ABSTRACT

Title of Document:	WAKE FOREST UNIVERSITY SCHOOL OF ARCHITECTURE.
	Newton Gregory Gorrell, Master of Architecture, 2012
Directed By:	Associate Professor, Brian P. Kelly, AIA, School of Architecture, Planning and Preservation

This thesis explores how an architecture school fits within an institution academically and architecturally. The framework the architecture school fits within is Wake Forest University (WFU) in Winston Salem, North Carolina.

This thesis proposes an undergraduate program in architecture that fits within the context of a liberal arts education. The program uses architecture as a bridge between related and nonrelated programs. The program provides an education of the "whole" architect.

This thesis proposes an architecture school that aligns with the University's strategic goals. The architecture school compliments the campus character. It is a good neighbor and strengthens the heart of the campus. The building creates a sense of community for students and faculty of related and nonrelated programs.

WFU SCHOOL OF ARCHITECTURE.

By

Newton Gregory Gorrell.

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Architecture
2012

Advisory Committee:
Associate Professor Brian P. Kelly, AIA, Chair
Assistant Professor Isaac S. Williams
Assistant Professor Powell Draper. Ph.D.

Preface

The intent of this document is to raise questions about why architecture schools fit uncomfortably within institutions academically and architecturally. These questions form the basis of exploration during the design process. The research of architecture schools shows how architecture schools fit in today. The design proposal reflects a moment in a continuous design process. The problem of how an architecture school fits within an institution academically and architecturally is an evolving problem.

Acknowledgements

I wish to thank Ayers/Saint/Gross Architects + Planners for providing me with site plans and information about the Reynolda Campus Master Plan.

Special thanks to Bynum Walter, Associate at Ayers/Saint Gross, for insight about Wake Forest University's strategic goals.

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Chapter 1: INTRODUCTION

"Go through, of an evening, any university campus containing an architectural school. That school can be spotted without fail. It is the one brilliantly lighted attic. It is always an attic, usually in the oldest and least desirable building." – *A Study of Architectural School, 1929-1932*[1]

A Study of Architectural Schools frames the problem that plagues architecture schools today. Architecture schools fit uncomfortably within an institution academically and architecturally. Architecture schools are small compared to other academic programs. They are uniquely designed for architecture students and ignore related disciplines methods of learning. Related disciplines are on enemy turf. Architecture schools are intensive in terms of per-pupil staffing and physical space. They produce little research revenue for the university. The architecture of architecture schools compounds the problem. The majority of architecture schools contrast with the campus character. The problem is indicative of a larger problem in architectural education and professional architecture. The problem is architecture's desire to be unique. Architecture places an emphasis on the "work of art" rather the public work. It often ignores how a building takes on a life of its own. Studio space, often the heart of the building, is unique to architecture students and unwelcoming to other university students.

The first step in examining the problem with architecture schools is to survey architecture schools. This document provides principles learned from a survey of the 154 NAAB accredited professional programs in architecture housed in 123

[1] Carnegie Foundation for the Advancement of Teaching " Building Community" Page 20

institutions.[2] In the survey architecture schools were put into groups determined by common characteristics. The groups are part of academic or architectural characteristics of architecture schools. The common characteristics of architecture schools are:

Academic	Architectural
Control	Geographic setting
Institution basic classification	Campus location
Institution size	Campus character
Architecture school size	Method of Construction
Faculty size	Architecture school character
Faculty/student Ratio	Architecture school parti
NAAB accredited professional program	Architecture building date
NAAB accreditation date	
Degrees offered within architecture program	
Program location	

[2] NAAB

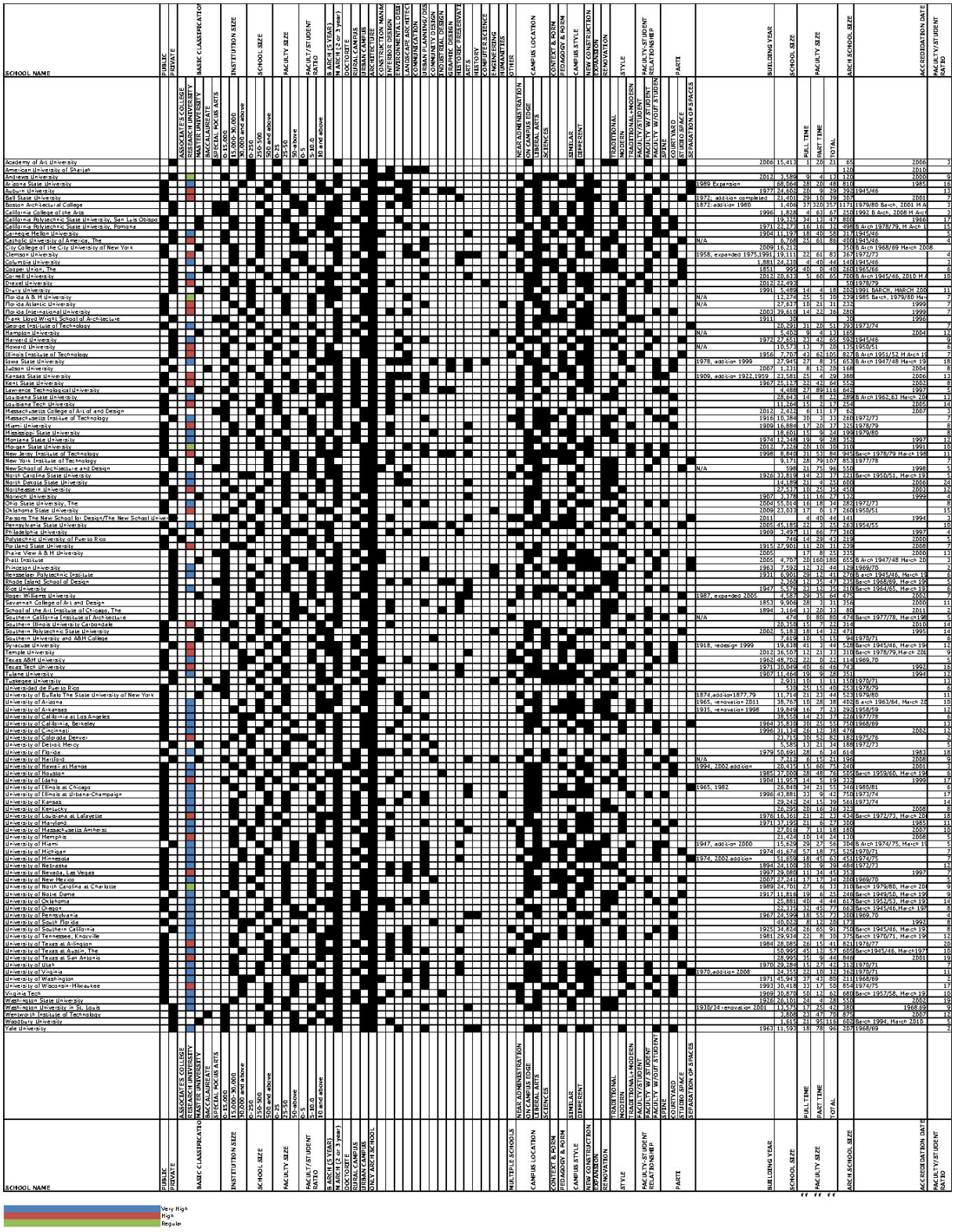


Figure 1: Architecture School Research (source: Author)

Chapter 2: ACADEMIC FIT

Control

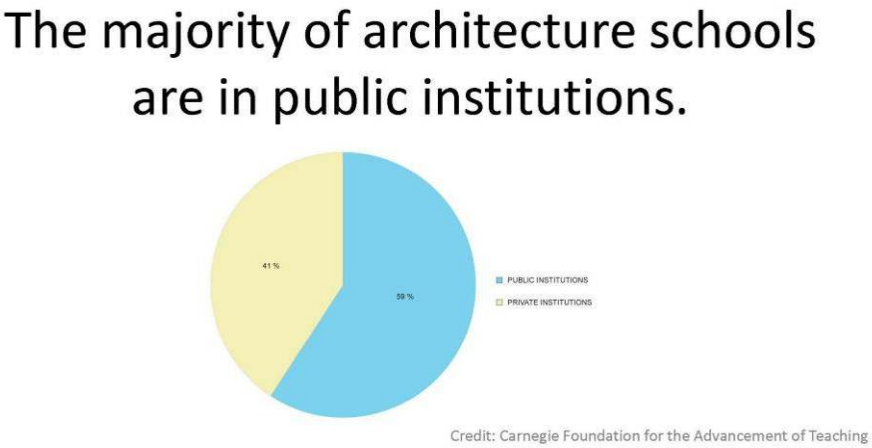


Figure 2: Academic Fit - Control (source: Carnegie Foundation for the Advancement of Teaching)

Of the 123 institutions surveyed, 74 are public institutions and 51 are private institutions.[3] Arizona State University, Clemson University, Florida International University, Kansas State University, University of California at Berkeley, University of Virginia, and Virginia Tech are examples of public institutions. Yale University, Washington University in St. Louis, University of Southern California, University of Pennsylvania, University of Miami, and Boston Architectural College are examples of private institutions.

[3] Carnegie Foundation for the Advancement of Teaching

Institution basic classification

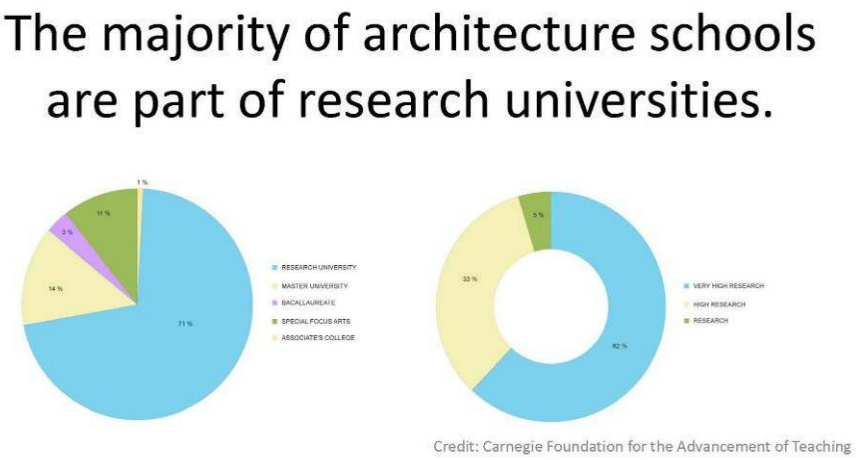


Figure 3: Academic Fit - Institution basic classification (source: Carnegie Foundation for the Advancement of Teaching)

The Carnegie Foundation for the Advancement of Teaching provides a basic classification for institutions. The classifications are Associate's College, Research University, Master University, Baccalaureate, and Special Focus Arts. Within the Research University classification are very high research, high research, and standard research. Of the 123 institutions surveyed there is 1 institution that is an Associate's College. 87 are research universities.[4] 17 are Master universities. 4 are Baccalaureate institutions. 13 are Special Focus Arts institutions. Polytechnic University of Puerto Rico is the only Associate's College. Some of the research universities are Carnegie Mellon University, Catholic University of America, Columbia University, Illinois Institute of Technology, Princeton University, Syracuse University, and University of Maryland. New York Institute of Technology, Philadelphia University, and Pratt Institute are examples of Master universities. The Cooper Union and Judson

[4] Carnegie Foundation for the Advancement of Teaching

University are examples of Baccalaureate institutions. Boston Architectural College, Frank Lloyd Wright School of Architecture, Parsons, Rhode Island School of Design, Savannah College of Art and Design, and Southern California Institute of Architecture are examples of Special Focus Arts institutions. The majority of research institutions are very high research institutions. 54 are very high research institutions. 29 are high research institutions. 4 are basic research institutions.

Degrees offered within the architecture program

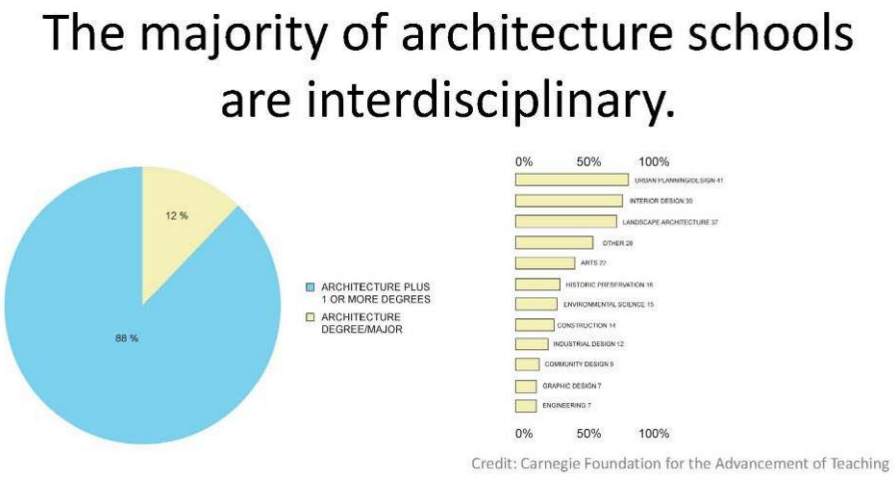


Figure 4: Academic Fit - Degrees offered (source: Carnegie Foundation for the Advancement of Teaching)

Of the 123 institutions surveyed, 108 architecture programs offer an accredited architecture degree and at least one other degree. Only 15 architecture schools offer just an accredited architecture degree. 92 architecture buildings house more than one-degree program. 31 architecture buildings house only the architectural degree.[5] The trend over the last 10 years has been for architecture schools to partner with related programs. The most popular related program is urban planning/design. The least popular related program is engineering and graphic design. The problem with this trend is that the building that houses the architecture program is designed

[5] Carnegie Foundation for the Advancement of Teaching

specifically for architecture students. Related programs end up sharing facilities that are not welcoming of alternate learning methods from architectures studio base learning. Studio is at the heart of most architecture schools and dominates the parti of most architecture schools. This creates a conflict between the academic and architecture strategic goals.

Faculty/student Ratio

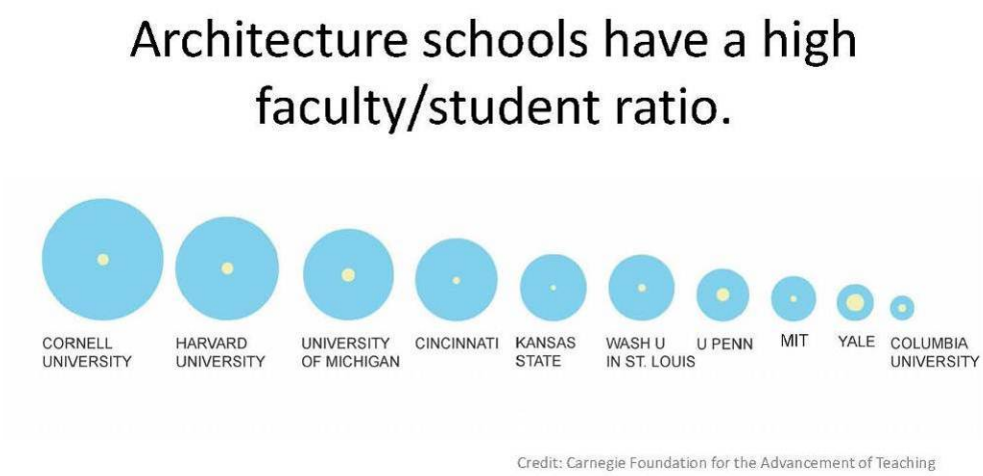


Figure 5: Academic Fit - Faculty/Student Ration (source: Carnegie Foundation for the Advancement of Teaching)

Of the 123 institutions surveyed the average architectural school size is 136 full-time students. Only full-time students were included in the survey. The largest architectural college is Boston Architectural College with 1171 fulltime students. The smallest architectural school is the Frank Lloyd Wright School of Architecture with 30 fulltime students. Massachusetts College of Art and Design is a close second with 62 students.[6] The largest and smallest architecture schools are Special Focus Arts institutions. The majority of architecture schools employ between 26 and 54 faculty members. The largest fulltime faculty is 57 faculty members at the University of

[6] Carnegie Foundation for the Advancement of Teaching

Michigan. The largest part-time faculty is 357 faculty members at Boston Architectural College. The smallest faculty is Tuskegee University with 11 faculty members. Sci-Arc does not employ any full-time faculty members. The majority of Special Focus Arts institutions employ part-time faculty members. The faculty/student ratio increases as the school's full time enrollment decreases.

NAAB accreditation program & date

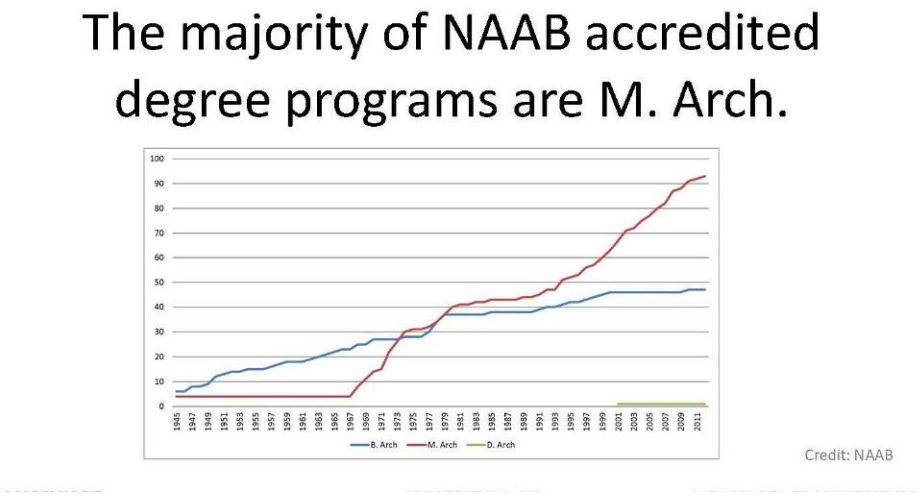


Figure 6: Academic Fit - NAAB accreditation program and date (source: NAAB)

Of the 154 accredited degree programs, 95 are Master of Architecture degree programs. 58 are Bachelor of Architecture degree programs. There is one Doctor of Architecture degree program.[7] In 1945/1946 when NAAB started the accreditation process the majority of accredited degrees granted were B. Arch degrees. In 1979/1980 the M. Arch degree became more popular. Since 1979/80 the majority of accredited degrees granted are M. Arch degrees. In 1865, three years after Congress passed the Morrill Land Grant Act and eight years after the founding of the American Institute of Architects, the first formal, campus-based architecture courses in the

[7] NAAB

United State were offered at MIT. The University of Illinois began its program in 1868. Cornell began its program in 1871. Syracuse University started its program in 1873. In 1881 Columbia University began its program.

