A Rammed-Earth House in the Cutover

Karin H. McGinnis

Just off the main street in the tiny Aitkin County town of Tamarack a small rambler clings to life, the legacy of one person’s response to a difficult time and place in Minnesota history. Constructed in 1947, this dwelling was the second of two rammed-earth houses built by Mamie Barnett Nelson to demonstrate that a durable and comfortable home could literally rise from the earth at minimal cost.

Ten years earlier, Mamie and her husband, Marcus Nelson, were living in an unheated shack amid the remains of his old logging camp nine miles northeast of Tamarack. Like many others in what was known nationally as the impoverished cutover region, the Nelsons accepted whatever housing was available, no matter how derelict. But Mamie was determined to find a better solution. After years of financial hardship, she settled on a creative way to construct a substantial yet affordable house that not only met her needs but could serve as a model for others.¹

Housing problems were common in the region during the Great Depression. Optimistic, hard-working settlers had arrived in northeastern Aitkin County in the late 1800s and early 1900s, lured by cheap land originally covered by timber and supplied with abundant water. Few understood just how misleading their initial perceptions were, and some struggled for years to survive on the unproductive land rapidly left barren by intensive lumbering and numerous fires. Some small landholders established a symbiotic relationship—which proved to be temporary—with the area’s large lumber companies, working in the woods for wages through the long winters and returning to their farmsteads in summer. Hunting, trapping, and fishing as well as gathering wild rice and fruit augmented their resources. Other enterprising homesteaders, including the Nelsons, saw economic potential in providing services, such as stores, mills, and liveries, at railroad stops like Tamarack.²

Marcus Nelson, born in Norway in 1879, had emigrated with his family to Chicago and then Minneapolis. They moved to Aitkin County in 1892 to homestead close to the Northern Pacific Railroad tracks in what became Clark Township. After a few years, Marcus abandoned farming to work as an independent logger. He quickly learned the different aspects of logging and the timber market, as well as the region’s geography, while making friends and connections. In 1899 he partnered with his brother-in-law, Minneapolis entrepreneur Martin Tingdale, to construct and operate a general store at Tamarack, an unincorporated cluster of buildings.³

Mamie Barnett, the daughter of an Indiana farm family with roots going back to colonial Virginia, ar-

Facing: Mamie Nelson and Bill Lainen, making the walls of her house-to-be, 1938

Karin McGinnis is particularly interested in what material culture reveals about Minnesota history. Her article “Minnesota Letterheads” appeared in the Winter 2008–09 issue of this magazine.
rived in Tamarack in 1899 after a year of teaching in Nebraska. Having only an eighth-grade education, she was not rehired and so ventured north to help her sister, the wife of an NP section man at Tamarack. As might be expected, Mamie and Marcus—two young adults living in close proximity in a sparsely populated place (the 1900 census counted 54 in the entire township)—met and fell in love. They were married in 1901 (both were 22) and lived in the back room of the section house at Tamarack. The following year Marcus bought out Tingdale and expanded the store, where they lived and Mamie worked while Marcus was a timber cruiser and land agent. In 1904 their daughter, Myrtle, was born, and the Nelsons became active in the community. Mamie gathered support for a school, and that year one was built on the edge of town.4

Although the area had already begun to decline in trade and virgin timber, enough lumbering remained to support a local economy. After the birth of their son, Orvis, in 1907 Mamie stopped working to care for her family but continued community activity, including teaching Sunday school. In what must have been the very limited free time of a wife and mother with no modern conveniences or help, she enjoyed sketching and photographing her environment.5

Meanwhile Marcus, still working as a timber cruiser and in land sales, created a web of small enterprises in and around Tamarack, including an expanded general store, logging camp on the Prairie River at Big Sandy Lake (then known as Sandy Lake), feed mill, potato warehouse, and lumberyard. Labor, wood for construction, and easy credit for machinery and supplies were readily available.6

In 1909 the Nelsons built their own substantial story-and-a-half frame house on 80 acres purchased from the NP “on the first rise east of town,” using house plans from Montgomery Ward. Next came a large gambrel-roofed, two-story, brick-and-timber barn topped with two cupolas. Mamie then started a commercial pony farm and raised chickens to bring in needed cash.7

Marcus continued seeking other enterprises. By 1910 he had helped organize a local bank and cooperative creamery, encouraged by support from the dairy specialist at the Northeast Experiment Farm in Grand Rapids. That year the Minnesota Farmers’ Institute Annual described cooperative creameries as “the salvation of the dairy farmer” and promoted dairying in northern Minnesota. The state embarked on draining wetlands to increase forage and crop lands, and Marcus, by then a county commissioner, was involved in obtaining state aid for this project.8

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west, leaving behind an unproductive landscape vulnerable to fire and erosion. Without supplemental wages, numerous families owning small subsistence farms had no choice but to move away—and with them went their contributions to the local economy. Others like the Nelsons, not entirely dependent on the land, juggled income and debt. By 1919, however, many businesses could not continue on casual credit arrangements. Inflation caused interest rates to rise, and banks and businesses called in loans and mortgages.9

