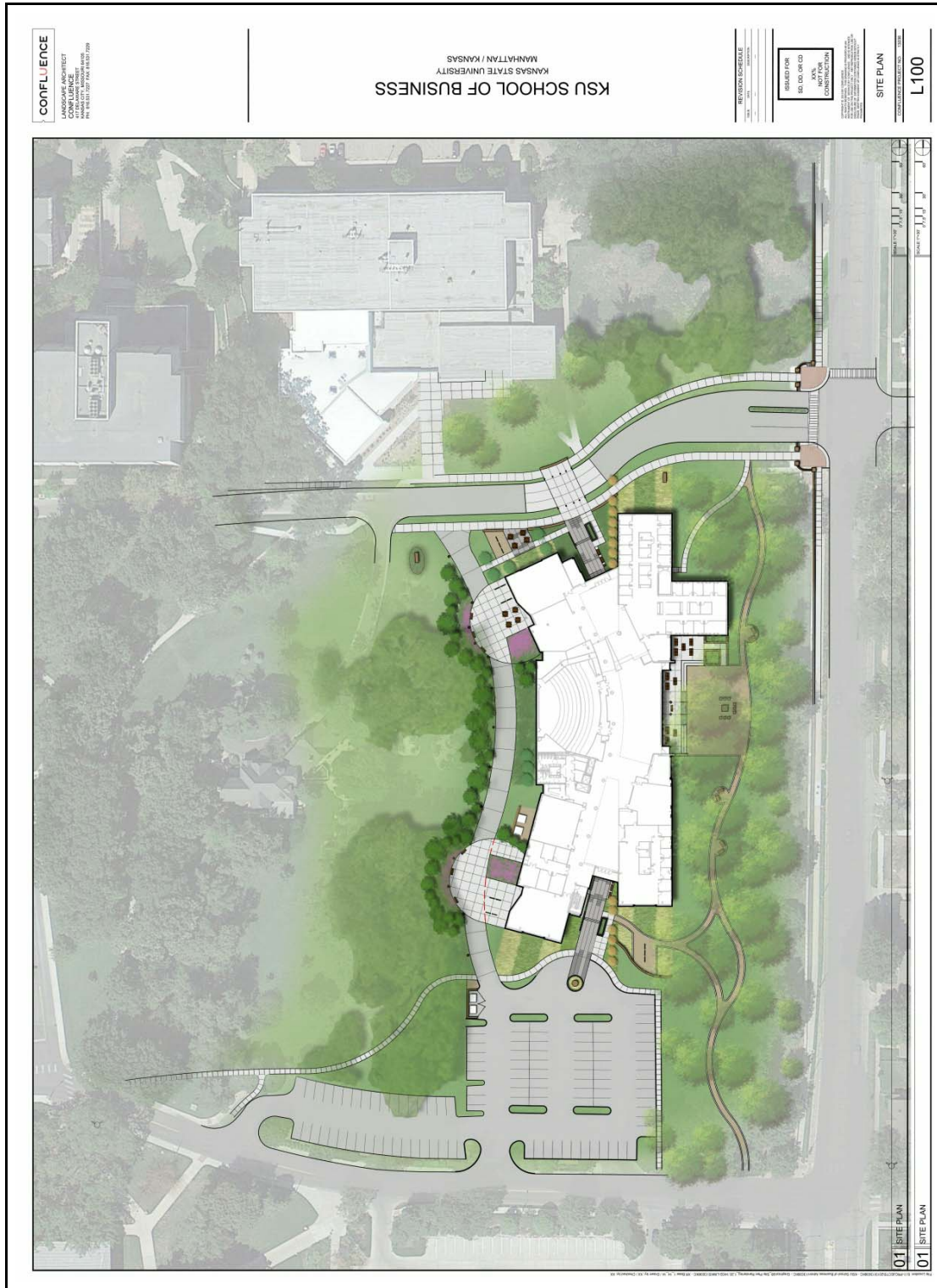
# Programmatic Design

The following plans and renderings illustrate a design development plans for the new College of Business Administration building. The open space to the east of the President's Residence, facing North Manhattan Avenue, has been identified as the most suitable location for the new building. The site plans and floor plans illustrate a functional layout for the programmed spaces, while the renderings provide quality model guidance for exterior and interior design.

