

Program Summary:

Designed as a prototype for deployment across the southern state [redacted], the project serves as both a Ranger Outpost, Maintenance Facility and Learning Lab for the [name redacted].

Program Statement:

Southern State contains approximately 24 million acres of forestland supporting a vast timber economy that produces pulp, paper, biomaterials, engineered wood products, and structural-grade lumber. Yet nearly 90 percent of the state's structural lumber is exported beyond its borders. The center for field works responds to this imbalance by reconnecting construction to the regional forest landscape using locally sourced and manufactured mass timber systems. Positioned within the working forest, the building establishes a direct relationship between resource stewardship, material extraction, and construction. Exposed timber surfaces bring the warmth and tactile qualities of wood into the daily workspace, while the structure directly connects the organization's work to the buildings they inhabit. The program required an innovative long-span enclosure, leading the design team to develop a 60-foot clear-span roof system utilizing 5-ply Cross-Laminated Timber (CLT) panels paired with bowstring tension members. The resulting structure forms a thin and materially efficient roof plane that maximizes openness, daylight, and flexibility. The exposed CLT panels simultaneously serve as primary structure, interior finish, and thermal enclosure, reducing material redundancy, construction complexity, and embodied carbon.

The project positions mass timber as both a renewable structural system and a catalyst for regional economies, environmental stewardship, and an architecture grounded in place.

