ANTHONY TIMBERLANDS CENTER

FOR DESIGN AND MATERIALS INNOVATION

FAY JONES SCHOOL OF ARCHITECTURE + DESIGN

UNIVERSITY OF ARKANSAS, FAYETTEVILLE, ARKANSAS

Competition Report

March 20, 2020

ANTHONY TIMBERLANDS CENTER
FOR DESIGN AND MATERIALS INNOVATION

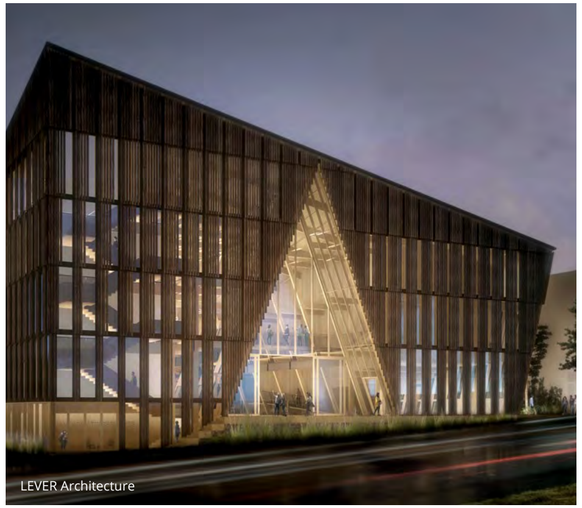
UNIVERSITY OF ARKANSAS | Fay Jones School of Architecture + Design

U.S. Endowment for Forestry and Communities


Dorte Mandrup A/S


Grafton Architects


Kennedy & Violich Architecture


LEVER Architecture


Shigeru Ban Architects


WT/GO Architecture

Contents

Preface

Anthony Timberlands Center for Design and Materials Innovation

“We seek a building that is redolent of the qualities of the forest, one that imagines anew timber and wood as materials. We seek a building that is hewn, carved, jointed, woven, and assembled, layered, laminated.”

Six architecture firms from around the world were selected as finalists for a design competition to envision the future Anthony Timberlands Center for Design and Materials Innovation at the University of Arkansas. This center is planned as an important extension of the Fay Jones School of Architecture and Design and as a key part of the university’s Windgate Art and Design District, a campus district along Martin Luther King Jr. Boulevard that also houses existing and proposed buildings for the School of Art and University Libraries.

The new applied research center will serve as the epicenter for the Fay Jones School’s multiple timber and wood design initiatives, house the school’s existing and expanding designbuild program and fabrication technologies laboratories, and serve as the new home to the school’s emerging graduate program in timber and wood design.

The six finalists – culled from 69 submissions from 10 countries – were selected based on the design excellence of the individual architect or practice at the national and even international level, as well as demonstrated achievements in innovation with materials and construction. All six finalists are accomplished in both professional practice and architecture education.

The design competition is funded in large part by a grant from the U.S. Forest Service and the U.S. Endowment for Forestry and Communities.

Peter MacKeith

Dean and Professor of Architecture
Fay Jones School of Architecture + Design
University of Arkansas

The Anthony Timberlands Center for Design and Materials Innovation, a visionary building initiative undertaken by the Fay Jones School of Architecture and Design at the University of Arkansas, is now at an exciting moment in its progress towards design and construction, bringing a spotlight to Arkansas, its timber industries and its future in wood product research and development.

The project, made possible by a generous lead gift from John Ed and Isabel Anthony, leading Arkansas citizens in its timber industry and its creative culture, with matching funds from the University of Arkansas and its Chancellor, Dr. Joseph Steinmetz, and supplemented by equipment funding from Governor Asa Hutchinson and the Office of the Governor of Arkansas, will be a center for materials and products research and development, with particular focus on Arkansas-sourced timber and wood, to the greater good of the Arkansas environment and economy.

The project builds upon the rapid and productive commitment of the Fay Jones School and the University of Arkansas to the emerging innovative timber economy – to the reemergence, it could be said, of “a forest-centered culture” more generally – as evidenced through the teaching, research and service work of the School’s faculty and students, and the demonstrations of University leadership in its campus design and construction approaches and new buildings.

The Request for Qualifications for the project, released in October, 2019, in accordance with university procurement guidelines, generated an extraordinary 69 submittals from architecture design practices from across the state, the nation and the world, including many of the world’s leading practices. The review of those submittals led to the identification of six superb finalists to be considered fully for the commission.

On the basis of external funding provided by the US Endowment for Forestry and Communities and the United States Forest Services, specifically in support of innovative timber design and construction on university campuses, these six finalists were invited to submit conceptual designs for the project in a limited competition, ahead of the formal interviews mandated by the procurement process. The six practices were advised, encouraged and instructed to research and identify an appropriate Arkansas architecture practice partner to accompany their submission and to move forward with as a team, should their candidacy be recommended to the University of Arkansas Board of Trustees for approval.

Following the competition deadline of January 31, an internationally recognized team of qualified external evaluators provided the University’s Anthony Timberlands Center building project committee with a deep, insightful review of the conceptual designs, and contributed to the University committee’s final recommendation of the primary candidate architecture and design team to the Board of Trustees. This Competition Report presents the six conceptual proposals, together with the assessments and recommendations of the external evaluation team, as determined during their deliberations on February 1 and 2. The conceptual designs were presented to the University and local community in a public exhibition format during the week beginning February 3, 2020, and principals of the six invited practices made public presentations to the School, University and state community on February 5 and 6, in addition to the required procurement interviews with the building project committee.

This highly deliberative and exploratory process has led ultimately to the identification of an architectural design team, and the recommendation of that team to the University of Arkansas Board of Trustees for their meeting on March 18-19, 2020. The Fay Jones School and the University of Arkansas will look forward to initiating this important project immediately upon the Board’s decision.

Full acknowledgements are listed on the final pages of this report, but here and now, allow me to offer gratitude to the six finalist practices’ principals and staff for their intense, dedicated efforts, to the students, staff and faculty of the Fay Jones School who have contributed to this project and the larger “timber project,” to the United States Forest Service and the US Endowment for Forestry and Communities, and to Governor Hutchinson, Chancellor Steinmetz and John Ed and Isabel Anthony for their vision and belief in the ambitions and value of the Anthony Timberlands Center for Design and Materials Innovation.

Request for Qualifications

As Announced and Advertised on October 4, 2019

The University of Arkansas Fayetteville, in accordance with the policies of the Board of Trustees, is soliciting responses from qualified architects for the *Anthony Timberlands Center for Design and Material Innovation*.

Project Description

The Anthony Timberlands Center for Design and Materials Innovation Center is envisioned as an important extension of the Fay Jones School of Architecture + Design, and a key part of the university's Windgate Art and Design District on Martin Luther King Jr. Boulevard in Fayetteville. The district is situated along a busy transportation corridor that frames the southern edge of the nearby main campus and connects to the city's Mill District. The new building will occupy a prominent corner site facing the Mill District and downtown Fayetteville, and will—in its role as an urban project—strengthen the university's presence and contribute to the developing urban density and character of MLK Jr. Boulevard as it transitions from a suburban-style highway to an urban street. As a beacon for the district and a complementary neighbor to the School of Art's studios and the Library Annex, the Anthony Timberlands Center will serve several purposes: It will serve as home to the Fay Jones School's graduate program in timber and wood design and serve as the epicenter for the school's multiple timber and wood initiatives. It will also house the school's existing design-build program and digital fabrication laboratory, as well as a new applied research center. Given the State of Arkansas's role as one of the nation's leading producers of timber and forest products, the focus of the applied design research center will, in large part, be in wood design and innovation, although other material types will be included.

Funding for the project includes a significant private gift. The ambition of the donor, shared by the university, is to create a *building of the highest quality that will showcase Arkansas's resources, build innovation for Arkansas wood products, bring distinction to the university and the state, and win design, engineering, and construction awards.* To that end, the building will be a showcase for both design and construction innovation, allied with the highest ambitions for sustainability. This will advance the standard established by the Fay Jones School's home, Vol Walker Hall and the Steven L. Anderson Design Center. This facility set an outstanding example in design and sustainability, having been recognized with AIA National Honor Award in Design and earning LEED Gold certification. The Anthony Timberlands Center will continue this legacy of design excellence and will further the approach to sustainability—achieving a minimum of LEED Gold, but also exploring the potential for net zero, *Passivhaus*, or Living Building Challenge in order to demonstrate leadership for sustainable building practices in Arkansas. Along with these concerns, the project is an opportunity to illustrate and promote diversity. Women and minority-owned firms are strongly encouraged to apply, and all applicants should describe the diversity of their firm.

The Anthony Timberlands Center represents a remarkable opportunity to embrace the high ideals and ambitions of the university and the principles of the Fay Jones School by directly illustrating a vision for the future of the school and the 21st-century university in its form and character, rather than nostalgia for the past. The inherently contemporary nature of this project demands both an intensely speculative design process and engagement of best practices in design and construction. Taken together, the Anthony Center will be both of its time and looking ahead to a world designed to be humane, beautiful, and enduring, by being interdisciplinary, diverse, and collaborative.

Program

The project is expected to demonstrate mass timber and wood product construction to the fullest extent possible, sourced primarily from Arkansas forests and mills, and create a distinct and innovative identity for the school and the district. While prior experience in mass timber design and construction will be considered useful, the true driver for the project is *design and material innovation*. Although the construction of the building focuses on wood, the eventual use and programs housed within are not exclusively dedicated to wood.

The building will house classrooms, studios, seminar spaces, conferences areas, faculty offices, and visiting faculty living quarters, all situated atop a double-height fabrication and design-build shop floor. The building may be up to four or five stories and may include up to 50,000 square feet. Final size, occupancy, and the nature of the learning components will be determined during the programming process, and applicants must be well-versed in current best practices for education and fabrication facilities. The way in which this building and its surrounding spaces are integrated within the district will be determined in collaboration with the design team of the School of Art's ongoing project next door, specifically to consider issues of context, adjacencies, shared public space programs, shared landscape architecture, and shared spaces which are essential for reasons of facility and overall cost efficiencies. This shared landscape will be critical for both the Fay Jones School and the School of Art as a place of collaboration, for working on large scale assemblies, and for taking deliveries of significant materials and components.

Selection Process

The selection process for the Anthony Center will be divided into two phases. In the first phase, through review of responses to the RFQ, a shortlist of six (6) architects will be identified and invited to enter a design competition, funded by a grant from the US Forest Service and the US Endowment for Forestry and Communities. The emphasis in this first phase is explicitly on the design excellence of an individual architect or practice. Architects are to respond to the RFQ individually, without reference to partners, engineers, or consultants. Responses to the RFQ that include information about teams or partnerships will not be considered. Architects who respond to the RFQ but are not shortlisted are still eligible to join the teams formed by the shortlisted architects.

In the second phase, the six shortlisted firms will be asked to assemble full project teams as they prepare their competition entries. Teams will present their designs publicly and interview separately with the selection committee. Subsequently, as the project progresses through design and construction, the winning team will be expected to engage with the Fay Jones School of Architecture + Design's curriculum and to provide public updates as the design and construction process of the Anthony Center must be of educational value.

Other Information

The project budget (total project cost) is $16 million. Architects and consultants will work with a university building committee, a general contractor/construction manager, an independent third-party commissioning agent, and Facilities Management to advance campus master planning and design principles, as well as sustainability initiatives. For general campus planning and standards information, visit http://planning.uark.edu.

Anticipated Project Schedule

Request for Qualifications (RFQ) issued	*October 4*
Statement of Qualification (SOQ) due	*October 29*
shortlist announcement	*November 12*
interviews and public presentations	*early February 2020*
Board of Trustees selection announced	*March 19, 2020*
contract negotiations	*March 2020*
design starts	*April 2020*
construction starts	*May 2021*
project complete	*December 2022*

Submission

The deadline for responses is 1:00pm local time on Tuesday, October 29, 2019. All respondents will be notified of the results by EMAIL, so please provide accurate contact information.

Address ten (10) copies of responses to:
Todd Furgason, Senior Campus Planner
University of Arkansas
Facilities Management Planning and Design
521 S. Razorback Road, FAMA C-100
Fayetteville, AR 72701

Statements of Qualification will be reviewed by a selection committee using a standardized Design Services Shortlist Evaluation form. This form is available for download at http://planning.uark.edu/rfq.

Written responses should be limited to **50 pages maximum**, fully recyclable (i.e. no plastic binding, covers, or tabs), and should include:

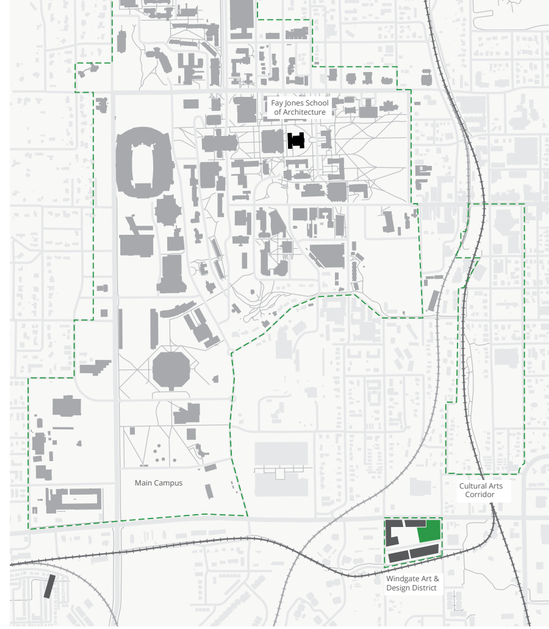
1. Proof of licensure or eligibility:
   Architects: All firms shall be licensed, or eligible for licensure, in the State of Arkansas. Eligible firms not currently licensed must send a letter to the Arkansas State Board of Architects (501-682-3171/501-682-3172 fax) stating their intent to respond to an RFQ issued by the University of Arkansas. Please include project name, submittal date, and proof of valid NCARB certification in the letter. Notification to the State Board must be made PRIOR to responding to this solicitation, and A COPY OF EITHER A VALID ARKANSAS LICENSE OR THE QUALIFYING LETTER MUST BE INCLUDED WITH ALL SUBMITTALS. The final selected firm(s) will have 30 days to make application for corporate licensure after they are awarded the contract.
2. Specific experience with materials research and innovative construction techniques
3. Specific project experience (within the past five years) with advanced timber technologies used as both structural and envelope systems
4. Specific project experience (within the past five years) with fabrication facilities and their spatial and technological requirements
5. Specific project experience (within the past five years) with design of a range of university instructional spaces and their spatial, acoustical, lighting, and technological requirements
6. Specific project experience (within the past five years) with the design of successful urban places, including building siting, design of active and passive exterior spaces, and integration of landscape
7. Specific project experience (within the past five years) with sustainable design practices beyond LEED certification such as net zero, Passivhaus, Living Building Challenge, etc.
8. Current office size, personnel description, and workload
9. Proof of current professional liability insurance coverage ($1,000,000 minimum required)
10. Prior experience constructing projects under nationally and internationally-recognized sustainable rating systems
11. Prior experience with fully-commissioned projects
12. Projects currently under contract with state agencies or educational facilities
13. Statement of diversity in the workforce, if applicable
14. Certificate of women-owned or minority-owned business, if applicable

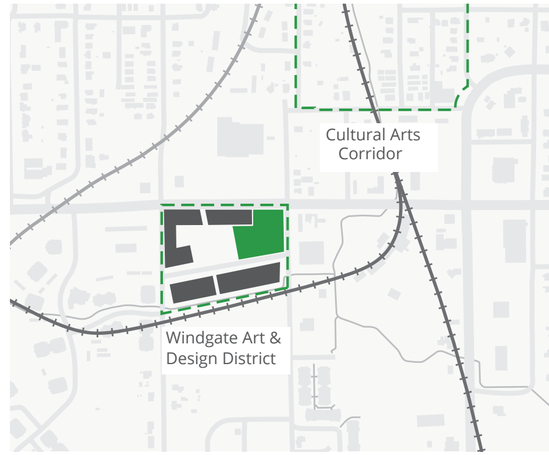
Professional Services Required *(final selected team of architect(s) and their consultants)*:

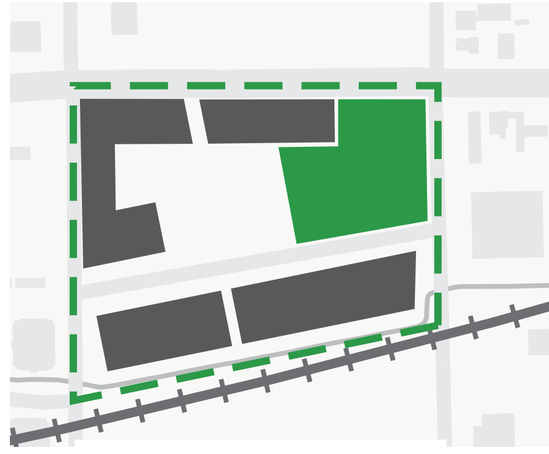
PROGRAMMING, FEASIBILITY ASSESSMENTS, GRAPHIC PRESENTATION, SITE PLANNING, CIVIL ENGINEERING, LANDSCAPE DESIGN, INTERIOR DESIGN, COST EVALUATION, SCHEMATIC DESIGN, DESIGN DEVELOPMENT, CONSTRUCTION DOCUMENTS, CONSTRUCTION ADMINISTRATION, AND PROJECT CLOSEOUT.

Location

The Anthony Timberlands Center will be located at the northeast corner of the Art and Design District, a campus district that houses existing and proposed buildings for the School of Art and University Libraries.







Submitting Firms in Response to the Request for Qualifications

Listed in alphabetical order

Invited firms highlighted in green

01 **5468796 Architecture**
Winnipeg, MB, Canada

02 **ALA Architects**
Helsinki, Finland

03 **Allford Hall Monaghan Morris (AHMM)**
Oklahoma City, OK *(London, UK)*

04 **archimania**
Memphis, TN

05 **Architecture Research Office**
New York, NY

06 **atelierjones**
Seattle, WA

07 **Behnisch Architekten**
Boston, MA *(Stuttgart, Germany)*

08 **Bernheimer Architecture**
Brooklyn, NY

09 **BNIM**
Kansas City, MO

10 **Bohlin Cywinski Jackson**
Wilkes-Barre, PA

11 **Brooks + Scarpa**
Hawthorne, CA

12 **Bruner/Cott**
Boston, MA

13 **Bucholz McEvoy Architects**
Dublin, Ireland

14 **Charles Rose Architects**
Somerville, MA

15 **Christner Architects**
Saint Louis, MO

16 **Cooper Cary**
Atlanta, GA

17 **designLAB architects**
Boston, MA

18 **DIGSAU**
Philadelphia, PA

19 **Diller Scofidio + Renfro**
New York, NY

20 **DLR Group**
Cleveland, OH

21 **Dorte Mandrup A/S**
Copenhagen, Denmark

22 **Effekt Arkitekter**
Copenhagen, Denmark

23 **Einar Jarmund & Co**
Olso, Norway

24 **El Dorado**
Kansas City, MO

25 **ennead**
New York, NY

26 **Eskew Dumez Ripple**
New Orleans, LA

27 **FXCollaborative**
New York, NY

28 **Grafton Architects**
Dublin, Ireland

29 **HOK**
Saint Louis, MO

30 **inFORM studio**
Northville, MI

31 **In Praise of Shadows Arkitektur**
Stockholm, Sweden

32 **JKMM Architects**
Helsinki, Finland

33 **John Ronan Architects**
Chicago, IL

34 **Kennedy & Violich Architecture (KVA)**
Boston, MA

35 **Kevin Daly Architects (KDa)**
Los Angeles, CA

36 **Leers Weinzapfel Associates**
Boston, MO

37 **LEVER Architecture**
Portland, OR

38 **LTL Architects**
New York, NY

39 **Machado Silvetti**
Boston, MA

40 **MacKay-Lyons Sweetapple Architects**
Halifax, NS, Canada

41 **Mario Cucinella Architects**
Bologna, Italy

42 **Michael Maltzan Architecture**
Los Angeles, CA

43 **modus studio**
Fayetteville, AR

44 **MOS**
New York, NY

45 **MPdL Studio**
Boston, MA

46 **NADAAA**
Boston, MA

47 **Neumann Monson Architects**
Iowa City/Des Moines, IA

48 **Olson Kundig**
Seattle, WA

49 **OOPEAA**
Helsinki, Finland

50 **Patkau Architects**
Vancouver, BC, Canada

51 **Perry Dean Rogers Partners Architects**
Boston, MA

52 **Polk Stanley Wilcox**
Fayetteville/Little Rock, AR

53 **Quadrangle Architects**
Toronto, ON, Canada

54 **Rogers Partners**
New York, NY

55 **ross barney architects**
Chicago, IL

56 **Shigeru Ban Architects**
New York, NY *(Tokyo, Japan)*

57 **SHoP Architects**
New York, NY

58 **Skidmore, Owings & Merrill (SOM)**
Chicago, IL

59 **Snøhetta**
New York, NY *(San Fransisco, CA)*

60 **Snow Kreilich Architects**
Minneapolis, MN

61 **Studio Gang**
Chicago, IL

62 **Takaharu + Yui Tezuka Architects**
Tokyo, Japan

63 **The Miller Hull Partnership**
Seattle, WA

64 **Trahan Architects**
New York, NY

65 **ULTRAMODERNE**
Providence, RI

66 **WORKac**
New York, NY

67 **Works Progress Architecture**
Portland, OR

68 **WT/GO Architecture**
New Haven, CT / London, England

69 **ZGF Architects (ZGF)**
Seattle, WA

Competition Brief

November 15, 2019 - January 31, 2020

The Invitation

You have been invited to envision the Anthony Center for Design and Materials Innovation (ATCDMI) in Fayetteville, Arkansas, in a Design Competition sponsored by the University of Arkansas' Fay Jones School of Architecture and Design and the US Forest Service's Mass Timber University Grant Program. This is the Competition Brief. The Design Competition is Phase Two of a two-stage process.

Phase One of the process was a Request for Qualifications (RFQ) issued publicly in October 2019. Six firms have been selected to move forward to the competition phase, in which each firm and the teams they form will each produce a proposal for the Anthony Timberlands Center. You are encouraged to read this document carefully, to re-read the RFQ included in 4.2 Resources, and submit any questions you might have according to the Calendar below.

The six selected architectural practices will submit their design responses to an External Evaluation Team, which will review them and issue assessments and a recommendation first to the ATCDMI project committee and then to the Board of Trustees at the University of Arkansas, who will make the final decision as to the winner.

The Challenge

The immediate challenge of this Competition is to create an innovative, inspirational, and practical proposal for the Anthony Center for Design and Materials Innovation. The Competition's Sponsors, the Fay Jones School of Architecture and Design and the US Forest Service, hope that the Competition builds on the impressive reputation of the University of Arkansas as a leader in mass timber initiatives. The home of the Fay Jones School of Architecture and Design, recipient of numerous national awards, including an Honor Award from the American Institute of Architects, sets the standard of excellence. Specifically, the design selection process seeks to elevate the quality and significance of mass timber design by attracting and inspiring the most significant and innovative architects.

The Competition's objective is the production of innovative designs for a fabrication and education facility that is highly functional in its role as a fabrication and research center, appropriate to the site, and innovative in its use of materials and construction techniques. Thus, your challenge is to propose an innovative design that recognizes and builds upon Arkansas' potential as a center for design and materials innovation.

Arkansas' identity is one of deep pragmatism that appreciates poetic beauty, and this balance is embedded in the vision for the Anthony Timberlands Center. The practical aspects of the project are well known, as are the aspirations, all seen in the context of the project budget. The constraints of the site and budget demand a careful balance of utility and poetry, of restraint and expressiveness. Finalists should be able to clearly articulate their approach to cost control and their experience in meeting strict budgets while delivering architecture of the highest aspirations.

We seek a building that is redolent of the qualities of the forest, one that imagines anew timber and wood as materials. We seek a building that is hewn, carved, jointed, woven, and assembled, layered, laminated.

We are excited that you are joining us in that search and wish you the best of luck.

Context

The University of Arkansas

Founded in 1871 as a land-grant institution, the University of Arkansas is the flagship of the University of Arkansas System. Our 27,000 students represent all 50 states and more than 120 countries. The U of A has 10 colleges and schools offering more than 210 academic programs. The University of Arkansas is accredited by the Higher Learning Commission.

Our picturesque campus is located in Fayetteville in the hilly northwest corner of Arkansas and includes two arboreta overlooking the Ozark Mountains. Some of the nation's best outdoor amenities and most spectacular hiking trails are within a short drive of campus. Fayetteville is routinely considered among the country's finest college towns, and the surrounding Northwest Arkansas region is regularly ranked one of the best places to live in the U.S.

Fayetteville

The Design Competition is set at the University of Arkansas in Fayetteville, Arkansas, located in the Ozark mountain region of Northwest Arkansas. The area is geographically rugged, dominated by wooded plateaus, rock outcroppings, and clear streams. Fayetteville experiences four seasons, including hot, humid summers and mild winters. The region receives higher total rainfall but fewer precipitation days than the national average. Fayetteville rests in the northern end of the Boston Mountains, part of the broader Ozark range, enjoying a mix of hills and valleys covered in hardwood forests.

Fayetteville was first incorporated in 1859 and is the county seat of Washington County. The region has historical relevance as a hunting ground for the Osage people, as part of the Trail of Tears resettlement route for the Cherokee people, and as an area occupied by both armies during the United States Civil War of 1861-1865.

Fayetteville boasts a population of 73,500 and an area of about 55 square miles. Bordered by other cities on the east, west, and north, Fayetteville is projected to experience a significant population increase over the next 20 years.

Fayetteville enjoys a significant architectural heritage as the birthplace of Edward Durell Stone, home to a large number of E. Fay Jones works, as well as an array of important mid-century works by numerous architects, including John Williams, Warren Seagraves, Cy Sutherland, and others. Many of these architects were instrumental in the formation and development of the architecture school itself. This architectural legacy has given rise to a new generation of architecture, historically promoted by the University of Arkansas and, more recently, by the Design Excellence Program sponsored by the Walton Family Foundation. The Fay Jones School of Architecture + Design has a legacy of critical regionalism that has sustained global relevance.