## Building Location Map



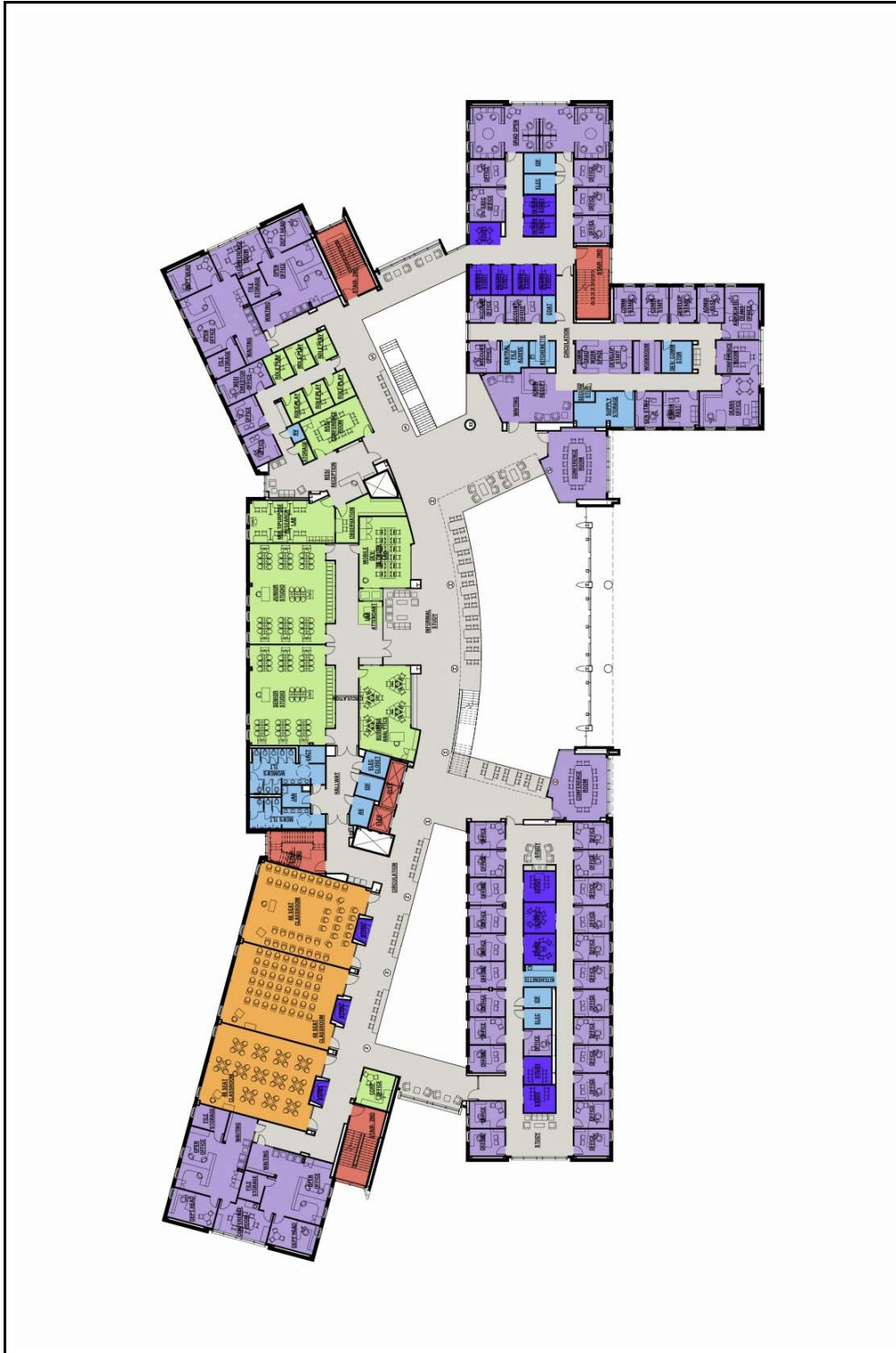
# Design Development Site Plan