Program location

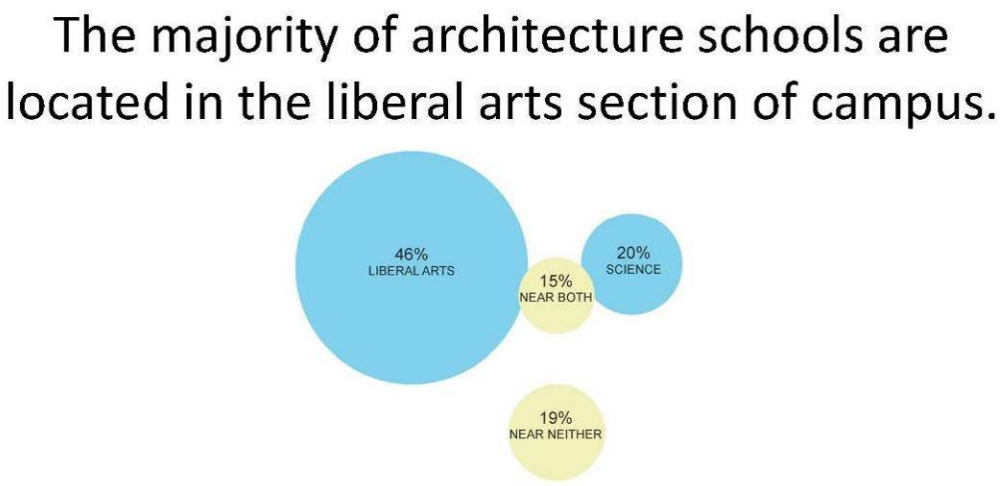


Figure 7: Academic Fit - Program location (source: NAAB)

Of the 123 architecture schools surveyed, 52 schools are part of the liberal arts section of campus. 22 architecture schools are part of the science section of campus. 17 architecture schools are near both liberal arts and sciences. 21 architecture schools are part of neither liberal arts nor sciences. Architecture schools are located in the liberal arts section of campus because the majority historically started within the liberal arts school. A minority of architecture school bridge between the liberal arts and sciences. The problem with few architecture schools acting as bridges is that the majority of architecture schools are interdisciplinary. The program location does not support collaboration. The distances between architecture schools and related programs make it difficult for collaboration.

Wake Forest University Comparison

From the 123 architecture schools surveyed, ten institutions are comparable to Wake Forest University. The common characteristics shared between Wake Forest University and ten comparable institutions are control, size, enrollment profile, campus location, and faculty/student relationship. The ten comparable institutions are:

Andrews University

Carnegie Mellon University

Catholic University of America

Howard University

Princeton University

Renesselaer Polytechnic University

Rice University

Tulane University

University of Notre Dame

Washington University in St. Louis

Institution size

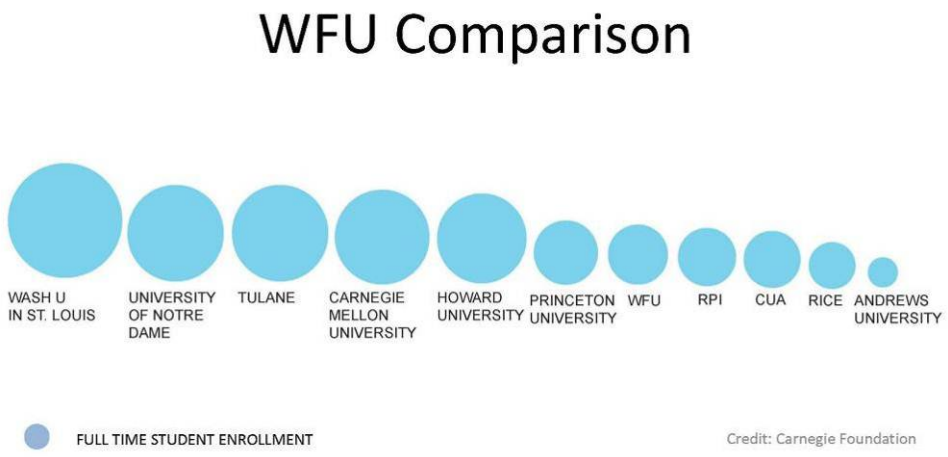


Figure 8: Academic Fit - Institution size (source: Carnegie Foundation for the Advancement of Teaching)

The ten comparable institutions are small universities. The largest institution size is 13,575 full time student enrollments. The smallest institution size is 3,589 full time student enrollments. The average student enrollment is 8,905 full time enrollments. Wake Forest University has a full time student enrollment of 7,079.[8]

Architecture school size/Faculty size

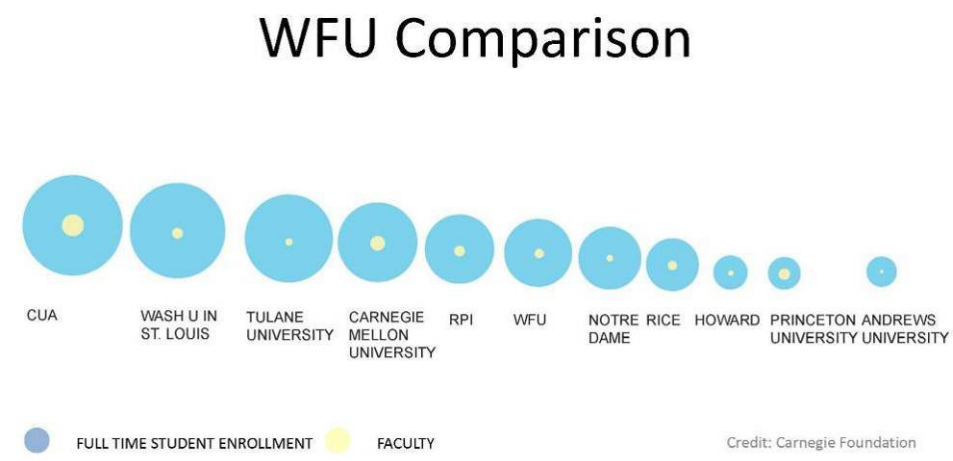


Figure 9: Academic Fit - Architecture school size/Faculty size (source: Carnegie Foundation for the Advancement of Teaching)

[8] Carnegie Foundation for the Advancement of Teaching

The average architecture school size of the ten comparable institutions is 166 full time student enrollments. The average faculty size of the ten comparable institutions is 39 faculty members. The largest architecture school size of the ten comparable institutions is Catholic University of America. Catholic University of America has a full time student enrollment of 400. Catholic University of America has 86 faculty members. The smallest architecture school size is Andrews University. Andrews University has a full time student enrollment of 120. Andrews University has 13 faculty members. The faculty members include fulltime and part time faculty members. Wake Forest University's architecture school has a full time student enrollment of 180. It has 24 faculty members. [9]

Wake Forest University Architecture Program

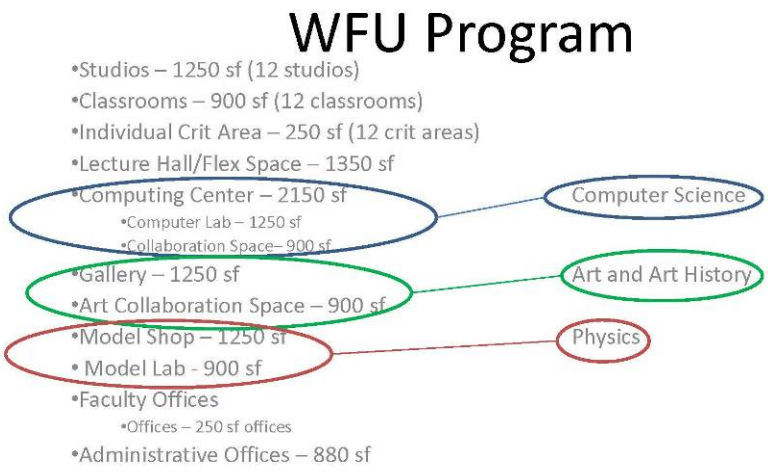


Figure 10: Academic Fit - WFU Architecture Program (source: Author)

Comparing ten institutions with common characteristic and surveying 123 institutions set up a program for Wake Forest University architecture school. In order for Wake Forest University architecture school to fit within the institution academically it need to do two things. It needs to fit within a liberal arts college.

[9] Carnegie Foundation for the Advancement of Teaching

Wake Forest University architecture school proposes architecture as a liberal arts major. Architecture as a liberal arts major provides opportunities to partner with interdisciplinary programs. It provides an education of the "whole" architect. It prepares students with a well-rounded liberal arts education and strong basis for graduate programs in architecture and other related disciplines. Wake Forest University's architecture school also proposed to provide welcoming space for related programs. A typical architecture school program has studio space at its heart. Supports spaces include classrooms, a lecture hall, a gallery space, a computer lab, a model shop, and faculty and administrative offices. Exploring partnerships academically and architecturally between architecture schools and related fields produced collaborative areas. The opportunity presented itself for Wake Forest University's architecture school to partner with Computer Science, Art, and Physics. Computer Science provides the opportunity to share computing spaces. Art and art history provide the opportunity to share gallery spaces. Physics provides the opportunity to share model lab spaces. Partnering with Computer Science, Art, and Physics benefits both programs and improves academic collaboration. Partnering with art and physics also provides the opportunity to link the liberal arts and science. Wake Forest University's architecture school can act as a bridge between the liberal arts and sciences.

Figure 11: Academic Fit - Existing Campus Plan (source: ASG/WFU)

. Wake Forest University is a liberal arts college within a larger research university. At its heart is Wake Forest College, is the College's rich liberal arts core. Wake Forest functions as a Collegiate University, a community where scholars, both faculty and students, habitually cross the boundaries of their particular disciplines, schools, and programs to engage in collaborative, interdisciplinary work.

Wake Forest University architecture school and computer science

Figure 12: Academic Fit - WFU Architecture School and Computer Science (source: ASG/WFU)

Computer Science is located in Reynolda Hall. Reynolda Hall faces Hearn Plaza, Manchester Plaza, and a future quad in front of the library. The building is the

heart of Wake Forest University's campus. Students from every undergraduate major use the building's living room spaces and outdoor spaces for collaboration. The university president's office is located in Reynolda Hall. The mixed program of Manchester Hall creates a space for collaborative, interdisciplinary work. Wake Forest University architecture school adds collaborative computing spaces for computer science. Mixing architecture and computer science program in an architecture space that fits within the institution allows for collaborative work to happen on common ground comfortable for related programs.

Wake Forest University architecture school and arts

Figure 13: Academic Fit - WFU Architecture School and Art (source: ASG/WFU)

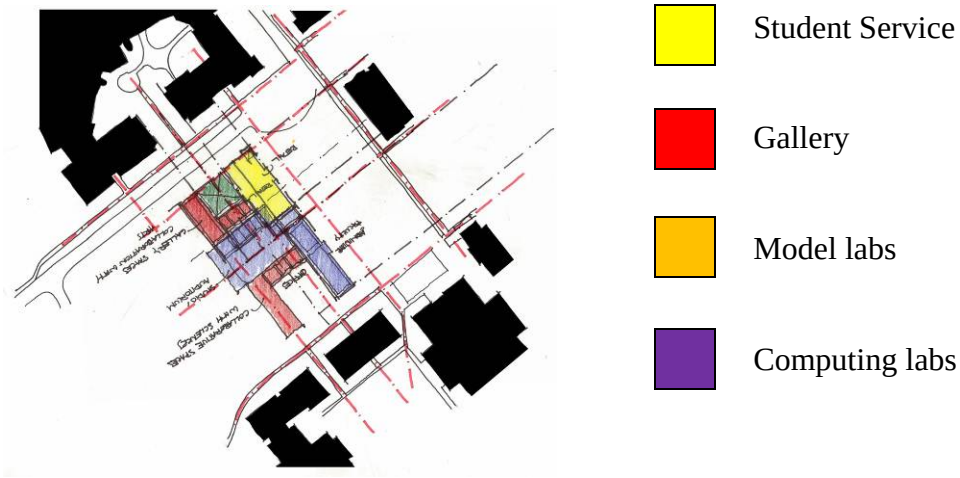
Scales Fine Arts Center is located on Davis Field. It is on the edge of campus away from the heart of campus. It academically and architecturally contrasts with the university character. Scales Fine Arts Center houses the Art and Art History undergraduate majors on Wake Forest University. The majority of students that use Scale Fine Arts Center are art students. Collaborative work takes place at Scales between the arts but it does not link with related field. Wake Forest University architecture school adds collaborative art spaces. The program mixes arts with related

and non-related program to create new collaborative work space. Wake Forest University architecture school provides architecture space that fits within the institution to allow art students and other program to meet on common ground.

Wake Forest University architecture school and physics

Figure 14: Academic Fit - WFU Architecture School and Physics (source: ASG/WFU)

Olin Hall is located on the edge of the science quad. It is across Davis Field from Scales Fine Arts Center. It unsuccessfully attempts to compliment the campus character. Olin Hall encloses the northwest side of the science quad. The science quad is an underutilized space. Its distance from the heart of campus prevents it from connecting to non-related program. Wake Forest University architecture school adds collaborative model labs. The program mixes the model labs with collaborative art and computer science spaces. This creates new collaborative work spaces for nonrelated program with related program. Wake Forest Architecture schools acts a bridge between each program. While no single program element connects to each other. Architecture connects each program with each other.



An initial program organization groups program in the proximity of related program. Collaborative computing labs are adjacent to Manchester Hall. Model labs are adjacent to Olin Hall. Gallery Space is adjacent to Scales Fine Arts Center.

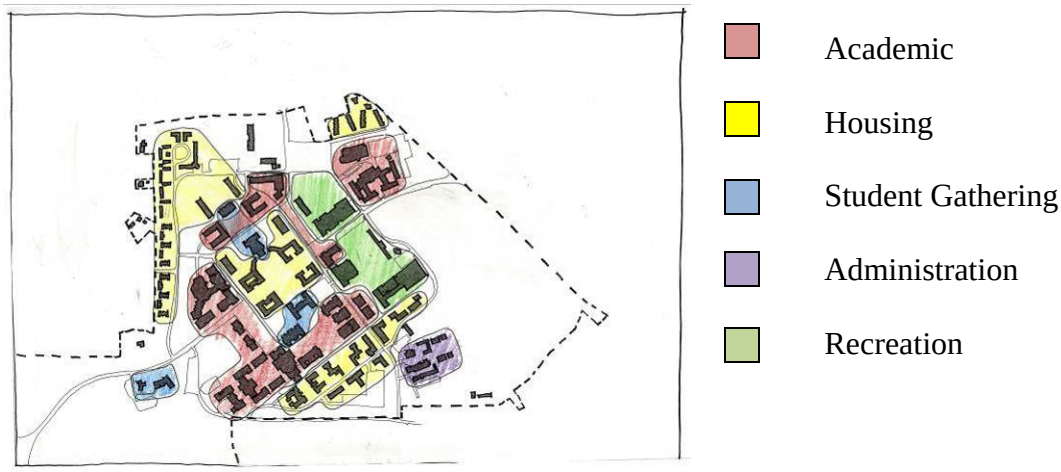
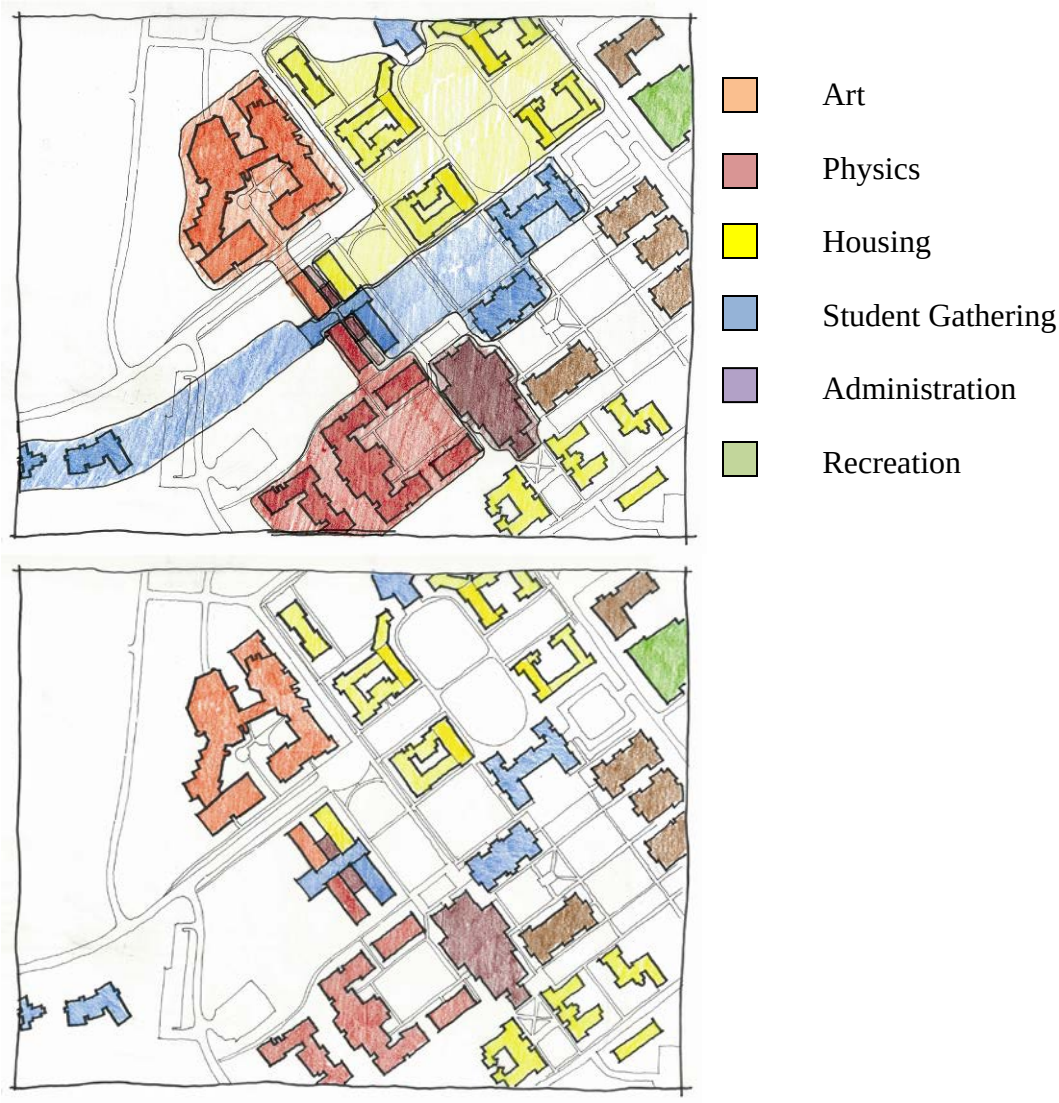


Figure 15: Academic Fit - Land Use (source: Author)



Later program organization proposed mixing program. Mixing programs provides the opportunity for cross pollination of ideas. Collaborative spaces were intentionally located on the opposite side of the intended user. All of the collaborative spaces are located on the ground floor to create a feeling of common ground between related and non-related disciplines. Studio spaces are put on the upper three floors. Studio spaces tend to be intimidating to related disciplines because the space is unique to architecture students.