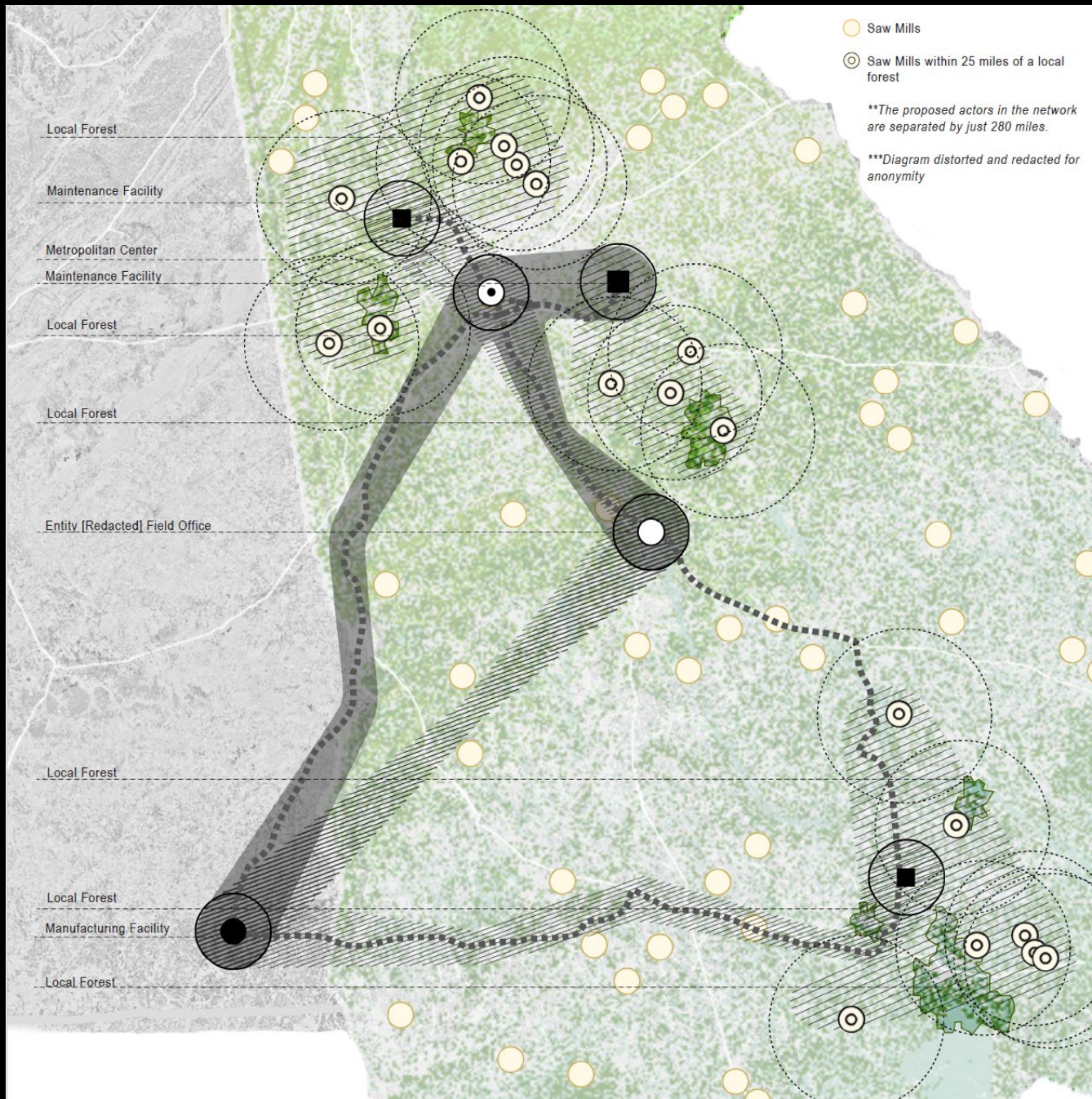
UP95.01

Building Area: (sf)
10,200

Cost per Square Foot:
\$147.00

Construction Cost
\$1,500,000

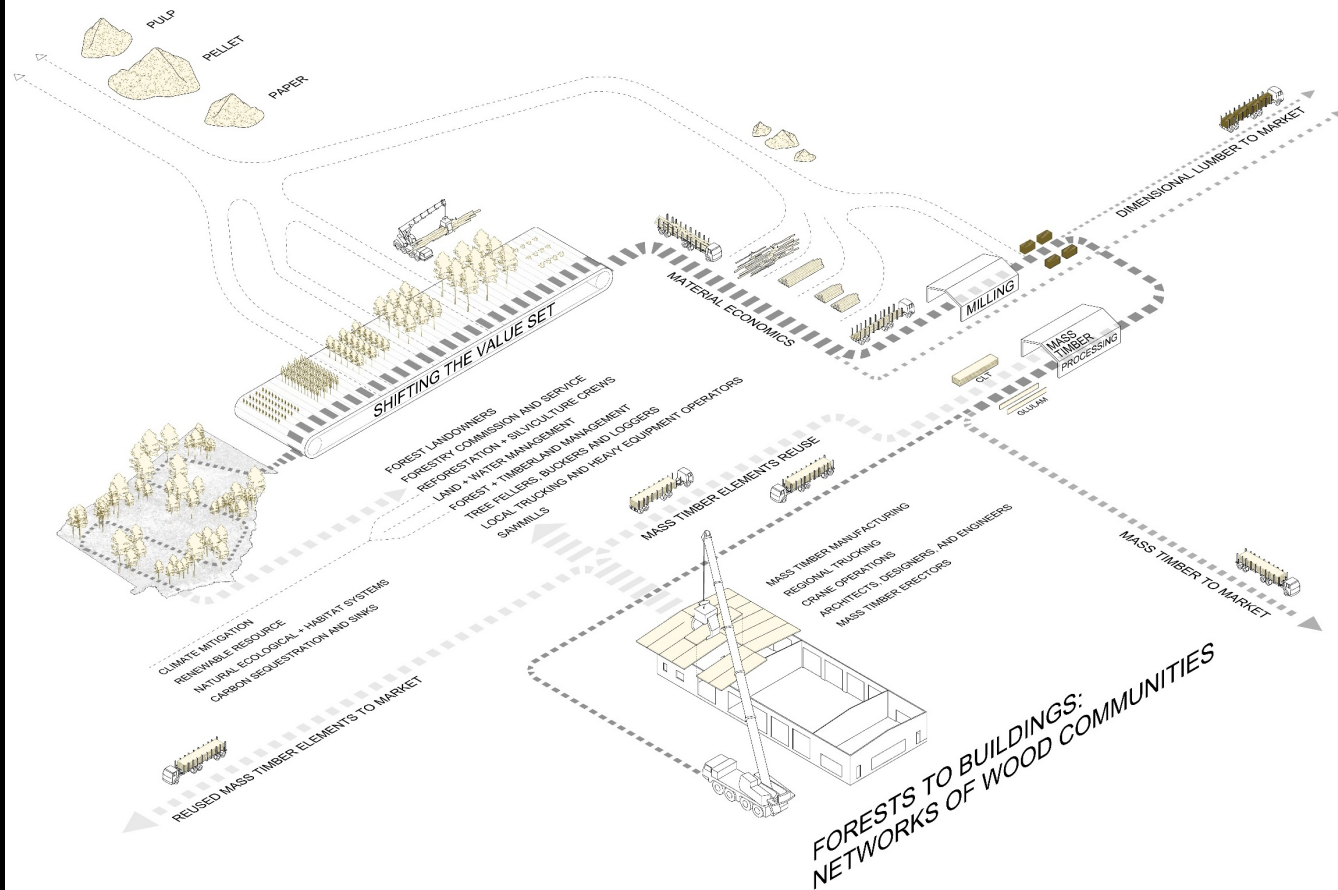
Date of Completion:
Estimated Spring 2027