Fayetteville is located along the Interstate 49 corridor that connects it to the cities of Bentonville, Springdale, and Rogers. The Metropolitan Area of Northwest Arkansas is home to 525,000 residents as of the 2016 census, which ranked the region as the 22nd fastest-growing in the United States. Northwest Arkansas is home to three Fortune 500 companies: Walmart Stores, Inc., Tyson Foods, and J.B. Hunt Transport Services, Inc. These companies, along with their suppliers and vendors, have augmented the region's population, which doubled between 1990 and 2010. Amenities in the area include the University of Arkansas, Crystal Bridges Museum of American Art, Walmart Arkansas Music Pavilion (AMP), the Northwest Arkansas Razorback Regional Greenway, the Symphony of Northwest Arkansas, TheaterSquared, and the Northwest Arkansas Naturals minor league baseball team. The region also boasts a growing system of world-class mountain bike trails and numerous recreational lakes and hiking trails. The Northwest Arkansas Regional Airport provides direct flights to New York, Washington, Atlanta, Chicago, Dallas, Houston, Denver, San Francisco, Philadelphia, Minneapolis, and Los Angeles.

The City of Fayetteville also seeks to improve publicly owned land and create a dynamic Cultural Arts Corridor at the heart of the City. This corridor will link cultural institutions, including the Walton Arts Center, TheatreSquared's new performing arts venue, Nadine Baum Studios, Fayetteville Public Library, and the University of Arkansas' Windgate Art and Design District which includes the site of the Anthony Timberlands Center. This corridor will activate the outdoor environment between Dickson and Prairie Streets with amenities that will enhance the experience for city residents and visitors alike.

Fayetteville is a small town that is also part of a larger regional metropolitan area, and it hopes to balance its history with its emerging role as a research center by maintaining the best attributes of each.

E. Fay Jones

Namesake of the Fay Jones School of Architecture + Design, internationally renowned architect Fay Jones (1921-2004) chose to build his career in his native Arkansas, far from design centers on the east and west coasts. Inspired by the wooded hills of the Ozarks, he created a unique style that stands apart from architectural trends.

Fay Jones is celebrated for designing soaring sacred spaces and modern homes warmed by native materials. He received numerous awards, culminating in 1990 with the highest honor an American architect can receive, the American Institute of Architects Gold Medal. The AIA later honored Jones as one of the country's "10 most influential living architects" and ranked his masterwork, Thorncrown Chapel, as the fourth best building by an American architect in the 20th century.

A member of the University of Arkansas' first graduating class of architecture students, Jones taught for 35 years and served as the School of Architecture's first Dean. Jones' passion for architecture inspired generations of students; his international reputation also drew outstanding practitioners to lecture and teach on campus, helping to establish the school's national reputation for excellence.

Arkansas Forests

Arkansas' forests cover 57% of the state with 18.9 million acres total, 15.4 million acres of which is private forests, 2.5 million acres of national forests, and 1.1 million acres of other publicly-owned forest lands. Arkansas's forest industry directly employs approximately 25,000 people in the state and has a total economic impact of over 5 billion dollars annually. The industry is dominated in the state by the pulp, paper, and sawmill (dimension lumber) sector, but engineered wood is emerging. Arkansas' forests are producing significantly more biomass every year than is harvested, leading to concerns about overall forest health. This excess material ensures a ready supply for significant production of advanced timber and wood products.

Given Arkansas' prominence in timber production, the research excellence of its state university system, and the national reputation of both the Fay Jones School of Architecture and Design, we are uniquely positioned to respond to global trends and state and regional influences. Currently, most wood research and innovation occurs either on the coasts or internationally. However, geographically and economically, Arkansas is well-suited for the development of new and innovative wood products markets, reducing the risk that the United States is left behind in the global race to maximize the potential of timber and wood as a sustainable building material.

Demand is expected to increase substantially for timber and wood as a sustainable raw material, as is the demand for associated creative and technical expertise in the design and engineering of timber and wood products. Although the State of Arkansas is a significant source of forest products as raw materials, the majority of the skilled processes that add value and transform wood products into finish materials happen in other states. According to "An Economic Assessment of Arkansas" Forest Industries,' increasing value-added processing in Arkansas could significantly increase industry output and the total economic impact.

Material from the Arkansas forests has had a profound impact on the markets and economy of the State of Arkansas but can have an even broader impact through value-added processes that convert the material into innovative and sustainable products and energy sources. The development of mass timber products will build upon existing lumber production in the region and create additional jobs and value-added wood products to the economy. The further processing of lumber in the region will have substantial impacts on a large number of economic sectors.

Arkansas Timber and Wood Products

The University of Arkansas, as a patron of mass timber buildings on campus, is perhaps the most significant supporter in higher education in the United States, with nearly $100 million in construction so far. The university buildings commissioned with this innovative material reflect the influence of the Fay Jones School of Architecture on the approach to sustainability at the University of Arkansas.

Specifically, the University of Arkansas has constructed the Library Storage Building (2018) and Adohi Hall (2019), each a combination of glulam and CLT construction. The Library Annex Building (27,000 sf) is located in the Windgate Art and Design District immediately south of the project site for the Anthony Timberlands Center. Adohi Hall (a 200,000+ square foot residence hall) is nearby on the southern edge of the main campus. Finalists can build on the pioneering work of these projects and draw upon the expertise that now exists in design, construction, and regulation in the local community.

As stated in the RFQ, there is a strong preference for the use of Arkansas-sourced wood and timber products in their many forms, whether or not they are considered mass timber. The full range of Arkansas wood products should be considered, taking advantage of the broad array and abundance of both softwood and hardwood species for structural and envelope purposes and for interior surfaces and furnishings.. Clearly, Arkansas does not yet have significant mass timber production in general and no Cross Laminated Timber (CLT) production specifically. Several entities are currently exploring the development of a CLT production facility. Still, there is no guarantee that such a facility will be operational for the construction of the Anthony Timberlands Center. Lack of in-state production of any particular timber or wood product does not mean it cannot be proposed for use.

Arkansas Climate

Finalists are strongly encouraged to investigate the climate in Arkansas and to take its severity seriously. Arkansas is classified as a humid subtropical climate, which is generally a mild climate with a hot summer and no specific dry season. Arkansas has intense heat in the summer and can have frigid winters, and significant precipitation can occur in any season. Please consider orientation and the location of glazing carefully, as strategies that are effective in northern climates are not necessarily appropriate in Arkansas. More information about Fayetteville's climate is available here: https://encyclopediaofarkansas.net/entries/climate-and-weather-4579/

Fayetteville's climate is severe and changing. According to the City of Fayetteville, Arkansas' climate is experiencing an increase in average yearly temperatures, particularly in Northwest Arkansas. There will be more frequent heatwaves, as well as intense rainfall, causing soil erosion. More information about climate change in Fayetteville is available here: https://www.fayetteville-ar.gov/3282/Climate-Change-in-Arkansas

Program

General Description

This Competition asks you to propose the design for the Anthony Center for Design and Materials Innovation in Fayetteville, Arkansas.

The Competition seeks a progressive, modern design that, given its location in the Windgate Design District, will become a vibrant contributor to the broader campus of the University of Arkansas and the City's Cultural Arts Corridor. A building that embodies the ambitions and principles of the Fay Jones School and embraces the urban fabric in unique and innovative ways is desired.

The Competition emphatically hopes to receive proposals that demonstrate creative approaches to sustainability, that is to say, proposals demonstrating ways in which architecture, construction, and related interior design, landscape architecture, and urban design can work with, rather than against, climate, both internally and externally. Design elements of any outdoor gathering spaces should provide climate mitigation, particularly shading, given the intense summer weather. As mentioned in the RFQ, the Anthony Timberlands Center has an opportunity to set an important example for sustainability through aggressive strategies such as net zero or net zero plus, verified through a variety of potential certification programs.

Building Program

The building will house classrooms, studios, seminar spaces, conference areas, faculty offices, and visiting faculty living quarters, all situated atop a high-bay fabrication and design-build shop floor. The actual building should demonstrate multi-story construction up to five stories and may include up to 50,000 square feet. Final size, occupancy, and the nature of the learning components will be determined during the programming process, and applicants must be well-versed in current best practices for education and fabrication facilities. Issues of context, adjacencies, shared public space programs, shared landscape architecture, and shared spaces will be determined in collaboration with the design team of the School of Art, essential for reasons of facility and overall cost efficiencies. A shared landscape will be critical for both the Fay Jones School and the School of Art as a place of collaboration, for working on large scale assemblies, and for taking deliveries of significant materials and components.

Site and Extended Site

The immediate site for the Anthony Timberlands Center is approximately 0.7 acres or 31,000 square feet. The site is approximately 150 x 200 feet, but defined precisely by the site drawings identified in Section 4.2 Resources. Located at the corner of Martin Luther King, Jr. Blvd and Government Avenue, the site for the Anthony Timberlands Center is set in the northeast corner of the Windgate Art and Design District, a campus of approximately 8 acres. Your design should focus on the specific site; however, your vision of how your project could potentially relate to the new building being developed for the School of Art is also important.

While the RFQ indicates that 'the building may be up to four or five stories,' the Fay Jones School has a distinct preference for the building to be this tall. The site may accommodate a shorter, spreading design, but the educational value of the building, urban impact, and overall presence would decrease significantly. Finalists are strongly encouraged to explore a vertical design that uses a minimal footprint to maximize potential opportunities for education, views, and overall effect.

Please note that there is not a fixed master plan for the Windgate Art and Design District. Design for Phase 1 for the School of Art is ongoing, and Phase 2 is in the distant future. Broadly, the vision for the Windgate Art and Design District is one of collaboration with meaningful connections between the buildings and the outdoor spaces they will share. A stylized site plan (also provided in Section 4.2 Resources) indicates a possible configuration of buildings for Phase 1 and 2 of the School of Art to the west of the site of the Anthony Center. Finalists may speculate on the nature of the connection to the School of Art buildings and the courtyard framed by the collection of buildings.

It is important to note that the changing nature and development of the Windgate Art and Design District means that existing maps and online resources are often incorrect and that some buildings that exist on site now will be removed. Further, the neighborhood surrounding the District is changing rapidly, and there is minimal important context. Within the District, the Sculpture Building that occupies the southeast corner will remain, as will the Library Annex Building on the southwest corner. The Library Annex Building is expected to expand to the eastern boundary of the overall site.

No parking is required within the immediate site boundary for the Anthony Timberlands Center. Parking is already provided along the south edge of the site. Special consideration should be given to large scale deliveries from the access road that crosses the District between the Project Site and the Sculpture and Library Storage Building. As deliveries will be occasional, this access street can be considered as part of the courtyard or plaza shared by the School of Art and the Anthony Timberlands Center.

Information about your Site/Extended Site, including a general description, maps, photographs, dimensions, topography, and zoning, etc. is available at links found in section 4.2 Resources.

Finalists who wish to visit the site in person may draw upon the $5,000 available for travel to do so, but it is preferred that the funds are used for the required campus visit for public presentations and interviews. Please contact the Competition Advisor, Dean Peter MacKeith, who will arrange for a tour.

Program Details

While a program summary is provided below, it should be noted that this is for the purposes of the Design Competition only, and the winning team will have the opportunity to engage in a thorough sequence of programming with the stakeholders of the actual building.

Fabrication Shop: The largest and arguably the most important space in the building, is a high bay fabrication shop that will feature a wide variety of tools and equipment including a gantry crane, referenced in the Equipment List provided in 4.2 Resources. There may also be smaller shops in individual rooms to separate specialty equipment from dust. Overall, the main shop will likely be 80% of the overall space, with 2-4 satellite specialty labs. 15,000 - 19,000 sf

Fabrication Yard: Extending from the fabrication shop to the street to the south, the fabrication yard will be a covered outdoor workspace. 7,500 - 10,000 sf

Entry & Lobby: The main entry will be located on Martin Luther King, Jr. Boulevard giving it significant visibility and prominence. The lobby will look likely look into the fabrication shop and have an adjacent exhibition gallery. 1,900 - 2,400 sf

Exhibition Gallery: Adjacent to the main lobby, the exhibition gallery will put the work of the school and significant external work on display. 600 - 800 sf

Auditorium: A location for large classes and visiting speakers with raked or flexible seating, the auditorium will ideally be able connect to the fabrication shop for direct displays of fabrication techniques. 2,500 - 3,000 sf

Laboratories: 3-4 "clean" labs for specialized material and other research (cellulose, nanocellulose, etc.) will be included at 1,200-1,800 square feet per lab. 5,000 - 6,200 sf total

Classrooms: 3-5 classrooms of varying sizes from 1,000-2,000 square feet each. 5,000 - 6,200 sf total

Library: With places to study and a collection of important books and print media, the library will be an important resource. 1,200 - 1,500 sf
Roof Terrace: On top of the 5th floor, the roof terrace will have commanding views south to the Boston Mountains, much like the Sky Terrace at the Fay Jones School. 1,500 - 2,000 sf

Visitor's Residence: Providing a place to stay for visiting faculty or lecturers, an apartment for visitors allows guests of the school to have a direct presence and experience. 800 - 1,200 sf

Finalists may also be speculative about the program, bringing their expertise in material research, fabrication, construction, and architectural education to bear.

Project Specifications:

The Anthony Center will effectively be designed and built around a fabrication shop with a range of state-of-the-art equipment, funded in part by a grant from the Governor of Arkansas. A list of potential equipment is provided in Section 4.2 Resources for your consideration.

Calendar

Schedule

1. Request for Qualifications due October 29, 2019;
2. In accordance with university procurement policies, the submittals will be reviewed by a campus review committee between until November 11, 2019;
3. Using the RFQ statement as its guide, the committee will select six (6) submittals for inclusion and further development through an invited design competition which will be notified by email or phone by November 12, 2019;
4. Those not shortlisted for the competition phase will be notified no later than 5:00 CST, November 14, 2019.
5. Finalists must designate a Point-of-Contact. Contact information for the designated Point-of-Contact must be emailed to the Competition Advisor by November 19, 2019.
6. Questions must be submitted in writing to the Competition Advisor by Tuesday, November 19, and will be answered collectively by Friday, November 22, 2019.
7. The deadline for delivery of the competition model and submission of digital files of the competition boards and related text to the University of Arkansas is 3 PM CST Friday, January 31. If a finalist chooses to print and mount their own boards, these must also be received by the same deadline as the model.
8. The closed-door assessment of the submitted competition material by the external evaluation team is scheduled for February 1-2.
9. A public exhibition of the submitted materials is scheduled to open February 3, ending date TBD.
10. The closed-door interviews with full project committee and public presentations to the School and University community by the six finalist teams are scheduled for February 5 and 6. The results of the invited competition process will be summarized and released during the week of February 10.
11. Upon completion of the Design Competition according to the schedule and rules, finalists receive a stipend of $25,000.
12. The recommendation of the external evaluation team will be forwarded first to the ATCDMI Project Committee and then to the University of Arkansas Board of Trustees, who will make the final decision during the March 18-19, 2020 meeting. The winner will be notified, and contract negotiations will begin.
13. Winner announced publicly on or about May 1, 2020.

Submission

Requirements

Your submission will comprise four primary components:

1. *Competition Boards submitted as a print-ready, digital file.*
2. *Architectural Model*
3. *Explanatory Text*
4. *Statement of Educational Approach*

The Competition Sponsor will print and mount your materials for review and exhibition but accepts no responsibility for those that will not print correctly. We recommend you test your prints before sending them.

Competition Boards

Your presentation drawings ('Boards") must be formatted to fit 30-inch by 40-inch sheets (or metric equivalent), oriented so that the 30-inch dimension is on the top and bottom of each sheet. You may assume your "Boards" will be displayed side-by-side, and that drawings may extend across more than one "Board." However, perfect alignment/registration of drawings that continue across more than one "Board" cannot be guaranteed.

The visual, graphic presentation of the design should compellingly document the team's approach to the project. The Boards will be printed and mounted by the Fay Jones School of Architecture and Design and placed on public display in the exhibition gallery at the School in Fayetteville. The public will have opportunities to view and comment on the submissions.

Presentation boards should present a compelling visual and verbal argument for your proposed scheme. To give competitors as much control over their presentations as possible, finalists may supplement the basic requirements in any way they wish within the guidelines of the four-board presentation format.

1. *Site Plan and Site Sections:* Scale of choice. A comprehensive site plan and site section that communicates how the building will occupy your site, as well as any landscape features, sidewalks, outdoor gathering spaces, and public accessways. The scale of this plan and these sections is yours to determine, but it should be clearly identified along with a north orientation device.

2. *Building Plans, Sections, and Elevations:* The required scale is 1/16" = 1"–0" (or the metric equivalent). Include a ground plan and all relevant floor plans; all program areas should be clearly shown. Include a minimum of two building sections and two elevations providing a clear understanding of material surfaces and apertures.

3. *Perspective Views:* A minimum of six images, showing both exteriors and interiors. These images should communicate the nature of the buildings, their experience, and it is positioned and appears on site. One image should be clearly identified for enlargement as part of media efforts to promote the exhibition. This image may be printed up to 48" wide.

4. *Technical Wall Section:* The required scale is ½" = 1'-0" (or the metric equivalent). A minimum of one (1) technical wall section identifying floor heights, materials, and techniques of construction. Please also provide a three-dimensional depiction of a critical construction detail that suggests a potentially significant, innovative tectonic strategy to employed in the project. Ideally these drawings, taken together with the environmental diagram listed below, will demonstrate an integrative strategy for enclosure, structure, and the active and passive systems that may be employed.

5. *Environmental Diagram(s):* Provide diagram(s) that communicate the broad environmental strategy of the design proposal. Scale at your discretion.

Feel free to supplement these required drawings/images with any other drawings, diagrams, renderings, charts, graphs, or other visual information that you feel will build the case for your submission. Human figures should populate the sections and perspectives. Drawings should communicate an urban design strategy for the design of public and shared spaces.

Architectural Model

The architectural model at 1/16"=1'-0" is required, and is to be constructed predominantly of wood. Context models will be provided by the Fay Jones School. A basic platform portion of the context model will be shipped to each finalist to ensure proper fitting of the architectural model to the context model. Finalists may include smaller scale study models, conceptual models, or detail models.

Written Content

The External Evaluation Team, the Competition Sponsor, and the general public will want to understand the basic ideas driving your design and your approach to the challenge. As part of the presentation boards, provide a maximum 500-word statement describing the overall design concept, how it was derived, and how it is reflected in the completed design. This written description must be incorporated into the graphic layout of the presentation. Written content should be straightforward and devoid of professional jargon. You may add additional written information as you see fit.

Statement of Educational Approach

Separate from the presentation boards, each finalist will also submit a statement of maximum 500 words describing their approach to engaging the students, faculty, and curriculum of the Fay Jones School during the design and construction process if their firm is identified as the winner.

Compensation for this engagement would be separate from the project fee.

Resources

To assist the design teams in formulating their proposals, links to resource documents have been provided below. Additionally, you will receive site-specific documentation, including photographs and survey information. Together these links and resource documents provide planning guidelines, site information including maps, Fayetteville city documentation, land use (current and future), and descriptions of city amenities and their proximal relationship to the site. Note that although the City of Fayetteville indicates Industrial Zoning for the site, it is governed entirely by the University of Arkansas for its setbacks. There is no height restriction on the site.

Fayetteville Geographical Information System
Fayetteville Master Street Plan
Fayetteville Cultural Arts Corridor
Fayetteville Trails
Fayetteville City Plan 2040

A download link will be provided by email to each finalist's designated contact to access:
1. Original Request for Qualifications
2. Equipment List
3. Site Survey

Questions and Answers

While this Competition Brief and accompanying resource documents should provide the information required to execute a successful submission, participants in the design competition may seek clarification by submitting questions to the Competition Advisor according to the Schedule in Section 3.

All questions must be received by no later than the stated deadline (see "3.1 Schedule"). Any changes to this document resulting from answers to the questions will become part of the competition instructions. All questions, answers, and resulting program clarifications will be sent to all competitors via email no later than the stated deadline (see "3.1 Schedule"). The authorship of all questions will be withheld. A copy of the questions and responses will be provided to the External Evaluation Team before the presentations.

For the duration of the competition and the subsequent presentations, teams may not communicate directly with any member of the Fay Jones School of Architecture and Design faculty, students, or staff, or any member of the External Evaluation. During that period, the Competition Advisor will serve as the liaison with the appropriate parties.

Addresses

All submissions must be received according to the schedule in Section 3. Late submissions will be disqualified.

DRAWINGS:

Submit two electronic files, each containing an Adobe Acrobat PDF of the submission, one in high-resolution (300 dpi) for printing and potential publication, and one in low-resolution (100 dpi) for digital viewing and website publication.

Name your files for these two purposes as follows:

firmname_atcdmi_h
firmname_atcdmi_l

For the perspective image used for publicity:

Firmname_perspective_h
Firmname_perspective_l

These files should be uploaded using a link that will be provided by the Fay Jones School in mid-January, along with upload instructions.

MODEL:

Please ship your physical model to ensure arrival according to the schedule in Section 3 to:

Fay Jones School of Architecture and Design
459 Campus Drive
WALK 120
University of Arkansas
Fayetteville, AR 72701
ATTN: Peter MacKeith
Tel: 479-575-2702

The competitors are solely responsible for ensuring that submissions are uploaded via the Fay Jones School link and reach the above address by the proper time and date.

Neither the Fay Jones School of Architecture and Design nor the University of Arkansas (or any of their agents or consultants) is responsible for any materials that do not arrive on time or arrive in a condition that renders them unsuitable for printing, display, or judging.

Rules

Communication

From this point forward, competition participants may not communicate with anyone about the competition other than the Competition Advisor, Dean Peter MacKeith of the Fay Jones School. Dean MacKeith can be reached at mackeith@uark.edu; please copy the Executive Assistant to the Dean, Carol Rowser at crowser@uark.edu.

For the purposes of announcements and other communications, each Competitor participating in this Competition must identify a Point-of-Contact who will serve as the competition advisor's liaison with that firm through the course of the competition. It is the responsibility of the Point-of-Contact and not the Competition Sponsor nor the Competition Advisor to notify the members of that competitor's team of any updates or additional information. Contact information for the designated Point-of-Contact must be emailed to the Competition Advisor by according to the Schedule in Section 3.

Winner

The University of Arkansas Board of Trustees will determine the Competition winner, taking into consideration the recommendation of the External Evaluation Team and the recommendation of the ATCDMI Project Committee.

Ownership and Copyright

All drawings, photographs, photocopies, portable files, and other physical materials submitted to the competition shall become the property of the Fay Jones School of Architecture and Design, University of Arkansas, and may be retained for archival purposes and possible exhibition and publication (see "Exhibition and Publication"). Competitors retain standard ownership of their intellectual property. By participating in this competition, each firm acknowledges and agrees that the Fay Jones School of Architecture and Design, University of Arkansas, shall have the right to photograph the submitted materials and use any such photographic representation for any non-construction purpose—including archival, public relations or marketing. The Fay Jones School of Architecture and Design shall have the right to release any of the design materials to the media or otherwise publish and distribute the design materials. The Fay Jones School of Architecture and Design will credit the firm responsible for authoring the material wherever possible but is not responsible for ensuring that proper credit is provided by media sources upon publication or public discussion.

Announcement, Exhibition, and Publication

The Fay Jones School of Architecture and Design retains ownership of all competition materials (see "Ownership and Copyright"). As such, the Fay Jones School of Architecture and Design reserves the right to control where and how all Competition materials are first published. Competitors may not release any images of their submission or any material related to the Competition in any way to any source until permitted by the Fay Jones School of Architecture and Design. This includes all media outlets and professional organizations and publications.

As the sponsor and organizer of this competition, the Fay Jones School of Architecture and Design reserves the right to utilize the materials submitted in any publication or promotional endeavor in perpetuity, either in whole or in part, and without additional compensation to the author of the material. All future publications by the competitors of their submission in this competition, either in whole or in part, must identify the Fay Jones School of Architecture and Design as the sponsor and organizer.

The Fay Jones School of Architecture and Design may exhibit the competition entries—including both selected and non-selected submissions—at any point in perpetuity following the submission of the competition materials.

All competitors and their team members are enjoined from discussing this project with the media or other individuals until permitted to do so by the Fay Jones School of Architecture and Design.

Disputes

The Board of Trustees of the University of Arkansas will award the winner of the Competition and award the commission. The Dean of the Fay Jones School of Architecture and Design will resolve any disputes.

Licensure

Please refer to the RFQ for initial information about licensure and then to the Arkansas State Board of Architects, Landscape Architects, and Interior Designers for complete information. Finalists are not required to be licensed in Arkansas to compete in the Design Competition. However, to ensure a timely transition for the winner, finalists located outside the United States are encouraged to begin the process of applying for NCARB equivalency certification and then for Arkansas licensure.

As noted in the RFQ, no mention can be made to the services of a Landscape Architect who is not licensed in the State of Arkansas at any point in the Design Competition, corresponding exhibition, or interviews. A list of Landscape Architects licensed in Arkansas is available for the Arkansas State Board of Architects, Landscape Architects, and Interior Designers.

Disqualification

No partner, associate, or employee of any External Evaluation Team member may participate in the Competition, nor may any External Evaluation Team member compete in association with, advise, or assist a Competitor in any way. Similarly, no employee or family member of an employee of the Fay Jones School of Architecture and Design may participate in this Competition, or advise or assist a Competitor in any way.

The Competition Advisor will invalidate any submissions that: are posted after the deadline; fail to fulfill the stated programmatic requirements or are incomplete in any significant fashion; or contain any visual or written material deemed inappropriate.

No member or representative of any finalist team may attend the public presentation of any of the other finalists.

Firms participating in the design competition who fail to observe the provisions in these rules will be declared ineligible, and the Competition Sponsor shall be so informed by the Competition Advisor. Decisions related to disqualification, and the potential forfeiture of any honorarium, shall be final and binding on all parties.