Chapter 3: ARCHITECTURAL FIT

Campus location

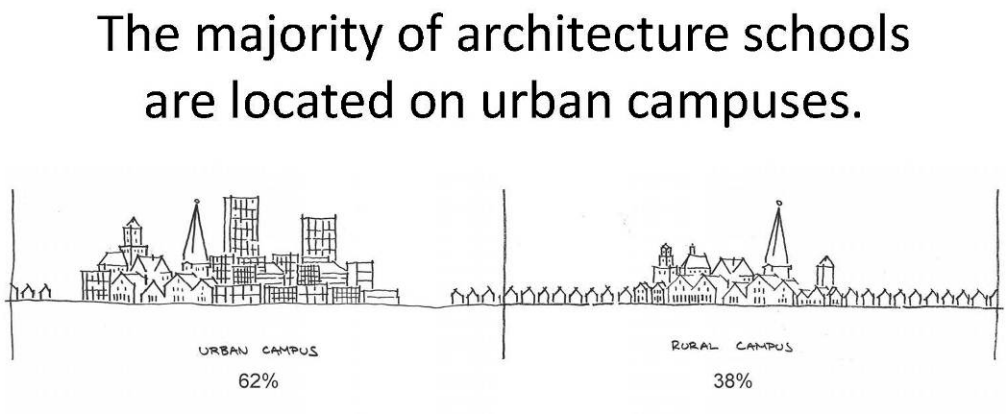


Figure 16: Architectural Fit - Campus location (source: Author)

Urban campuses are campuses that are in the vicinity of a city of substantial size. The Carnegie Foundation for the Advancement of Teaching provided the information for determining whether the campus was urban or rural. Rural campuses are campuses that support a college city or town. 77 architecture schools are located on urban campuses. Boston Architectural College, Carnegie Mellon University, Catholic University of America, Columbia University, Harvard University, and Rice University are examples of urban campuses. 48 architecture schools are located on rural campuses.[13] Examples of rural campuses are Auburn University, Clemson University, Cornell University, Kansas State University, Pennsylvania State University, and Syracuse University.

[13] Carnegie Foundation for the Advancement of Teaching

Campus Character/Architecture School Character

Figure 17: Architectural Fit - Campus Character/Architecture school character (source: NAAB)

Figure 18: Architectural Fit - Campus Character/Architecture school character (source: NAAB)

"Beautiful. Friendly. A community. A home. The best way to experience Wake Forest is to visit its beautiful campus, where magnolia-flanked buildings border well-ordered quadrangles. The chapel, the quad, the library – and of course the students and faculty – create a wonderful sense of community that you will feel the first time you visit." Wake Forest University

A similar quote is used by every university to sell their university to visiting students, faculty, and alumni. Universities generate revenue and reputations based on the university character they sell. The problem with architecture schools is that they rarely compliment the university character. Instead, architecture schools create their own character. Architecture schools are for architecture connoisseurs. No two architecture schools are alike. Each architecture school strives to be the most important building on campus. Other academic buildings act a good neighbors and background buildings to campus icons. At the heart of a campus is the library, chapel, administration building, or quad. Those are the places the majority of prospective students, faculty, and alumni remember about their university. Architecture schools need to be better neighbors and background buildings. They need to compliment the university character rather than competing with it for attention. The need for the architecture school to be different and unique reflects a bigger problem in architectural education as well as the professional field. Wake Forest University's architecture school fits into the institution architecturally. It is a good neighbor and compliments the university character.

Geographic setting

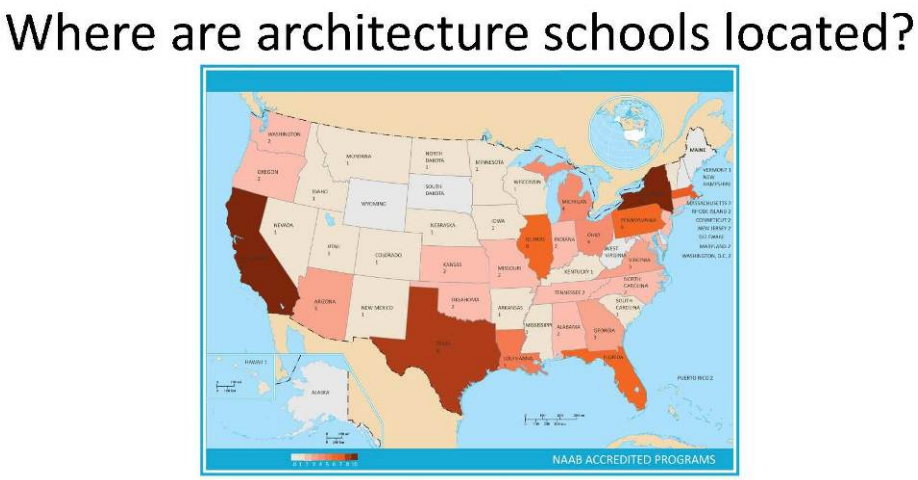


Figure 19: Architectural Fit - Geographic setting (source: Author)

The 123 institutions surveyed are geographically dispersed throughout the United States. The states with the most architecture schools are also the states with the highest population. The Midwest and Southeastern states have the least number of architecture schools. The low number of architecture schools in the Midwest correlates with the low population in the Midwest. The best fit for a new architecture school is a geographic location with opportunities and in close proximity to an urban environment. A geographic located with opportunities was one of the reasons I chose Wake Forest University for a new architecture school. The other reasons I chose Wake Forest University are:

Collaborative Institution setting

Small Institution

Strong faculty/student relationship

Undergraduate Institution

Strong campus architectural language

Wake Forest University Story

Figure 20: Architectural Fit - Manchester Plaza, Hearn Plaza, Pilot Mountain (source WFU/Ken Bennett)

Wake Forest University's history is defined by three major events. Wake Forest University (WFU) was founded by North Carolina Baptist in 1834. Wake Forest severed its ties to North Carolina Baptist in 1897.[14] WFU joined the ACC with modest means. WFU moved from Wake Forest, NC to Winston Salem, NC. There were three primary reasons Wake Forest moved from Wake Forest, NC to Winston Salem, NC. Wake Forest University was landlocked in Wake Forest, NC. Reynolda Foundation donated land in Winston Salem, NC. Wake Forest University had a partnership between the School of Medicine and the Baptist Medical Center.

[14] www.wfu.edu

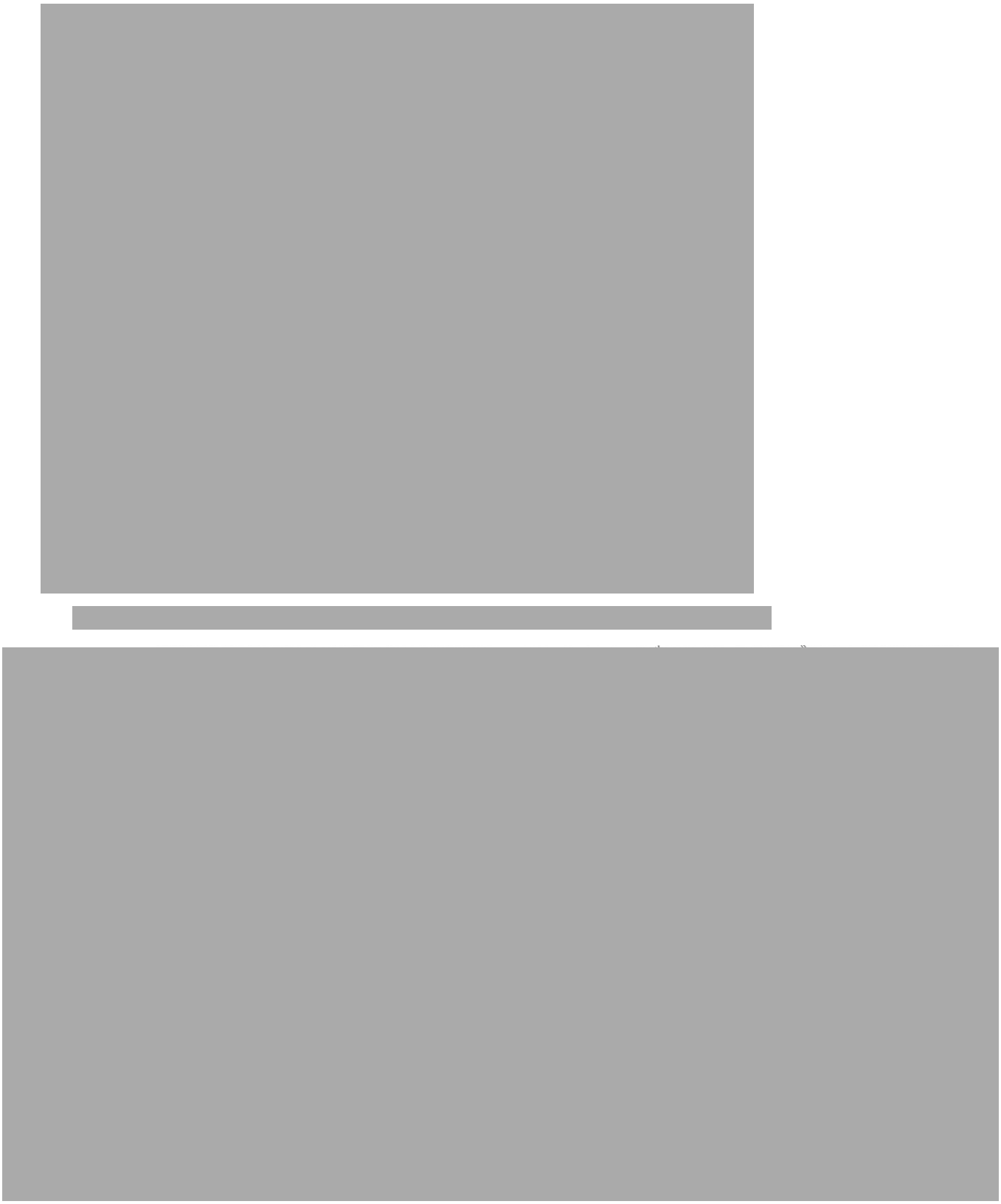


Figure 22: Architectural Fit - Survey of Wake Forest, NC, Arrington & Arrington, Registered Land Surveyors, Sept 1937, Revised: June 1940, March 1943, and December 1944. (source: Wake Forest University Archives)

Figure 23: Architectural Fit - Aerial View of Wake Forest College, Wake Forest, NC, 1941. (source: Shaw)

Figure 24: Architectural Fit - Aerial Photography of Reynolda Properties prior to initiation of construction on Wake Forest Campus. (source: Wake Forest University Archives)

Figure 25: Architectural Fit - Aerial oblique photography of Reynolda estate with open pasture and agricultural fields that would become site of the Wake Forest campus. (source: Wake Forest University

Figure 26: Architectural Fit - Jens Fredrick Larson, Campus of Wake Forest, undated, circa 1950. (source: Wake Forest University Archives)

Jens Frederick Larson designed Wake Forest University's Winston Salem Campus in 1950.[15] Larson's vision for Wake Forest, though not fully realized, is a unique paradigm for campus design that sought to weave collegiate and town principles. Larson embraced traditional forms for Wake Forest's new campus.

[15] www.wfu.edu

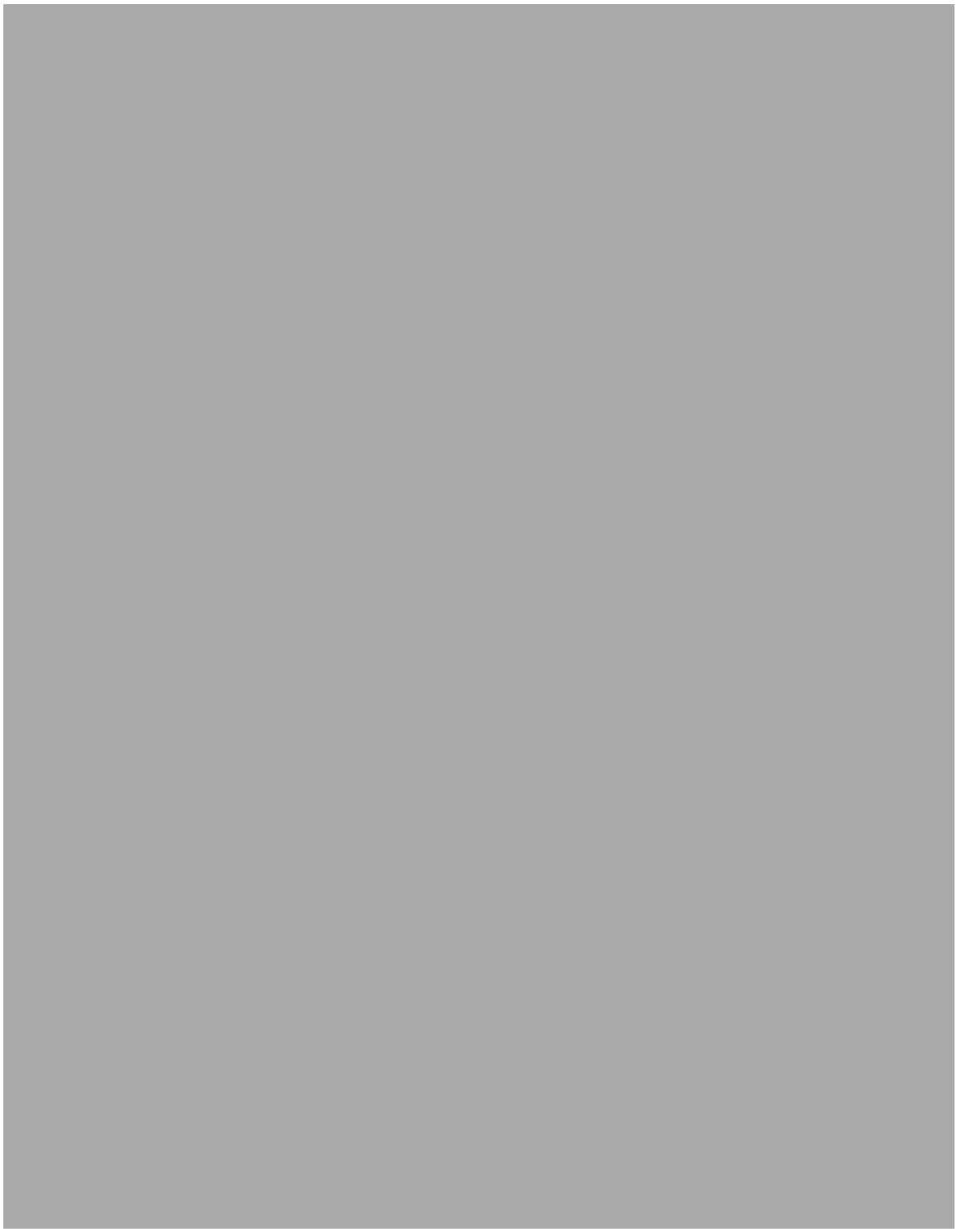


Figure 27: Architectural Fit - Manchester Plaza/Hearn Plaza/Pilot Mountain (source: WFU/Bennett)

Wake Forest University Character

Wake Forest University defines itself as a collegiate university committed to small size, collegiate atmosphere, the student-teacher ideal and Pro Humanitate (For Humanity). The essential parts of Pro Humanitate include service to the community and education of the whole person by engaging four facets of student life: preserving student health and safety, creating an engaging and inclusive community, emphasizing the academic endeavor, and encouraging students to live lives of meaning and work.

Figure 28: Architectural Fit - Hearn Plaza/Downtown Winston-Salem (source: WFU/Bennett)

Figure 29: Architectural Fit - Kirby Hall, home of the Calloway School of Business and Accountancy at Wake Forest University (source: WFU/Bennett)

Wake Forest University's Character is a variant of the Georgian revival style, exemplified by Old Virginia brick and stately sited buildings on grad quadrangles. Larson's planning and architecture style at Wake Forest in the 1950s established a strong campus character. Iconic buildings in the Georgian revival style on open quadrangles anchor and define the campus today. The interior of Wake Forest's buildings are simple, rectangular living rooms connected by wide hallways. Most of the entrance lobbies are large living rooms. A fabric at Wake Forest has been created over time through consistency of building-to-open space relationships, the scale and proportions of the buildings, the complementary use of building materials and the treatment of the ground plane and landscape. Georgian revival buildings, quadrangles, and canopy trees reference the University's foundation in Wake Forest. Wake Forest preserved these simple, enduring elements to make the move easier on

students, faculty, and alumni. Over time the elements have come to define Wake Forest.