UP95.02

Contemporary building practice is often shaped by global supply chains that separate owners, designers, and builders from the material origins of construction. This project positions the client—a state-level public agency—as an active agent capable of shifting this relationship toward regional and domestic sourcing, strengthening connections between forests, manufacturing, and construction.

Illustrated in the diagram to the left, material management becomes a form of civic and environmental stewardship, where vernacular networks of forests, mills, fabrication, and building are treated as an interconnected regional system rather than a globalized supply chain.



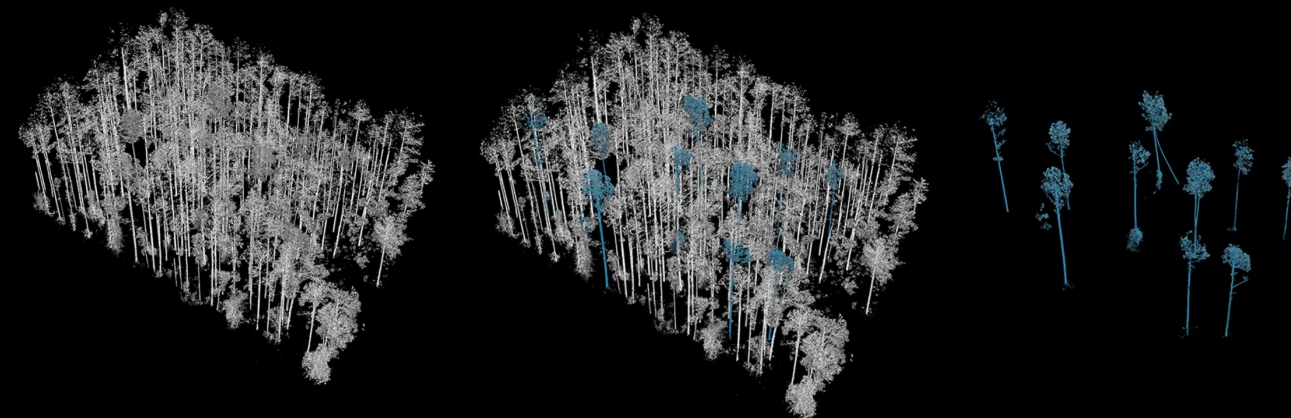
UP95.03

The proposed Forestry and Field Works Center seeks to shift the value framework embedded within the building process. Through the use of regional wood networks and actors, the project establishes a trajectory for the many actors across the region to build a more symbiotic relationship.

The process of building and inhabiting is no longer a transactional exchange, but through the activation of a network of actors: forests, manufacturing, construction, logging, and building- a vernacular community is established.

This vernacular community contributes to the health, welfare, and economic vitality of communities throughout the state.

The project aims to demonstrate a regional approach to resource management, forest growth, manufacturing, and building construction—led by the [client redacted].



UP95.04

Set within the rural landscape of [redacted], the project links the operational mission of the [redacted] to the long-term stewardship of the state's forestlands. In addition to serving as a ranger station and maintenance facility, the project includes a Living and Learning Lab where visitors can explore land, water, and forest management while experiencing the full cycle of wood building—from Southern Yellow Pine forests to mass timber construction—Forests and Buildings.