External Evaluation Team Process, Presentation, and Selection

Process

Competition Entries will be due according to the Schedule in Section 3, in the manner and format specified. The External Evaluation Team will meet to privately review the submitted entries according to the Schedule in Section 3. Following the evaluation, competition entries will be displayed online and publicly at the Fay Jones School of Architecture and Design. Public commentary will be invited, for submittal both online and at the public exhibition displays. The winner will be announced as soon as possible after ratification by the Board of Trustees.

External Evaluation Team

The External Evaluation Team will have three (3) members. The members are:

Juhani Pallasmaa, SAFA, Hon. FAIA
Helsinki, Finland

Juhani Pallasmaa, a leading voice in architecture and design education worldwide, served on the jury for the Pritzker Architecture Prize from 2009 to 2014 and is former dean of the faculty of architecture at the Helsinki University of Technology. He is the author of more than 60 books in architecture and design relating to the multisensory and existential dimensions of experiencing art and architecture.

Toshiko Mori, FAIA
Toshiko Mori Architect
Cambridge, Massachusetts

Toshiko Mori is the 2019 recipient of the AIA/ACSA Topaz Medallion for Excellence in Architectural Education, the highest honor given to an educator in architecture. She designed the Center for Maine Contemporary Art in Rockland, Maine, and the award-winning Visitor Center at Frank Lloyd Wright's Darwin D. Martin House compound in Buffalo, New York.

Tod Williams, FAIA
Tod Williams Billie Tsien Architects
New York, New York

Tod Williams, together with partner Billie Tsien, received the 2019 Praemium Imperiale International Arts Award from the Japanese Art Association. The recipient of multiple AIA Honor Awards, their firm designed the Andlinger Center for Energy and the Environment at Princeton University in Princeton, New Jersey, and is currently planning the Obama Presidential Center in Chicago.

The External Evaluation Team will assess the submissions and rank the competitors. Team members will base their judgment on their own expertise, the work submitted by the competitors, the information contained in the competition document, and any questions and answers that arise during the interview or judging process. The Team will prepare a written recommendation to the ATCDMI Project Committee and to the Board of Trustees.

The Competition Advisor will observe the External Evaluation Team deliberations to ensure impartial enforcement of the regulations and terms of the brief. Faculty and student representatives selected by the Fay Jones School of Architecture and Design may also attend the deliberations of the External Evaluation Team as silent, non-voting observers, for academic and educational purposes only.

Criteria

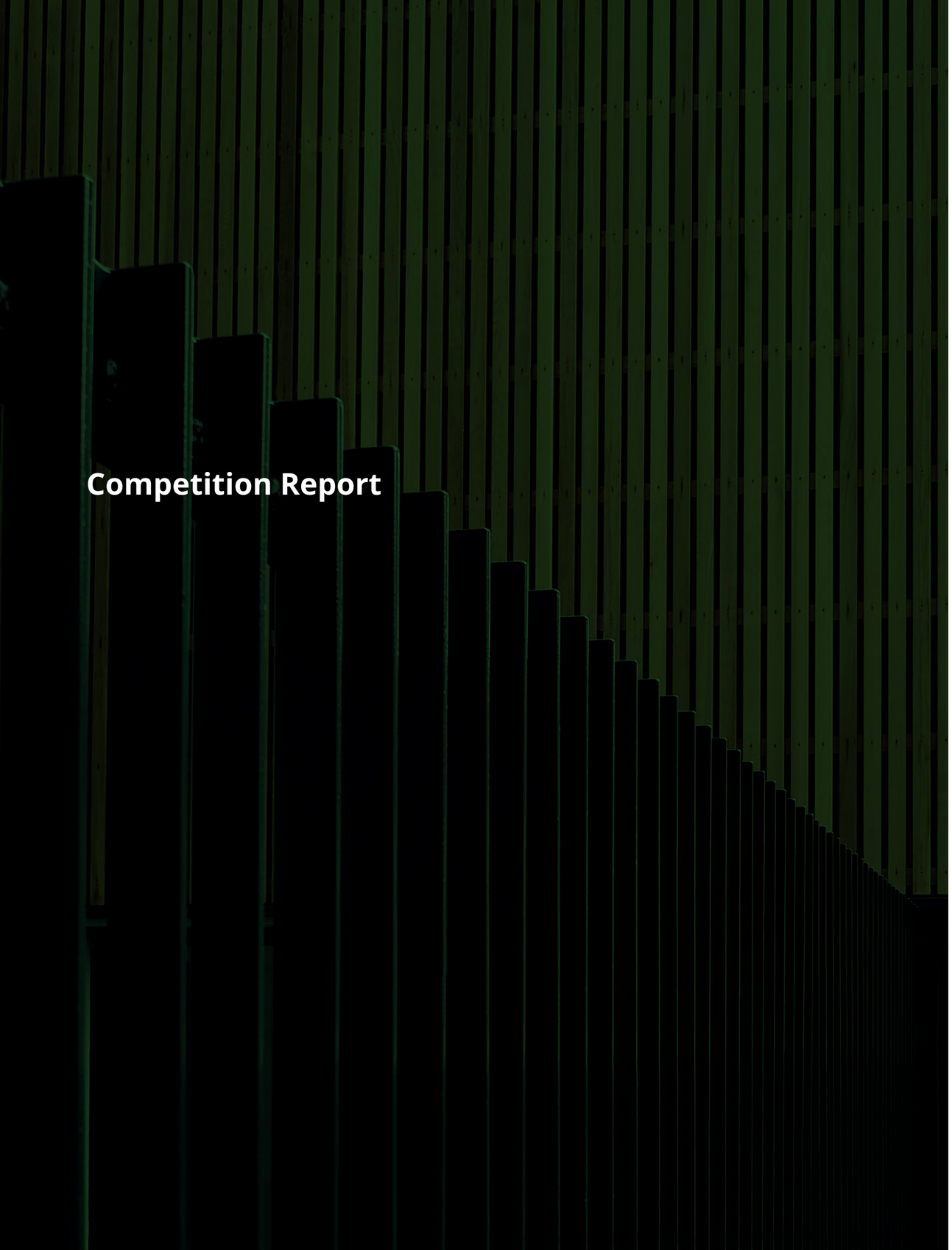
As noted above, the External Evaluation Team members will make their judgments based on their reading of the program (and discussion with the Competition Sponsor), their own professional expertise, and of course, the work itself. Selection criteria will include, but are not limited to:

- originality of the proposal's design vision;
- responsiveness of the proposal to the competition's design objectives;
- project potential for development and construction;
- responsiveness of the proposal to the site and its context;
- quality and clarity of presentation materials;
- responsiveness of the proposal to the competition brief.

Credits & Acknowledgements

Sponsor

The Fay Jones School of Architecture and Design is the sponsor of this competition with the financial assistance of the US Forest Service through the Mass Timber University Grant Program. The Fay Jones School of Architecture and Design is a professional design school providing excellence in teaching, scholarship, research, and service within the vibrant intellectual community of the University of Arkansas. In 2015, the Fay Jones School's professional program in architecture ranked 26th in the nation in DesignIntelligence's 16th annual survey of "America's Best Architecture and Design Schools." The School ranked 12th among public, land-grant universities in that study. Named for one of the 20th century's most revered architects, the Fay Jones School is home to several award-winning practitioners. Information on the Fay Jones School of Architecture and Design may be found at https://fayjones.uark.edu/.



Competition Report

External Evaluators' General Assessment

Juhani Pallasmaa, SAFA, Hon. FAIA
Helsinki, Finland

Toshiko Mori, FAIA
Toshiko Mori Architect
Cambridge, Massachusetts

Tod Williams, FAIA
Tod Williams Billie Tsien Architects
New York, New York

The External Evaluation Team for the Anthony Timberlands Center for Design and Materials Innovation Design Competition / February 2, 2020

General Assessment and Observations

At the outset, we wish to express our admiration for this competition for the design of the Anthony Timberlands Center, because it truly advances the case for state-of-the-art timber and wood construction. We likewise applaud the emphases of the competition brief, especially those concerning sustainability. We hope the University of Arkansas continues to advance these efforts not only in the realization of the Anthony Timberlands Center itself, but also as it undertakes further planning for the Windgate Art and Design District, of which the new Center promises to be an integral part.

The program brief called upon the competition entrants to embrace both the pragmatics and the poetics of wood. During our careful review of the six final proposals, we found that all of them addressed the issue of timber and wood design and construction in a positive and forward-looking way, even as they each offered different solutions for the program. These different approaches valorized the opportunities and potentials of such a material focus in design across a broad spectrum.

We believe it was especially deft of the University of Arkansas to organize this competition and convene us to discuss the final entries at this particular stage of development, when a meaningful, coordinated advancement of the program and the design together is still possible. Understanding that the ATCDMI Project Committee will elaborate on the program requirements during the next stage, we would emphasize that there are still aspects that can be advanced—most importantly, to ensure that the project is contextually, programmatically, and humanly connected with its location, and that it amplifies the functional, experiential, and tactile dimensions of the task.

Expanding public interest and access into the project should be a priority for the Center. We recommend that the activity at the ground plane be enhanced programmatically and that the upper level of the building should have a publicly accessible and celebratory program that takes advantage of the exceptional views. We believe the workshops should be made more flexible and more visible to the public, and that considerations of acoustic overlap should be taken into account. Opening the workshop activities to public view may be more important than connecting them with the other functions of the building. The addition of a café with outdoor tables would further contribute to making the

ground plane a place of life and action; this space could be shared with the School of Art. This would help enliven the Windgate Art and Design District as a whole, as well as invigorate the sense of community in this burgeoning district.

As the project moves forward, we urge greater consideration of sun exposures. In general, the proposals here have addressed ecological issues robustly, but the majority of them have not dealt sufficiently with sun conditions on the different sides of the building. We also recommend the further development of water retention strategies.

There is, at the same time, a great deal of opportunity to consider the landscape surrounding the Anthony Timberlands Center in conjunction with the School of Art and the larger district. As several proposals here demonstrate, the development of a landscape that connects the buildings, and that includes plant material, would be especially welcome. As planning of the Windgate Art and Design District advances, we believe that the integration through landscape architecture of the additional buildings in this new area of the campus is critical. Especially because the site for the Anthony Timberlands Center and the unbuilt School of Art building is fairly small, the courtyard and other outdoor spaces should be planned as an entity. We believe that keen strategies for the building and landscape will help ensure a vibrant dialogue between students of architecture and design, students of art, and their peers who will likewise benefit from the educational offerings in the growing district.

The importance of the location of the Anthony Timberlands Center as a larger site cannot be overstated—particularly as it comes to serve as another gateway for the central campus. To this end, the integration of the various components of art and architecture will be of tremendous importance. The new Center promises a great opportunity to bring students of all disciplines, as well as students of architecture and design and students of art, together. No doubt students of the Fay Jones School of Architecture and Design will benefit from the knowledge of their peers in the School of Art, who will bring valuable perspectives to the kinds of cutting-edge fabrication techniques and materials that will serve as objects of study at the new Center. A principal purpose of this building is outreach to all students, whether they are exploring design, art, entrepreneurship, or emerging technologies.

Finally, and essentially, we believe that the sensual material expression of wood itself can play a more central role in the building. The expressive possibilities of wood should be approached at different scales—from the technical to the experiential, the structural to the sensory, and the door handle to the roof terrace. Whether for cladding or furniture, interior finishing or structure, the building's embrace of timber and wood construction should create an atmosphere of invitation, animated tactility, and intimacy.

In conclusion, and in summary, the competition results provide a strong platform for a successful project. We encourage the committee, the Fay Jones School, and the University of Arkansas to have confidence in the visions that the competition has evoked and in the project's future realization.

Invited Finalists' Presentations

Firm Biographies
External Evaluators' Assessment

Dorte Mandrup A/S
Copenhagen, Denmark

Grafton Architects
Dublin, Ireland

Kennedy & Violich Architecture
Boston, Massachusetts

LEVER Architecture
Portland, Oregon

Shigeru Ban Architects
New York, New York / Tokyo, Japan / Paris, France

WT/GO Architecture
New Haven, Connecticut / London, England

Presented in alphabetical order

Dorte Mandrup A/S

Dorte Mandrup A/S is a Copenhagen-based architecture studio founded in 1999 by Creative Director Dorte Mandrup. The firm is “driven by a devout belief in the possibilities of modern architecture and an experimental curiosity that insists on outstanding craftsmanship.” With a particular attentiveness and respect for the peculiarities of locations and landscapes, their work is often inspired and shaped by its surroundings. The work of Dorte Mandrup A/S emerges from a process of formal restlessness that materializes in deep, contextual analysis and explorative prototyping. Dorte Mandrup A/S has an extensive oeuvre of cultural, educational, workspace, and mixed-use buildings across Europe and North America. Selected works include the IKEA Hubhult Global Meeting Centre in Malmö, Sweden (2015); the Wadden Sea Centre in Ribe, Denmark (2017); and the Icefjord Centre in Ilulissat, Greenland (expected 2021). The firm has been recognized with numerous awards including Finn Juhl Architecture Award (2018) and the Träpreset Swedish Timber Prize (2016). Mandrup also served as the Chairwoman of the Jury for the Mies van der Rohe Award in 2019.

Assessment

This proposal presents a strong, iconic form that feels resolved in a powerful way. The strength of this design’s form-making and its inner basket structure is most compelling. As a construct, it is coherent, which may also be its potential weakness. At its best, it is nurturing and delicate, with an embracing quality. The idea of the roof garden at the top of this woven basket is an attractive idea. The presentation is stunning, and the images are beautiful.

While this scheme may offer the most compelling form of all the proposals, it ultimately does not communicate the desired message about wood construction and sustainability. This proposal offers a strong image, but that image is not entirely aligned with the ambitions of the brief. Because of the cladding choice, the building will read as glass rather than wood—wood that, to the design’s detriment, could easily be replaced by metal. Wood material could have been used to control sun exposure in various places in the building. Positioning a system of wood louvers outside the glass would have relieved the overwhelming reflectivity during the daytime. Lit up at night, this building would look quite extraordinary, but during the day it would likely read as an essentially closed form. In treating every façade equally, and due in large part to the exterior glazing strategy, the approach to environmental design considerations is weak.

The approach to structure is elaborate but somewhat unconvincing; the project’s imagery suggests a clarity of structure, but the plan is at odds with the implied structural diagram. The form-making and the inner basket are powerful but do not seem to lend themselves to an entirely workable plan. Ultimately, the scheme appears more hermetic than it aims to be. It does not address the site in a convincing way, creating an unresolved space between the building and the site. While the idea of the roof garden at the top of this woven basket is a wonderful idea, it is unclear that the structure would accommodate the weight of the trees pictured.

ANTHONY TIMBERLANDS CENTER

FOR DESIGN AND MATERIALS INNOVATIONS

A BEACON - NORTH SIDE OF THE M.L.K. JR BLVD

PROJECT STATEMENT

Driving along Martin Luther King Jr. Boulevard you feel the presence of the forested hills that stretch far into the Boston Mountains. The landscape is lush with vitality in a climate that allows extreme temperatures and natural phenomena, from tornados and heavy flooding, to hot and humid summers. The forest surrounds the town and in a controlled way extends into the center of Fayetteville and The University of Arkansas campus. The immediacy of nature and climate has provided the region with embedded knowledge integrated in the culture.

Located at the corner of Martin Luther King Jr. Boulevard and Government Avenue, the new Anthony Timberland Center provides the unique opportunity to present innovation and the future of wood construction as well as interpret the history and understanding of wood in this unique region.

The five floor building is a simple, layering vessel defined by a double layer diagrid façade that carries all vertical loads in the building. Constructed out of glulam, the lightweight yet extremely significantly reduces the use of necessary material and uses traditional techniques adding advanced milling technology to create elegant connection details. Within the vessel, each level acts individually as a beam and spans from façade to façade, allowing for all floors to be free of columns and structural walls. At the center of the building, an open atrium extends from the fabrication floor to the roof terrace, like a clearing within a forest. Ascending the open atrium stair, visitors have uninterrupted views to the fabrication shop and to all the activities in the building. The stair circles upward and culminates in the rooftop forest that provides a 360-degree view overlooking Fayetteville and the Boston mountains.

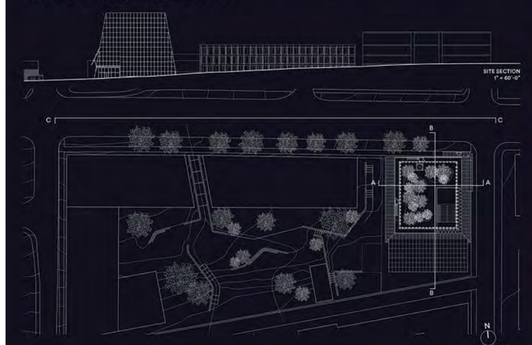
The prominent porch motif seen in vernacular Arkansas architecture is reimagined as a balcony zone between the façade layers. It encircles the building and acts as a social space, a tree nursery and as a means to regulate temperature and light throughout the year. The porch is protected from the weather but can also be completely opened in the warm season. The building is flooded with daylight that is filtered through the wooden construction as light through the forest canopy.
At the heart of the building is the fabrication shop - the epicenter of creating, learning and knowledge sharing. Our intention is to create a space that encourages cross-pollination between disciplines and understandings. It is important that it is open, inviting, connected and filled with light. Students must feel they are part of a community, that the building supports informal meetings and learning situations that can be established everywhere, that instructors and faculty are visible and available, and that work is in view and on display.

The building embodies and showcases the complete lifecycle of wood – starting from a sapling that grows on the porches of the building. It showcases the handling and processing of wood, from traditional techniques to advanced research and innovation, all in search of a sustainable future with wood at the forefront.

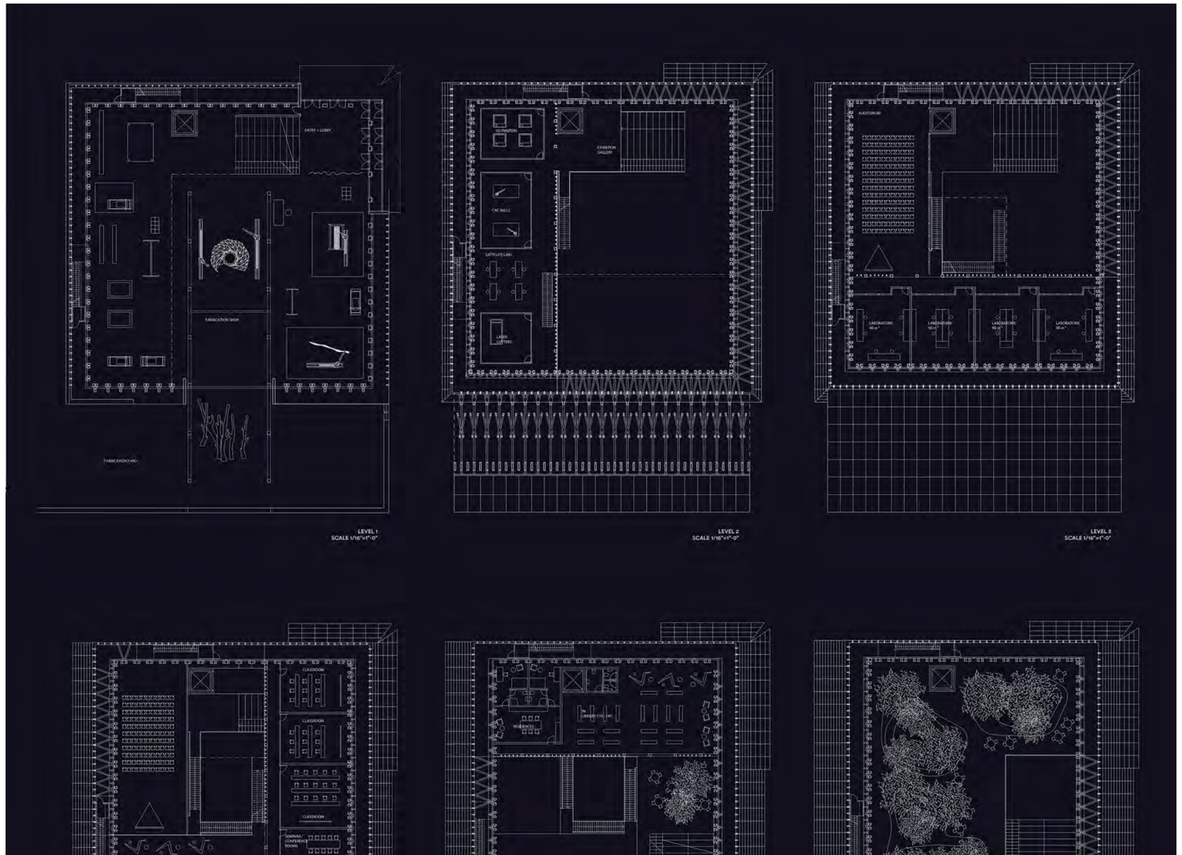
One big column free entrance floor. The upper levels spiraling upwards

Vertical loads are carried by the diagrid in the façade

Space frame provides solar shading and porch zone



THREE DIMENSIONAL DETAIL DRAWING



WALK THROUGH

The entrance is placed at the corner of Martin Luther King Jr. Boulevard and Government Avenue. The outer layer of glass is subtly folded outwards to mark the entrance and creates a friendly shelter in connection with the generous entrance. Passersby catch a glimpse of the fabrication shop, or the adjacent collection of the latest completed projects on exhibit. Further along Government Avenue, pedestrians can see directly into the main hall of the fabrication shop. The 23-foot-tall gantry crane is at work in the center of the space, its robotic arms working to construct elements for a new building prototype.

The entrance area is designed as a fluid space with a large multipurpose stair used for informal gatherings and seminars, connecting the first and second floors. The fabrication space is directly adjacent and is a column free space with varying ceiling heights to allow for maximum flexibility. Since fabrication and machine design requirements are continuously changing, custom enclosures are used to meet special space requirements (the "house in house" method) that allow for smooth, efficient transitions of equipment.

The gantry crane rail is supported by an independent construction and extends into the fabrication yard to ensure flexibility. In the fabrication yard, students can construct full-scale mock-ups in the open air and large deliveries are made with ease via the loading dock. The yard is in direct connection to the adjacent shared landscape and allows for effortless social connection and convenient communication for interdisciplinary projects with the art school. Restrooms, mechanical and resource monitoring spaces are located in the basement.

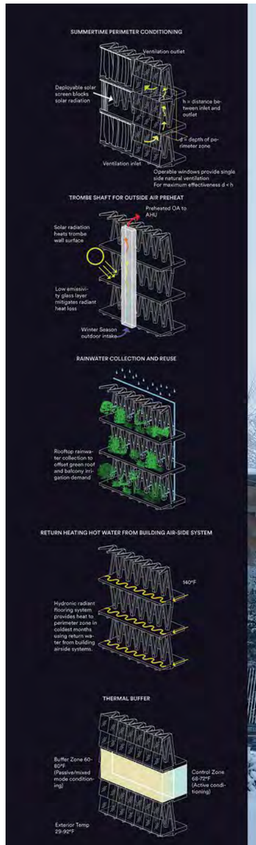
On the second level, the exhibition space provides elevated views toward the action of the fabrication hall. Here, curated shows present the center's latest ideas and research to students and the public alike. Satellite labs are also located on this second level. With direct internal access to the main fabrication shop, the satellite labs are ideally located for constant visual communication with the main shop.
As the floors rotate and move upwards, students and visitors gain constantly changing perspectives on the fabrication lab below and the landscape beyond. The rotating floors introduce various spaces for collaboration and sharing knowledge. The auditorium on the third floor looks west out over the landscape while still maintaining a clear view to the fabrication lab within. Here lectures, large classes and presentations are made with the Boston Mountains as a backdrop. Beyond the auditorium, dry laboratories fill the third floor, providing ample space for research and design.

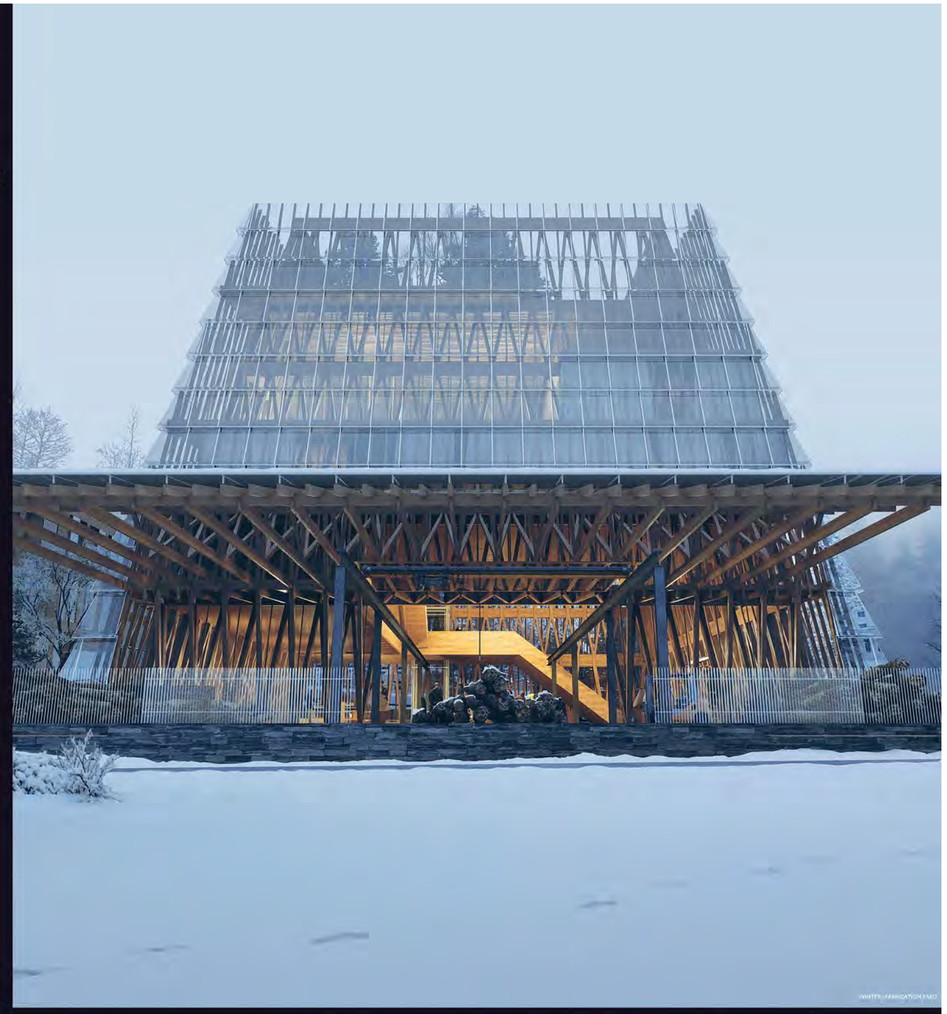
The design studios are located in open connection to the fabrication shop on the fourth floor and are adjacent to the classrooms and seminar rooms. The seminar room is flexible, operating as two smaller rooms or opening into one larger space.