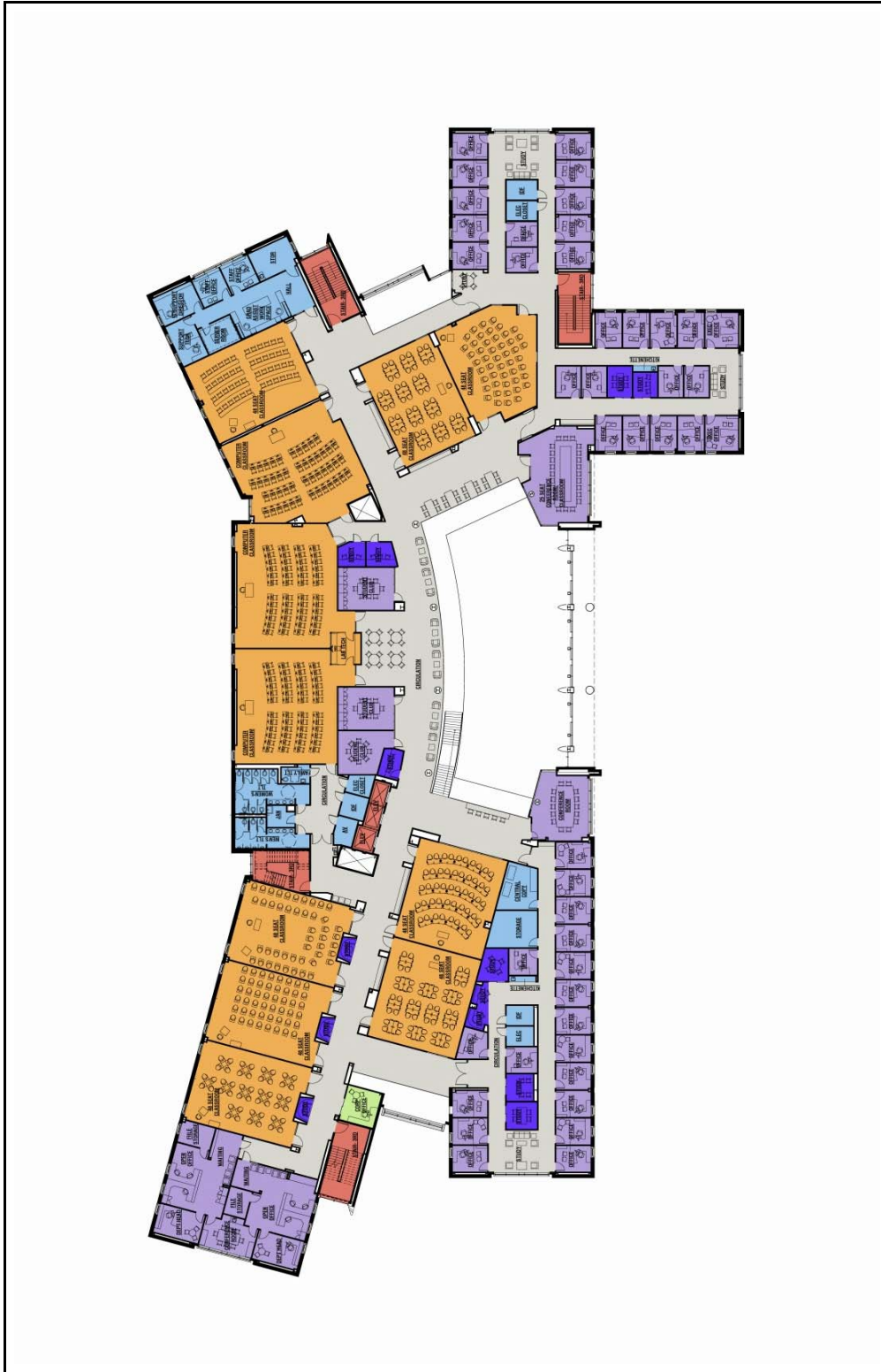
## Design Development First Floor Plan



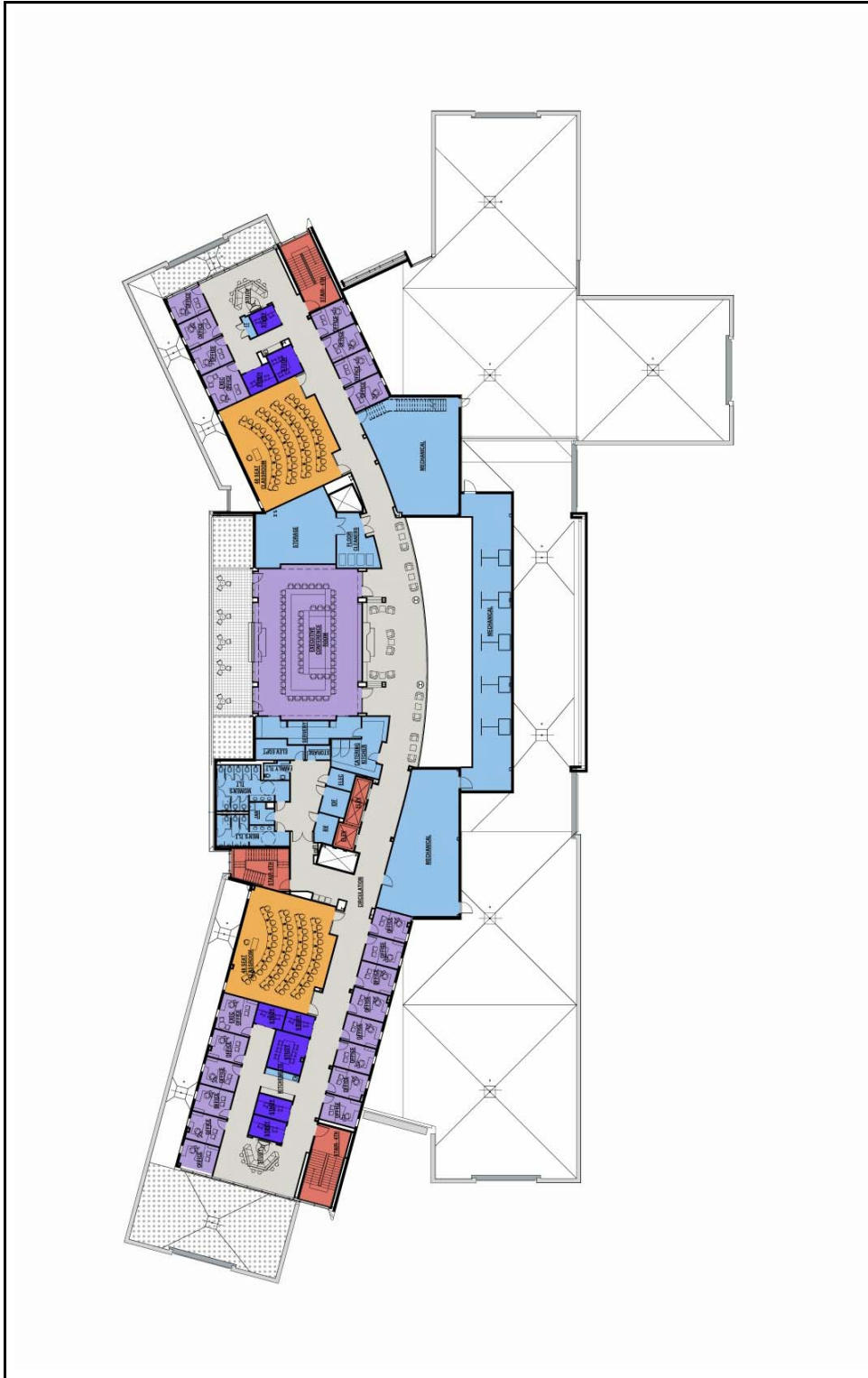