Within the learning lab, students can examine seedlings, study soil types and conditions, and participate in presentations led by forestry professionals and industry leaders.

A large wall within the learning lab serves as a didactic backdrop, where images of longleaf, shortleaf, loblolly, slash, and sand pine—along with branch structures and needle profiles—are routed into the surface to create an immersive learning environment. Other large wall surfaces are designed to support projections for presentations and instructional content, extending the building's role as an active learning platform.

The mass timber panels become an educational surface, where the material presence of wood reinforces the link to the broader wood products system, and digital fabrication allows the design team to integrate instructional content directly into the CLT panels.

UP95.05

The surrounding landscape is conceived as a living laboratory, demonstrating the planting and management of a representative working forest. Students, educational leaders, and visitors can explore the working forest surrounding the building, which also serves as the backdrop to the interior learning environment.

Together, the building and landscape make visible the connections between forests, manufacturing, and construction, advancing a regional understanding of how forests become buildings and how working forests contribute to the environmental, educational, and economic well-being of communities across [redacted].

- 1_Ranger Offices
- 2_Workshop + Truck Bays
- 3_Learning Lab
- 4_Simulated Working Forest & Trail
- 5_Long Leaf Timber Stand
- 6_Short Leaf Timber Stand
- 7_Loblolly Timber Stand
- 8_Slash Pine Timber Stand
- 9_Sand Pine Timber Stand

Timber stands incorporate walking trails as part of the educational offerings. Managed across different age classes, maintenance regimes, and harvesting cycles, the surrounding forests become a dynamic landscape that allows visitors to experience the ongoing processes of forest growth, stewardship, and renewal.