On the fifth floor is a small library and the residence rooms, in connection with the lower roof terrace. The lower roof terrace connects to the top terrace with a wide stair for outdoor lectures, seminars and gatherings. The roof terrace offers a 360-degree view overlooking Fayetteville and the Boston mountains. The roof terrace is planted with large trees to create a lush shelter from the summer sun as well as act as part of the rainwater collection system.

SECTION A-A
SCALE 1/16"=1'-0"

SECTION B-B
SCALE 1/16"=1'-0"





WHITE | FABRICATION LAB

SUSTAINABILITY CONCEPT

We aim to establish the most ambitious sustainable building for the college's students, faculty and staff, one that can inspire to the university and the local community alike. The following sustainable concept has been created for the project:

Wood:
Wood is the only completely renewable construction material. For this reason, wood buildings produce the lowest possible greenhouse gas emissions throughout their lifetime. We have a great opportunity to not only build this building is wood but also to implement a number of actions that will further reduce our greenhouse gas emissions:

Façade:
In order to maximize results, design strategies on each façade vary by orientation. North facades have shallow to no perimeter garden zone to allow for maximum daylight penetration and to reduce the building's lighting and cooling load. The east and west facades have perimeter gardens that are dense with vegetation. The vegetation acts as a natural shading mechanism, blocking direct sun and reducing the risk of glare during morning hours when the sun is low in the sky. South facades have deeper perimeter zones to shade internal spaces from solar gains in summer months. A trombe wall, or SolarWall, is integrated into part of the south facing façade to pre-heat ventilation air between November and March. The south façade also integrates photovoltaics to generate solar energy.

Perimeter Garden:
The perimeter garden on the building's porches act as a semi-conditioned thermal buffer, tempering outside air to reduce the energy demand of the conditioned interior spaces. It is a loosely conditioned space with an expanded set point range (60°F/15°C heating, 80°F/27°C cooling) and is primarily conditioned using passive strategies such as passive solar heating and natural ventilation. This tempered buffer zone will reduce the conductive losses and solar gains seen in the fully conditioned interior zone.
During the summer months, the perimeter zone will maintain adaptive comfort conditions using single-sided natural ventilation and forced induction via ceiling fans. Buoyancy-driven, single sided natural ventilation is most effective if the distance between the inlet and exhaust is greater than the depth of the perimeter zone. A deployable solar screen is provided on the exterior side of the south, east, and west facades to shade and reduce summertime solar heat gains.
In order to maintain conditions conducive to year-round plant growth, heating in the perimeter zones is provided using a radiant flooring system that is supplied with the return water from the main building's heating hot water system. Return water from a typical air-side system is approximately ~140°F (60°C). Using this return water will maintain wortertime temperatures in the perimeter zone without adding any additional heating load to the waterside systems, effectively providing free heating.

Heating and Cooling:
Due to the significant portion of program that is dedicated to lab and shop spaces with high air change rates, the building's heating and cooling load will be driven by the conditioning of outside air. To reduce energy consumption, shop and lab spaces will use a decoupled conditioning system, where room-neutral outside air is supplied from a dedicated outdoor air unit (DOAS) and space conditioning is handled by zonal fan-coil units and active chilled beams. Exhaust air energy recovery is used to reduce the outside-air conditioning demand year-round.
The trombe wall integrated into the south façade will further reduce the outside air conditioning load during winter months. This system will be placed in one or two window bays along the south façade absorbing heat from the sun and drawing air through a warmed cavity within the façade that increases the air temperature using solar energy.

Water:
Potable water consumption in the building is offset using rooftop rainwater capture and reuse. Fayetteville receives consistent precipitation throughout the year, making it an ideal candidate for rainwater capture and reuse. Rainwater collected at the roof level is gravity fed to the perimeter garden spaces to reduce or eliminate the irrigation demand.

Energy:
Building integrated photovoltaics (BIPV) are used on the south façade and awning to offset building electricity use. A preliminary estimate projects that the vertical portion of the south façade could generate up to 155 MWh of electricity per year using a curtainwall made of OnyxSolar Amorphous silicon glazing. The fabrication yard awning could generate up to 144 MWh/year using the same product. These two locations are ideal as their output profiles are the inverse of each other due to the angle of the facades. This would provide constant solar generation throughout the year and would be paired with battery storage to reduce peak loads.

CONSTRUCTION PRINCIPLES

The primary superstructure consists of:

Glulam diagrids create the primary exterior vertical and lateral load resisting system

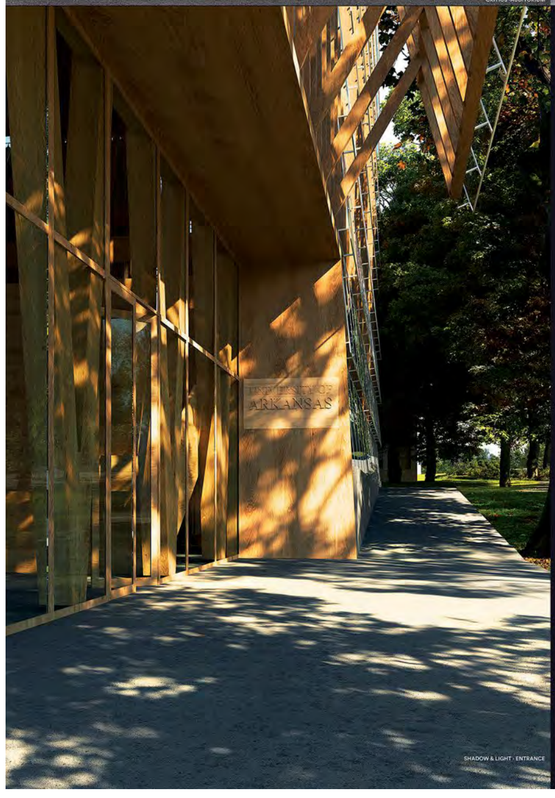
Glulam trusses spanning between the exterior diagrid to create large open space in the atrium
Long span cross laminated timber floors are stiffened by glulam diamond beams that span between the diagrid and trusses. Given the stiffening beams, the system does not relay on cross laminated timber to perform - alternatively floors can be constructed with rail laminated or dowel laminated panels
Façade support elements that can be made with glulam or sawn lumber are supported by cantilevered floor beams
The structural concept of the building includes many articulated elements in order to reduce the complexity and number of timber connections the following strategies are implemented:
Diamond glulam elements are curved/bent in one direction allowing for simple fabrication. The elements are arranged on edge providing a pattern of visual interest from these simply bent elements
In order to minimize field connections, floor and diagrid elements will be prefabricated to the maximum panel sizes that are practical to be delivered by truck. Floor panels are approximately 40ft (clear span + balcony) which allows for efficient trucking panel sizes
Timber framing elements are offset to create simplified connections rather than complex steel nodes to create 3D timber geometry

EAST ELEVATION
SCALE 1/16"=1'-0"

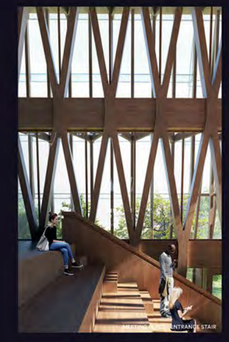
NORTH ELEVATION
SCALE 1/16"=1'-0"

CRITICS -AUDITORIUM

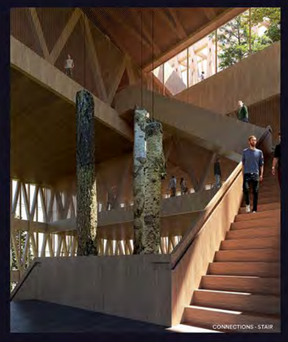
SHELTER - ENTRANCE



SHADOW & LIGHT - ENTRANCE



ENTRANCE STAIR



CONNECTIONS - STAIR

TECHNICAL WALL SECTION
SCALE 1/2"=1'-0"

Grafton Architects

Grafton Architects is a Dublin-based architecture firm founded in 1978 by Directors Yvonne Farrell and Shelley McNamara. The firm has developed a rigorous and sensitive approach to architecture that builds upon the essential character of place. With deep consideration of scales ranging from the texture of surfaces to urban interventions in the city, Grafton Architects has produced an internationally recognized body of work that is designed to enrich the human experience. “For us, architecture is an optimistic profession, with the opportunity to anticipate future realities. It is of the highest cultural importance because it is the built enclosure of human lives.” Grafton Architects has built an impressive portfolio of educational buildings across the globe. Selected works include the Universita Luigi Bocconi School of Economics in Milan, Italy (2008); the University of Limerick Medical School in Limerick, Ireland (2012); and the University Campus UTEC in Lima, Peru (2015). The firm has been recognized with numerous awards including the World Building of the Year Award (2008) and the inaugural RIBA International Award (2016). Grafton Architects has been named the 2020 recipient of the RIBA Royal Gold Medal.

Assessment

This proposal combines valid pragmatic ideas with a poetic solution. Simultaneously complex and simple, it expresses a high aspiration. It creates an eye-catching and memorable institutional landmark for the urban landscape of Fayetteville. Its architectural character suggests a proud and authoritative institution instead of a mere workshop. Through its height, scale, and formal articulation, the northwest elevation appears solid and projects a distinctively iconic image and a welcoming entry at street level. The scheme leverages the height called for by the brief, but in a very relaxed and economical manner: the formal cascade of roofs consists of a simple shed, while at the same time creating an appealing system of canopies that terminates dramatically at the rooftop. The single sweep of the folded roofs unites the various programmatic elements convincingly. Of all the proposals, this one presents the most compelling landscaping plan, demonstrating possibilities for integrating the architecture and art programs in the Windgate Art and Design District. The building fulfills its designer’s ambition of being “a storybook of timber,” with its columns made of white oak, its gutters of glulam, its fabrication-shop beams of pecan bitternut, etc. In synching material use to program, this approach offers students first-hand opportunities to learn about timber. The wood structures are educational in an experiential and poetic manner. The dramatically soaring, rhythmical space is an architectural abstraction of a sensorially rich forest condition.

The project is pragmatically conceived as a combination of a tower and a shed connected by a rigorous and richly articulated system of timber construction. Even in light of its formal and spatial richness, the proposal is logical and buildable. This scheme offers an alternative and advanced aesthetic expression for the future of timber construction. This architectural message can be more powerful than any verbalized message. Overall, it proposes a strong vision that suggests an openness to further development in partnership with the building’s stakeholders.

The proposal is conceived as a rigorous and rational system, and simplifying some elements may improve legibility and constructability. The aesthetic flow of the scheme leads to the top, which should be made accessible to the public in order to create an atmosphere of openness and to take advantage of superb views in all directions.

The new building sits on the corner of Martin Luther King Junior Boulevard and Government Avenue, acting as a beacon to the city of Fayettesville.

ANTHONY TIMBERLANDS CENTER
FOR DESIGN AND MATERIALS INNOVATION

Soil Map of Arkansas

Researching the soil patterns of the State of Arkansas, we noticed that the shape of the State is similar to our proposed section. The rippling pattern of the Mississippi River is similar to the cascading roof of our proposal.

Anthony Timberlands Center initial sketches

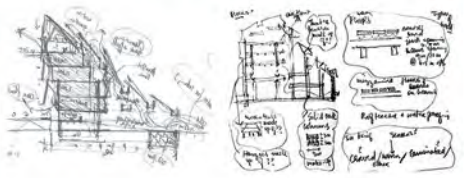
Jørn Utzon, Bagsværd Church, Denmark 1968

E.Fay Jones, Thorncrown Chapel, 1980

Gion Caminada, Stiva da Morts, Vrin 2002

We enclose the side of the existing electrical transformers with steps to link the higher and lower levels and form an amphitheatre/ seating / teaching area as part of the lower Yard.

Section looking North through the Windgate Art & Design District Scale 1:500 m



Anthony Timberlands Center study sketches

Anthony Timberlands Center Perspectival Section

Delaware and Hudson Breaker, PA 1905

Sketch view from MLK Jr Blvd & Government Av.

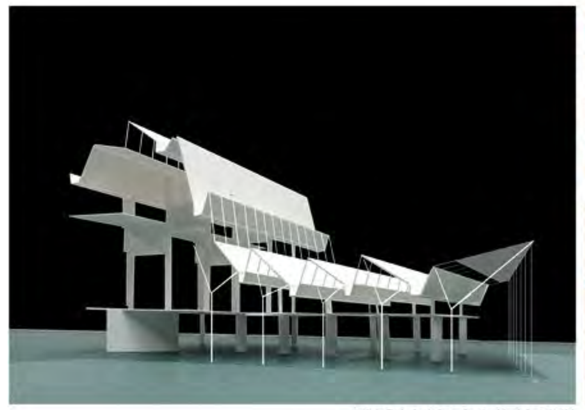
The Basic Design Idea is that the ATC is a STORY BOOK OF TIMBER.

Timber is both the structural bones and the enclosing skin.

Responding to the local climate, we propose a CANOPY OF LIGHT AND AIR - a cascading roof with glulam rain-water gutters - covering the open-air yard, the Fabrication Shop and connecting all the layered teaching spaces of this new facility, upper galleries form educational and SOCIAL VANTAGE POINTS.

The new building sits on the corner of Martin Luther King Junior Boulevard and Government Avenue, acting as a beacon to the city of Fayettesville.

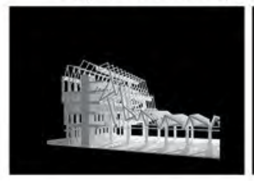
View from lower teaching yard with stepped seating



Anthony Timberlands Center Structural Study Paper Model

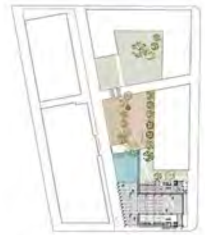
View from Fabrication Shop level feacing North

View from Fabrication Shop level feacing West and North, seeing the auditorium above



Structural paper study models

FABRICATION SHOP LEVEL -01 SCALE 1:200 m



EXTERNAL TEACHING SPACES

CIRCULATION IN AND AROUND THE CAMPUS

TREES AND SOFT LANDSCAPING ON CAMPUS

View From Fay Jones School of Architecture's terrace looking South

EDUCATION IS THE MARVELLOUS GIFT FOR AN OPTIMISTIC FUTURE

THE URBAN DESIGN STRATEGY
IS TO FORM A NEW EDUCATIONAL ENCLOSURE.

By using the sloping nature of the interior of the urban block, we form outdoor teaching spaces. Educationally, we are interested in how students of different disciplines overlap; how they meet and share ideas. We see the Fabrication Shop as the focus facility at the service of all the students within this urban block. Art and Architecture share many values.

We positioned the Fabrication Shop on the lowest ground level, easily serviced from Government Avenue. We enclose the side of the existing electrical transformers with steps to link the higher and lower levels and form an amphitheatre/ seating / teaching area as part of the lower Yard.

Positioned at the heart of this new teaching facility, the Fabrication Shop acts as the educational focus within the building itself and is also on display to the city of Fayettesville. The general public can look into the Fabrication Shop from the sidewalk along MLKjr Bld., see what is happening and observe the creative process where materials are transformed by skill and imagination.

The public entrance to the ATC is on MLKjr Bld. The new route to the west coming in to the city block from MLKj Bld. could be called : Anthony's Way. The Exhibition space faces out toward the interior of the urban block, close to the student entrance on the west. Within the building, stairs and elevators are positioned at the west and at the east, connecting all the levels. Formed by the use of Queen trusses, the auditorium is like a bridge, overlooking the Fabrication Shop and MLKjr Bld. Upper galleries form educational and SOCIAL VANTAGE POINTS with the building.

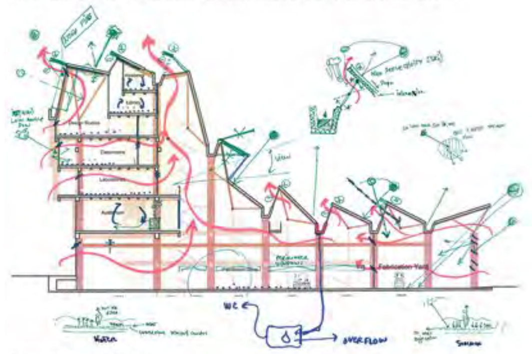
Environmental Strategy:

Wind driven natural ventilation:
Predominant westerly and southerly wind direction all year round.
North facing roof openings benefit from negative pressures generated by the predominant winds.
Perimeter windows and opening at low level as fresh /cooler air inlets.
Hot air exhaust via top of the atrium, which benefits from stack effect natural ventilation for passive heat and pollution purge.
Atrium hot air exhaust efficiency is enhanced by heating up the top surface (south facing and potentially un-insulated or a PV).

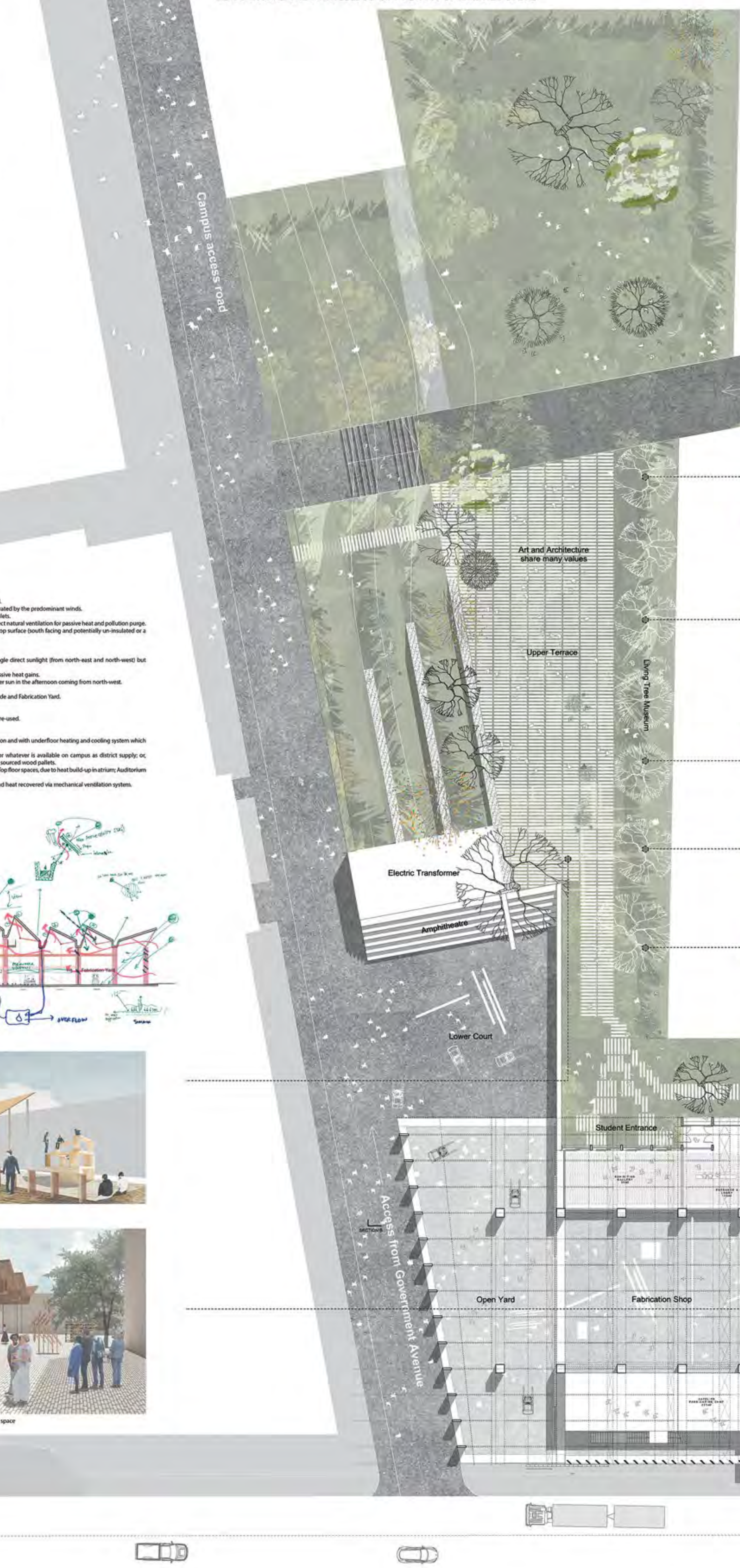
Solar control:
East and west façade integrate vertical fins which cut-off low-angle direct sunlight (from north-east and north-west) but enable views out and diffuse daylight all year round.
North facing roof openings provide diffuse daylight without excessive heat gains.
North facing facades have vertical fins to cut-off low-angle summer sun in the afternoon coming from north-west.
Rooflights need overhangs to cut-off sun.
Long horizontal canopy and louvres protect the south-facing façade and Fabrication Yard.

Rainwater harvesting:
Rainwater from the seven gutters has the potential to be usefully re-used.

Environmental control:
Thermal comfort achieved through natural ventilation in mid-season and with underfloor heating and cooling system which is close to room temperature and hence low energy.
As an energy source, air source or ground source heat pumps, or whatever is available on campus as district supply; or, biomass boiler for heating and dehumidification with sustainably sourced wood pallets.
There will be the need for mechanical ventilation as a minimum in: Top floor spaces, due to heat build-up in atrium; Auditorium due to acoustics; IT rooms due to internal loads.
In winter, hot air from the atrium will be extracted from the top and heat recovered via mechanical ventilation system.



Environmental Diagramatic Section

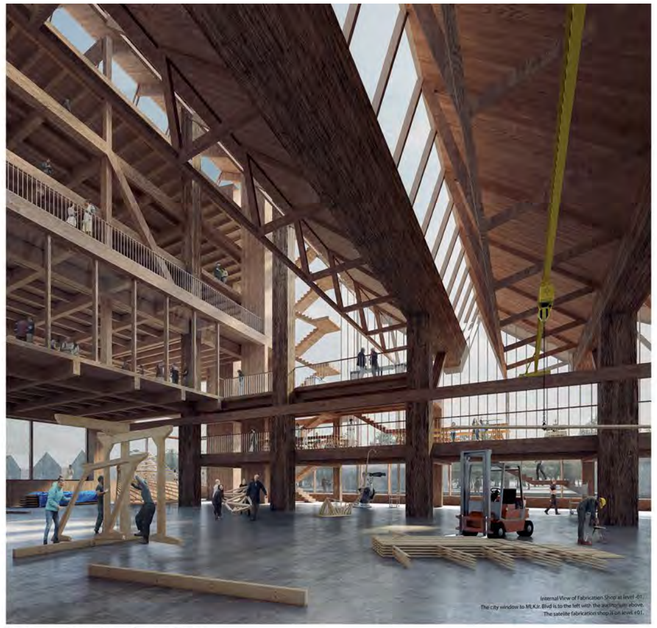


Our model describes the structural bones of the building

Upper Terrace viewing down to lower teaching yard

Student entrance from Anthony's Way viewing into the exhibition space

ENTRANCE LEVEL +01 SCALE 1:200 m



Internal View of Fabrication Shop at level +01
The city window to MLK Jr. Blvd is to the left with the existing cafe above.
The satellite fabrication shop is just west of it.

The Building as a Story Book of Timber

Structural Typologies:

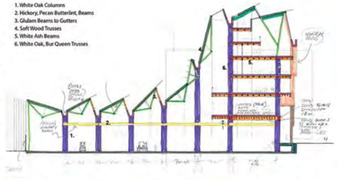
1. Stair / lift cores and shear walls are constructed in cross-laminated timber or solid laminated, gridded timber to provide bracing.

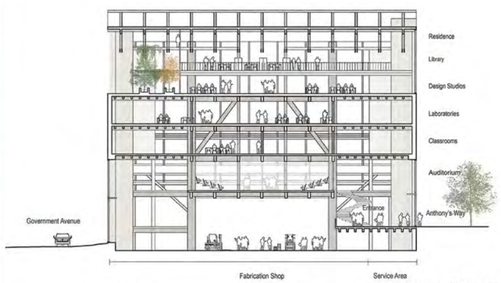
2. The Fabrication Shop consists of solid, composite oak columns, supporting structural Glulam gutters, providing an 18 m clear span. These 'canoe' type gutter beams span 36 m are more solid toward the centre of the span, with 10m cantilevers propped from each column. The large oak columns support hickory, pecan bitternut beams stretching the full length of the Fabrication Shop, which in turn support the lifting beam steel rail. Secondary softwood trusses span between gutters, forming rooflights with opening vents for ventilation. This structure rises the full height of building forming a canopy of light and air, culminating in the full height social vantage point, from which all the educational activities within the building can be observed.

3. A three-storey "attic " space forms the top levels of the seven-storey edge which addresses the MLKJ boulevard. The same primary skeleton structure of oak columns, 18m apart, continues up through the building. The intermediate floors are supported by two queen trusses spanning this 18m. Timber hangers support floor beams of the suspended auditorium with the laboratory and teaching spaces sitting above the trusses.

4. The floor build-up is a "warehouse" type construction. Floor joists span between primary beams with sand-filled "pugging" integrated under solid floorboard finish to provide acoustic separation. This traditional form of construction is efficient, providing a robust rich tectonic exploiting the versatility of wood.