## Design Development Second Floor Plan



## Design Development Third Floor Plan



## Design Development Fourth Floor Plan

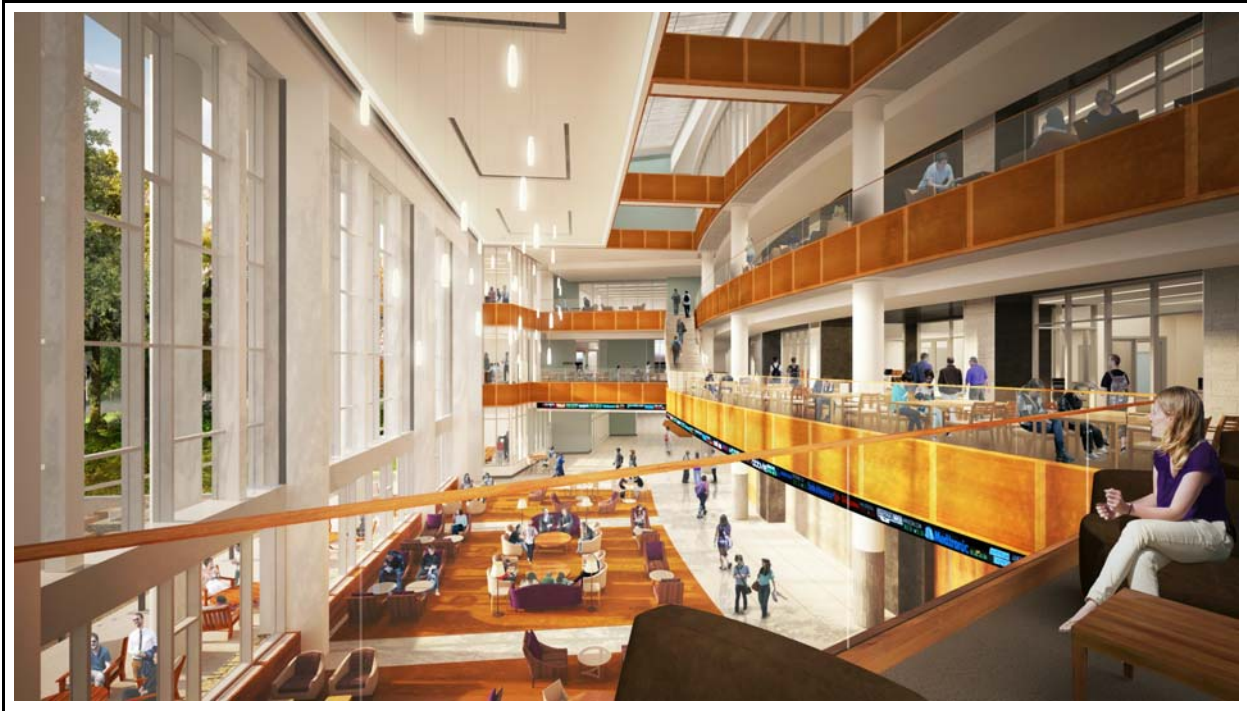
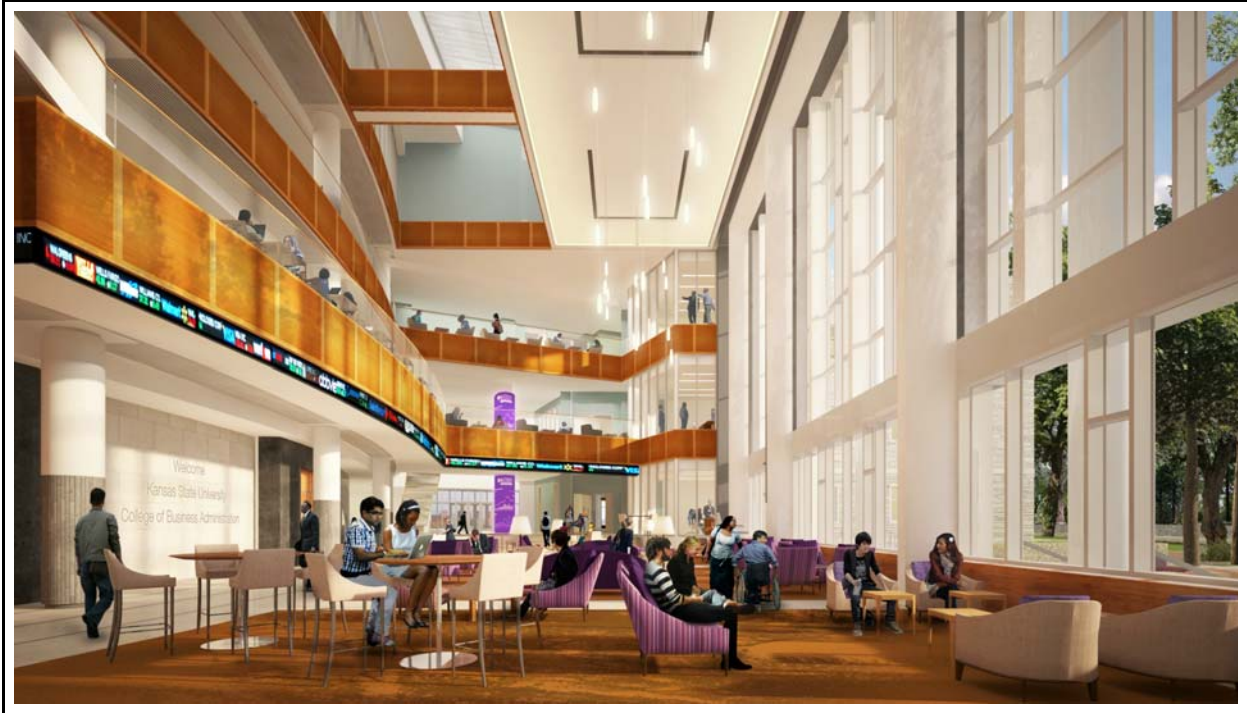