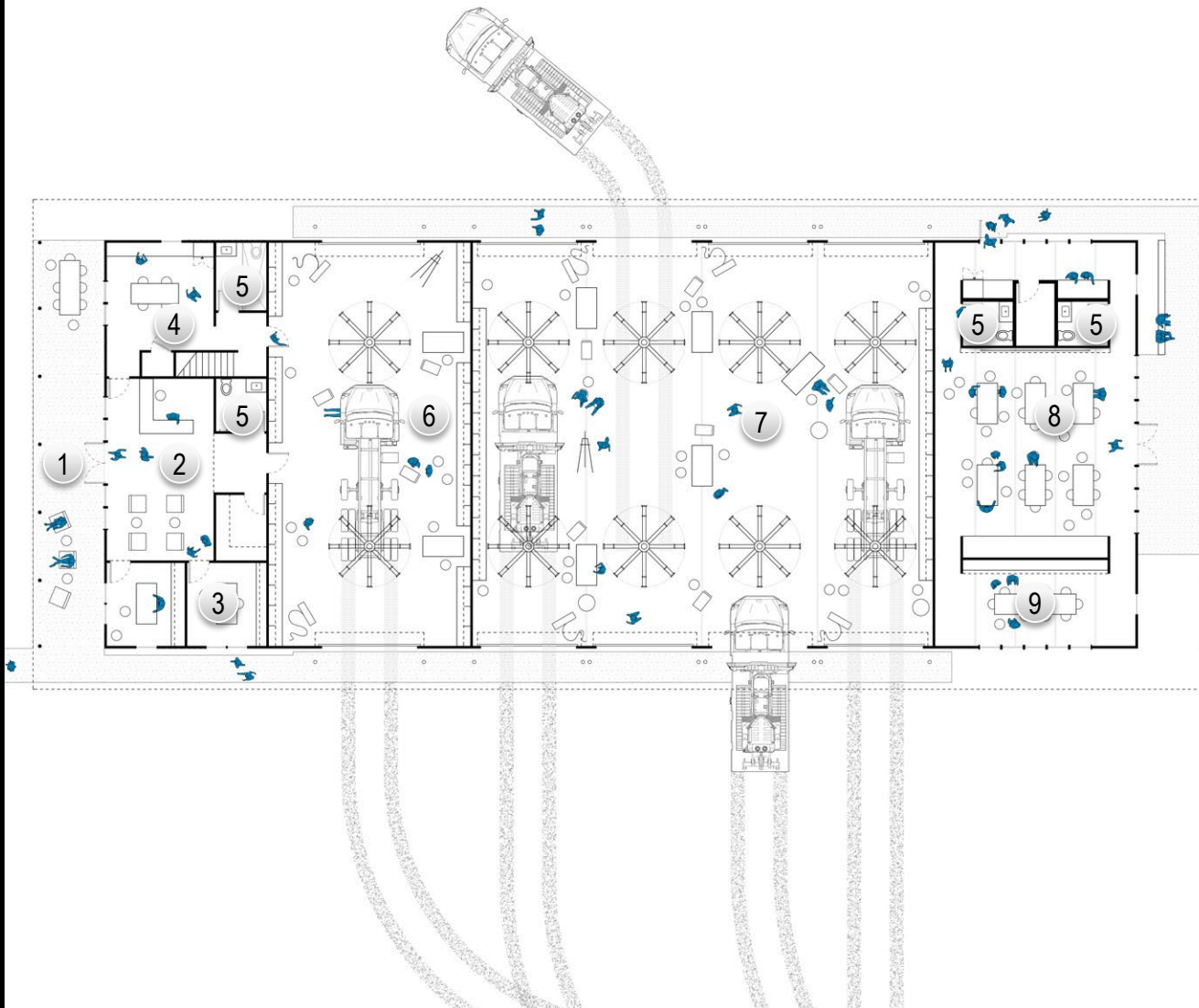


UP95.06

The plan is anchored at each end by the ranger offices and public gathering spaces on one side, and the Learning Lab on the other. Both ends maintain a visual and physical connection to the surrounding landscape, reinforcing the [redacted] core mission: the health and long-term stewardship of the state's forests by providing leadership, service, and education in the protection, management, and conservation.

The central portion of the building accommodates the [redacted] servicing, maintenance, and equipment storage functions, including trucks and field operations. The building employs a passive cooling strategy, utilizing large-scale fans and cross-ventilation to support airflow and reduce mechanical conditioning loads.

- 1_Porch
- 2_[Redacted] Community Space
- 3_Offices
- 4_BreakRoom
- 5_Bathroom
- 6_Workshop and Maintenance
- 7_Truck Bay
- 8_Learning Lab
- 9_Conference Room