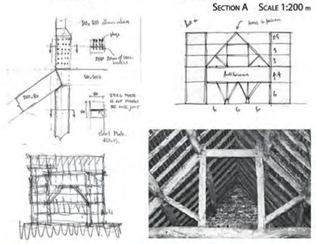
5. Each façade is articulated to provide environmental control and to form a civic welcoming edge to the campus. Woven oak screens offer shade from the sun on the east and west edges. The north façade has a more civic quality, widening the sidewalk and opening up to reveal the vibrancy of the activities within the building to the passer-by.





Section A Scale 1:200 m

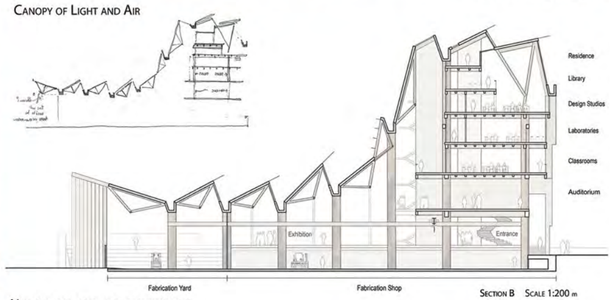
Structural Diagram of Queen Truss



View from level +03 overlooking the fabbrication shop

View from Satellite Fabrication Shop on Level 02 overlooking the exhibition and student entrance at level +01 with the auditorium above

Canopy of Light and Air



Section B Scale 1:200 m

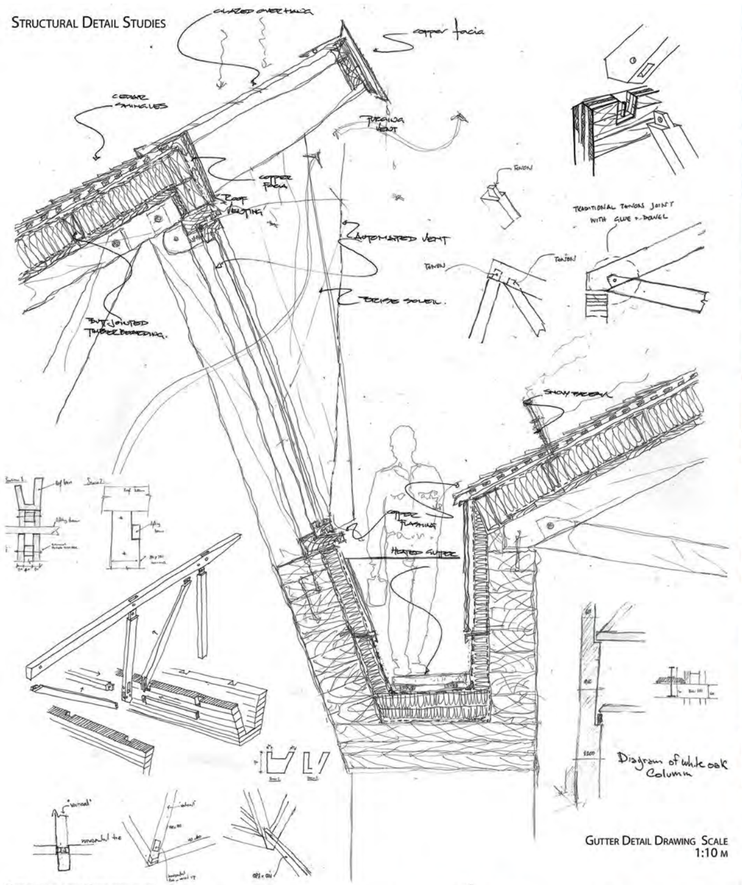
The Section as Educational Connector

Level +02

Natural daylight as a free resource

Level +03 Scale 1:200 m

Structural Detail Studies



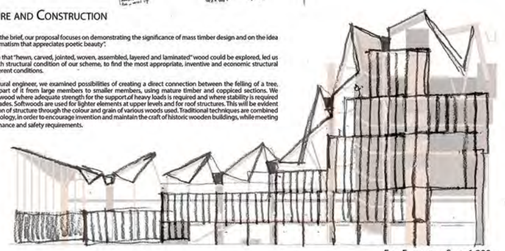
Gutter Detail Drawing Scale 1:10 m

Structure and Construction

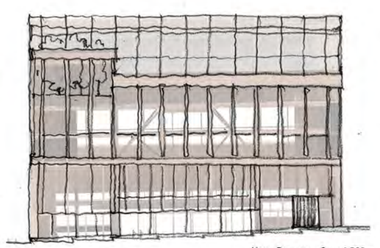
Responding to the brief, our proposal focuses on demonstrating the significance of mass timber design and on the idea of a "deep pragmatism that appreciates poetic beauty".

The suggestion that "hewn, carved, jointed, woven, assembled, layered and laminated" wood could be explored, led us to examine each structural condition of our scheme, to find the most appropriate, inventive and economic structural solution to different conditions.

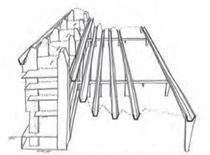
With our structural engineer, we examined possibilities of creating a direct connection between the felling of a tree, using of each part of it from large members to smaller members, using mature timber and coppiced sections. We examined hardness of timbers where adequate strength for the support of heavy loads is required and where flexibility is necessary. Softwoods are used for the lighter elements at upper levels and for roof structures. This will be explored in the perception of structure through the colour and grain of various woods used. Traditional techniques are combined with new technology in order to encourage invention and maintain the craft of historic wooden buildings, while meeting current performance and safety requirements.



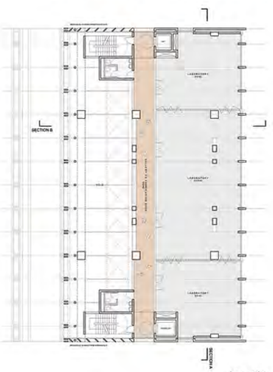
East Elevation Scale 1:200 m



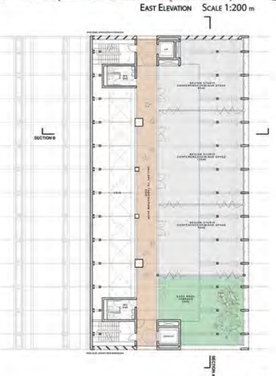
North Elevation Scale 1:200 m



Cascading roofs with glulam rainwater gutters



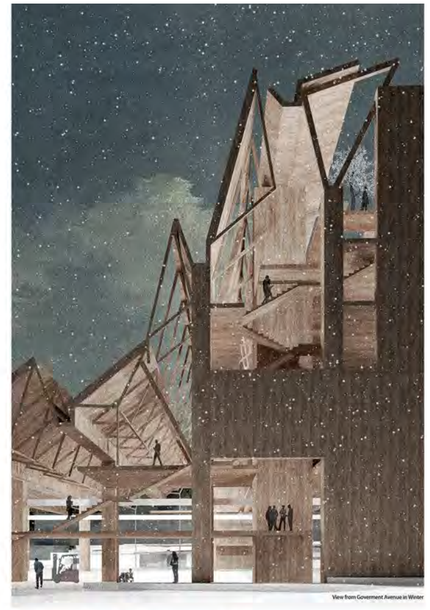
Level +04



Level +05

Level +06

Level +07 Scale 1:200 m



View from Government Avenue in Winter

View from the Library level 06 looking over the Design Studios at level 05

Kennedy & Violich Architecture

Kennedy & Violich Architecture (KVA) is a Boston-based interdisciplinary design practice founded in 1990 by Principals Sheila Kennedy and Juan Frano Violich. The firm works at the intersection of architecture, sustainable building technologies, and emerging public needs and lifestyles. Central to the work of KVA is the idea that the necessary infrastructure of buildings and cities can be transformed by design to enhance the experiences and activities of daily life. Material innovation through MATx, the material research unit of KVA, is also an integral part of their work, engaging material fabrication, digital technologies, and natural resource conservation. KVA has built an extensive body of work, to include educational, cultural, residential buildings as well as urban scale masterplans. Selected works include the Soft House in Hamburg, Germany (2013); the Tozzer Anthropology Building at Harvard University in Cambridge, MA (2014); and the Wellesley College Global Flora in Wellesley, MA (2019). Among the numerous awards and recognition that the firm has received for their work are AIA National Design Excellence Awards, two Energy Globe Awards (2009, 2012) and a US Congressional Award (2009). Both Kennedy and Violich have been elevated to the American Institute of Architects National College of Fellows.

Assessment

This well-organized entry offers a strong site plan and is the only proposal in the competition that illustrates the entire urban plan in relation to the wider university context and nearby trail. Its tectonics feel sensible, and its tower is compact and economical while reaching the desired height and providing a desired focal point in the northeastern corner of the site. The inclusion of an outdoor space on the third floor makes this the scheme that leverages the roof to provide an enjoyable outdoor space. The overall plan organization is clear and functionally well considered. Rather than just a single structure, this scheme assigns its tower and workshop each their own unique structure. The low, long workshop is appealing: its layout is clear and its plan is workable, evidencing the designer's knowledge of workshop operations. Shop spaces can be noisy, and this scheme accounts for that. The inclusion of five entry points into the workshop is also well considered. The shop's position and functionality are the most convincing among those of all the proposals. The inclusion of the native forest to create a common courtyard between the art and architecture compounds is a good idea.

Overall, despite its many virtues, especially in plan, the proposal lacks the specificity and sensuality of refined wood construction. The massing is fragmented and does not provide a unique and compelling overall image that would create an association with wood material and its technologies. The south-facing freestanding glass wall feels out of place and distances the project even further from images of wood construction. The whole-tree bracing in the tower does not seem credible in the way it is shown; it can be technically acceptable, but it creates a decorative and disintegrated image; this detail appears romantic in juxtaposition with the overall rationality of the project. However, the main shortcomings of this project are its overall image and atmosphere, which do not exhibit and celebrate timber construction to the desired degree regardless of their high architectural qualities.

ANTHONY TIMBERLANDS CENTER
FOR DESIGN AND MATERIALS INNOVATION

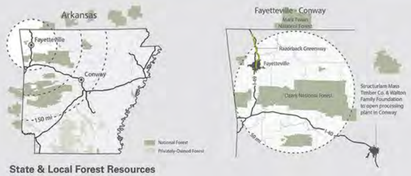
Northeast Entrance

This design imagines how the Anthony Timberlands Center can strengthen the University of Arkansas's leadership in mass timber industry, wood innovation, and material research. The project proposes a shared creative precinct for the University of Arkansas that responds to climate change and supports resiliency—ecological, educational and economical—over the long life of this new net-zero-carbon building.

The building massing draws upon the history of wood production on this site. By organizing Exhibition, Auditorium and Tower on the urban grid and the Workshop on the historic industrial rail geometry, the project creates architectural connections and legibility for these realms of teaching and learning. A broad Work Yard serves as an informal public plaza and gateway to bike/pedestrian access from the Frisco Trail. The Tower orients north and east on the city grid of MLK Jr. Boulevard and Government Avenue: a landmark visible from the historic Campus and City centers.

An integrated native forest landscape gives identity to an **accessible, shared ground plane** in the new urban precinct – allowing the public Auditorium to be used by the Art and Architecture Schools. The essential qualities of Arkansas's regional forests – ecological diversity, climate resiliency and tactile pleasure – link wood fabrication, education and research to the daily experience of **living trees**.

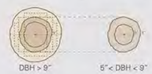
This project's innovative 'hybrid' structural system utilizes regional and US sourced glulam members for axial forces together with a lateral bracing network of small-diameter hardwood thinnings from NW Arkansas forests. Using 3D scanning and advanced computation to calculate the structural capacities of thinnings, the project makes visible the diversity of Arkansas trees and demonstrates a new value for wood. The project expresses the fundamental layering principles of mass timber – stepped lamellas on glue laminated wood beams and columns are computationally optimized to reflect the forces they carry. The public image of the Timberlands Center balances practical manufacturing and structural repetition with the natural exceptionality and variation of tree form.



State & Local Forest Resources

Resilient Landscape The design brings the native landscape into the site, with diverse, regional native plants and trees and the creation of rich, living soils. Tree plantings that have unique form are selected from the NW Arkansas region rather than from stock-grown nursery plants. Working in section with the site's level changes, the landscape design enables intimate experiences of forest plants, inviting engagement. An accessible, shared ground plane for the new urban precinct is defined with wood, stone, and pervious aggregates--materials that that evoke the forest, with smooth and textured surfaces that invite touch. The design builds habitat into the landscape of the new urban precinct, creating a vertically layered eco-structure that uses natural ecological systems to filter air and clean ground water before it arrives to the creek.

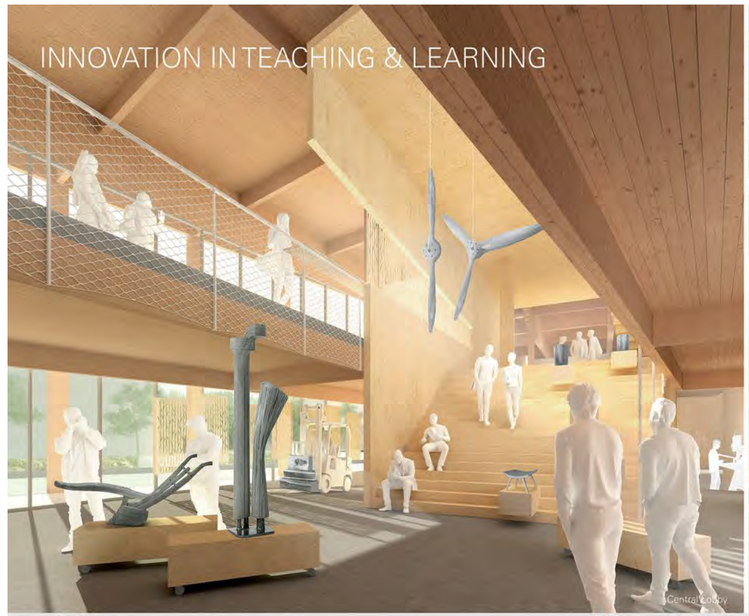
Forest management practices of **tree thinning** are vital for the resiliency, health and economic value of forests in Arkansas. Mills and markets exist for trees over 9" DBH, yet smaller thinnings are often discarded or burned. The Timberlands Center demonstrates the structural capacities and value of these tree thinnings in new construction markets.



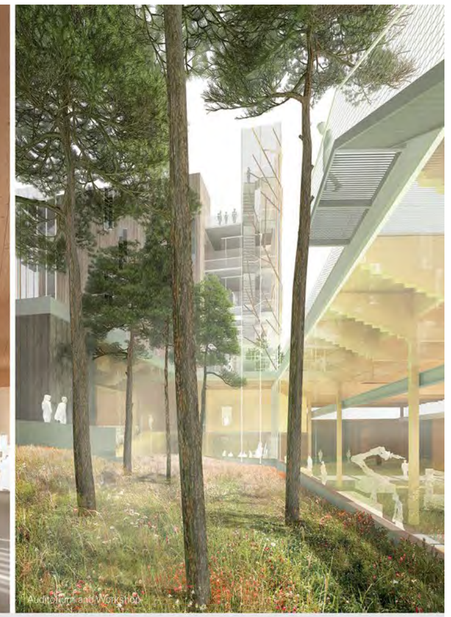
Site Plan & Section Key
1. Anthony Timberlands Center
2. Shared Work Yard
3. Service road
4. Native Forest Landscape
5. School of Art Building (in design)
6. Future School of Art buidling
7. Sculpture Studio
8. Library Annex Building including future expansion
9. Future Development
10. Southyard development
11. To new Fay Jones Woods

Campus Connectivity Diagram

INNOVATION IN TEACHING & LEARNING



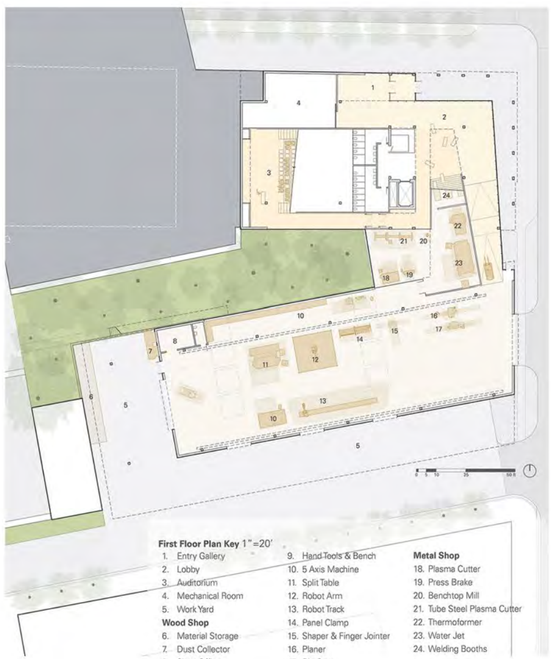
Central Loop



Auditorium and Workshop

Conecting Making, Education & Research This project supports a wood innovation curriculum that is distinguished by close physical and visual access and interchanges between the Workshop, Exhibition and Classroom and Lab spaces—programs with distinct technical requirements and pedagogical needs. The Workshop is designed to be highly flexible for future developments in the industry. Organized in three repeated waffle slab structures, the Workshop provides continuous gantry access, perimeter dust collection, integrated space for flexible infrastructure and structural isolation from vibrations and noise from the Labs and classrooms in the Tower.

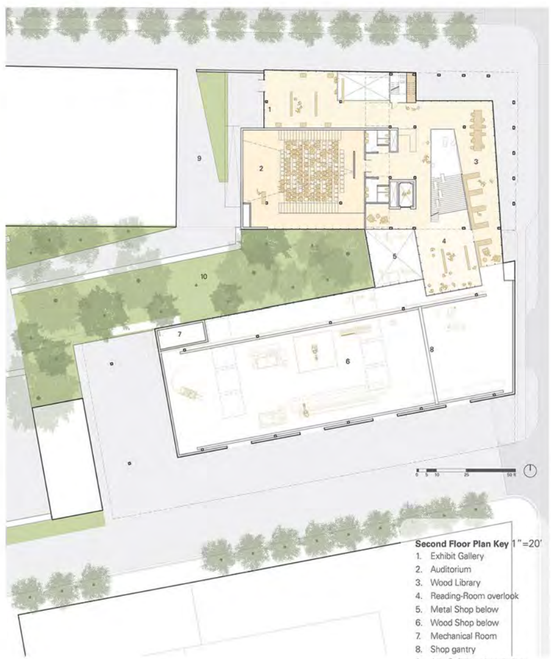
Tower Plan Key 1"=20'
1. Social Space
2. Greenhouse
3. Lab
4. Lab prep & Storage
5. Specialty Shop
6. Classroom
7. Office / Conference Room
8. Wood Weathering Test Screen
9. Residence
10. Mechanical Penthouse
11. Terrace
12. Kitchen



First Floor Plan Key 1"=20'
1. Entry Gallery
2. Lobby
3. Auditorium
4. Mechanical Room
5. Work Yard

Wood Shop
6. Material Storage
7. Dust Collector
8. Shop Office
9. Hand-Tools & Bench
10. 5 Axis Machine
11. Split Table
12. Robot Arm
13. Robot Track
14. Panel Clamp
15. Shaper & Finger Jointer
16. Planer
17. Rip Saw

Metal Shop
18. Plasma Cutter
19. Press Brake
20. Benchtop Mill
21. Tube Steel Plasma Cutter
22. Thermoformer
23. Water Jet
24. Welding Booths



Second Floor Plan Key 1"=20'
1. Exhibit Gallery
2. Auditorium
3. Wood Library
4. Reading-Room overlook
5. Metal Shop below
6. Wood Shop below
7. Mechanical Room
8. Shop gantry
9. Arts Building shared plaza
10. Native Forest Landscape

CONNECTING RESEARCH & MAKING

Ground Level Workshop

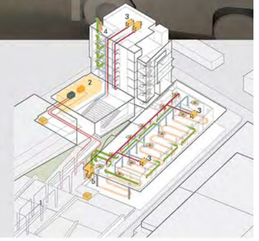
Shop Flexibility The shop section has the flexibility to adapt to future fabrication innovations. A gantry runs 170 feet along its length to move loads. The dust collection system runs outboard of the gantry supports, to avoid interference. A mechanical chase is carved out of the beams where low stresses require less structural depth.

Ecology The all electric design strategy avoids the use of fossil fuels and can be powered by renewable energy, making the Timberlands Center a net-zero-carbon building. The efficient floor plates of the Tower, oriented to the north and east, are paired with a two-story Auditorium and Workshop, ensuring that all spaces have access to abundant daylight and fresh air while creating synergies for the exhaust demands of labs and industrial production spaces. High-performance facades limit the need for heating and cooling, which is provided from a geothermal system whose energy use may be offset by renewable electricity.

The building's carbon-negative embodied energy compliments its operational energy efficiencies. The use of local and US sourced mass timber significantly increases the embodied carbon storage and value of wood.

Mechanical Diagram Key

1. The **ground source wells** will be installed both under the building and in the landscape
2. The **mechanical room** houses the incoming plumbing and electrical feeds, ground-source heat pumps, and manifolds
3. Three **air handling units** serve the main building zones using low-energy systems: displacement ventilation, radiant heating, chilled beams and energy recovery
4. An induction nozzle fan exhausts **lab fume hoods**
5. Separate **dust-collection systems** pull particles from the metal and wood shops to a collection point in the Work Yard



Third Floor Plan Key 1"=20'

1. Project Display Deck
2. Lab
3. Shared Lab Storage
4. Tree Greenhouse
5. Greenhouse Offices
6. Outdoor Sapling Deck
7. Shop skylights
8. Shop air handler
9. Work Yard overhang

Links between making, education and research are created in section: a ramp enables forklift delivery of wooden products to Exhibition areas. The Wood Library is a pedagogical and physical bridge between the exhibition areas and the Workshop. A vertical connection zone, like a forest watch tower, links Classroom, Lab and Workshop programs, maximizing floor plate efficiency and providing collaboration space essential for active research exchanges. The Auditorium roof is a display deck to the Boulevard for large wood constructions. A passive greenhouse on the south enables hands-on research of forest soils, wood species and emergent bioproducts and supports the growth of diverse Arkansas tree saplings for new plantings – a highly effective, low-cost way of reducing atmospheric CO^2.

Section Key

1. Entry lobby
2. Metal shop
3. Wood shop
4. Wood library
5. Tree greenhouse
6. Sapling deck
7. Classroom
8. Lab
9. Lab Storage
10. Specialty Lab
11. Office/Conference Room
12. Wood Weathering Test Screen
13. Terrace
14. Mechanical Penthouse
15. Residence

Section through Entry Lobby looking East 1"=20'

Section Key

1. Work yard
2. Shop
3. Shop skylight
4. Reading Room overlook
5. Sapling deck
6. Tree greenhouse
7. Wood Weathering Test Screen
8. Terrace overlook

Section through Shop looking North 1"=20'

STRUCTURAL ASSEMBLIES

Auditorium and Native Forest Landscape

Government Street Entrance

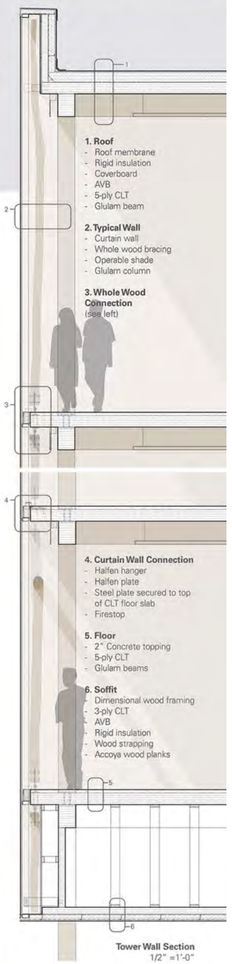
Structure The project proposes an innovative structural system that utilizes US-sourced CLT and glulam members together with advanced computational analysis of small-diameter hardwood thinnings from NW Arkansas forests. The project integrates the use of computationally derived timber lamellas–expressed in stepped glulam beams and columns–with the natural forms of branching trees as a visible, legible expression of physical forces in wood. This structure can be optimized for a high level of manufacturing prefabrication, to minimize material waste, on-site construction time and costs.

Tower Structure All wall/floor elements are of 5-ply (6.9") cross laminated timber which bear on a repeating, orthogonal grid of glued laminated timber columns/beams. As the columns axial forces increase towards the base of the structure, the cross section of the glulam column is increased accordingly; this minimizes view obstructions at upper floors. Perimeter lateral forces will be braced with a network of small tree thinning members, termed 'whole wood'.

Workshop and Auditorium Structure A 'waffle slab' system of glued laminated timber beams supported by four glulam columns is optimized to determine structural member depth according to force magnitudes. Stepped timber lamellas are removed from the beam's cross section in zones of less bending forces, allowing people to see and understand the structural principle of these large span roofs. The 'free' perimeter of the waffle slabs allow for uninterrupted views to the forest landscape and public visibility on MLK Jr. Boulevard.

Structural Diagram Key

1. CLT and Glulam post-and-slab tower structure
2. Whole wood lateral load resisting system
3. Long-span glulam waffle slab roof with 5-ply CLT roof deck
4. Small diameter steel rod lateral bracing



1. Roof
- Roof membrane
- Rigid insulation
- Coverboard
- AVB
- 5-ply CLT
- Glulam beam

2. Typical Wall
- Curtain wall
- Whole wood bracing
- Operable shade
- Glulam column

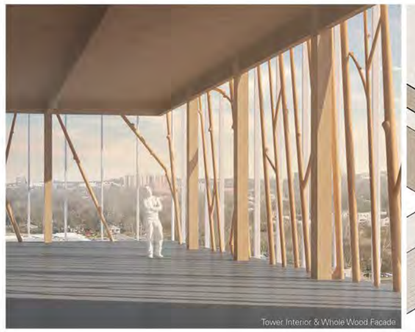
3. Whole Wood Connection (see left)

4. Curtain Wall Connection
- Halfen hanger
- Halfen plate
- Steel plate secured to top of CLT floor slab
- Firestop

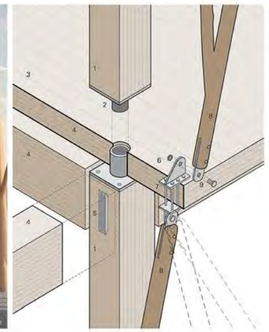
5. Floor
- 2" Concrete topping
- 5-ply CLT
- Glulam beams

6. Soffit
- Dimensional wood framing
- 3-ply CLT
- AVB
- Rigid insulation
- Wood strapping
- Accoya wood planks

Tower Wall Section 1/2" =1'-0"



Tower Interior & Whole Wood Facade



Pivot Plate Connection Detail: The innovation of an adjustable pivot pin connection detail enables a single connection to accommodate the diverse, natural geometries of white oak, hickory and maple and other hardwoods of Arkansas's forests—creating new value for smaller thinnings, giving wood a new public visibility.