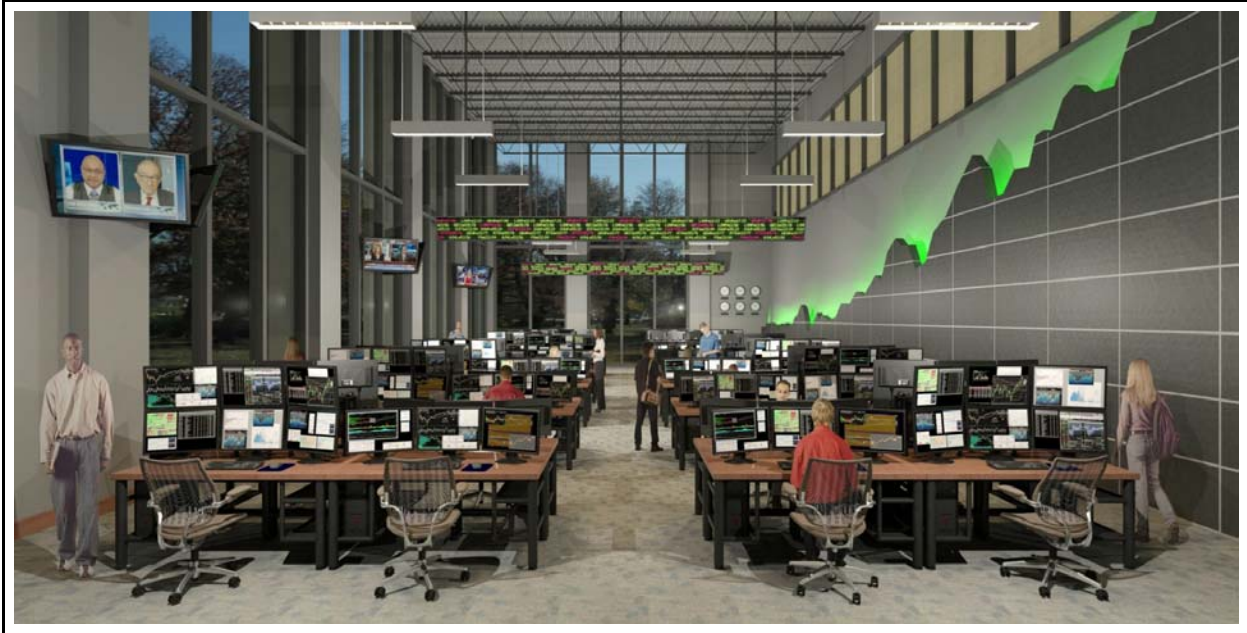
## Design Development Exterior Design



## Design Development Atrium Design



### Financial Research Lab - Main Trading Room Concept Design



### Tiered Seating Classroom Concept Design



### Executive Conference Room Concept Design



# Appendix A

## General Building Requirements

All interior spaces should be designed for adaptability to changing technology, comfort, safety and energy efficiency. Finishes, in general, should be durable, smooth, damage resistant and easily cleanable.

- **Floors:** Smooth, non-slip, with finish appropriate for use according to Kansas State University Standards.
- **Walls:** Scuff and impact resistant, easily cleanable, with wall protection provided where anticipated traffic flow or equipment may cause damage.
- **Ceilings:** Ceiling heights to be established during design, with minimums generally as indicated in this program document.
- **Doors and Hardware:** Doors to be 36" wide by 84" high for most spaces. Storage and support spaces may require doors 42" or 48" wide. Doors to be heavy duty grade, full flush style, with vision panels where appropriate, and fire rated where required. All hardware to be ADA compliant and follow Kansas State University Standards.
- **Mechanical Systems:** All spaces are to be served by central heating and air conditioning systems which provide appropriate air changes and ventilation.
- **Convenience Outlets:** The continuing trend toward laptops, tablets, and other handheld devices requires all spaces to be evaluated for relative need for providing generous power outlets for user access. This includes informal gathering nodes along circulation corridors. Electrical power outlets at key technology and administrative areas should be fed by conditioned power.
- **Information Technology:** The building will be served by a combination of wired and wireless network systems. Coordinate specific networking and security system needs with Information Technology Services, the College of Business Administration, and Campus Planning and Facilities Management.
- **Lighting:** Lighting should be designed appropriate to individual space activities and needs, with multiple light level opportunities preferred.
- **Daylighting:** Natural daylight should be integrated as an important element throughout the building design.
- **Accessibility:** All floors and spaces should accommodate individuals with disabilities according to the Americans With Disabilities Act.