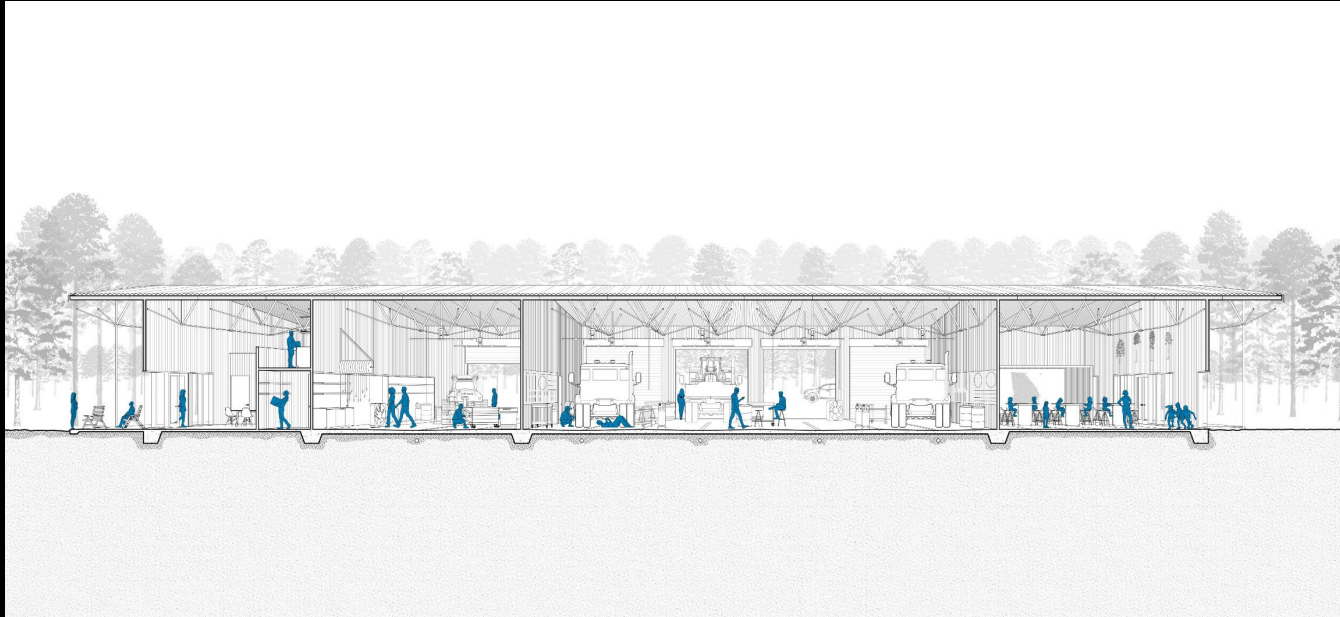


UP95.07

The section perspective reveals the layered organization of the building's program, unified beneath a single long-span mass timber roof. Porches at either end create welcoming spaces for gathering, offering shelter from sun and rain while supporting informal exchange between visitors, forestry professionals, and the broader community.

The building adopts an off-the-shelf construction approach, minimizing the number of unique elements and demonstrating how a simple mass timber system can support a diverse range of functions with efficiency, flexibility, and clarity.

This strategy extends beyond the structure to the wall assemblies, windows and doors, and exterior cladding, creating a cohesive and economical building system. Because the [redacted] operates similar facilities throughout the state, the project is conceived as a replicable prototype that can be adapted to the needs of individual counties while maintaining a consistent architectural, material, and structural framework utilizing the vernacular resource, procurement, and construction network established in slides 2 + 3.



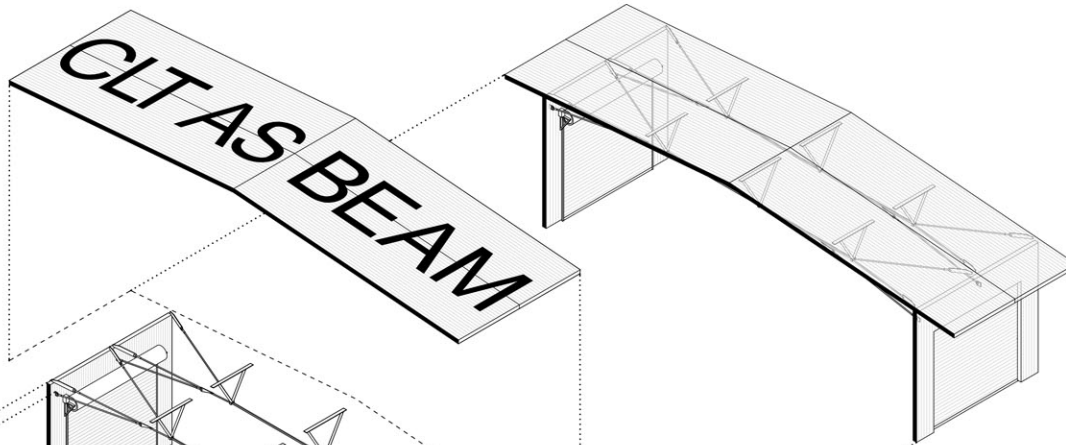
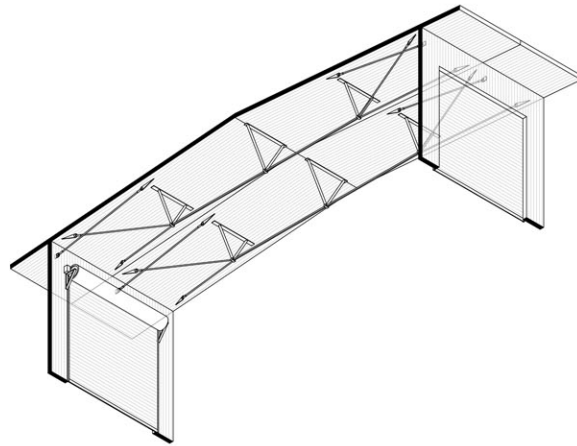
UP95.08

The building utilizes a CLT-as-beam structural system for its long-span roof.

