BUILDING a SUSTAINABLE FUTURE with FOREST PRODUCTS

A digital rendition of the new Nez Perce – Clearwater Supervisor's Office, Mosaic Architects

"It's invigorating and inspiring to work closely with an organization that wants to highlight sustainability," Principal Designer Jeff Downhour of Mosaic Architecture conveys his excitement about partnering with the Nez Perce – Clearwater National Forests in the design of the new Forest Supervisor's Office Building "It's not common that a client is so forward thinking and thoughtful about building design."

"One of our primary design goals is to showcase wood as an affordable and sustainable building material with diverse applications. The Nez Perce-Clearwater National Forests are a major contributor to the wood products industry and I am excited to showcase this connection in our new Supervisor's Office," explains NPCNF Forest Supervisor, Cheryl Probert.

Slated for construction in summer of 2020, the design process for the NPCNF Forest Supervisor's Office has quickly developed due to the clarity of direction and overarching goals for the building design. With emphasis on utilizing regional forest products, the design plans target creating healthy indoor environments for employees, maximizing energy efficiency and embracing the local Clearwater Valley culture and heritage through landscape integration. The use of timber and other non-timber forest products from the region will circulate funds back into the local economy.

Cross Laminated Timber Structure, photo by the Engineered Wood Association, 2018

Responsibly sourced timber provides a completely sustainable and renewable building material through minimal production emissions, carbon sequestration and biodegradability. Timber is a prominent feature in the building's structural, interior and exterior design, with cross-laminated timber roofing and raw timber support beams artfully placed throughout the office space.

"I hope that our building can inspire others to use wood in their own projects," says Forest Supervisor Probert

Constructing Efficiency through Responsible Stewardship

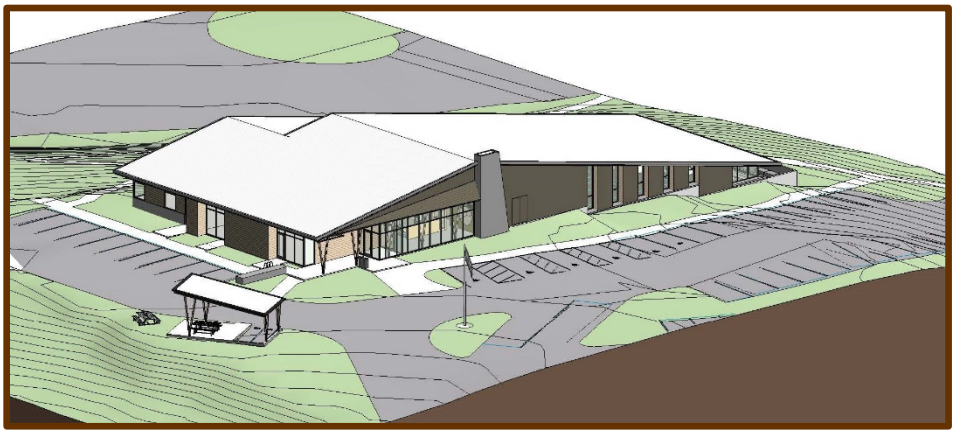
Embedded within the design goals is the foundational Forest Service priority of sustainable resource stewardship. The completed Supervisor's Office is projected to earn the merit of two **Green Globes**, a national award demonstrating the building's many distinguishing sustainable features, and there's potential for being awarded more through integration of solar technology that would cut the building's already-low energy usage in half. Innovative technologies like high R-value walls, high performance windows and a variable refrigerant flow (VRF) climate control system minimize the building's operating cost and allow the new design to exceed the most recent energy codes by 30%.

GREEN GLOBES are awarded to building projects that "accelerate the adoption of building practices that result in resource-efficient, healthier and environmentally sustainable buildings. The evaluation process focuses on energy conservation, reduced water consumption, responsible use of materials, ecological stewardship and healthy indoor environments for occupants."

A digital rendition of the new Nez Perce – Clearwater Supervisor's Office, Mosaic Architects

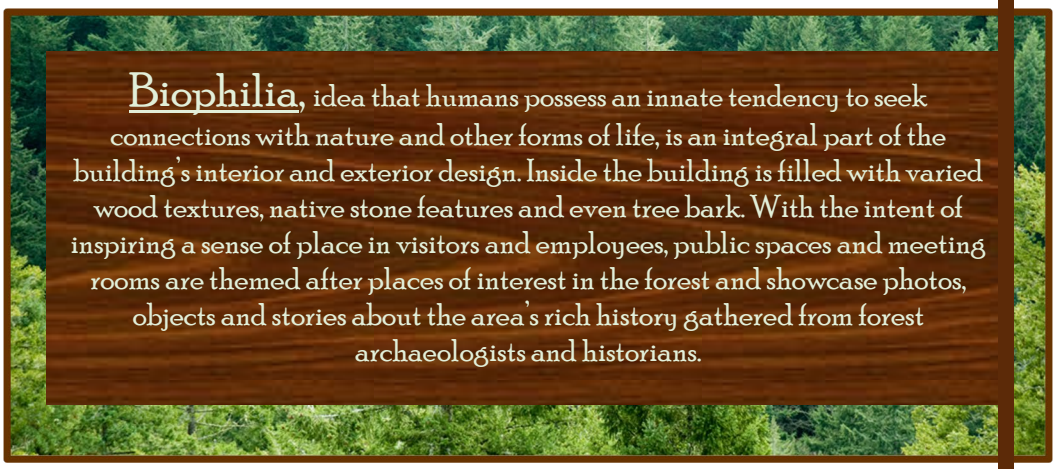
In light of growing environmental concerns about resource and energy consumption, the Forest Service is reevaluating how our built spaces are constructed. The NPCNF stands with a growing number of other organizations and agencies that are committing to building a sustainable future with forest products. "I hope that our building can inspire others to use wood in their own projects," says Forest Supervisor Probert.

Landscape Integration and Workplace Satisfaction



Nestled into the hillside of the building site in Kamiah, the building mimics the landscape's natural features with a sloped roof, large windows designed to optimize natural lighting and a subsurface floor level with an open floorplan to enhance collaboration between employees and resource areas. Through incorporating natural features into the building's design, Probert and the Mosaic Designers aim to create a happier and healthier working environment for the Nez Perce – Clearwater National Forest employees.

Above: The proposed landscape integration of the new SO design, Mosaic Architects
Below: Digital renditions of the interior of the new SO design, Mosaic Architects



For more information about the design elements of the new NPCNF Supervisor's Office, see the resources listed below:

A guide on Daylighting Studies	https://facades.lbl.gov/sites/all/files/Downloads/daylighting-c2.pdf
Biophilic Design	http://www.biophilicdesign.net/ https://www.britannica.com/science/biophilia-hypothesis
Mosaic Architectural Firm	http://www.mosaicarch.com/
Green Globes	https://www.sustainability.gov/pdfs/guiding_principles_for_sustainable_federal_buildings.pdf
What is Cross-Laminated Timber?	https://www.apawood.org/cross-laminated-timber
Timber as a sustainable building material	https://www.makeitwood.org/documents/doc-692-timber-as-a-sustainable-material.pdf
Organic Architecture, Frank Lloyd Wright	https://gardencollage.com/change/sustainability/frank-lloyd-wright/
Increase in timber use for construction	https://www.constructconnect.com/blog/green-sustainable-building-future
High R-Value Walls	https://www.energy.gov/sites/prod/files/2014/01/f6/1_1e_ba_innov_highr_walls_011713.pdf

Scan to take a tour of the new NPCNF Supervisor's Office lobby!

USFS Article by Jesse Satterfield
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