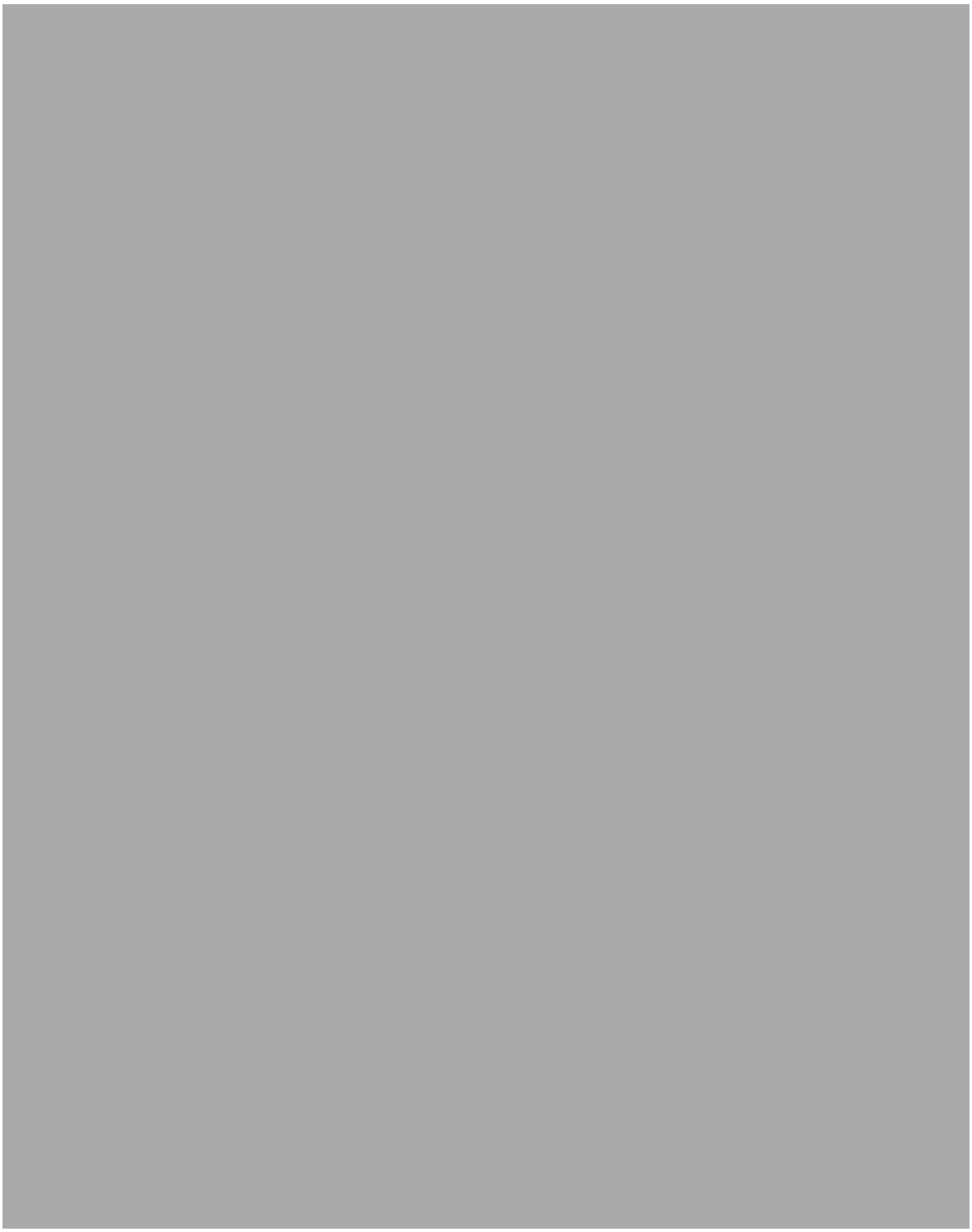


Figure 30: Architectural Fit - Wake Forest students walk through the courtyard between Johnson and Babcock Residences on Wednesday. March 28, 2007 (source WFU/Ken Bennett)

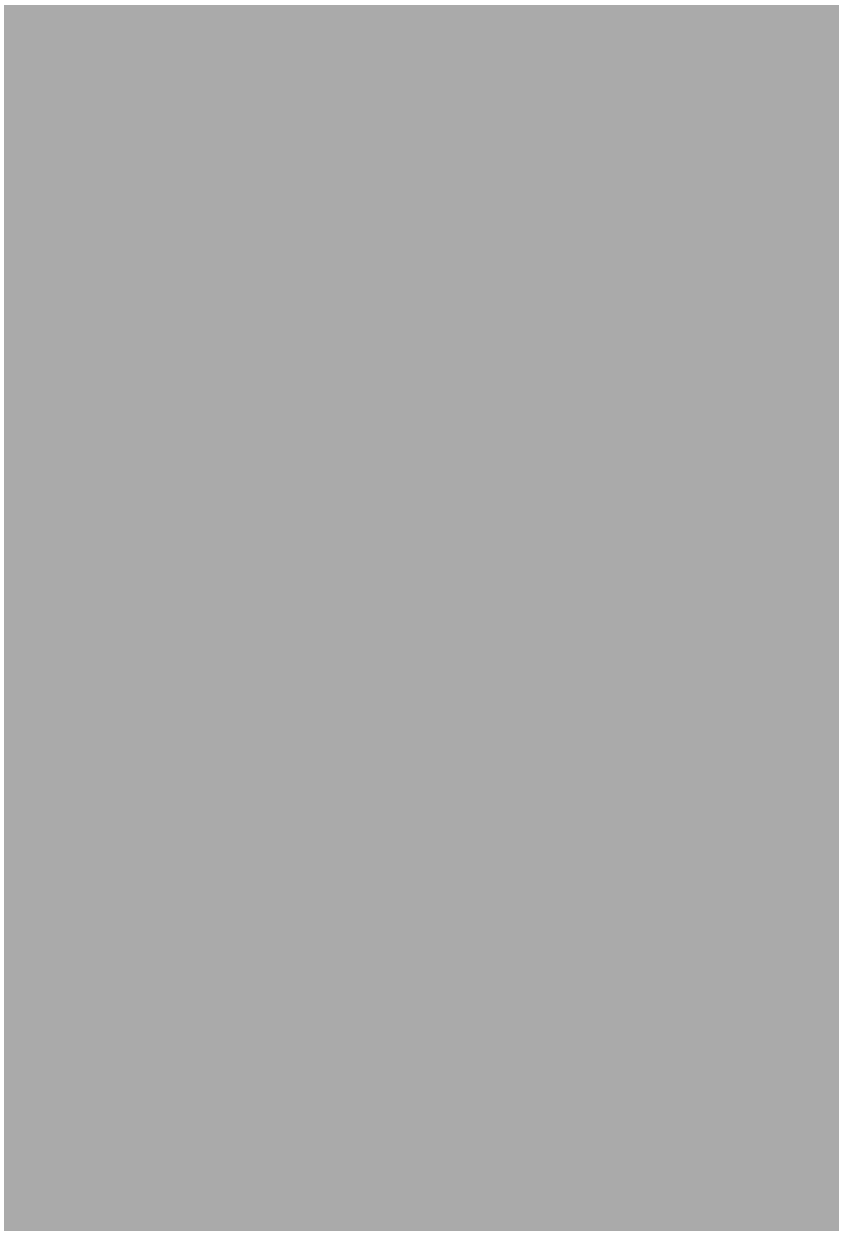
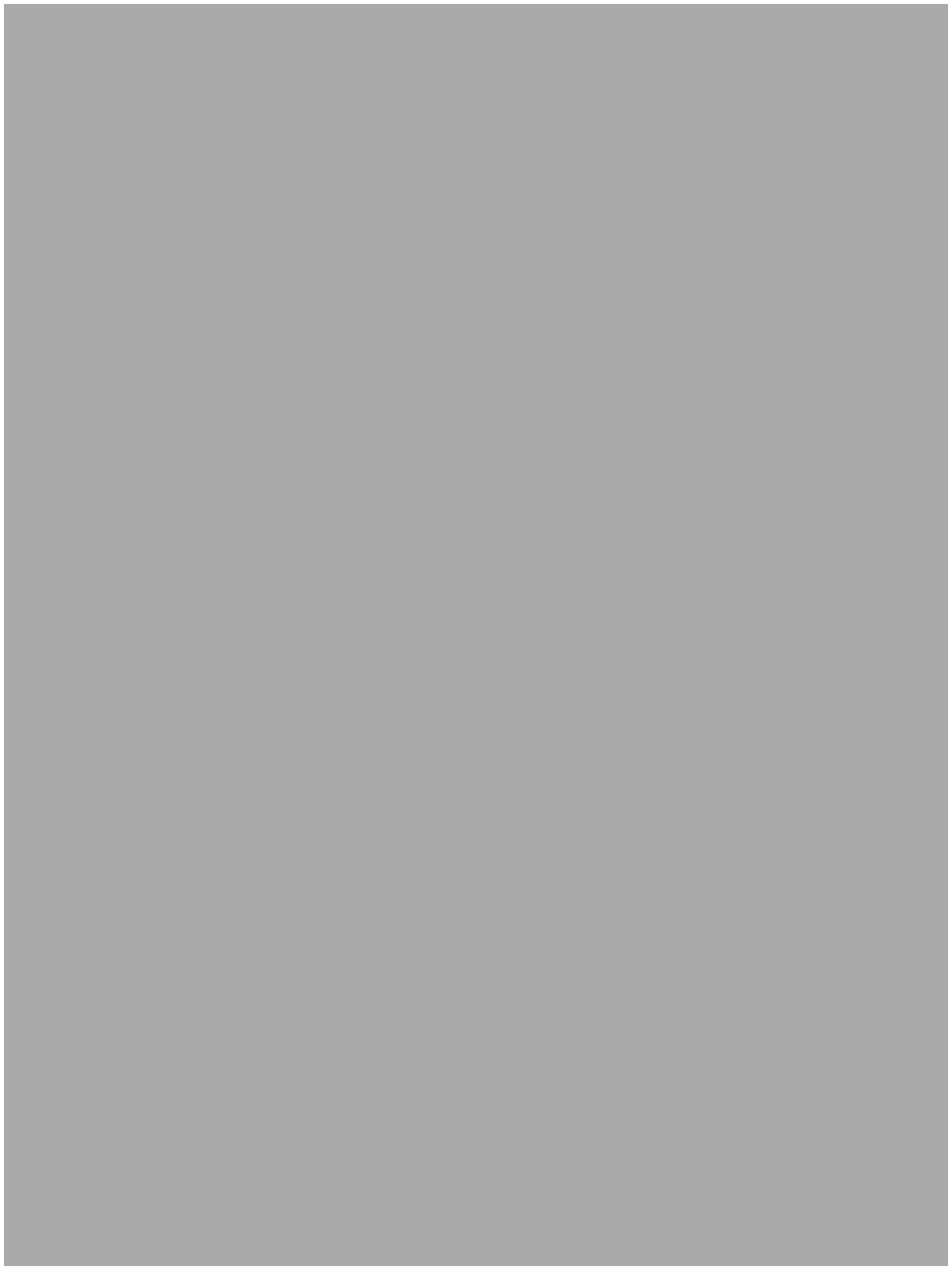


Figure 31: Architectural Fit - WFU student sitting outside classrooms (WFU/Bennett)

Wake Forest University serves approximately 7000 students, 4600 of whom are undergraduates.[16] The six colleges within the University include an Undergraduate College, Graduate School, School of Business, School of Divinity, School of Law, and School of Medicine. Wake encourages students to live on-campus and provides a wide range of campus activities.



[16] Carnegie Foundation for the Advancement of Teaching

Figu 32: Architecture Fit - WFU students studying outside Reynolda Hall (source: WFU/Bennett)

Figure 33: Wake Forest Students cross Manchester Plaza on their way to class on Friday, February 17, 2012. (source: WFU/Bennett)

portico (source: WFU/Bennett)

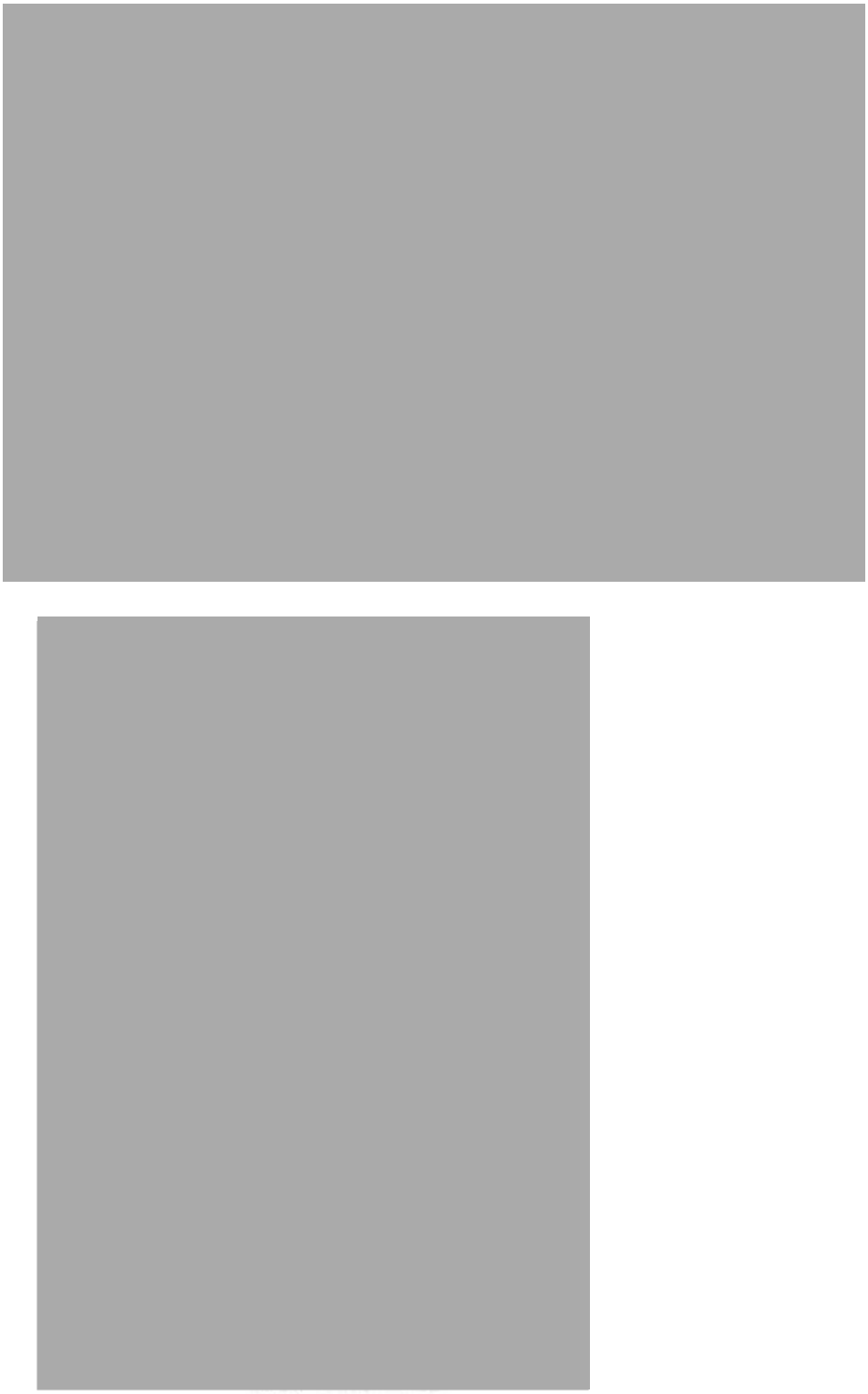


Figure 36: Architectural Fit - Reynolda Hall southeast side (source: WFU/Bennett)

Figure 37: Architectural Fit - Reynolda Hall/Downtown Winston-Salem (source: WFU/Bennett)

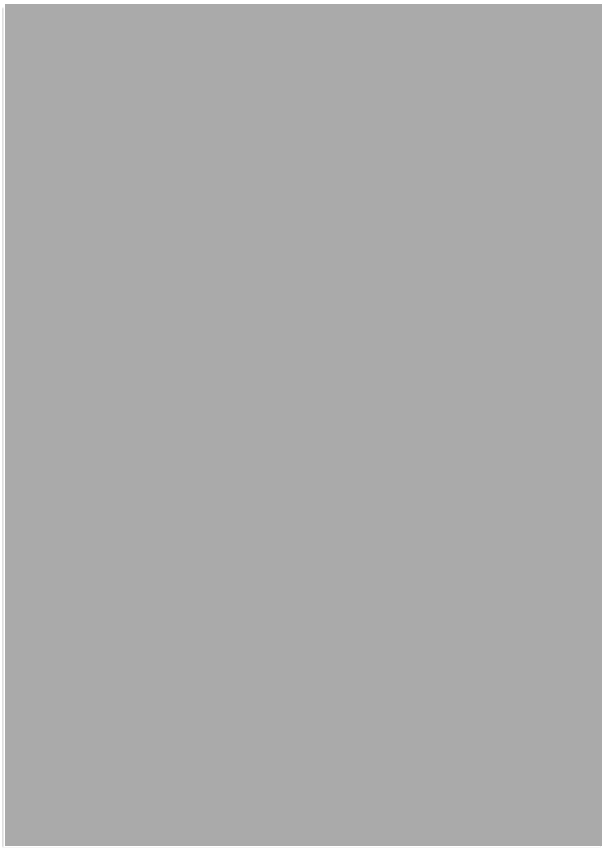


Figure 38: Architectural Fit - Wait Chapel entrance (source: WFU/Bennett)

Figure 39: Architectural Fit - Wait Chapel portico (source: WFU/Bennett)

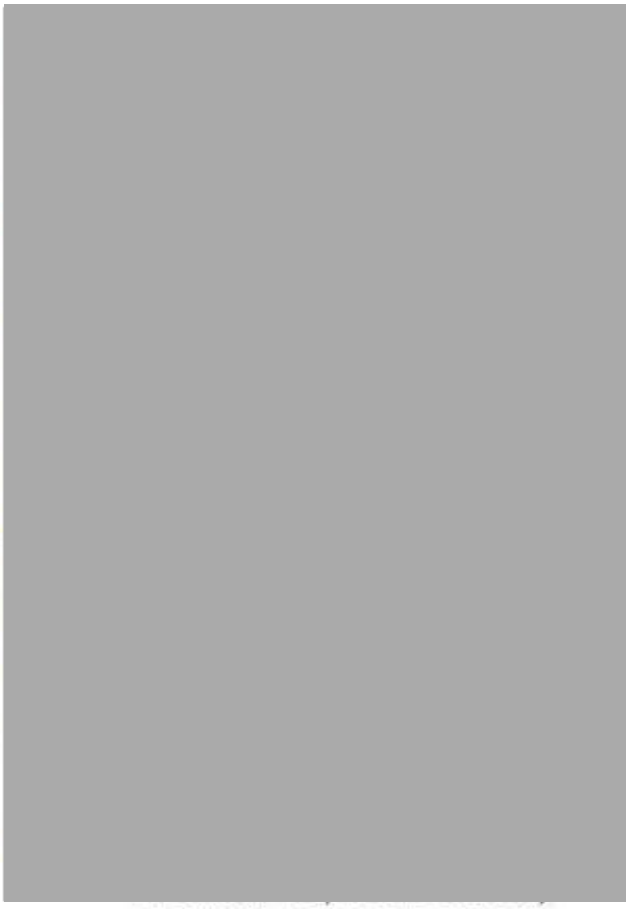


Figure 40: Architectural Fit - The cupola of the Z. Smith Reynolds Library on Campus of Wake Forest University, seen in an aerial photo on Thursday, October 21, 2010 (source: WFU/Bennett)

Figure 41: Architectural Fit - Z. Smith Reynolds Library (source: WFU/Bennett)

Wake Forest University Contrast

Two examples of buildings that have deviated from Wake Forest's character are Worrell Professional Center and Scales Fine Arts Center. The response from the Wake Forest community has not been positive. The master plan proposes new buildings to hide the contrasts from Wake Forest's character.