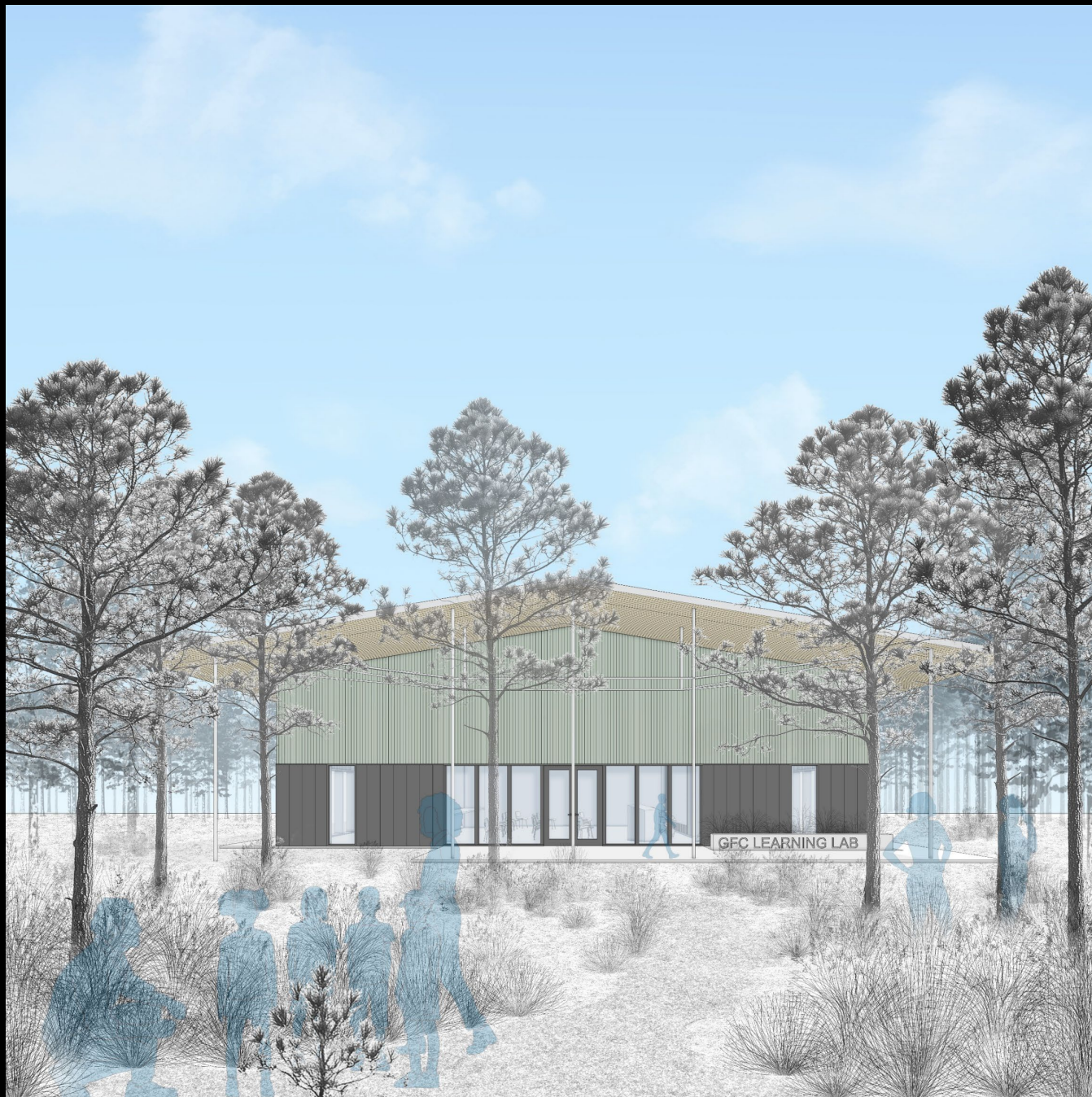
A pair of 5-ply CLT panels are joined at the building's centerline with a compression connection, while a lightweight cable and standoff assembly resists the tension forces generated by the span.

