

Center for Design Research

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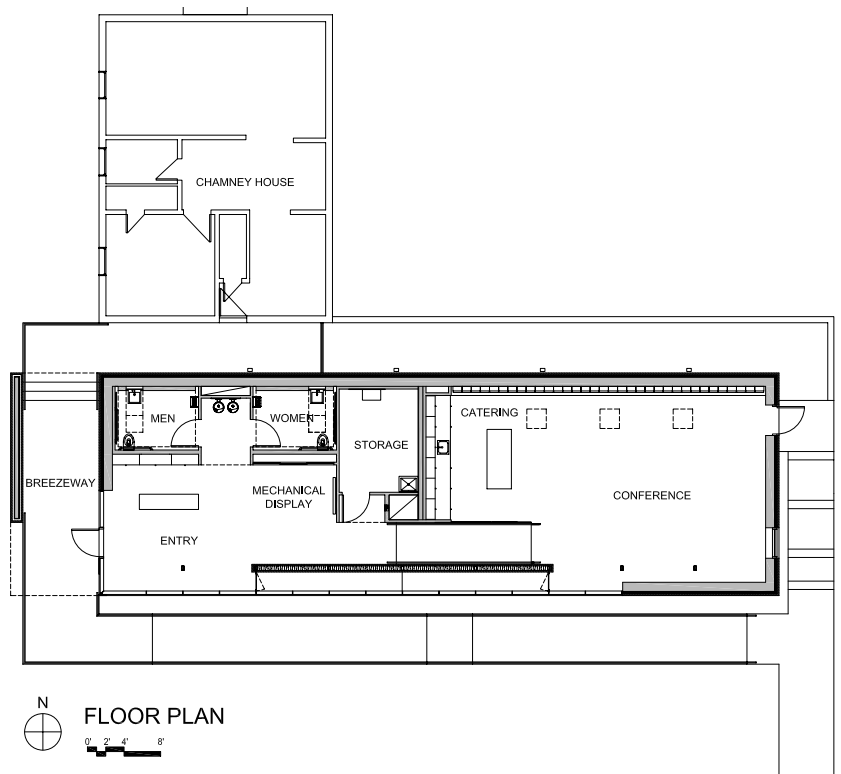
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Studio 804, Inc. is a not-for profit 501(c) 3 corporation whose participants are graduate students of the University of Kansas's School of Architecture, Design and Planning working under the direction of JL Constant Distinguished Professor Dan Rockhill. Studio 804 has completed four (CDR pending) LEED Platinum buildings in Kansas; a sustainable prototype for tornado ravaged Greensburg, KS, (the first LEED Platinum in the state) and two in Kansas City. They have also completed two Passive Institute Certifications (CDR pending). Studio 804 projects adhere to standards of the highest quality, both in design and fabrication, and address important issues of environmental sustainability, energy efficiency and accessibility.





The new Center for Design Research building, located on the historic Chamney Dairy Farm in Lawrence, Kansas, is a response to the emerging culture and support of sustainability at the University of Kansas. In congruence with the center's mission, which is to provide a location for interdisciplinary work between multiple schools, the new building will provide a facility that aids in the education of the university and community on sustainable strategies, material innovation and building efficiency.



The design for the new building implements sustainable strategies to maximize the potential of existing resources, minimize environmental degradation, create an environment that is safe, comfortable and efficient and provide an iconic representation of sustainability for the University of Kansas. The building will provide a space for professional collaboration and community education while displaying a wide range of sustainable strategies. In doing so, it will showcase the advances of green building technologies and products, serving as a standard for the future development of the University and Center for Design Research.



Noteworthy features of the 2,000 sf building include: an underground cistern which helps to reduce potable water demands and storm water runoff while also supplying the toilets; a 34 foot long living wall of ferns on the interior which is watered with rainwater collected from the roof; an interactive display in the entrance that reveals the energy performance of the building in real time; a wind turbine coupled with a broad array of rooftop solar collectors tied into a “smart meter” system; the first regional car charging station and a façade of local Kansas limestone. Limestone was used to insulate and clad the building envelope as well as provide a heat sink in the form of a trombe wall located behind the glazed south façade.

The Chamney Farm complex dates back to 1912, and the main house and barn still stand today. To complement the existing stone language of the Chamney Farm complex, more than 100 tons of stone tailings were reclaimed from Kansas quarry sites. By using stone tailings rather than cutting new stone, natural resources are conserved thereby reducing the load on landfills. Small and odd shaped tailings were reclaimed and hand cut into thin stackable pieces used for cladding both interior and exterior walls. To further diminish site waste, all scrap stone pieces from the cladding process were integrated as exposed fill along the north side of the building. The southern façade of the building is a combination of a limestone wall and a customized curtain wall system. Located behind the southern opening, the trombe wall absorbs the sun’s energy during the day and radiates the stored energy at night.

The Center for Design Research is a model of sustainability for the campus and community alike. It is expected that The Center for Design Research will be LEED Platinum and the first Commercial Certified Passive building in North America.