1. Glulam column
2. Column connectors with tight fit pipe connector
3. CLT slab
4. Glulam beam
5. Megant beam-to-column connector
6. Brackets connect whole wood to CLT slab
7. Through bolts
8. Whole wood lateral bracing
9. Slotted plate & pin

Government Street Elevation 1"=20'

MLK Jr. Boulevard Elevation 1"=20'

LEVER Architecture

LEVER Architecture is a Portland-based architectural design practice founded in 2009 by Thomas Robinson. The firm's work explores making, materiality, and experience, challenging conventional methods of fabrication and using local and commonplace materials in unexpected ways. In this spirit, LEVER Architecture has emerged as a leading practice in the innovation and implementation of mass timber in North America, pursuing architecture that benefits the environment and regional economy. With a diverse oeuvre which includes institutional, cultural, residential, and creative office buildings, LEVER Architecture demonstrates precision and elegant detailing in a range of projects. Selected works include the L'Angolo Estate Winery in Newberg, OR (2016); the Adidas North American Headquarters in Portland, OR (2020); and the Redfox Commons in Portland, OR (2019). LEVER has been recognized with numerous awarded including the U.S. Tall Wood Building Prize and AIA Design Excellence Awards. LEVER was also named to Architectural Record's Design Vanguard and the Architectural League of New York's Emerging Voices in 2017.

Assessment

This proposal conveys a deep knowledge of wood and its use in construction as well as issues of sustainability. The proposal is highly professional and eminently buildable, and its designer clearly has a sophisticated understanding of the characteristics of timber construction. The singular sloped volume unites all the functions and activities with one dominant structural principle and external image. The volumetric unity gives the building a distinct and domineering volume, but at the same time, it weakens the expressive articulation and presence of wood material in the exterior. The unified volume project a somewhat static image. The triangular cut through the center of the building creates a strong entrance and a presence at the corner. The entry sequence all together is well resolved. The use of black locust as a screening device to modulate the light is compelling. The presentation boards address the brief in a comprehensive manner, and the diagrams and full-scale model of the support detail make the proposal convincing and easy to understand. The "project ecosystem" elaborated in the boards is also clearly conceived and detailed.

While the design appears rational and efficiently buildable, its massing feels somewhat unresolved and uneasy. Ultimately, there is a lack of clarity in the final form-making. Instead of offering a dramatic, coherent and rigorous image, the exterior form of the building gives the sense that something has collapsed. While the A-frame approach may be compelling at the entrance, the design is not well served by this gesture, which disrupts the primary structural system in an unresolved manner. The atrium's structure thereby disrupts this primary system, as if it had been cut and needed to be tied back together again. Meanwhile, the U-shaped plan frustrates ease of circulation. On a symbolic level, the suggestion of letter A by means of the triangular cut through the volume appears too obvious.

Materials Matter

The University's visionary decision to invest in mass timber speaks to a shift in design culture. The choices we make impact the health of our planet and regional economies. Using regional materials and leveraging the expertise of local suppliers and fabricators makes architecture more compelling. Limits can evolve into innovation that is both pragmatic and poetic. Our proposal for the Anthony Timberlands Center is more than a building; it's an argument for rethinking design as a larger ecosystem of environmental and regional economic choices. This approach sees design as a wider process spanning from Forest to Frame and considers material origins and production as drivers of design.

Center of Making

The building is organized around a central fabrication hall and entry gallery. A soaring volume that evokes a grove in a forest, the entire project revolves around this center of making, both in terms of program and building system performance. Highly visible from Martin Luther King Jr. Boulevard, the project forms an iconic gateway to the Windgate Art and Design District. The transparency of the building places advanced fabrication and design in the public realm, demonstrating its value to Fayetteville and the larger University community.

The central fabrication hall is a flexible platform for innovation where machines hum and tall wood installations rise under a canopy of timber beams. The high bay space is served by a 40' gantry crane, while an operable southern façade allows direct truck access to the fabrication hall floor. Open day and night, this space is served by adjacent specialty material and technology labs that can be secured during off hours. The hall opens onto a covered fabrication yard and café that looks out to a terraced courtyard and an arboretum of Arkansas' working trees that supply the region's timber products. This landscape of innovation encourages exchange between the schools, supporting a culture of collaboration in the District. The landscape also performs on an environmental level, acting as a sponge that manages storm water.

Program Organization

Programs are organized around the central hall on a series of mass timber platforms. Private functions such as classrooms and labs are stacked to the east, and the public auditorium and materials library are located to the west, connecting directly to the landscape. Spaces and circulation in both wings emphasize views down into the central shop, foregrounding making and material exploration.

Local Innovation

The design is driven by an innovative, low-carbon material approach. The intent is to utilize an economy of materials for maximum impact in terms of innovation, design, utility, and economic benefit. The entire structure is built using one standard glue-laminated beam (glulam) that is made in Arkansas using southern yellow pine. Understanding and leveraging the capabilities of local manufacturers and regional fabricators was integral to the development of our proposal.

Arkansas has everything it needs today-- material resources, technical know-how, and mass timber expertise-- to create a world class innovation center. The design for the Anthony Timberlands Center leverages the present to shape the future.

The Natural State

Wherever you go in Arkansas, the beauty of the landscape is present. There is a culture of living close to the land and embracing a continuing heritage of forestry, timber production, agriculture, and outdoor recreation.

Campus Heart

The University's status as a land grant institution gives it a special connection to the landscape. The campus flourishes around the Old Main Lawn, an iconic green space and arboretum containing nearly every type of tree in Arkansas. Echoing the Old Main Lawn, our design unites the Windgate District with a forest of Arkansas' working trees.

District Connections

The fabrication yard, café, and arboretum are welcoming public spaces. Intended to encourage interaction between the art and architecture schools. They fit into a larger network of amenities that unify the Windgate Art and Design District and connect it back to the main campus.

Arkansas Forests
Sustainable Management

Arkansas has some of the most productive forests in the US. Its timber manufacturers demonstrate a multi-generational commitment to forest stewardship. Responsible forest practices will guide this project, with a commitment from the University's students and faculty to monitor regeneration. Timber products and systems developed during the design will create demand for sustainably-sourced wood.

Product Innovation
Dialogue with Regional Manufacturers

The region's wood products manufacturers have a wealth of untapped knowledge. As part of the research and development for this project, our team will create a dialogue with suppliers to imagine the next generation of innovative wood building projects. These ideas will inform the ultimate building design.

Regional Mass Timber
Glue-laminated Timber in Arkansas

The state is home to major manufacturers of glue-laminated (glulam) beams, with lengths available up to 90'. Our proposal creates an innovative frame configuration using four standard glulam depths (12", 15", 21", and 30") for the columns, beams, and floors. To create the 5' x 45' prefabricated floor and roof panels, glulams are laid up on their sides and connected with plywood splines.

Ozark Modern
Regional Materials, Design and Craft

Inspired by Edward Durell Stone's Ozark modern furniture designs for Fulbright Industries, our proposal develops new material uses for local hardwoods. Black Locust, North America's original hardwood and native to Arkansas, will be custom-milled in Fayetteville to create the building façade. Strips of oak will be woven into a scrim that floats above the auditorium. White oak will also be used for lobby flooring.

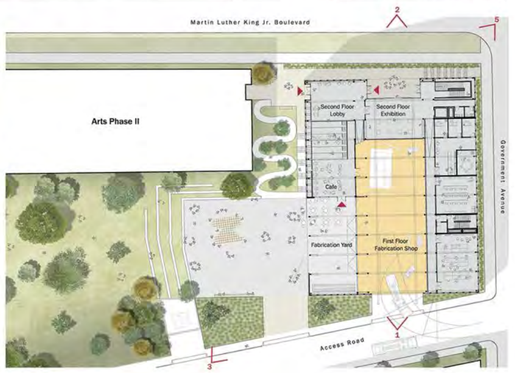
Prototyping
Rapid Prototyping in Concept Design

Working with our longstanding engineering and fabrication partners, Holmes Structures and CutMyTimber, we explored wood connection details to support the project concept. One prototype (pictured below) was machined at CutMyTimber's facility in Portland using a Kūka CNC machine. This mockup was used to test assembly feasibility and generate preliminary pricing.

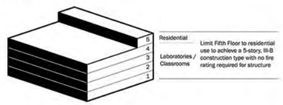
Fabrication
Early Identification of Potential CNC Fabricators

A regional CNC fabricator provided input on the design and prepared pricing to machine the mass timber frame and floors. This fabricator has the expertise to machine the project. We intend to work with this fabricator and other consultants to develop detail options. Based on our experience building mass timber projects, it is critical to develop alternatives that keep the design cost competitive.

ANTHONY TIMBERLANDS CENTER FOR DESIGN AND MATERIALS INNOVATION Fay Jones School of Architecture and Design University of Arkansas, Fayetteville, AR



Massing



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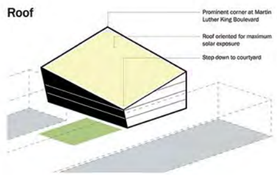
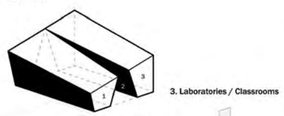
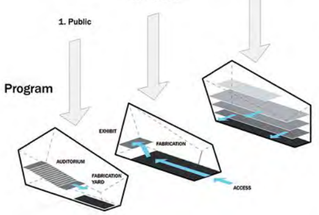
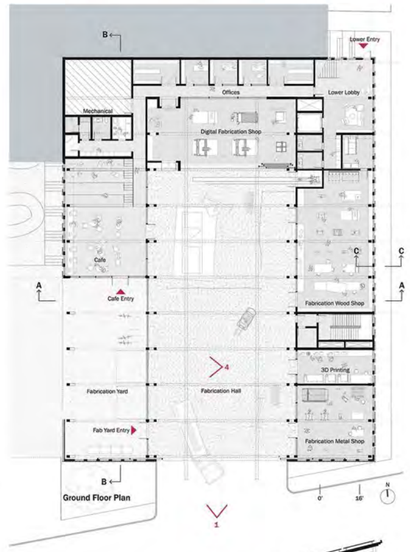


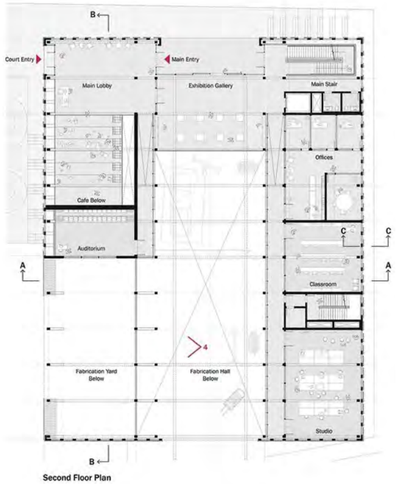
Organization

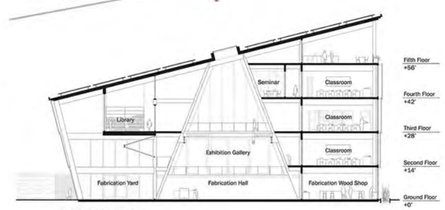


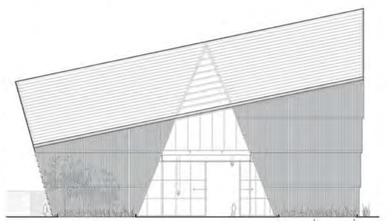
Program

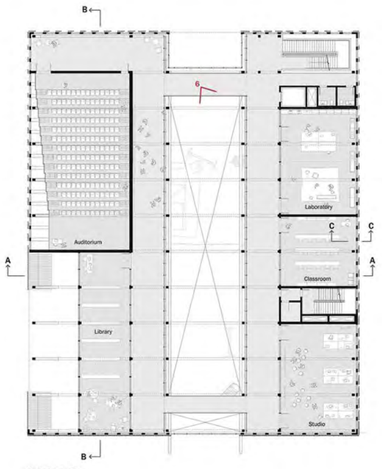




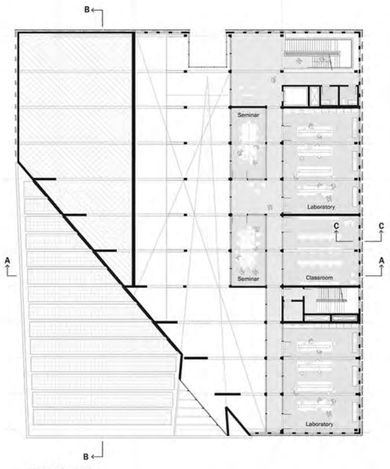




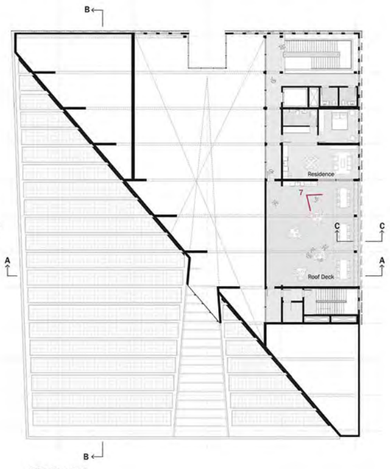




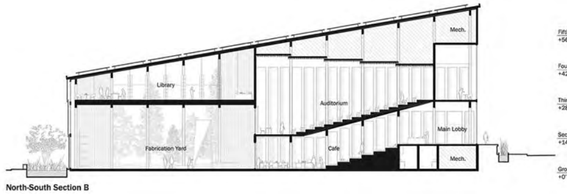
Third Floor Plan



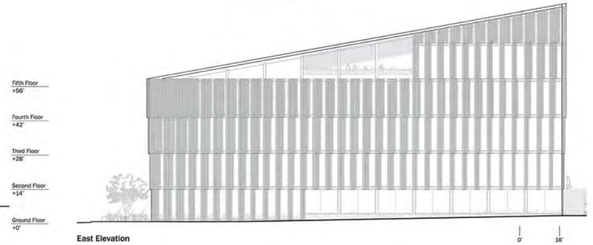
Fourth Floor Plan



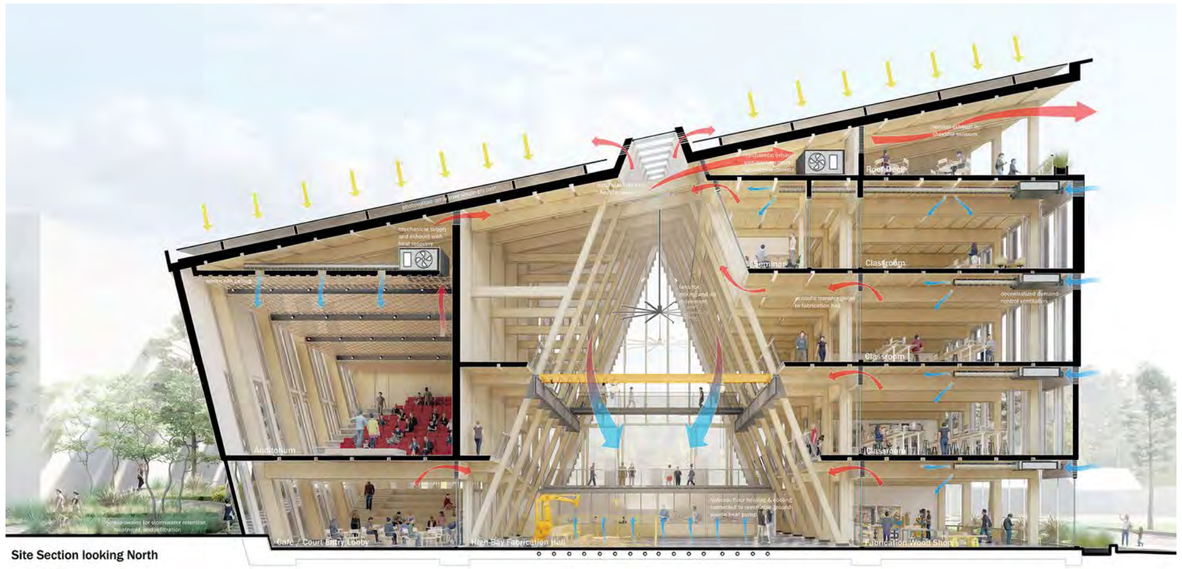
Fifth Floor Plan



North-South Section B

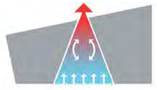


East Elevation

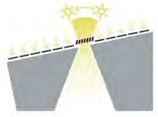


Site Section looking North

Visibility To Public



Ventilation



Solar + Daylighting

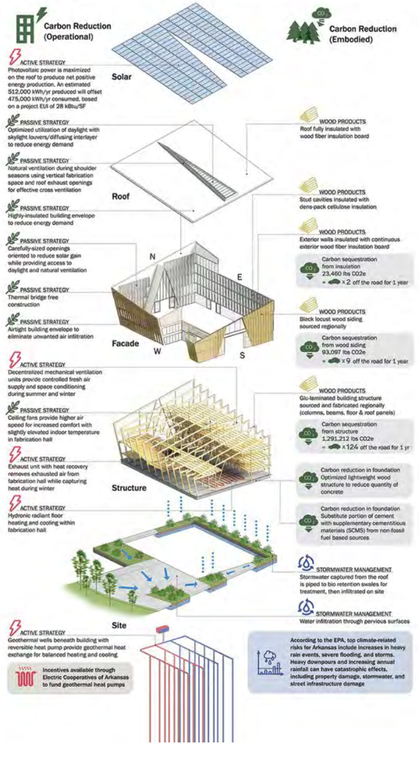
Program Connections

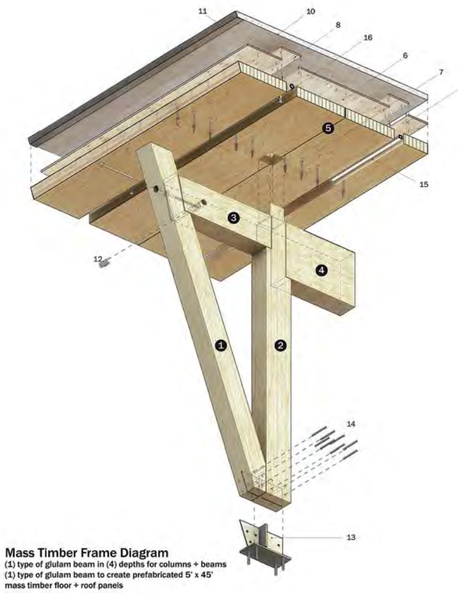
High Bay Fabrication Hall

Project Ecosystem

The forest is an ecosystem where biological elements—air, light, soil, water, flora, and fauna—all work together in a harmonious balance. Like the forest, our design relies on interconnected systems to create environmental and individual well-being.

The design synthesizes passive strategies and active technologies into a sustainable whole. The landscape's pervious surfaces, swales, and plantings manage stormwater, and its arboretum helps to cool the campus. The building's massing, decentralized mechanical system, innovative heat recovery system, geothermal wells, and photovoltaic roof work in unison to harness the power of climate to manage and produce energy. An emphasis on responsibly-sourced, regional timber throughout the design dramatically reduces the project's carbon footprint. This integrated ecology of architecture and environmental systems achieves meaningful conservation.





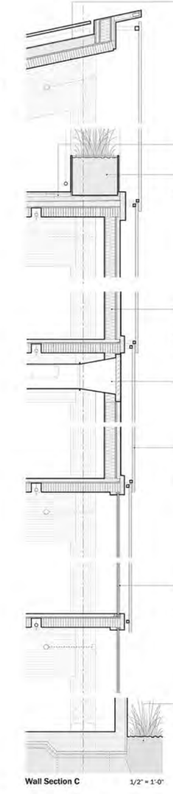
Mass Timber Frame Diagram

(1) type of glulam beam in (4) depths for columns + beams
(1) type of glulam beam to create prefabricated 5' x 45'
mass timber floor + roof panels

1. Southern yellow pine no. 1 Glulam (10-3/4" w x 12" d)
2. Southern yellow pine no. 1 Glulam (10-3/4" w x 15" d)
3. Southern yellow pine no. 1 Glulam (10-3/4" w x 21" d)
4. Southern yellow pine no. 1 Glulam (10-3/4" w x 30" d)
5. (2) Southern yellow pine no. 1 Glulam (5-1/2" w x 30" d) with 6" gap

Legend:

6. 5/8" plywood sheathing
7. (3) 5/16" x ASSY Ecofast self-tapping screws per glulam
8. 5/8" x 18" w plywood spline connector
9. 1/4" x 4" Simpson SWDA screws @12" O.C.
10. 2" Topping Slab for acoustics and durable floor finish
11. Steel angle pour stop / railing support
12. Dado simples connector
13. Galvanized steel base plate
14. 1/2" diameter steel pins
15. LED light fixture
16. Sprinkler system
17. Bio-swale
18. Thermally broken high performance punched window system
19. 1-1/2" x 5-1/2" Black Locust custom milled wood screen
20. Demand Ventilation system and intake louver
21. Wall Assembly
    Recycled sheet metal panel system
    2-1/2" Wood fiber insulation board
    24 mil vapor permeable air barrier
    5/8" exterior sheathing
    6" stud framing
    6" dense pack cellulose insulation
    2 mil variable permeance vapor retarder
    5/8" interior gypsum
22. Pre-fabricated metal planter
23. Deck Assembly
    Black Locust / Oak Wood decking on pedestals
    Hydro-tech water proof membrane assembly
24. Roof Assembly
    Photo voltaic panels on pre-fabricated supports
    Single ply roof membrane
    R-30 wood fiber insulation board



Wall Section C 1/2" = 1'-0"

LEVER diandstudio Tennessee Forest Engineering Holmes Structures Holmes Fire CutMyTimber

Shigeru Ban Architects

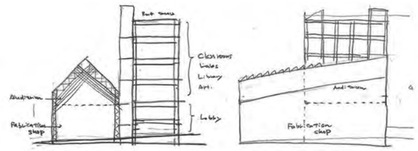
Shigeru Ban Architects (SBA) is a Tokyo, Paris, and New York-based architecture firm founded in 1985 by Shigeru Ban, who has led the firm with a consistent design philosophy of creating free and open spaces with concrete rationality of structure and construction method. Challenging existing building practices, SBA uses easily obtainable materials in innovative and unprecedented structural and construction systems. Most notably, SBA has developed methods of using paper tube as a structural material, offering a low-cost, recyclable, low-tech, and replaceable alternative to typical materials. The firm also has a great deal of experience in mass timber construction. SBA has built an extensive portfolio of nearly all types of buildings and constructions across the globe. Selected works include the Japan Pavilion for the Hanover Expo in Germany (2000); the Centre Pompidou in Metz, France (2010); and the Tamedia Office Building in Zurich, Switzerland (2013). Among the numerous awards and recognition that SBA has received, Ban was named an Honorary Fellow of the American Institute of Architects (2004), the Royal Institute of British Architects (2005), the Royal Architectal Institute of Canada (2006), and the Japan Institute of Architects (2014). He won the Pritzker Architecture Prize in 2014.

Assessment

This proposal showcases a variety of applications of wood, integrating eight different timber structural systems into its design. The proposal's encyclopedic approach to timber design catalogs these in detail and integrates and displays wood products and fabrication processes. The scheme cleverly takes advantage of the site's natural slope, while its open first-floor plan successfully coheres as a series of unified spaces. The plan is generally well organized, with fabrication spaces occupying the lowest level and public spaces at the top. Pedagogically, the proposal presents an interesting building for students to learn from first-hand. The proposal references the work of Fay Jones throughout, especially for the iconography of the auditorium. Overall, the presentation is detailed and thorough and demonstrates expertise with timber construction. The design addresses many points of sustainability, and its environmental strategies are comprehensive.

The building is a catalog of the spaces and tools to make architecture—but what does the architect tell us about their vision? The building's encyclopedic approach to timber design is its chief virtue as well as its chief weakness. The proposal comprises three different structures, but the site is too small to accommodate this approach. This contributes to a sense of over-articulation and undermines the scheme's sense of coherence. Overall, the scheme loses continuity, becoming too fragmented and episodic. While the plan is generally well organized, the auditorium is positioned directly above the main fabrication space, a likely source of noise and vibration. At the same time, because the building is so highly internalized, it does not appear welcoming. There is a clear intention, at least with the massing, to relate to the iconic aspects of the campus and Fay Jones's work, but the proposal's iconography is not forward-looking. The auditorium looks ecclesiastical, and the proposal's central tower supports this misreading.

NORTH ELEVATION VIEW



MASSING SKETCHES - SHIGERU BAN

University of Arkansas
Anthony Timberlands Center for Design and Materials Innovation
SHIGERU BAN ARCHITECTS

Situated on a prominent corner, the ATCDMI has a strong visual presence. The building is reminiscent of the work of former Dean Fay Jones and evocative of the main campus's brick material palette and historic building forms, while decidedly unprecedented in its structural expression and innovative material applications.

The massing is composed of three primary components: the Factory, Clock Tower, and Classroom Building. The fabrication lab is located on the Factory's ground floor, an open, multi-height industrial space designed for maximal flexibility to accommodate future needs. The lab occupies the entirety of the building's footprint and is organized horizontally, expanding beyond the building's confines to the rear Fabrication Yard via largescale garage doors. The Yard's prominent siting adjacent to the Windgate Courtyard allows the university community to observe the Center's bustling productivity. Nestled above the lab is the auditorium, a prominent location for events with convenient views to the shop activity below.