Figure 42: Architectural Fit: Worrell Professional Center courtyard (source: WFU/Bennett)

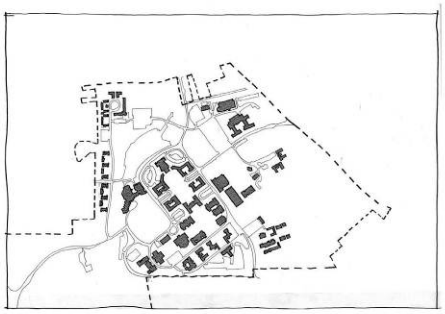
Figure 43: Architectural Fit - Worrell Professional Center entrance (source: WFU/Bennett)

Figure 44: Architectural Fit - Worrell Professional Center roofline (source: WFU/Bennett)

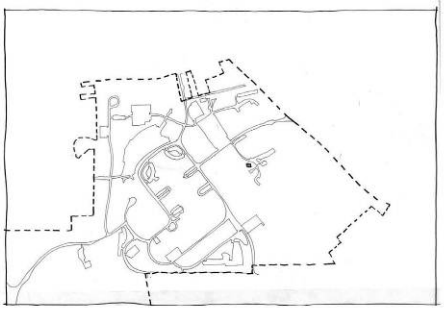
Figure 45: Architectural Fit - Scales Fine Arts Center approach (source: WFU/Bennett)

Figure 46: Architectural Fit - Scales Fine Arts Center (source: WFU/Bennett)

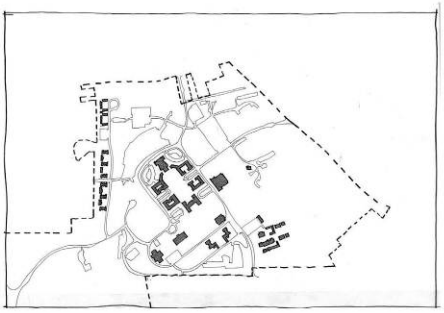
Figure 47: Architectural Fit - Scale Fine Arts Center entrance and courtyard (source: WFU/Bennett)



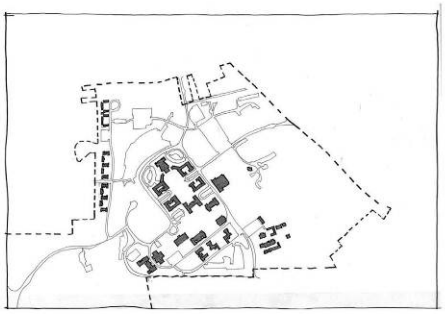
In 1938, the Bowman Gray Foundation developed a partnership between Baptist Hospital in Winston-Salem and Wake Forest College.



In 1940 this relationship led to the bold proposal to move the entire college from Wake Forest to Winston-Salem.

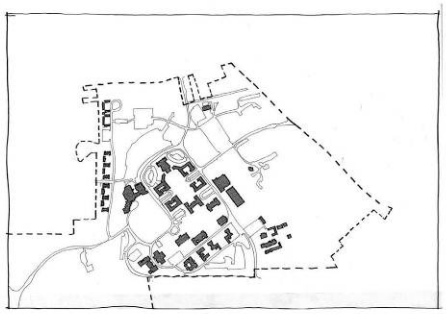


During 1950, a short but intense period, much of the organization and hierarchy of Larson's plan for the campus was realized.

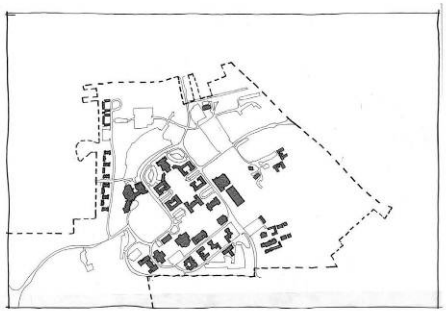


By 1960 Larsen had established a distinct and harmonious campus.

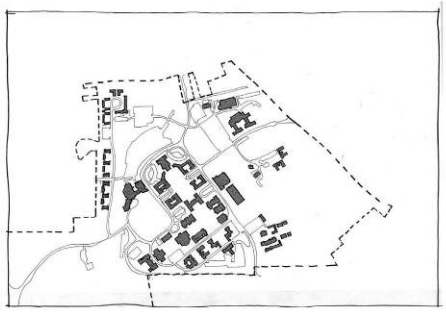
Figure 48: Architectural Fit - Building Age- 1940-1960 (source: Author)



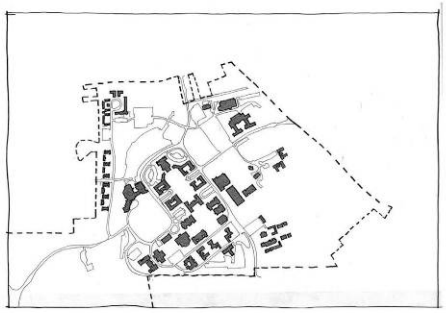
In 1970, a large percentage of the existing facilities were constructed.



Construction in 1980 slowed after a short but intense period of construction.

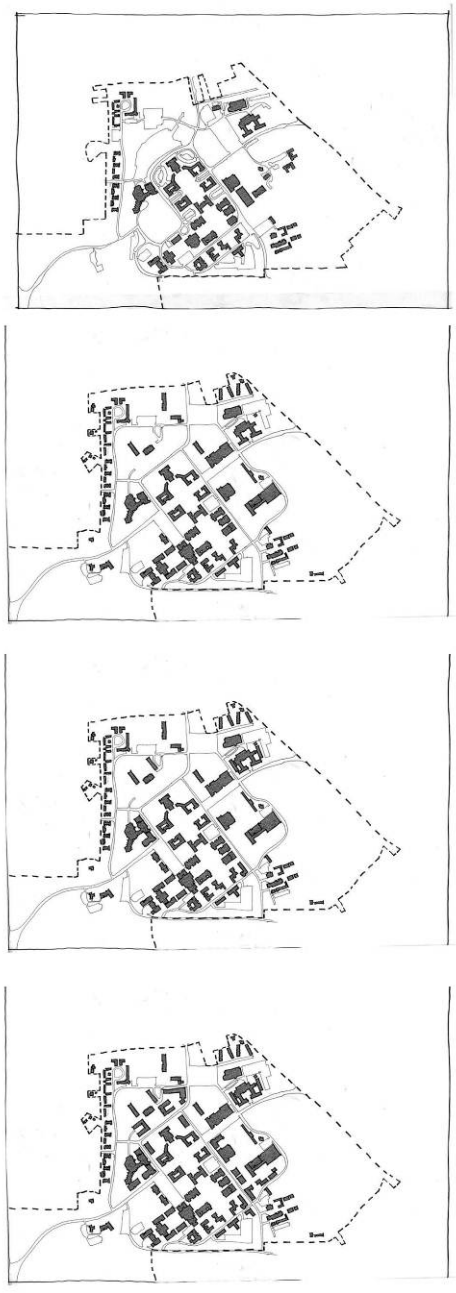


By 1990, the University faced a significance maintenance challenge.



In 2000 most of the original buildings are more than fifty years old and need renewal and/or modernization.

Figure 49: Architectural Fit - Building Age - 1970-2000 (source: Author)



In the fall of 2007, Wake Forest University asked the University community to embark on a campus master planning process.

Ayers Saint Gross's master plan focused on six emerging issues: Entry/Arrival, Circulation, Open Space, Gathering Spaces, Parking, and Facilities Renewal.

Phase I of the master plan is based on the current planned facilities in the University's Strategic Plan.

Phase II is based on current knowledge, but should be considered a demonstration of potential implementation

Figure 50: Architectural Fit - Building Age - 2000 - master plan phasing (source: Author)

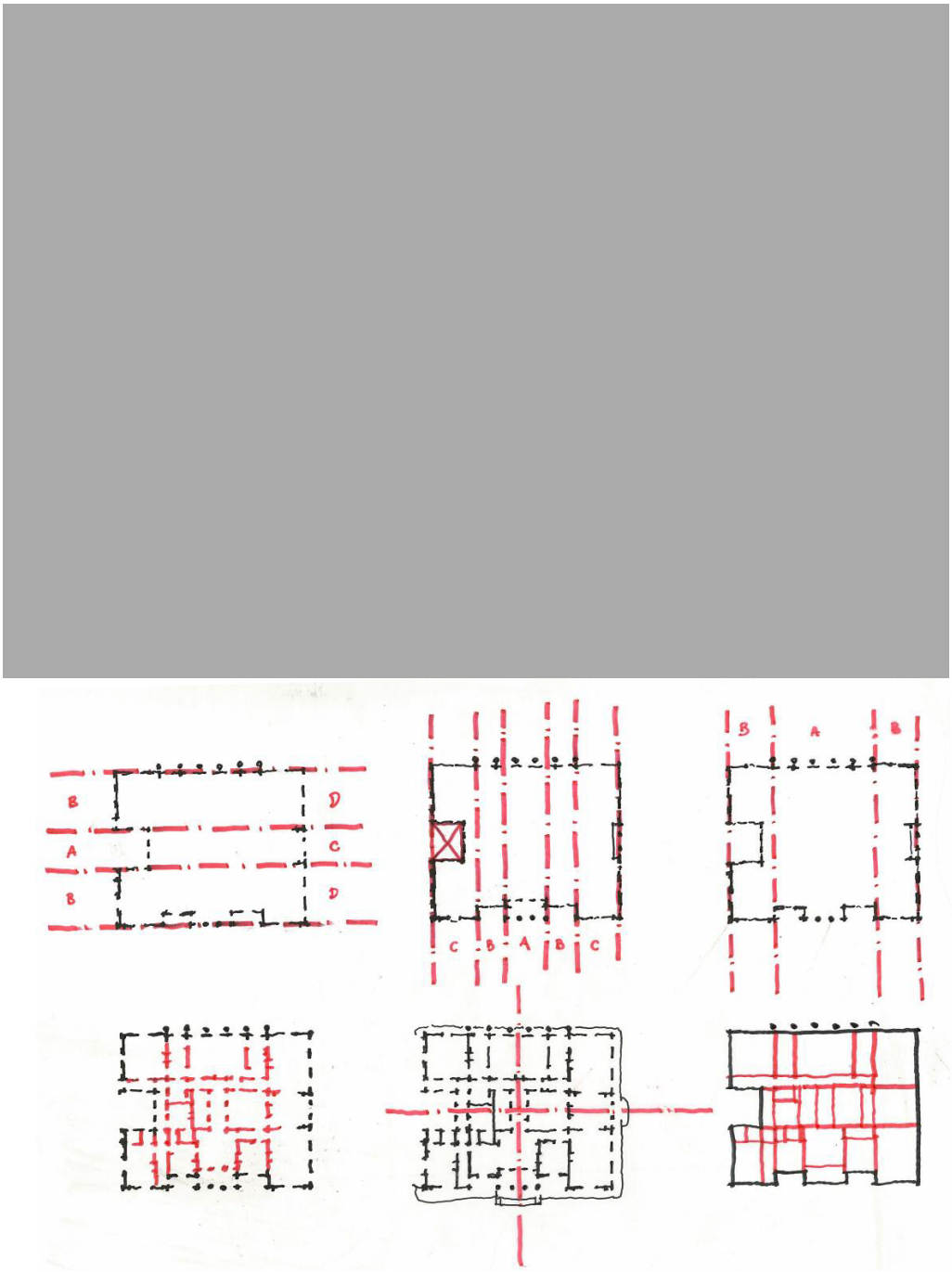


Figure 51: Architectural Fit - Villa designed for Thomas Swinnerton esq (source: Saone/Author)

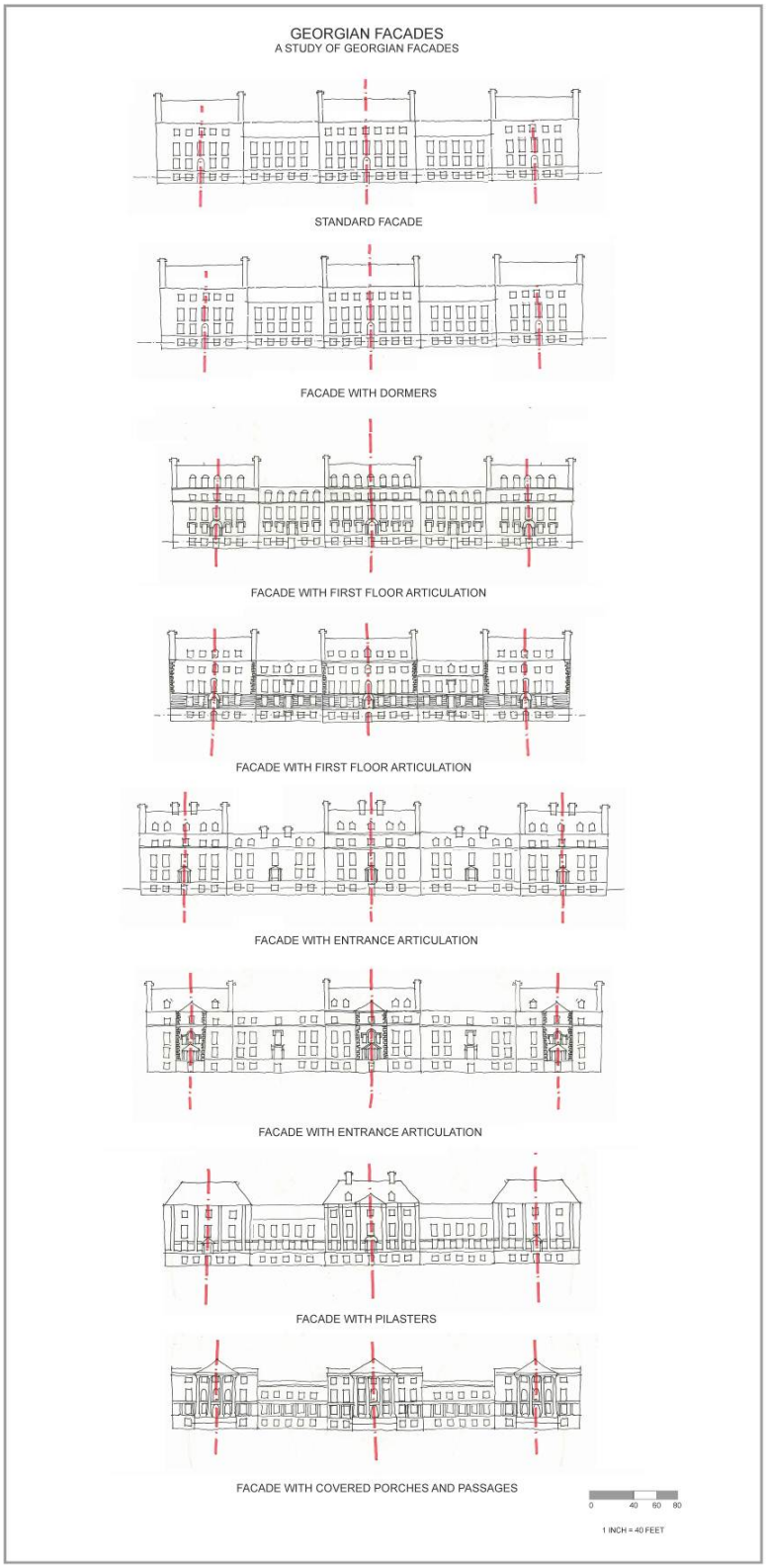


Figure 52: Architectural Fit - Georgian Facade Study (source: Author)