This structural module is repeated along the length of the building, creating a simple and efficient system that can be incrementally expanded or contracted to accommodate the evolving needs of the [redacted] and the county it serves.

NOTE: CLT= Cross-Laminated Timber Panels



CABLE AS TENSION

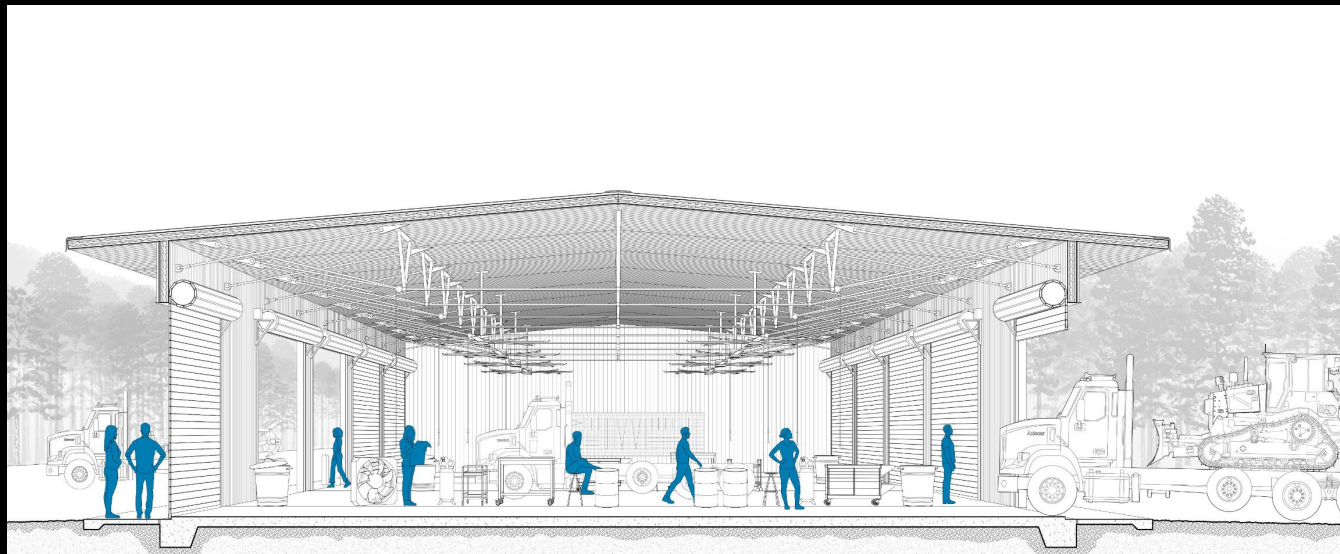


UP95.09

The building aims to serve as a beacon for the role of forests in shaping the future of [redacted] built and natural environments. By proposing the facility as a mass timber structure, the project directly connects the work of the [redacted] to the construction of healthy, renewable, and regionally sourced buildings. In this case, the [redacted] is leading by example, demonstrating how [redacted] forests can contribute to both environmental stewardship and the creation of a resilient built environment.

The integration of wood products and construction processes with forest systems reinforces the role of forests in shaping environmental health, economic stability, community prosperity, job creation, and regional self-reliance.

The relationship between forests and buildings is often misunderstood; initiatives led by state institutions can help clarify the forest's role as more than a commodity or preserved landscape, positioning it instead as a foundational driver of regional systems including carbon sequestration and storage, energy and environmental missions, water management, fiber production, education, and the health and vitality of the state's natural systems.



UP95.10

The cross-section clearly presents the simplicity of the long-span roof structure, where a 5-ply CLT panel acting as a beam carries the compressive forces, while a lightweight cable and standoff system manages tension.

The thermal mass of the 5-ply CLT reduces the need for additional insulation, while a vented metal roof allows the assembly to breathe, releasing accumulated heat and moisture.

The simplified diagrammatic icons illustrate the roof system as a network of repetitive bays, giving the building the capacity to expand or contract in response to the evolving programmatic needs.