The Classroom Building extends from level 2 through 5, housing the classrooms, labs, library, faculty offices, and visitor's residence. Learning spaces are designed to maximize daylight and views. With a 10' structural grid, the spaces are easily reconfigurable to suit the school's current offerings.

The Clock Tower champions the building's verticality, creating a visual reference evocative of Old Main for the satellite campus. The Tower and adjacent atrium structure the building's vertical circulation with two cores and a gently-sloping staircase that provide a social forum for daily interaction and observing building activity.

The building is considered holistically: its form maximizes passive space conditioning via the atrium solar chimney and operable windows. Site-specific strategies pertaining to sun exposure facilitate daylighting mitigated by wood louvers, while energy generation is supported by solar panels and a geothermal system.

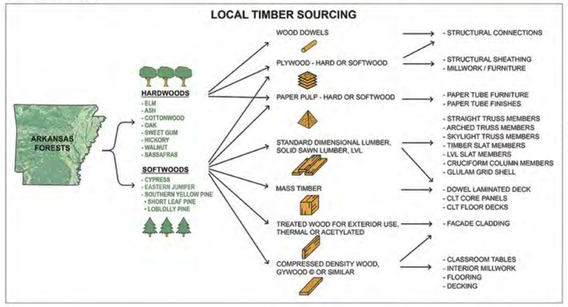
Reflecting the university's mission to promote Arkansas's diverse wood offerings, the ATCDMI is conceived as an "encyclopedic approach" to timber design, featuring eight distinct timber structural systems using local wood species and products. The primary structural material is southern yellow pine, celebrating regional identity through the state's most abundant softwood. SYP structure is supplemented with hardwood specialty components, such as ash dowels used to create the distinctive and varied trusses seen throughout the Factory and Classroom Building.

Trusses, columns, slat framing, and slat floor decks are constructed from small standardized lumber with repetitive assemblies fabricated offsite, reducing cost and maximizing fabrication and erection efficiency. Additionally, the building features exposed CLT cores and a glulam gridshell in recognition of the state's burgeoning mass timber industry.

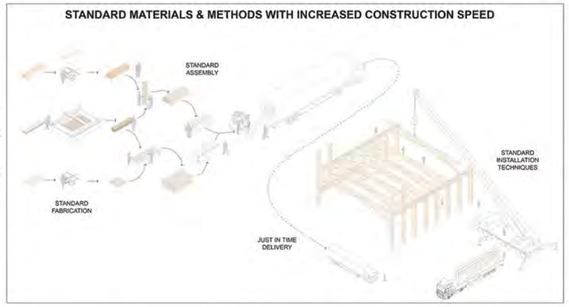
Interior finishes employ innovative materials such as Gywood (compressed wood product) for flooring, decking, cladding, and tabletops. Paper tube furniture, a hallmark of SBA's designs, features the state's extensive production of paper pulp. At the façade level, thermally-treated SYP is used in a variety of siding applications to articulate the building.

The Anthony Timberlands Center for Design and Materials Innovation is poised to be an international leader, championing the resources and industry of the State of Arkansas while fostering the university's capacity to advance timber design and construction innovation.

LOCAL TIMBER SOURCING

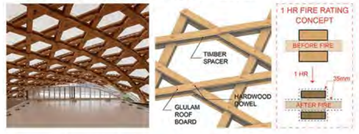


STANDARD MATERIALS & METHODS WITH INCREASED CONSTRUCTION SPEED



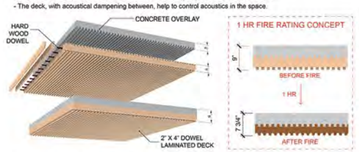
1. GRID SHELL - LIBRARY

- Utilizing woven timber members with double curvature to create larger column free spans.
- Provides a higher lofty ceiling height for optimum lighting and spatial atmosphere.



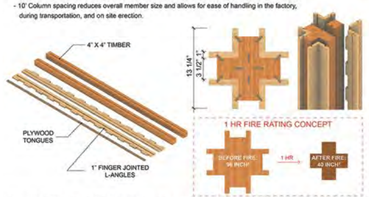
2. DOWEL LAMINATED DECK - CLASSROOM BUILDING

- Maximizes the use of small standard timber members.
- The offset of the slats allow the concrete deck to naturally key in to the timber slat deck.
- The deck, with acoustical dampening between, help to control acoustics in the space.

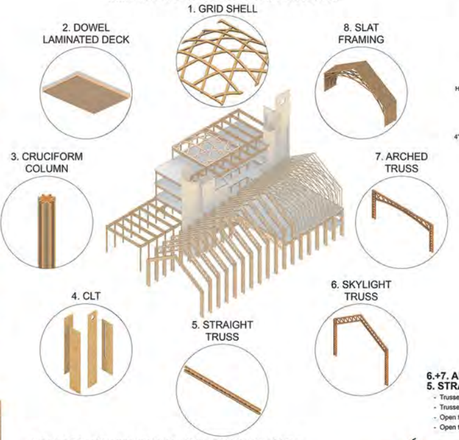


3. CRUCIFORM COLUMN - CLASSROOM BUILDING

- Columns are made up of small standard members combined to create larger structural members.
- 10' Column spacing reduces overall member size and allows for ease of handling in the factory, during transportation, and on site erection.



TIMBER STRUCTURAL SYSTEMS DIAGRAM

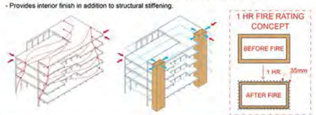


8. SLAT FRAMING - AUDITORIUM

- Utilizes small standard members to create longer open spans.
- The slats provide human scale atmosphere in the auditorium space and act as finish and structure.
- The slats, with acoustical dampening between, help to control acoustics in the space.

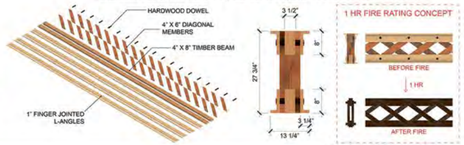
4. CROSS LAMINATED TIMBER (CLT) - BUILDING CORES

- Provides lateral stiffening to classroom building and reduces size of cruciform columns.
- Provides interior finish in addition to structural stiffening.



6.+7. ARCHED & SKYLIGHT TRUSSES - FABRICATION SHOP
5. STRAIGHT TRUSSES - CLASSROOM BUILDING

- Trusses allow for longer spanning with smaller standard members.
- Trusses are structurally efficient shapes.
- Open trusses allow for services to run through the structure, both at the ceiling and wall side.
- Open trusses allow for higher floor to ceiling heights, better daylighting, and a more open spatial atmosphere.



V3 - VIEW FROM ATRIUM, 2ND FLOOR

V2 - VIEW FROM ENTRY LOBBY, 2ND FLOOR

V1 - VIEW OF FABRICATION SHOP, 1ST FLOOR

PRIMARY BUILDING ORGANIZATION

The building is organized horizontally and vertically --

- **HORIZONTALITY -** The Fabrication Shop is organized horizontally on the ground level to maximize the functional and flexible use of the shop and yard.

  The interior of the Shop consists of 3 primary zones -

  1. **Fabrication zone** - installed machinery, with flexible partitions to allow for future expansion and change of use.
  2. **Working zone** - divided in to 2 separate, but interconnected zones, for metal and for wood.
  3. **Assembly zone** - 2 separate working areas that both open out on to the Fabrication Yard. Both areas are visible from the upper entry level.

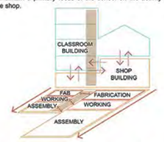
  The exterior Fabrication Yard is connected to the Shop via 2 large operable doors that provide maximum inside outside inter connectivity.

  The Yard is predominantly covered with a translucent corrugated polycarbonite panel to provide a naturally illuminated covered working area. The Yard is visually and physically connected to the adjacent courtyard to provide maximum inter connectivity with the art school and related users.

- **VERTICALITY -** The classroom building is organized vertically in order to maximize daylight, views, and natural ventilation from the prevailing winds.

  The vertical orientation of the classroom building allows the internal circulation to come down at the central intersection of the fabrication shop to allow functional and efficient movement of students and faculty.

  It also provides maximum visual orientation down on to the shop floor to maintain a primary focus of the school on the activity within the shop.



PROGRAM AREA DIAGRAM

TOTAL INTERIOR FLOOR AREA 45,720 SF
TOTAL EXTERIOR FLOOR AREA 12,439 SF

ROOF

CORE & MECHANICAL	1,266 SF
ROOF TERRACE	2,397 SF

5TH FLOOR

CORE & MECHANICAL	646 SF
ATRIUM	1,313 SF
RESIDENCE	867 SF
FACULTY OFFICES	645 SF
LIBRARY	1,806 SF
TOTAL INTERIOR	5,277 SF
LIBRARY TERRACE	312 SF
RESIDENCE TERRACE	860 SF

4TH FLOOR

CORE & MECHANICAL	865 SF
ATRIUM	1,103 SF
LABS	4,490 SF
TOTAL INTERIOR	6,458 SF

3RD FLOOR

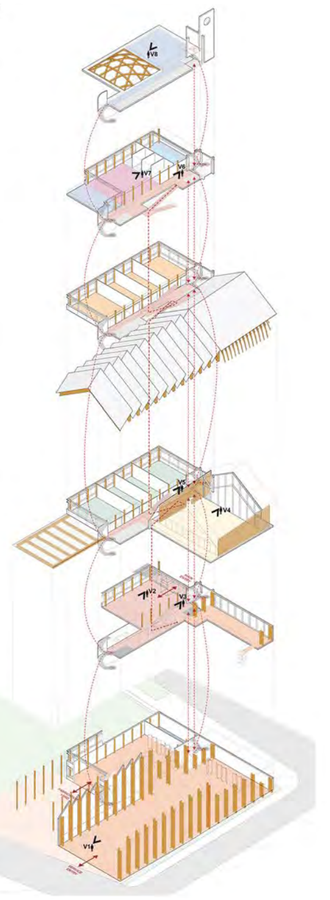
CORE & MECHANICAL	865 SF
ATRIUM	1,103 SF
CLASSROOMS	4,490 SF
AUDITORIUM	4,274 SF
TOTAL INTERIOR	10,732 SF
AUDITORIUM TERRACE	776 SF

2ND FLOOR

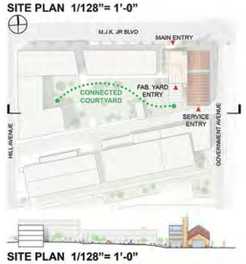
CORE & MECHANICAL	675 SF
LOBBY	1,305 SF
ATRIUM	1,187 SF
GALLERY	1,090 SF
FABRICATION MEZZANINE	1,394 SF
TOTAL INTERIOR	5,641 SF

1ST FLOOR

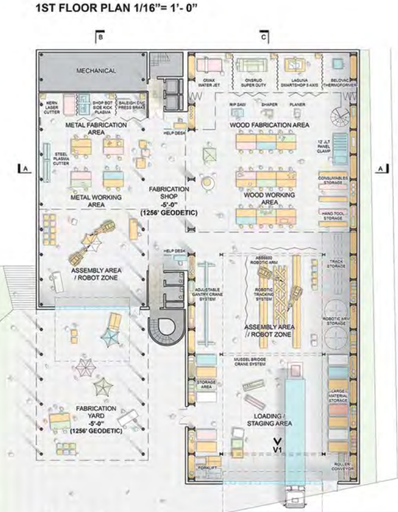
CORE & MECHANICAL	1,625 SF
FABRICATION SHOP	16,990 SF
TOTAL INTERIOR	18,615 SF
FABRICATION YARD	7,318 SF



SITE PLAN 1/128"= 1'-0"

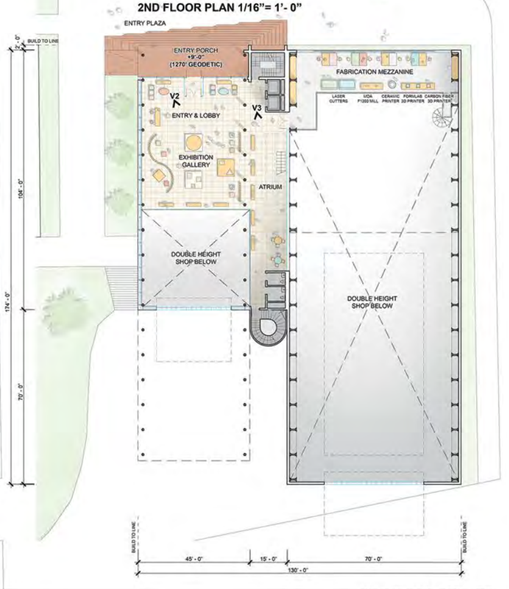


1ST FLOOR PLAN 1/16"= 1'- 0"



SITE PLAN 1/128"= 1'-0"

2ND FLOOR PLAN 1/16"= 1'- 0"



ATRIUM SECTION PERSPECTIVE DIAGRAM

ELONGATED STAIRS -
Creating opportunities for students, faculty, and guests to bump into each other and exchange ideas.

ENLARGED STAIR LANDINGS -
Platforms to observe activity in the shop, labs, or auditorium spaces.

DIGITAL DISPLAY BOARDS -
Located throughout atrium space displaying information about the school, programs, events, and also the innovative building features and energy savings.

OPEN LOUNGES -
Areas throughout the atrium to sit and study or have informal meetings with students and faculty.

ROOF
- ROOF TERRACE

5TH FLOOR
- LIBRARY
- FACULTY OFFICES
- VISITOR RESIDENCE

4TH FLOOR
- LABORATORIES

3RD FLOOR
- CLASSROOMS
- AUDITORIUM

2ND FLOOR
- ENTRY LOBBY
- GALLERY
- FABRICATION MEZZANINE

1ST FLOOR
- FABRICATION SHOP
- FABRICATION YARD

V4 - VIEW OF AUDITORIUM, 3RD FLOOR

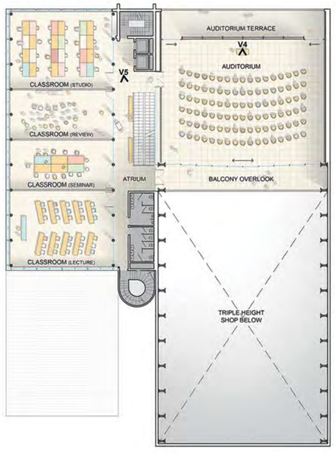
V8 - VIEW FROM ROOF TERRACE

V7 - VIEW OF LIBRARY, 5TH FLOOR

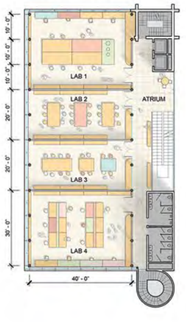
V6 - VIEW FROM ATRIUM, 5TH FLOOR

V5 - VIEW FROM ATRIUM, 3RD FLOOR

3RD FLOOR PLAN 1/16"= 1'- 0"



4TH FLOOR PLAN 1/16"= 1'- 0"

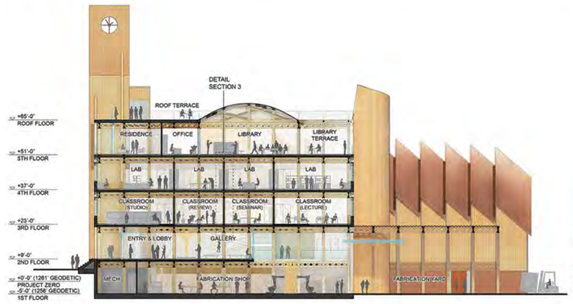


5TH FLOOR PLAN 1/16"= 1'- 0"

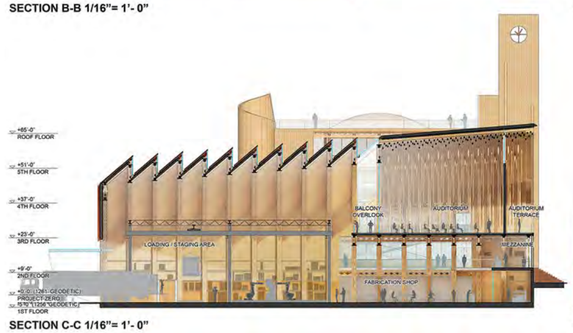
ROOF PLAN 1/16"= 1'- 0"

CLASSROOM BUILDING FLEXIBLE LAYOUT OPTIONS

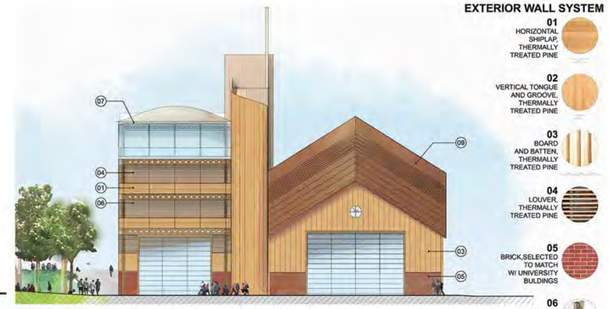
SECTION A-A 1/16"= 1'- 0"



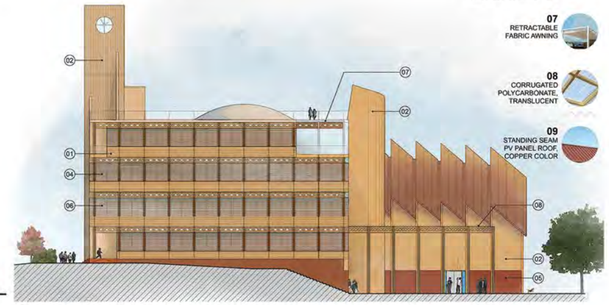
SECTION B-B 1/16"= 1'- 0"



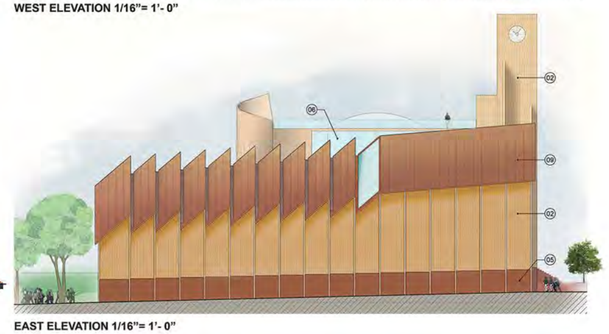
SECTION C-C 1/16"= 1'- 0"



SOUTH ELEVATION 1/16"= 1'- 0"



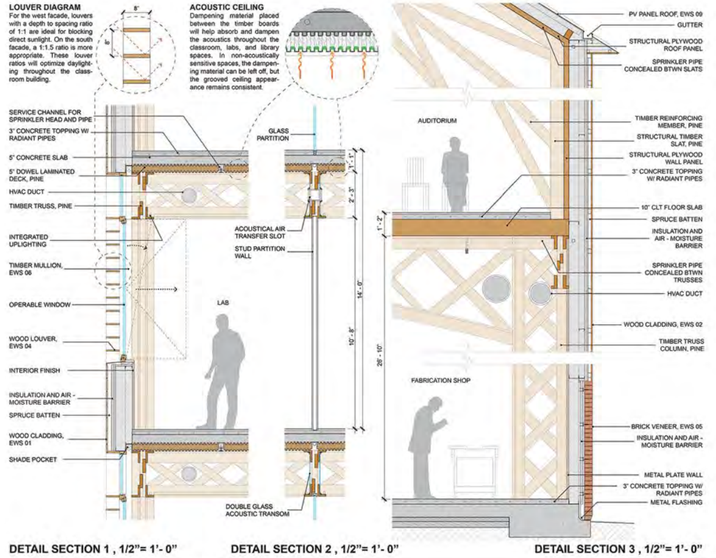
WEST ELEVATION 1/16"= 1'- 0"



EAST ELEVATION 1/16"= 1'- 0"

LOUVER DIAGRAM
For the west facade, louvers with a depth to spacing ratio of 1:1 are ideal for blocking direct sunlight. On the south facade, a 1:1.5 ratio is more appropriate. These louver ratios will optimize daylighting throughout the classroom building.

ACOUSTIC CEILING
Dampening material placed between the timber boards will help absorb and dampen the acoustics throughout the classroom, labs, and library spaces. In non-acoustically sensitive spaces, the dampening material can be left off, but the grooved ceiling appearance remains consistent.

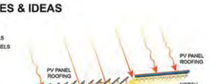


DETAIL SECTION 1 , 1/2"= 1'- 0"

DETAIL SECTION 2 , 1/2"= 1'- 0"

DETAIL SECTION 3 , 1/2"= 1'- 0"

ENVIRONMENTAL DESIGN STRATEGIES & IDEAS



ROOF CONCEPT SKETCH

STANDING SEAM PV PANEL ROOF

1. SOLAR POWER

- To maximize solar energy production, optimum roof locations on the shop building will be outfitted with a special PV panel roofing that is designed to look like standing seam metal roof (EWS 09). This maintains the design intent for the shop building to look similar to a factory building with a metal roof, while taking advantage of solar energy production.

2. MAXIMIZE DAYLIGHTING

- **Skylights** - Large north facing skylights over the south end of the shop provide diffused sunlight to the shop floor throughout the daytime.

- **Louvers** - Depth and spacing optimized for the west and south facade to block direct sunlight while allowing indirect sunlight to illuminate the classrooms.

- **Light Well** - The atrium space with large glass area facing east and floor openings at the stair will function like a light well to bring indirect sunlight to the east sides of the classrooms, helping to balance out the natural lighting to both sides of the rooms.

3. SPACE CONDITIONING STRATEGIES

- **Natural Ventilation** - With the tall open spaces of the shop and large door openings at ground level, a natural ventilation strategy offers a simple conditioning solution without much added mechanical systems. Operable skylights at the high point of the roof will naturally draw air through the shop space.

The classroom side of the building will use the central staircase as a buoyancy-driven natural ventilation stack (solar chimney) and exhaust at the top of this system. This will have a passive mode (just an opening) and a fan-assisted mode. The natural ventilation air will enter the corridor through acoustically protected transfer vents.

- **Geothermal** - Geothermal can work well in this climate. To cover 60% of the cooling load with Geothermal will require 30 wells, 400 ft deep, spaced 20' on center.

- **VRF Supplement** - The remainder of the cooling load can be supplemented by VRF units that can be located on the roof. It is estimated that approximately 3 x 10 ton VRF units would be required to supplement the Geothermal system.

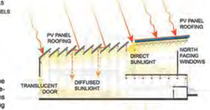
- **Radiant Floors** - The geothermal and VRF system will feed radiant tubes in the floor slabs to provide heating and cooling throughout the building.

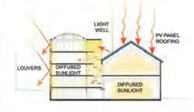
- **Flexible Strategy** - This space conditioning strategy is flexible and allows for changing the energy production system, for example Geothermal to District Energy, without modifying the overall infrastructure.

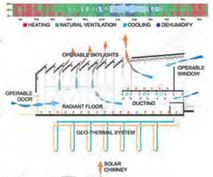
4. SITE STRATEGIES

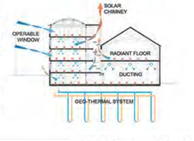
- **Stormwater Control** - Porous paving at non-working areas of yard to naturally collect and retain stormwater.

- **Bioretention Cells** - Bioretention cells around perimeter and in south west corner of site to naturally treat runoff.









WT/GO Architecture

WT/GO Architecture is a collaborative practice between London-based Waugh Thistleton Architects and New Haven, CT-based Gray Organschi Architecture. The work of WT/GO Architecture is rooted in material research and technical investigation through experimentation and analysis in practice and the university studio. In seeking systematic solutions in construction that can reduce ecological impact, the partners of WT/GO Architecture have become global leaders in the design of mass timber buildings and structures at a wide array of scale and programs. WT/GO Architecture has an extensive history of developing and designing timber technologies that serve as both structural and envelope systems that can be seen in their impressive body of work. Selected works include the Murray Grove Tower in London, England (2009); the Mill River Park Carousel Pavilion in Stamford, CT (2017); and the Vitsoe Building in Royal Lemington Spa, England. (2015). Founding Principals Elizabeth Gray, Anthony Thistleton, Alan Organschi, and Andrew Waugh are highly respected in practice and academia. Collectively, they have been awarded the Arts and Letters Award in Architecture by the American Academy of Arts and Letters and the RIBA President's Award.

Assessment

The project has satisfied the criteria of the project brief in a comprehensive and synthetic way. It is a clear and thorough scheme that presents a coherent volume and a well-resolved massing. The proposal occupies the site in a satisfying way and intelligently emphasizes the corner at M.L.K. Jr. Boulevard and Government Avenue. The materiality of the scheme is engaging and credible. The building is configured to consolidate several program spaces along the north edge of the site and is structured in such a way as to allow for the possibility of future expansion to the west. The openness of the northeast corner is interestingly balanced with the southwest corner. The roof configuration works well; it incorporates solar panels on the south exposure and daylighting on the north. Consideration has also been given to solar-roof production, skylights, and their ventilation. The roof terrace and circulation core are intelligently placed, facilitating public access to the terrace. This presents enticing opportunities for inviting the public into the building for formal events. The scheme's environmental ideas and approach to construction are solid.

While the building does most of what it is supposed to, the design is not architecturally ambitious enough. It embodies a good attempt to relate to local traditions, but it does not project a sense of the future. Even though this scheme offers a coherent volume, the elevations do not live up to the promise of the massing, and the overall image could be fresher. The scheme's punched-window strategy seems to be quite random. While the façade attempts to be expressive, the openings do not express the inner workings of the building. The casualness of this approach confuses the identity of the building. There was a missed opportunity to create a more interesting articulation of the façade, and the surface of the building looks like corrugated metal rather than wood. Desirable northern daylight could have been utilized for functions other than the auditorium, which does not require daylight. The U-shaped plan lengthens the circulation route; an L-shaped plan might have been preferable and could have been achieved by elevating the scheme slightly.