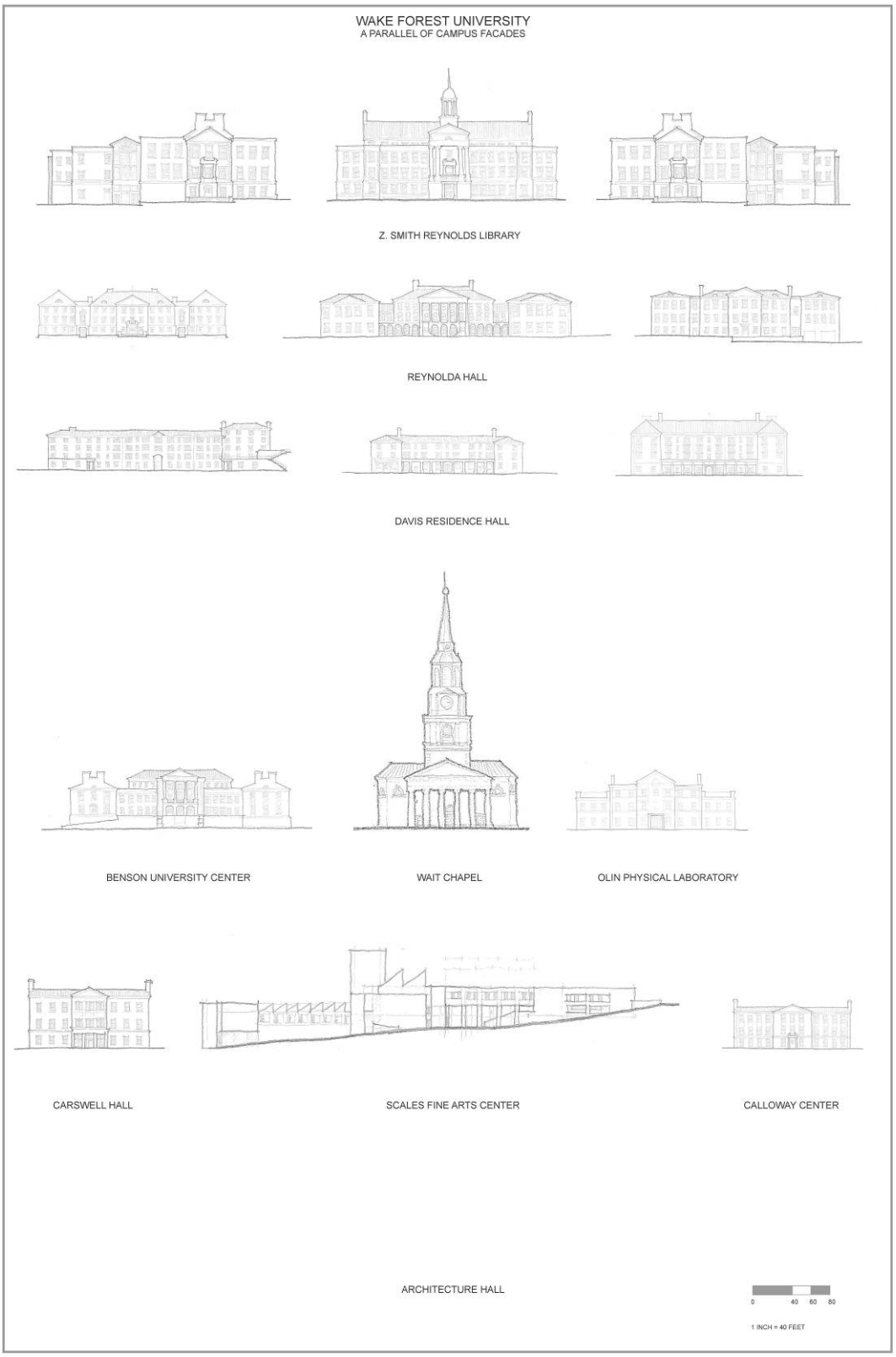


Figure 53: Architectural Fit - Wake Forest University Facade Study (source: Author)

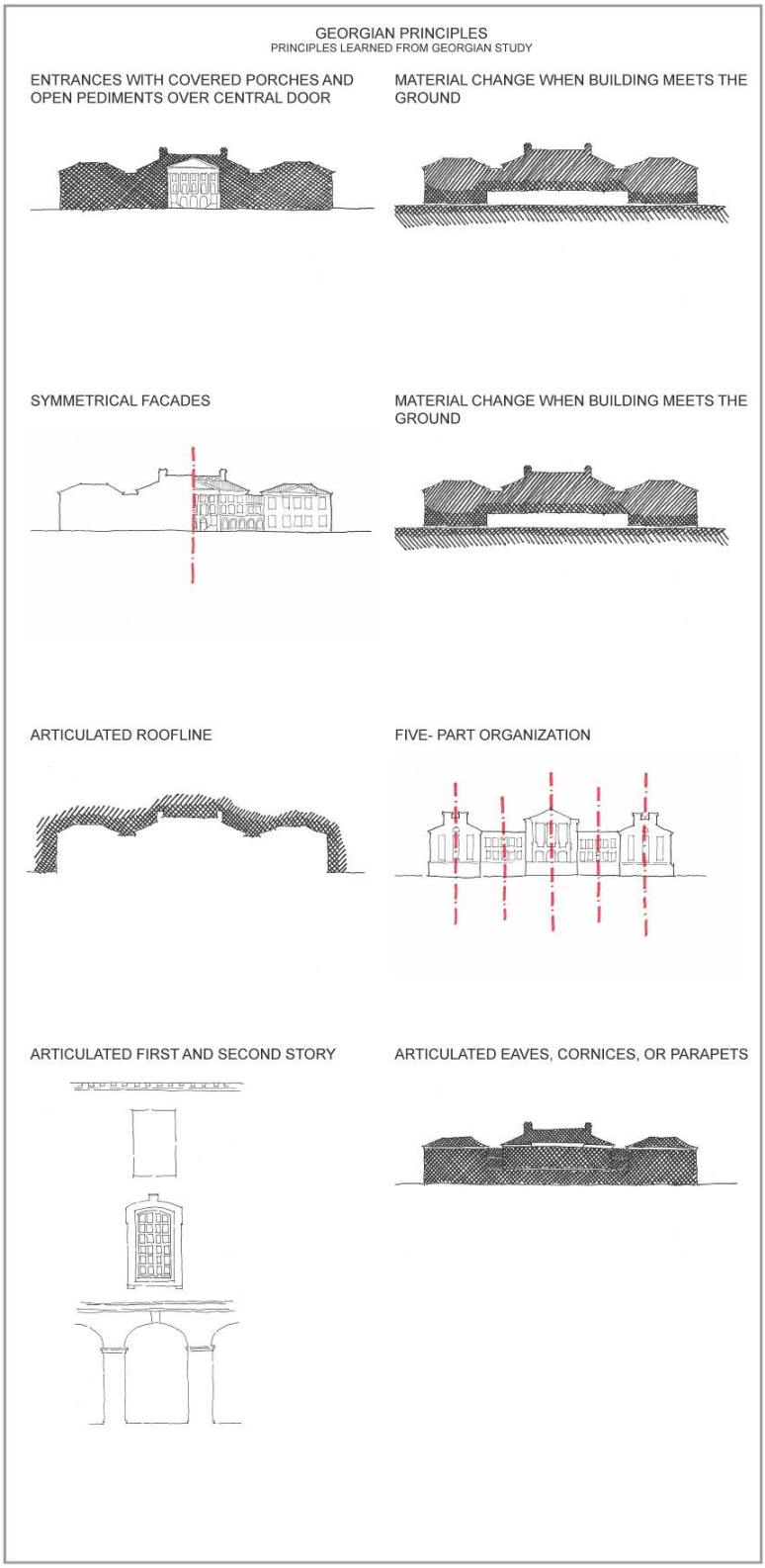
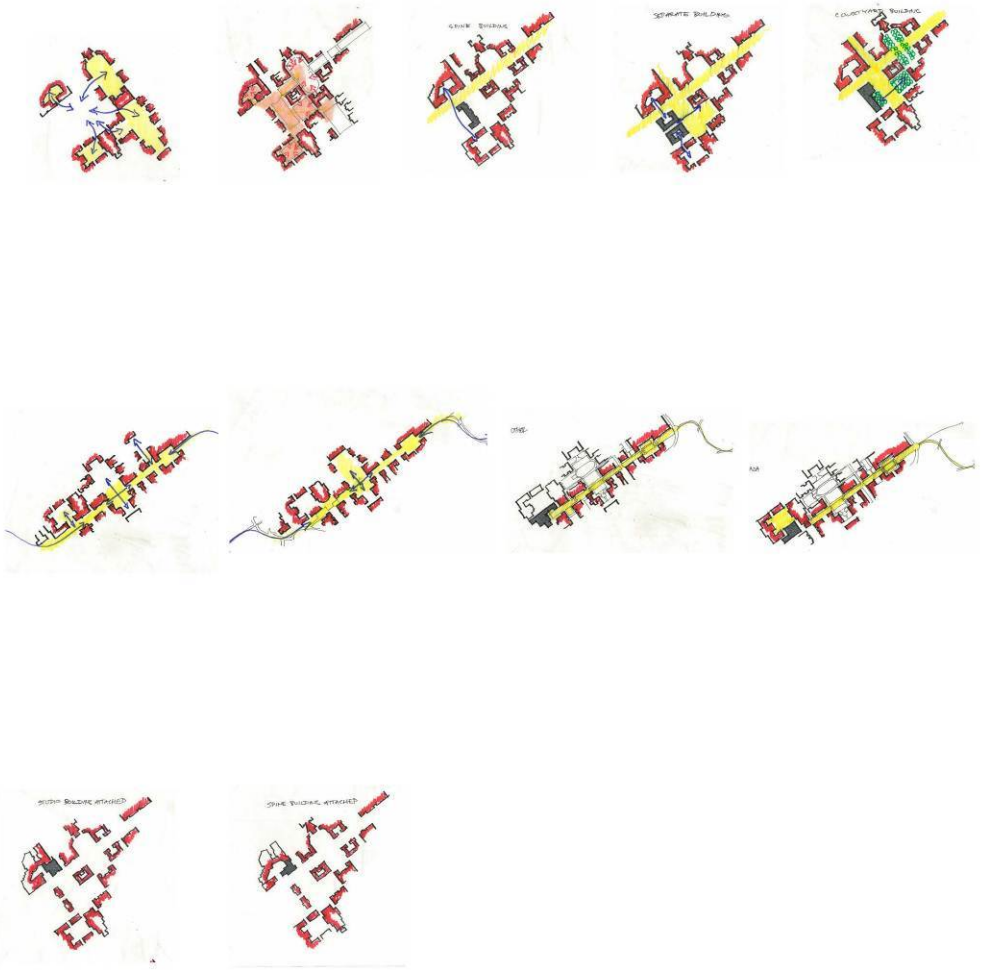
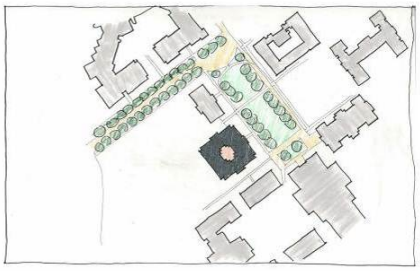


Figure: Architectural Fit - Georgian principles (source: Author)

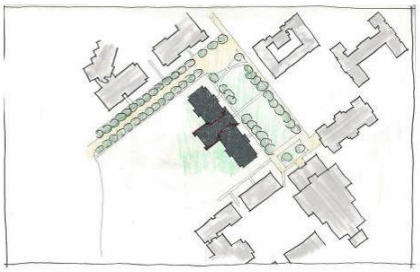
Chapter 4: WFU ARCHITECTURE SCHOOL



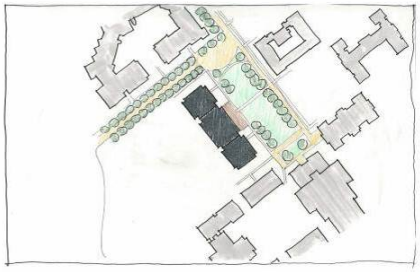
Focused studies of small areas or precincts were used to test possible site for a new architecture school for Wake Forest University. The schemes were brainstorming ideas of where the building could be. These schemes allowed exploration of pros and cons of many different ideas. The three sites explored were: defining a new library quad, enclosing the science quad, and adding to the Scales Fine Arts Center.



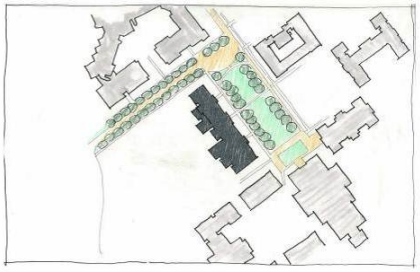
Site 7/9 schemes explore defining a new library quad. Site 7 schemes explore developing only one site.



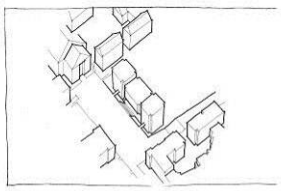
Site 7/9 schemes explore developing both site 7 and site 9.

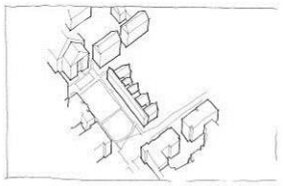


Schemes focused on connections, orientation, and square footage.



Schemes concentrated on aligning development with the University's strategic goals.





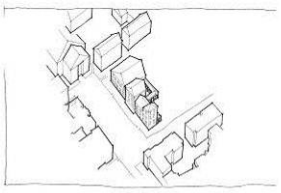
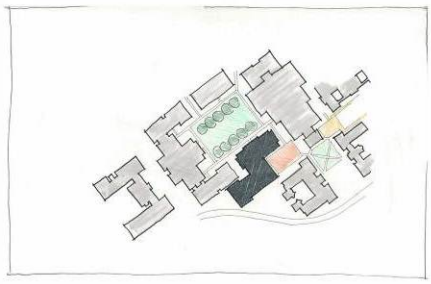
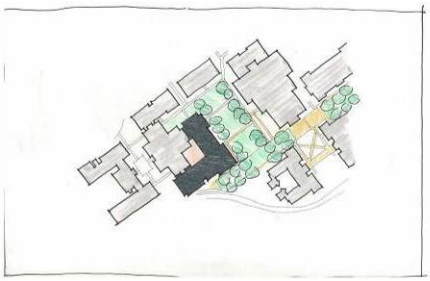


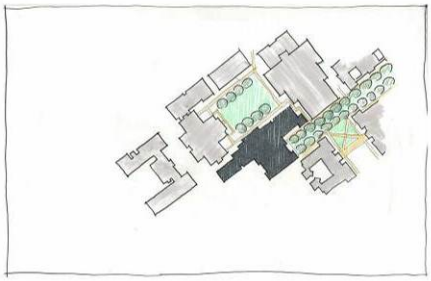
Figure 54: WFU Architecture School - Scheme 7 and scheme 9 (source: Author)



Site 4/5 schemes explore enclosing the science quad.



Site 4/5 schemes explore ending pedestrian axis and defining science quad.

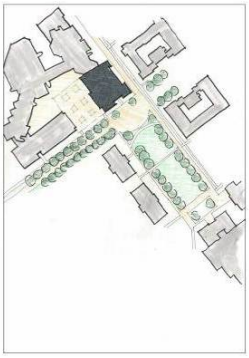


Site 5 schemes explore hiding existing science building and connecting science quad with pedestrian axis.

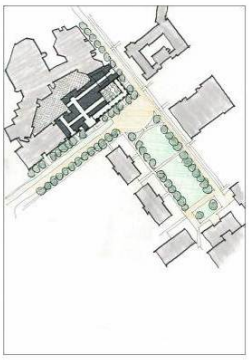
Figure 55: WFU Architecture School - Scheme 4 and scheme 5 (source: Author)

Site 10a/10b schemes explore adding to Scales Fine Arts Center.

Site 10a/10b scheme explore developing both site.



Site 10b scheme explore developing one site with Scales Fine Arts addition.



Site 10b scheme explores developing one site but attaching to both 10a site and Scales Fine Arts Center.

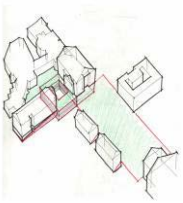


Figure 56: WFU Architecture School - Scheme 10a and scheme 10b (source: Author)

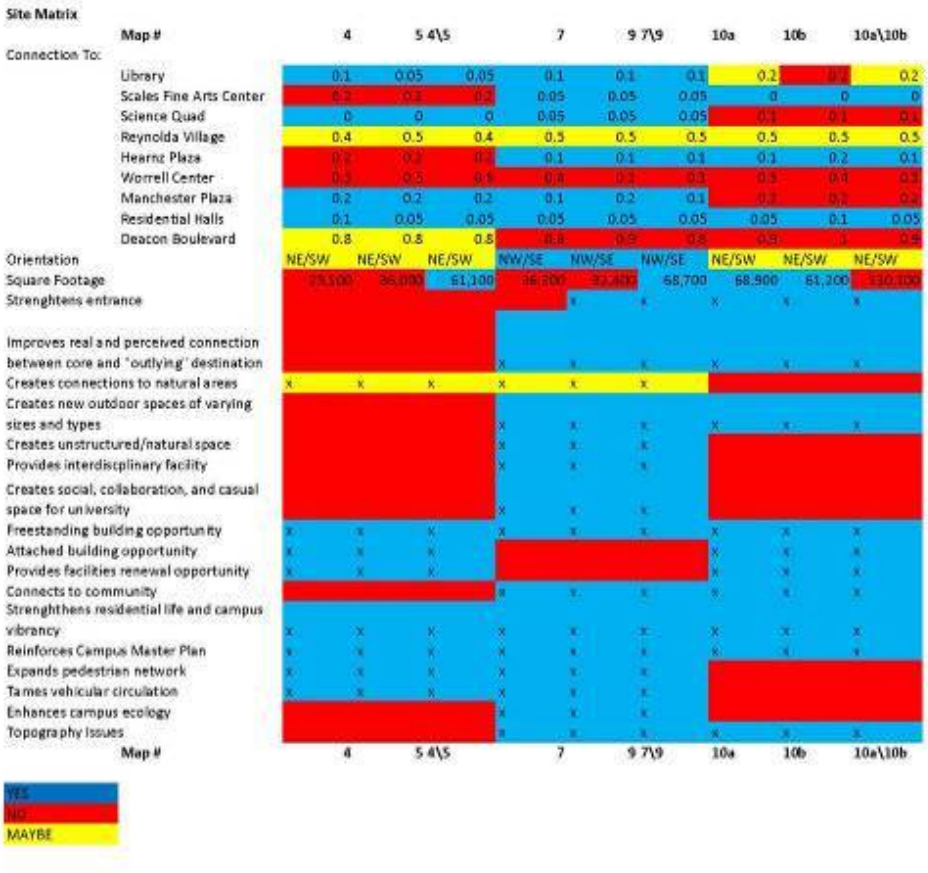


Figure 57: WFU Architecture School - Site selection analysis (source: Author)

Based on the University's strategic goals, schemes for a combination of site 7 and 9 fit the majority of the criteria for a new archtiecture school. The combination of site 7 and 9 provide a possible soltuion for a small liberal arts architecture school within a larger research institution. It bridges, both academically and architecturally, between the arts and sciences. The building provides a large social space for collaboration and interdiscplinary edcuation. It creates an engaged and inclusive community. It extends the core to the "outlying" spaces. The site creates a strong public entrance to the university. It provides an opportunity to strengthen the campus character of Wake Forest University.

