The Grass Roof

As you drive north on Cache Street on your way toward Grand Teton National Park, you come upon the Jackson Hole & Greater Yellowstone Visitor Center and the natural contours of its grass roof. The grass roof symbolizes grassy fields of the National Elk Refuge as well as the graceful function and beauty of homesteader architecture.

Sod Roof Buildings

Historic prairie photographs often show homesteaders posed in front of "soddies" or log-walled, sod roofed dwellings. Newly arrived immigrants had to work quickly to construct a shelter for their first winter on the plains or in the mountains, often this was a sod roofed structure.

Sod was functional choice, not a decorative one. A wood or brick frame house took too long to construct, leaving little time to gather winter provisions and hay to feed livestock through the winter.

Sod kept the dwelling place cooler in the summer and warmer in the winter, then chinked pole or log roofs. One drawback was the steady trickle of dirt and thin mud from the ceilings.

Midwestern sod roof. Photo available at Wichita Library Special Collections.

Remains and photos of these structures are often picturesque reminders of a time gone by. Even now you can often see the occasional tool shed or potato bunker in nearby Idaho taking advantage of the sod roofs.

The Visitor Center Grass Roof

Many locals affectionately refer to this building as the grass roofed visitor center. In addition to being a local landmark, the natural roof is also functional— it has insulating properties and provides habitat for resident wildlife.

One striking difference between the homesteaders' sod roof and a modern day grass roof is the cultivation and planning that goes into supporting and growing a grass roof. It is important to consider building superstructure, a waterproof barrier, irrigation, drainage and weed control.

The Jackson Hole & Greater Yellowstone Visitor Center has a living and irrigated grass roof. True sod would dry out and crumble away.

The superstructure of the building is also specially designed to support the weight of the roof. You may notice the large exposed wood beams inside the visitor center.
A thick, heavy duty flexible plastic layer lies between the dirt and the plumbing and provides a waterproof layer between the roof supports and the soil. This allows the roof to be irrigated without leaks to the structure below.

From the waterproof barrier to the top of the soil is 16 inches. Sufficient soil depth keep the roots from balling up and killing the grass. Many people ask whether we mow the roof, but it is not necessary. The naturally occurring wild grasses and planted sedges reach their full height without trimming. A meshwork weave of fibers over the plumbing provides aeration for the soil and grass.

Weed control has been an issue. In 1987, the grass was completely dead and overcome by dryness and weeds. Airborne seeds had invaded. At that time, the entire surface was removed and the irrigation and weed control system installed.

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