ANTHONY TIMBERLANDS CENTER FOR DESIGN AND MATERIALS INNOVATION

WT / GO ARCHITECTURE

EDUCATION, INDUSTRY, AND THE ENVIRONMENT

Our proposal for the Anthony Timberlands Center promotes a symbiotic relationship between education, industry and the environment. Through the process of its design and construction, as in its role as an institution, the building will engage Arkansas's most valuable and abundant forms of natural capital: its workforce and its regional ecosystem. The Center will serve as home for an innovative curriculum, an example of environmental stewardship, and high-performance design, a multi-functional pedagogical tool for students, faculty, and the visiting public, and a beacon to an emerging Art and Design District and Cultural Corridor, to the University and Fayetteville community, and to the region that is its source for both construction material and architectural inspiration.

FORM AND PERFORMANCE

We draw that inspiration from Arkansas's forested landscapes and its history of industrial and agricultural structures: its barns, mills and factories. The building's pleated roofscape channels rainwater into a system of constructed wetlands, functioning in much the way that the Ozark topography drops this range's rocky ridges and forested piedmont. The organization of the building's surfaces maximizes both active and passive environmental performance. Its southern sloping roofs are angled to optimize solar energy generation; its northern slopes are glazed as continuous skylights that illuminate and ventilate the building's primary workspaces, reducing energy consumption, overhangs to the south and west create covered exterior workspaces while shading the interior from midday sun; vertical louvers on the building's exterior diffuse morning and late afternoon sunlight to reduce solar gain and glare. In addition to these formal elements, super-insulated and breathable wall assemblies reduce seasonal heating and cooling loads; timber-lined interiors absorb and release water vapor to buffer swings in internal humidity. Different uses and occupancies are coordinated mechanically to balance the varying levels of heating and cooling required and optimize heat recovery and energy load-sharing.

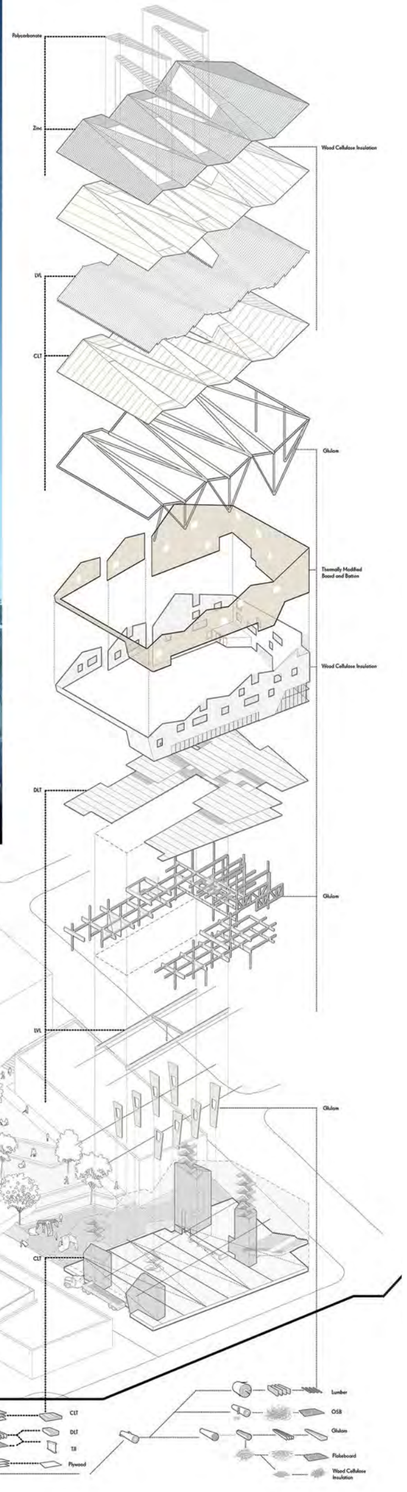
SPACE AND CHARACTER

The building's interwoven spaces celebrate the logistics of material delivery, processing, and manufacture, their integration into academic research and experimentation, and their engagement of the public through the Center's activities and events. Each space flows naturally into the next, each is reflected and informed by its adjacencies. The weave of structure, spatial experience, and educational program suffuses the building as it rises from the heavy-rammed earth floors and trunk-like piers of the workshop up through the attic studios and library archive where daylight falls through a canopy of open rafter- bays and slotted windows. Within this forest-like architecture, one's sense of inhabiting an educational ecosystem is inescapable.

ORGANIZATION AND IDENTITY

A high-bay work space forms the building's primary axis, its large gantry crane traversing from a loading dock at the south to the northern public spaces along MLK Jr. Boulevard. These the high-bay converges with the exhibition gallery and auditorium to form the Center's public forum. This community hub is reached through an entryway carved into the building's northeast corner, which facilitates connections to the future Crossfox Design building across a mews. A half level below the forum, on the work floor and bounding the eastern edge of the high-bay atrium, lie workshops and digital manufacturing rooms organized to facilitate the flow and processing of materials. Tucked beneath the rake of the auditorium seats at the building's northeast corner, the atrium—perhaps the Center's most advanced and iconic piece of manufacturing equipment—offers a spectacle to interested bystanders. Along the west, flexible work bays connect through large overhead doors to the assembly yard and forested "tots court" beyond. Above, studios and labs, bracket the work floor. The building volume rises to the north, establishing a public face and urban scale along MLK Jr. Boulevard. Above the entry spaces at the street, a succession of upper floors host classrooms and seminar rooms, faculty offices and workspaces, and visitors' quarters. The Center is oriented at its uppermost level by an experimental material archive and library. A large conference room opens to a rooftop terrace with views down into the work hall and out across the building's tabled roofscape to the distant Ozarks' forested flanks.

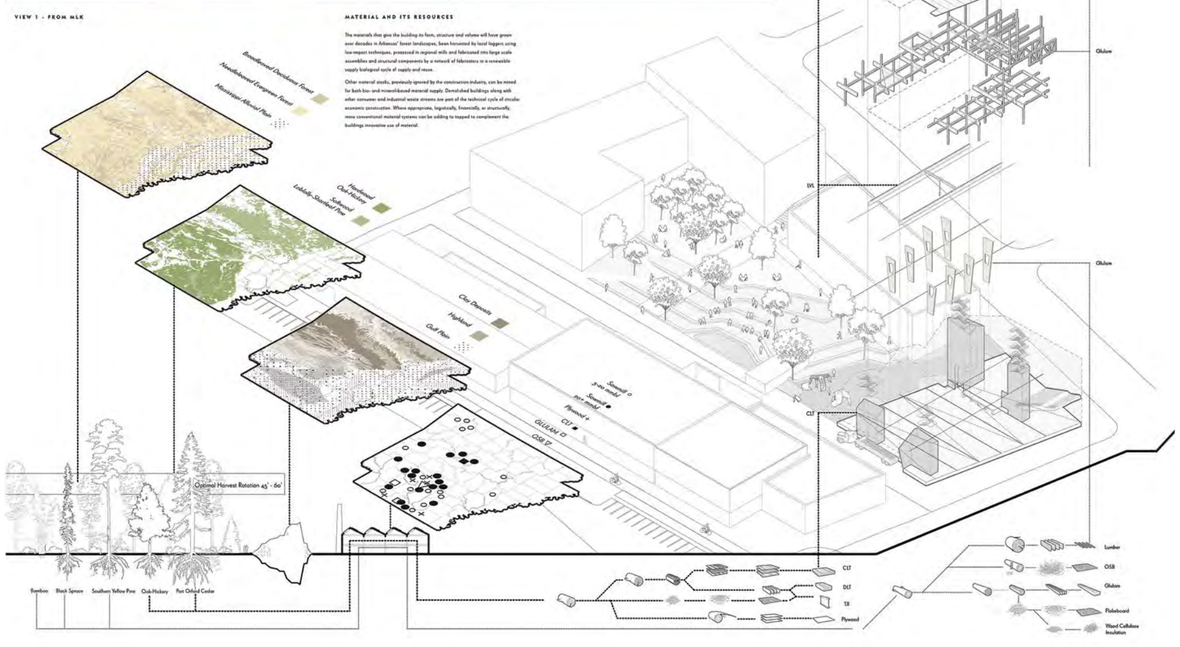
VIEW 1 - FROM MLK



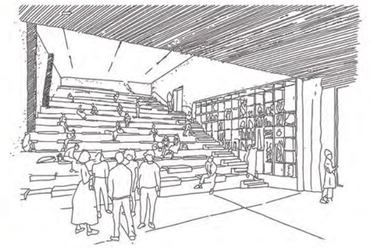
MATERIAL AND ITS RESOURCES

The materials that give the building its form, structure and volume will have grown over decades in Arkansas' forest landscapes, been harvested by local loggers using low-impact techniques, processed in regional mills and fabricated into large scale assemblies and structural components by a network of fabricators in a renewable supply biological cycle of supply and reuse.

Other material stocks, previously spread by the construction industry, can be mined for both bio- and mineral-based material supply. Demolished buildings along with other consumer and industrial waste streams are part of the technical cycle of circular economic construction. Where appropriate, logistically, financially, or structurally, more conventional material systems can be adding to reused to complement the buildings innovative use of material.



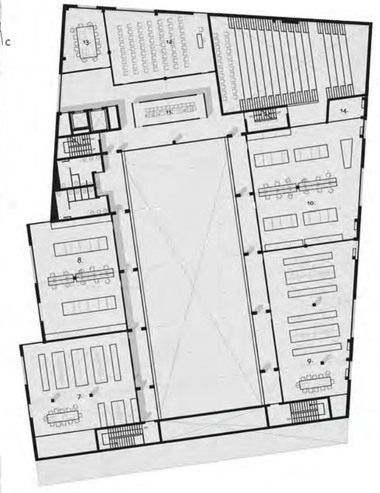
VIEW 2 - WEST ELEVATION



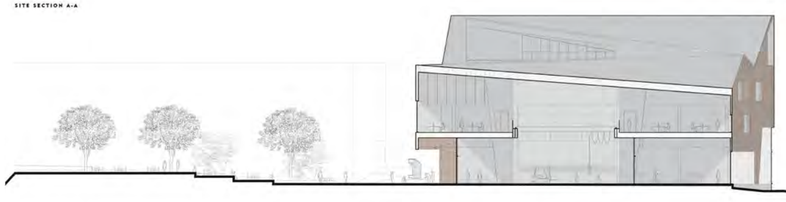
TOP: CLASSROOM BOTTOM: AUDITORIUM

LEVEL 1

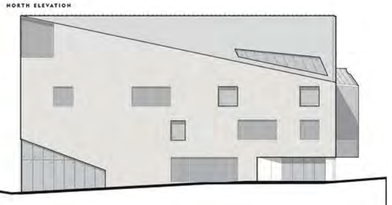
LEVEL 2



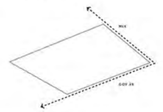
SITE SECTION A-A



NORTH ELEVATION



MASSING AND LAYOUT

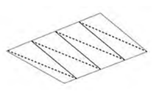


The site is orientated broadly north-south in alignment with neighboring streets, presenting its north east corner to the town and its south west to an emerging campus.

SITE AXIS

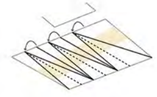
Central to the layout is the shop space. The space is aligned to the access road on the south and is the heart of the building around which other spaces pin-wheel and overlook.

FABRICATION SHOP



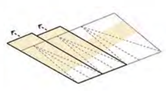
Layout is influenced by the urban grid and the site's north-south orientation, which dictates roof form. This basic grid is linked by making connections across bays and monitorts in the pleated roof form that ultimately emerges.

GRID



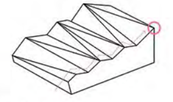
Geometry of the building grid is shifted south to take account of the emerging context (adjacent building), and to engage the courtyard.

SHIFT



The building form at the upper levels is extruded out into the courtyard to provide a cloister at ground level, emphasizing the extension of the shop space into the landscape.

CANTILEVER



Influenced by the vernacular architecture of the region, the form and structure is tailored to provide a beacon at the most prominent corner of the site while the pleated roof form echoes its Ozark context.

BEACON

VIEW 3 - FABRICATION SHOP

KEY MATERIALS


Polycarbonate


Glulam


LVL curtain walling


Cross laminated timber


Thermally modified Ash cladding


Dowel-laminated timber


LVL Baubuche beam

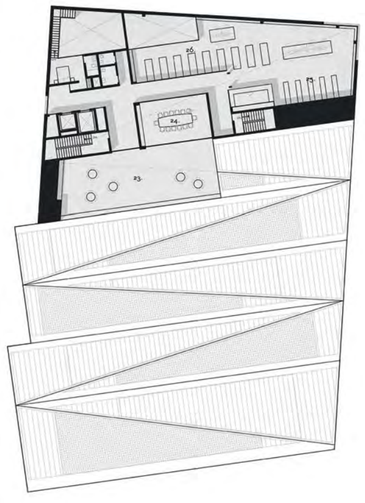

Hempcrete


Natural linoleum


Rammed earth

LEVEL 3

LEVEL 4

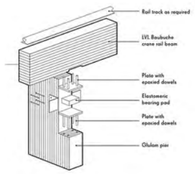


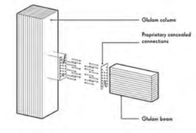
PROGRAM

Level 1	
1. Fabrication shop	14,915 sqft
2. Exhibition space	1,050 sqft
3. Lobby	840 sqft
4. Amphitheater	3,000 sqft
5. Main entrance	incl. sqft
6. First aid/ eye wash	incl. sqft
Level 2	
7. Studio	3,360 sqft
8. Lab	1,800 sqft
9. Studio	incl. sqft
10. Lab	2,000 sqft
11. Meeting space (flexible)	incl. sqft
12. Lecture room	1,050 sqft
13. Meeting room	850 sqft
14. Print lab	300 sqft
Level 3	
15. Lab	1,850 sqft
16. Lab	2,000 sqft
17. Break-out	1,020 sqft
18. Office	1,800 sqft
19. Office	incl. sqft
20. Office	incl. sqft
21. Office	incl. sqft
22. Residence	1,020 sqft
Level 4	
23. Roof terrace	1,300 sqft
24. Conference room	320 sqft
25. Library	2,500 sqft
26. Materials library	incl. sqft
Total =	55,500 sqft

VIEW 4 - ROOF TERRACE

ENGINEERED TIMBER CONNECTIONS





TECHNICAL SECTION

1. ROOF

Pre-fabricated timber cassette roof panels consisting of:
- Standing seam MTC roof
- Vapour open water proof membrane with 3D mesh for airflow
- Plywood
- Wood fibre insulation sanking board
- Wood fibre insulation
- Vapour variable membrane
- Plywood

2. High level air vent over-clad with routed timber grille
3. Timber framed clerestory window
4. Timber framed partition with hempcrete / wood fibre panels
5. Marcalite timber frame partition, Birch plywood clad with acoustic infill
6. Timber framed balustrade with hempcrete / wood fibre lining
7. Sliding timber frame window
8. Zinc reveal
9. Zinc sill
10. Brise-soleil formed by over-cutting louvred cladding

11. EXTERNAL WALL

- Thermally modified Ash, secret fixed to treated S/W horizontal battens on treated 25/50 vertical battens with black insect mesh behind
- Breather membrane
- Rigid wood fibre insulation
- 3 ply CLT panel
- Internal finishes

11. County fire barrier
12. Low level air vent over-clad internally with routed timber grille
13. Skirting board to match wall finish

15. RAISED ACCESS FLOOR

- Linoleum
- Adhesive
- Raised floor system
- Dowel laminated timber floor slab with notched profile incorporating wood fibre acoustic insulation (to internal areas only).

16. LVL PIER to column connection
17. Thermally modified Ash cladding, fixed to underside of DLT slab (to match facade cladding system

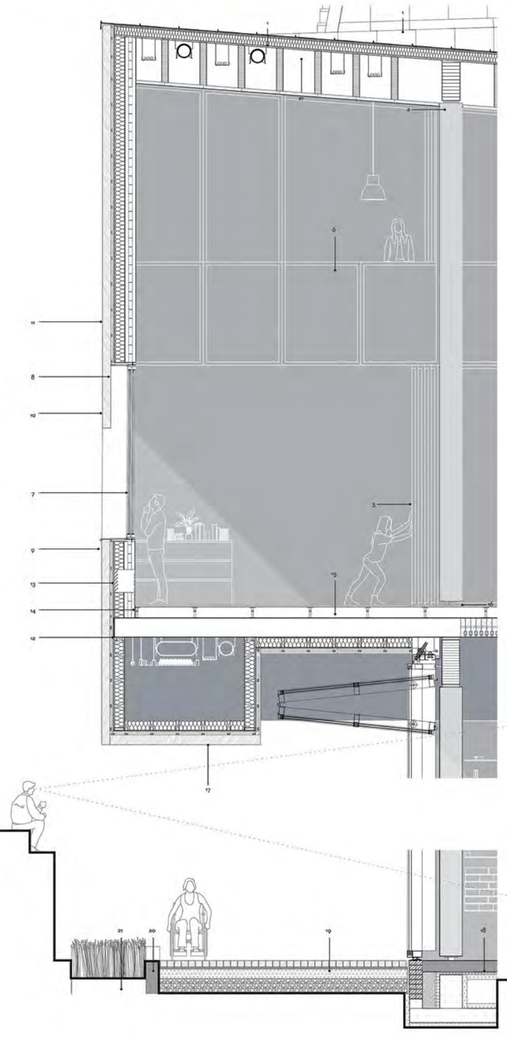
18. GROUND FLOOR SLAB

- 8" compacted earth & concrete slab
- 500 gauge polythene sheet
- Recycled foamed glass insulation
- Damp proof and gas membrane
- Stabilised ground

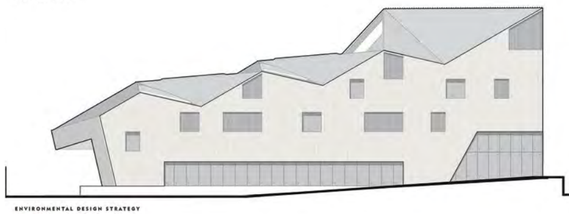
19. EXTERNAL LANDSCAPE FINISH

- End grain wood block pavers
- Sand setting bed
- Concrete wearing slab
- Granular fill

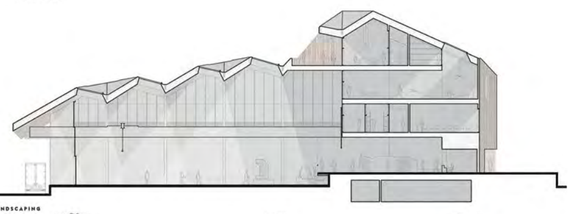
20. Rammed earth planter
21. Bio-retention soil
22. Polycarbonate roof-light, linked to BMS where used for ventilation



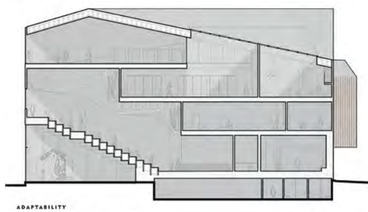
EAST ELEVATION



SECTION B-B



SECTION C-C



ENVIRONMENTAL DESIGN STRATEGY

The building has a pleated roof form that is designed to capitalize on opportunities for solar gain, while north facing roof lights are intended to diffuse daylight into the fabrication shop and surrounding teaching rooms.

LIGHT

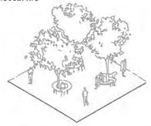
We strive to passively ventilate and heat this building as much as possible. Utilizing the centrally located fabrication shop, we are able to passively draw cool air into the building and extract warm air out the roof lights and facade.

VENTILATION

Multiple strategies for energy generation will ensure a steady supply of low carbon energy. PV panels on south facing roof planes, together with biomass wood waste, could be used for power in conjunction with the campus DHS.

ENERGY

LANDSCAPING



The landscape design is intended to afford varied opportunities for use by students. A tree becomes a shaded place to read, work or contemplate, with tree and plant species drawn from the state of Arkansas.

INTIMATE

Spaces between the tree canopy, together with the fabrication yard - which is seen as an extension of the shop - provide various opportunities for congregation and communal activity for work and leisure.

COMMUNAL

Tiered plateaus mitigate the level change across the site and create stepped forms that are naturally planted and envelope the yard space, providing an amphitheatre for pedagogical use, and a steep to observe work in the yard.

PEDAGOGICAL

ADAPTABILITY

We acknowledge that academic institutions have a multitude of often changing needs, and that to ensure longevity, spaces must be adaptable to social and pedagogical changes.

OPEN PLAN

The layout facilitates both cellular and open plan spaces to be configured. Sliding timber partitions between teaching spaces are anticipated, while connections to the shop space are sought at every opportunity.

CELLULAR

Final Recommendation

February 2, 2020

Juhani Pallasmaa, SAFA, Hon. FAIA
Helsinki, Finland

Toshiko Mori, FAIA
Toshiko Mori Architect
Cambridge, Massachusetts

Tod Williams, FAIA
Tod Williams Billie Tsien Architects
New York, New York

The External Evaluation Team for the Anthony Timberlands Center for Design and Materials Innovation Design Competition

After a thorough study and discussion on the contextual, ecological, performative, and experiential qualities of each project, and on the potential for further development of each project's basic ideas, as summarized in the individual assessments, the External Evaluation Team unanimously recommends the proposal by Grafton Architects as the proposal for further development and eventual execution. Of the six remarkably different proposals, the Grafton Architects proposal is the one that most convincingly promises an evocative, superbly functioning, and environmentally and aesthetically exemplary building to further strengthen the architectural qualities of the University of Arkansas campus. The Grafton Architects proposal is also the proposal that creates the most memorable and dynamic architectural image for the Anthony Timberlands Center for Design and Materials Innovation.

Of the five other competition proposals, the External Evaluation Team found projects authored by Dorte Mandrup A/S and Kennedy & Violich Architecture, in this order, to possess the most architectural merits and development potential, in a second tier of ranking.

The External Evaluation Team decision and primary recommendation of the Grafton Architects proposal was unanimous.

The External Evaluation Team's final recommendation was included in the deliberations of the Anthony Timberlands Center Project Committee, which met between February 7 and February 10 to determine the Committee recommendation to the University of Arkansas Board of Trustees. The final recommendation of the Project Committee resounded the recommendation of the External Evaluation Team; the recommendation of Grafton Architects, partnered with modus studio of Fayetteville, Arkansas, was accepted and confirmed by the Board of Trustees at their meeting on March 19, 2020.

Acknowledgements

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Anthony Timberlands Inc, Malvern, Arkansas

The Honorable Asa Hutchinson,
Governor of the State of Arkansas
The Honorable Bruce Westerman,
Congressional Representative, Arkansas District 4

United States Forest Service
- **Vicki Christenson**, Chief
- **Steve Marshall**, Assistant Director, Cooperative Forestry (until December 31, 2019)
- **Melissa Jenkins,** Natural Resources Specialist, Cooperative Forestry

US Endowment for Forestry & Communities
- **Carlton Owen**, CEO
- **Michael Goergen**, Vice-President/Innovation

University of Arkansas (Fayetteville)
- **Joseph Steinmetz**, PhD., Chancellor,
- **James Coleman**, PhD., Provost
- **Michael Johnson**, Associate Vice Chancellor for University Facilities

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Jonathan Boelkins, AIA, Teaching Assistant Professor / School Project Representative
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Kim Furlong, ASID, Associate Professor of Interior Design
Carl Matthews, ASID, Department Head and Professor of Interior Design (Interview phase)
Angela Carpenter, Instructor in Architecture and Fabrication Workshop Supervisor
Gerry Snyder, Executive Director, School of Art, Fulbright College of Arts and Sciences
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Justin Tucker, Fabrication Workshops Technician, Exhibition Design/Installation
Randal Dickinson, Fabrication Workshops Technician, Exhibition Design/Installation
Angela Carpenter, Fabrication Workshops Supervisor

Exhibition and model shop assistants:
Dallas Myers, David Sweere, Leo Zepeda, Elliot Mason, Bryan Murren, Joe Green, Max Frank, Corey Booth, Trystan Spears, Miller Matlock, Hannah Booth, Kobee Wade, Ryan Harris, Anna Foster, Mackenzie Waters, Lauren Hannan

Fay Jones School of Architecture + Design:
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Michelle Parks, director of communications
Byron McCuan, public programs and special events
Shawnya Myers, digital media specialist

Graphic Design:
DOXA/VANTAGE, Fayetteville, Arkansas

Exhibition Printing:
Jackson Young, Fayetteville, Arkansas

The principals and staff members of Dorte Mandrup A/S, Grafton Architects, Kennedy & Violich Architecture, LEVER Architecture, Shigeru Ban Architects, and WT/GO Architecture, and their respective specialist consultants.

The faculty, staff and students of the Fay Jones School of Architecture and Design

Fay Jones School of Architecture and Design

The Fay Jones School of Architecture and Design at the University of Arkansas houses professional design programs of architecture, landscape architecture and interior design together with liberal studies programs. All of these programs combine studio design education with innovative teaching in history, theory, technology and urban design. A broad range of course offerings equips graduates with the knowledge and critical agility required to meet the challenges of designing for a changing world. Their training prepares students with critical frameworks for design thinking that also equip them to assume leadership roles in the profession and in their communities. The *DesignIntelligence* 2019 School Rankings Survey listed the school among the most hired from architecture, landscape architecture and interior design schools, ranking 10th, 14th and 8th, respectively, as well as 28th among most admired architecture schools.

The University of Arkansas

The University of Arkansas provides an internationally competitive education for undergraduate and graduate students in more than 200 academic programs. The university contributes new knowledge, economic development, basic and applied research, and creative activity while also providing service to academic and professional disciplines. The Carnegie Foundation classifies the University of Arkansas among fewer than 2.7 percent of universities in America that have the highest level of research activity. *U.S. News & World Report* ranks the University of Arkansas among its top American public research universities. Founded in 1871, the University of Arkansas comprises 10 colleges and schools and maintains a low student-to-faculty ratio that promotes personal attention and close mentoring.

ANTHONY TIMBERLANDS CENTER
FOR DESIGN AND MATERIALS INNOVATION

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