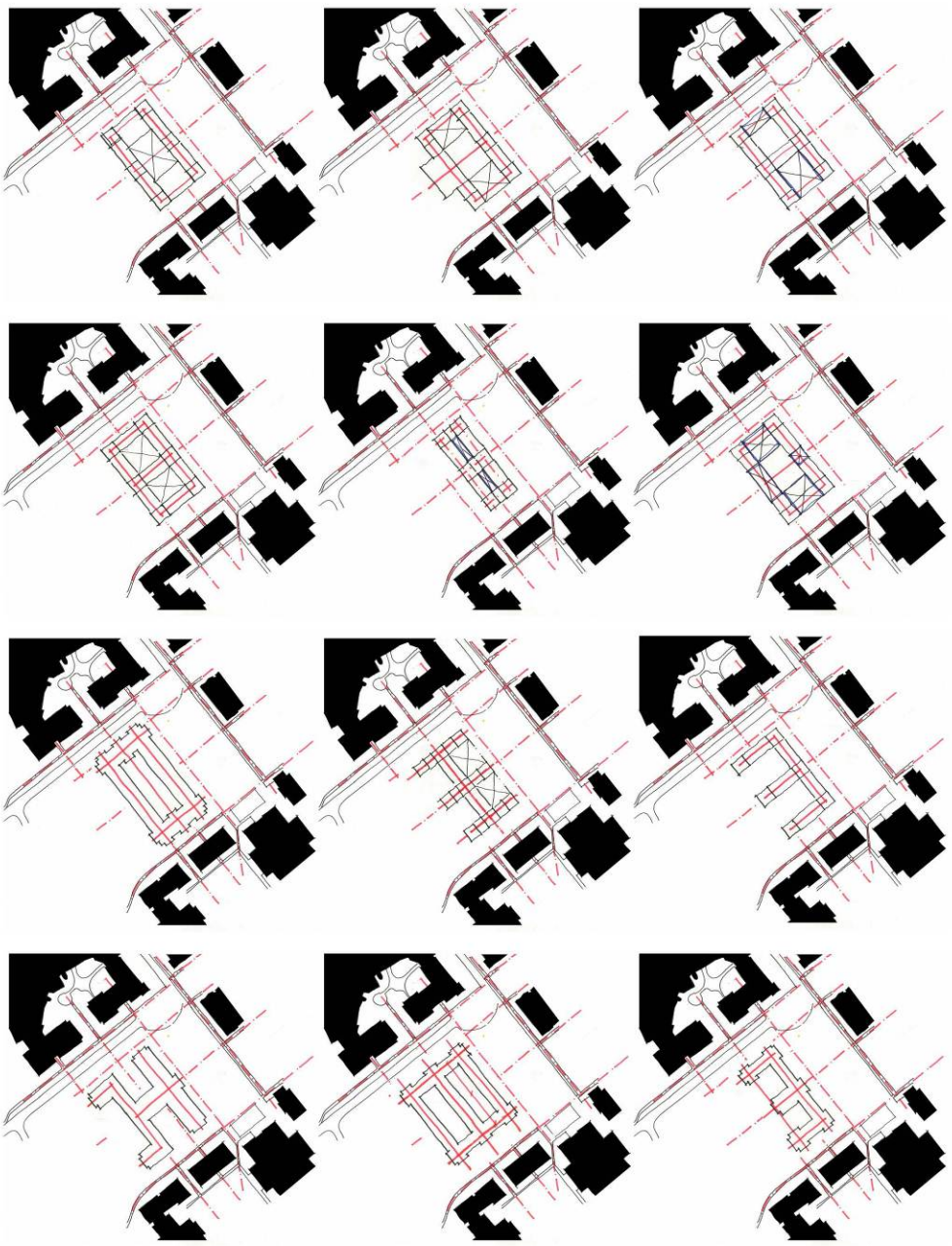


Figure 58: WFU Architecture School - Organizational Axis Study (source: Author)

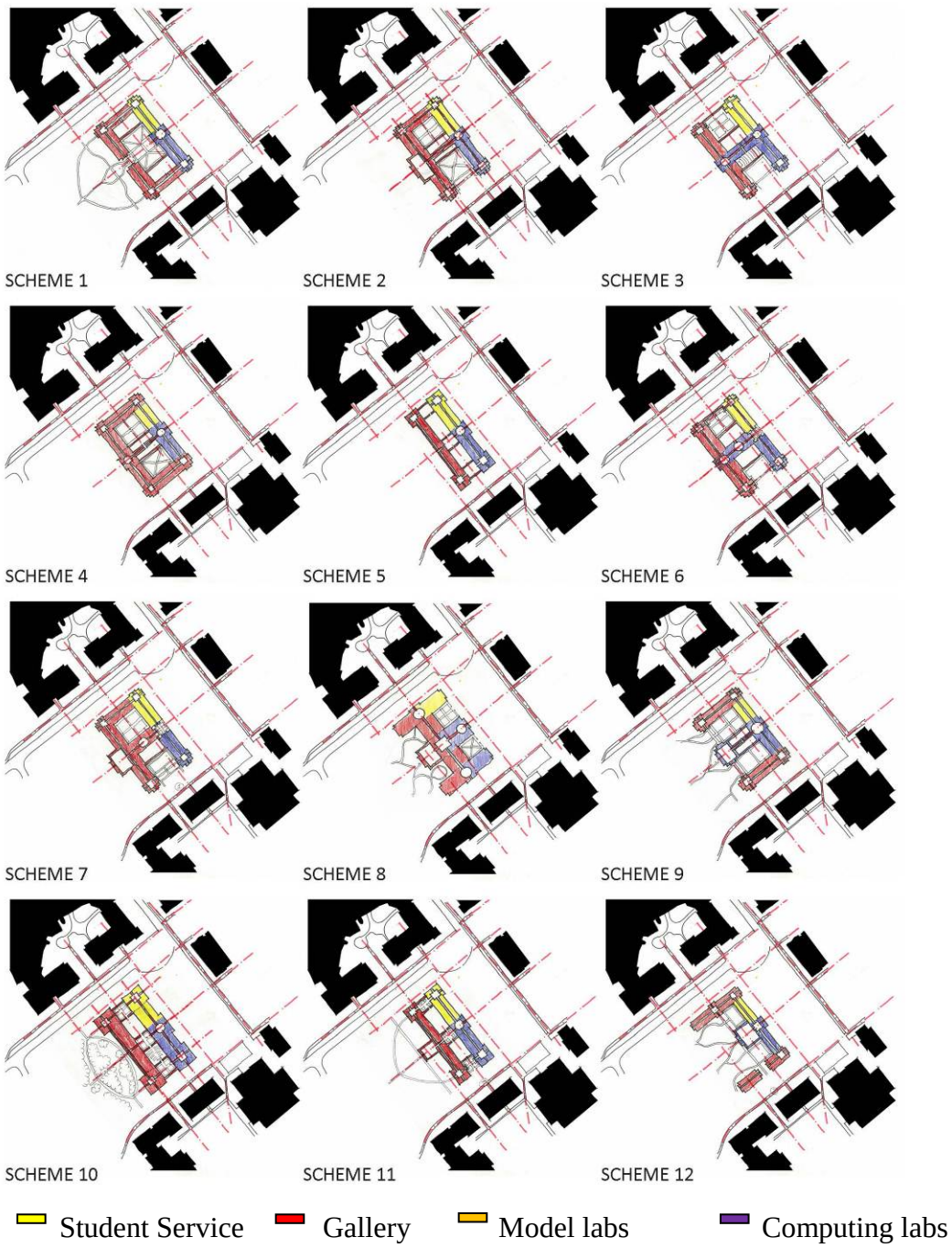
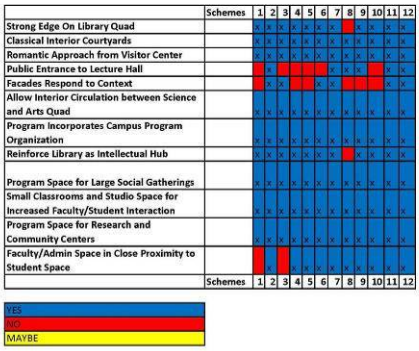
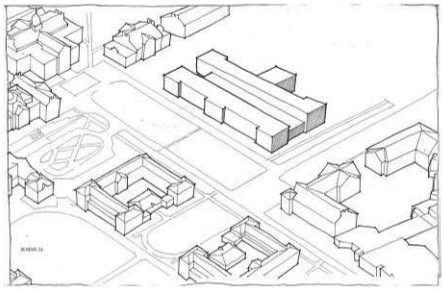


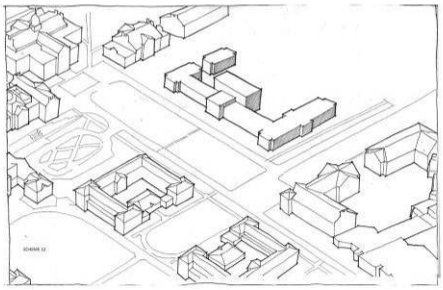
Figure 59: WFU Architecture School - Program Organization Study (source: Author)

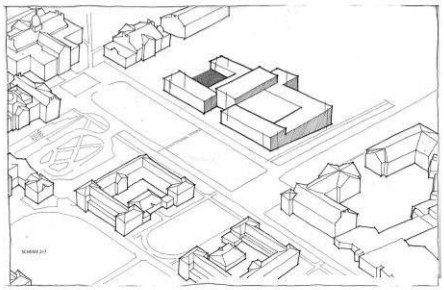


	Schemes	1	2	3	4	5	6	7	8	9	10	11	12
Strong Edge On Library Quad		x	x	x	x	x	x	x		x	x	x	x
Classical Interior Courtyards		x	x	x	x	x	x	x	x	x	x	x	x
Romantic Approach from Visitor Center		x	x	x	x	x	x	x	x	x	x	x	x
Public Entrance to Lecture Hall			x					x	x	x		x	x
Facades Respond to Context			x	x			x	x				x	x
Allow Interior Circulation between Science and Arts Quad		x	x	x	x	x	x	x	x	x	x	x	x
Program Incorporates Campus Program Organization		x	x	x	x	x	x	x	x	x	x	x	x
Reinforce Library as Intellectual Hub		x	x	x	x	x	x	x		x	x	x	x
Program Space for Large Social Gatherings		x	x	x	x	x	x	x	x	x	x	x	x
Small Classrooms and Studio Space for Increased Faculty/Student Interaction		x	x	x	x	x	x	x	x	x	x	x	x
Program Space for Research and Community Centers		x	x	x	x	x	x	x	x	x	x	x	x
Faculty/Admin Space in Close Proximity to Student Space			x		x	x	x	x	x	x	x	x	x
	Schemes	1	2	3	4	5	6	7	8	9	10	11	12

YES
NO
MAYBE







The schemes for defining a new library quad are analyzed according to the University's strategic goals.

Schemes 2, 7, 11, and 12 met all of the criteria.

Schemes 2 and 7 are very similar. A hybrid between them was chosen to further investigate.

Figure 60: WFU Architecture School - Scheme Analysis (source: Author)

Figure 61: WFU Architecture School - Axial Relationships (source: Author)

The chosen site for Wake Forest University's architecture school was on Davis Field defining the new library quad. The initial site analysis explored axial relatiohships with existing buildings and quads.

Figure 62: WFU Architecture School - Scheme 1 (source: Author)

Figure 63: WFU Architecture School - Scheme 2 (source: Author)

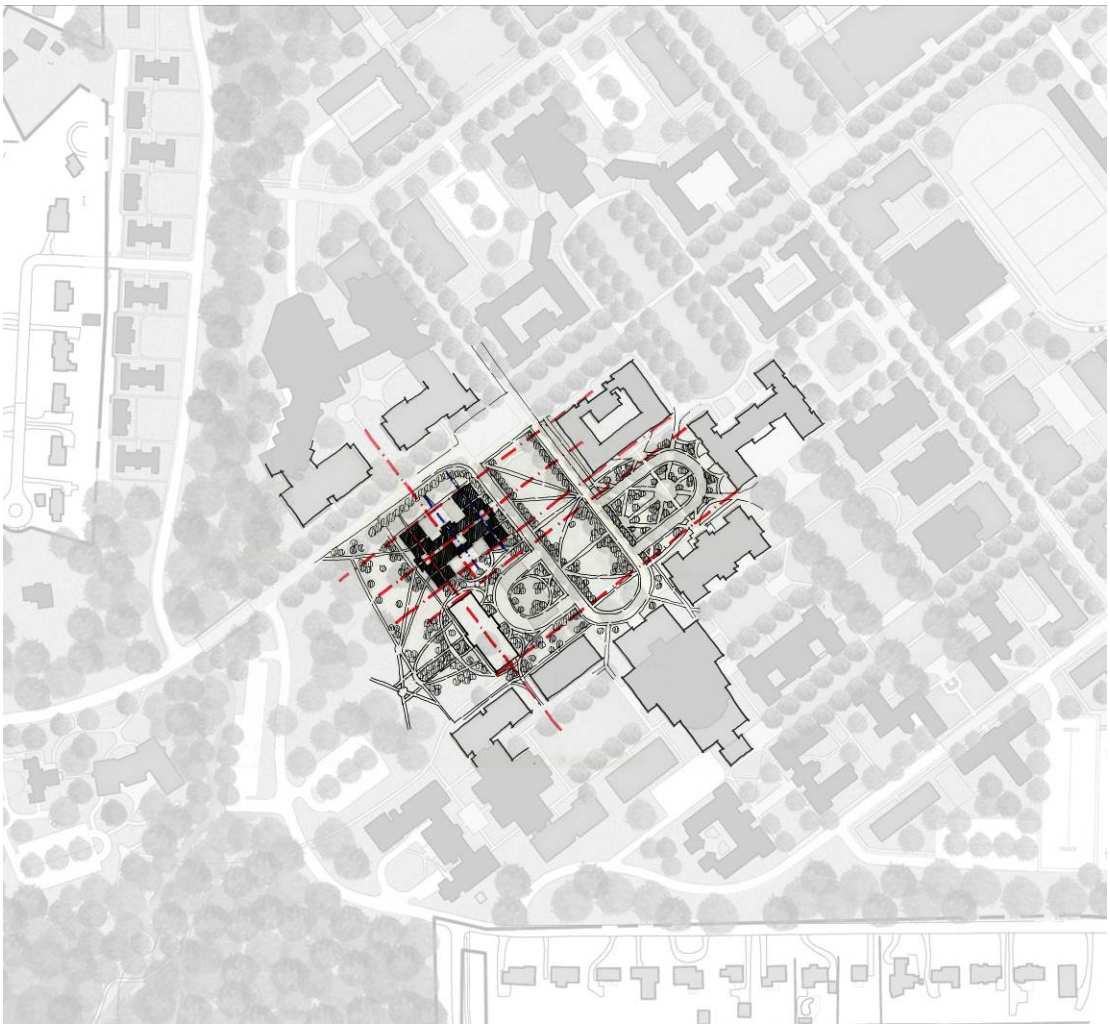


Figure 64: WFU Architecture School - Scheme 3 (source: Author)

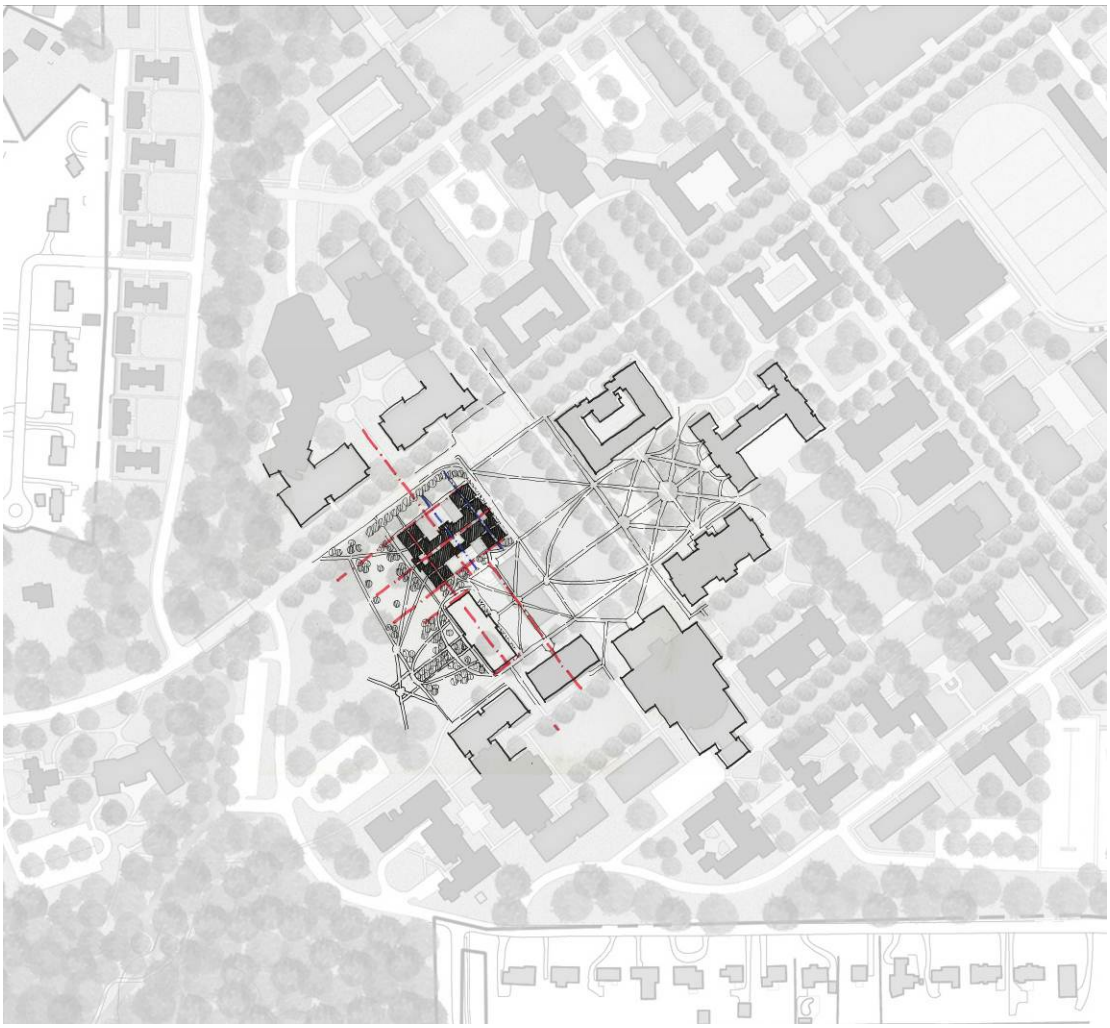


Figure 65: WFU Architecture School - Scheme 4 (source: Author)

Studio spaces are the heart of the architecture building. Classrooms and faculty program attached to studio spaces to create a collaborative workspace for students and faculty.

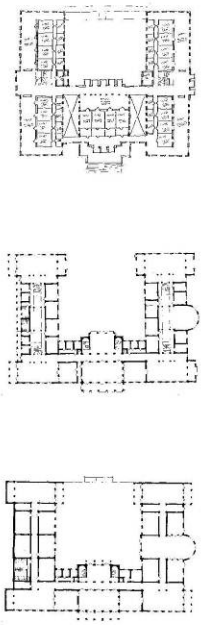
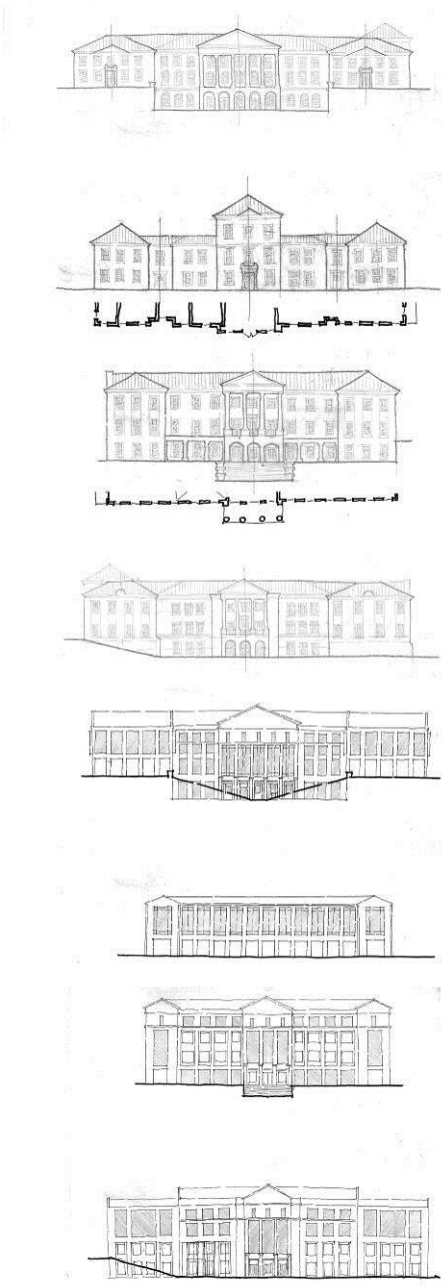
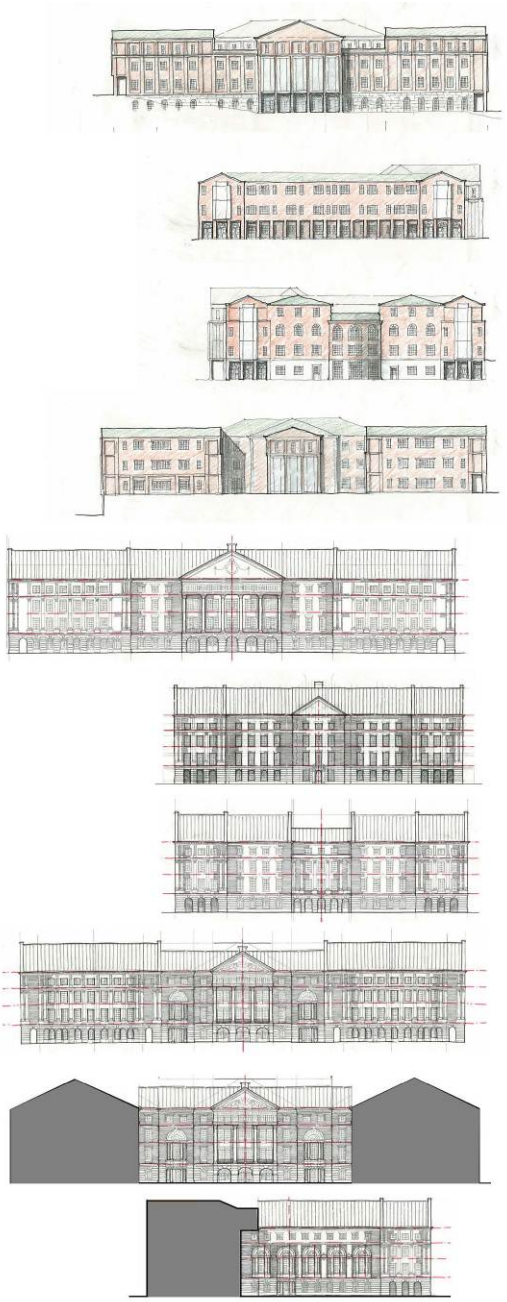


Figure 66: WFU Architecture School – Process Plans Study (source: Author)



Façade studies show the evolution of the façade from traditional to modern. The façade studies alternated between traditional and modern style.

Figure 67: WFU Architecture School – Process Facades Study (source: Author)



Façade studies of traditional options for Wake Forest University's Architecture School.

Figure 68: WFU Architecture School - Process Facade Study (source: Author)

Chapter 4: CONCLUSION & DESIGN DOCUMENTATION

The intent of this thesis was to create an architecture school that fit within an institution academically and architecturally. The proposal reflects a moment in a continuous process. It is a possible solution that can grow and transform further.

Academic Fit

WFU's School of Architecture aligns itself with Wake Forest University's academic strategic goals. At the heart of Wake Forest College is its rich liberal arts core. Wake Forest functions as a Collegiate University, a community where scholars, both faculty and students, habitually cross the boundaries of their particular disciplines, schools, and programs to engage in collaborative, interdisciplinary work. Wake Forest University's Architecture School offers architecture as a liberal arts major. The program partners with the Computer Science, Art, and Physics programs. WFU's Architecture School bridges the gap between liberal arts and sciences. It provides an education of the "whole" architect. It prepares students with a well-rounded liberal arts education and strong basis for graduate programs in architecture and other related disciplines.

Architectural Fit

WFU's School of Architecture aligns itself with the University's architectural strategic goals. The building compliments the campus character. The building acts as a good neighbor. It defines a new campus quad with the library at its heart. The building connects Computer Science, Art, and Physics. WFU's School of Architecture provides collaborative, interdisciplinary workspace. The workspace is welcoming to related and non-related disciplines. At the heart of the architecture building is the studio. Faculty and classroom program plug into the studio space to create a community where both faculty and students collaborate.

Figure 69: WFU Architecture School – Ayers/Saint/Gross Master Plan (source: ASG)

Figure 70: WFU Architecture School - Site Plan (source: Author)

Figure 71: WFU Architecture School - West Campus Site Plan (source: Author)

Figure 72: WFU Architecture School - Open Space Diagram (source: Author)

Figure 73: WFU Architecture School - Reynolda Village Path Connection (source: Author)

Figure 74: WFU Architecture School - Informal Gathering Space Diagram (source: Author)

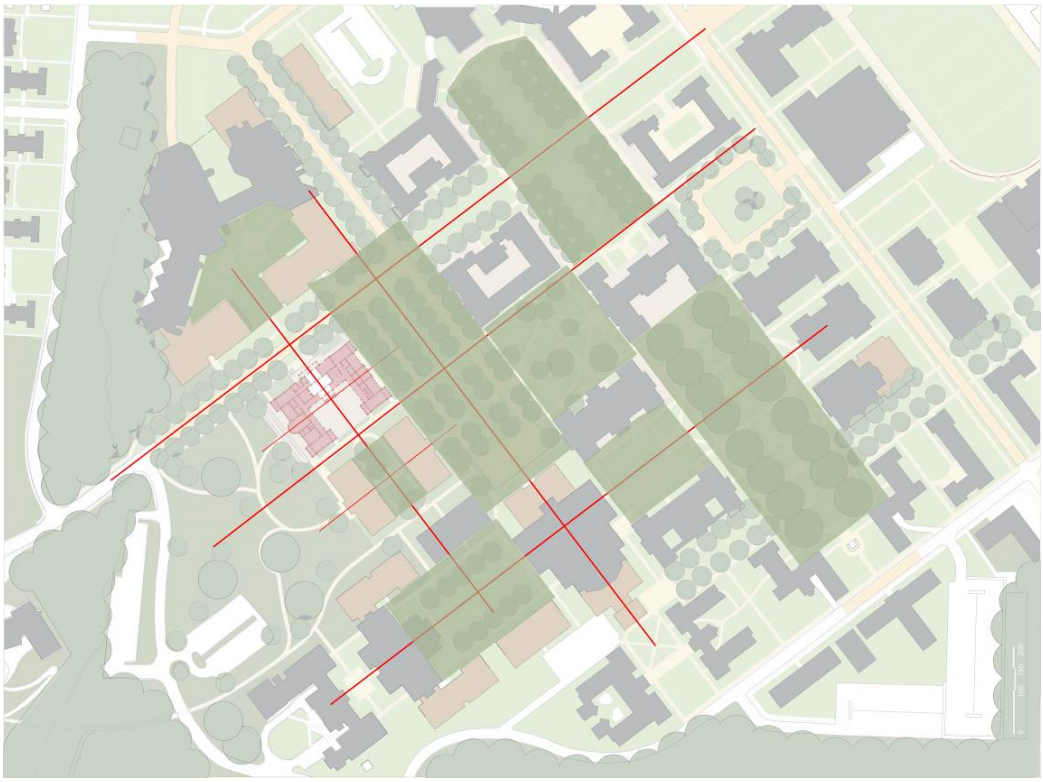


Figure 75: WFU Architecture School - Open Space Network Diagram (source: Author)

Figure 76: WFU Architecture School - Liberal Arts and Science Connection (source: Author)

Figure 77: WFU Architecture School - Library Quad Edges (source: Author)

Figure 78: WFU Architecture School - Iconic vs. Background Building Diagram (source: Author)

Figure 79: WFU Architecture School: Ground Floor Plan (source: Author)

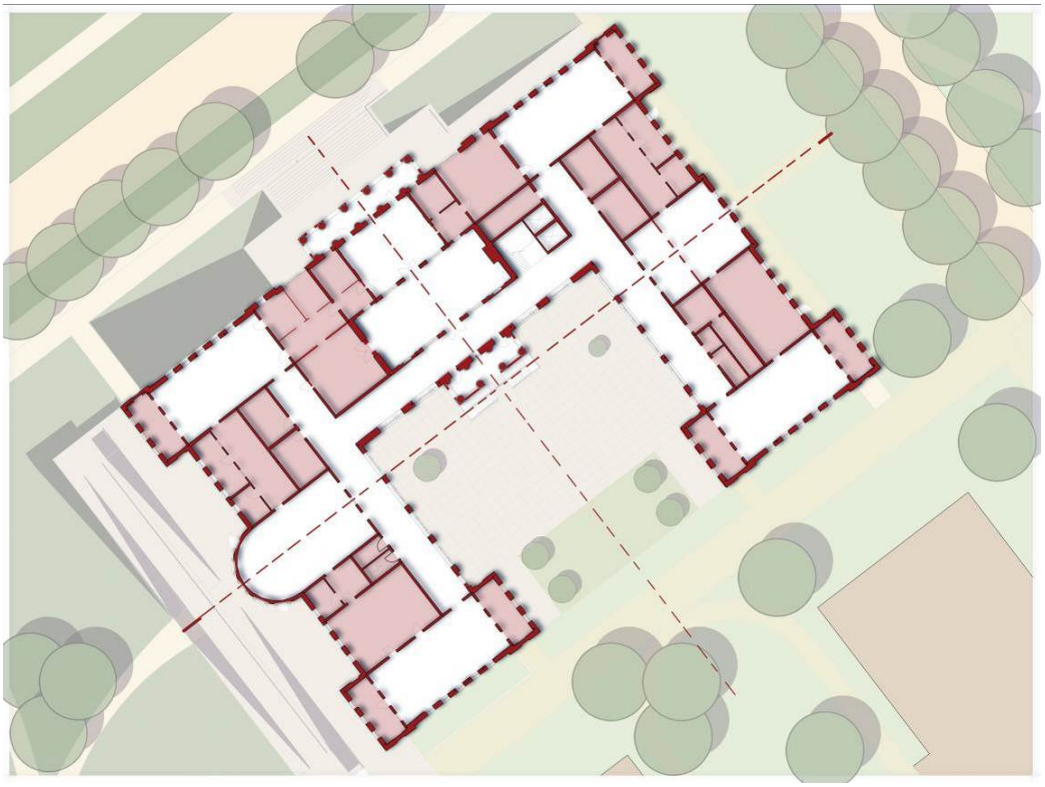


Figure 80: WFU Architecture School: Typical Upper Floor Plan (source: Author)

Figure 81: WFU Architecture School - Northeast Elevation Drawing (source: Author)

Figure 82: WFU Architecture School - Southeast Elevation Drawing (source: Author)

Figure 83: WFU Architecture School - Southwest Elevation Drawing (source: Author)

Figure 84: WFU Architecture School - Northwest Elevation Drawing (source: Author)

Figure 85: WFU Architecture School - Longitudinal Section from art quad to science quad (source: Author)

Figure 86: WFU Architecture School - Transverse Section from Hearn Plaza to Davis Field

Figure 87: WFU Architecture School - Davis Field Approach Perspective (source: Author)

Figure 88: WFU Architecture School - Informal Gathering Space Perspective (source: Author)

Figure 89: WFU Architecture School - Southeast portico perspective (source: Author)

Figure 90: WFU Architecture School - Second and Third Floor Hallway Perspective (source: Author)

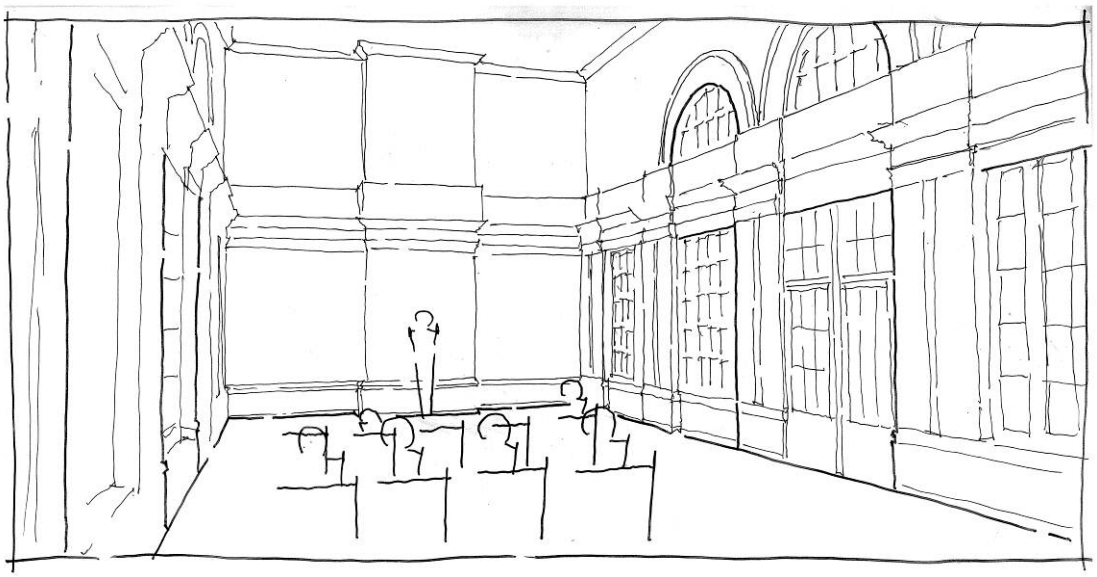


Figure 91: WFU Architecture School - Second Floor Great Room Perspective (source: Author)

Figure 92: WFU Architecture School - Fourth Floor Studio Perspective (source: Author)

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