Three converging disasters placed extra burdens on northern Minnesota’s economy. The 1917 entry of the United States into World War I siphoned off able-bodied men from the already sparse population. The influenza pandemic of 1918 sickened or killed many, including women left to work the land, tend businesses, and care for families. And then, while the flu still raged, devastating fires in October 1918 swept across northeastern Minnesota, spreading through the tinder-dry logging refuse, across drought-parched grasslands, and deep into peat bogs. Tamarack itself was spared, but areas to the east suffered great destruction. Hundreds of people died or were injured; thousands of farms were destroyed or damaged along with livestock, machinery, crops, timber, and hay meadows. Marcus suffered losses of personal property as well as in business and land sales.10

IN 1919, HOPING THAT SELLING real estate elsewhere in Minnesota might keep him afloat, Marcus put his Aitkin County assets into the hands of employees and took his family to a rented house in Minneapolis, where the children would attend public school. He expanded his work with Tingdale, taking jobs that required a great deal of travel.11

During the Nelsons’ Minneapolis years (1919–26), Marcus frequently returned to Aitkin County on business. Mamie maintained relationships through correspondence and visits. In 1924—perhaps knowing that they would lose their farm—Mamie returned to supervise the construction of a simple log cabin on a ridge above the logging camp, overlooking Big Sandy Lake. This cabin would be both shelter and refuge: fresh air might cure some of Mamie’s longstanding health problems, including asthma, and minimal living expenses there would alleviate worry. A garden would yield fresh produce. Although the cabin lacked insulation, Mamie herself built a fireplace to provide heat.12

Throughout their economic ups and downs, one property the Nelsons clung to was the logging camp. There Marcus returned to oversee the harvest and sale of small pockets of pine and other trees in demand for ties, posts, shingles, framing, paving blocks, lath, and fuel. But the camp closed after a disastrous logging drive in 1926 and was sold by the sheriff that May. The next month, the farm was sold at sheriff’s auction, along with most of their other property. The Nelsons were not alone in their misfortune. By 1930 more than 60 percent of the land in Aitkin County had been tax forfeited.13

Still, Marcus and Mamie were better off than many in the cutover, as Tingdale continued to offer Marcus jobs and helped pay the rent on their Minneapolis house. With his assistance, they managed in 1927 to regain the logging camp, which became their seasonal home and newest venture: a summer resort. Recreation had been an industry in...
Minnesota’s lake country since the early 1990s. In 1913 Tingdale promoted a summer development near Tamarack. From this and his friendships with businessmen, Marcus knew that good fishing and companionship would draw some men to even the most rustic accommodations. The logging camp, its shacks lacking electricity, indoor plumbing, and heat but with easy access to rivers and lake, was ideal. At times, Marcus or Mamie provided simple meals. However, the enterprise could be viable only in summer and operated sporadically, at best. The Nelsons returned to Minneapolis during the coldest months, and Marcus continued with real estate sales.14

By 1933 Mamie was annually spending late spring through fall at the cabin and winter with relatives across the country. Train travel was affordable and, once at her destination, she had little expense except for the occasional art course she attended. Marcus, meanwhile, continued his peripatetic life and political activity, living on credit. His many hotel stays might explain why he appeared unconcerned about better family housing.15

In 1934 Marcus was elected a Republican state representative from Aitkin County on a platform of tax relief and opposition to “the building of a vast public domain of our Northern Minnesota’s land and recreational resources” and “an insidious and persistent attempt to force land into tax delinquency by high taxes.” The state and federal governments were trying to relocate poor rural people to areas with better land or jobs. Their foreclosed property, deemed unsuitable for agriculture, would become public land to be used for recreation and forestry, thus bringing money into state and local coffers. Aitkin County was virtually bankrupt.16

Settlers like the Nelsons did not want to lose the land they had struggled to get. Nor did they want the new restrictions that public ownership brought: increased enforcement of controls on timber harvesting, mandated removal of debris to prevent fires, and greater oversight of activities such as hunting and fishing. This fight was not to be won, however, and Marcus was not reelected.

In 1936 Mamie, 57 years old and frustrated with married life that did not allow any creative outlet, left for Indiana. Hoping to build an art career now that her children were grown, she bought property, with family help, near a vibrant art colony at Nashville, Indiana. There, she supervised the construction of a small studio-home, sending sketches of her plans to her children along with descriptions of the materials she was pleased to find at low cost. She also shared with them her problems as well as her satisfaction in supervising the job.17

Workers and some of the buildings at the Nelson lumber camp
Her pleasure was cut short by local complications, including uncomfortable humidity, a flood, and an invasion of snakes. In early 1937 her daughter, Myrtle, wrote from Minnesota of Marcus’s worsening health and her own loneliness; Mamie replied, outlining her own options. Meanwhile, Orvis must have been concerned about his mother. In March Mamie visited him in California. In May she decided to rent her Nashville property, in June she advertised it, and by July she was back in Minnesota.18

Her success in creating a home, however, seems to have given her the confidence to consider constructing one in Minnesota. In 1938, again living in the log cabin, she wrote to Orvis, “I just feel I can’t live in that camp another winter! No real home.” On the other hand, she confessed, “I’d been dead by now or near it if I did not have this cabin to come to rest so I plan to put me up a studio on west side and see if I can make a little and at least get a little pleasure out of life.” By then, Mamie felt she could sell her paintings. But she was heavily involved in Marcus’s care, which included hospitalizations in Minneapolis—where rooms had to be rented. Her letters express worry about the cost of treatment and living expenses but also reluctance to take money from her children.19

Mamie pondered many housing possibilities, from rebuilding a camp shack with salvaged wood to moving buildings to the site. Nothing seemed ideal until she decided on rammed earth. This she could dig directly from the hillside where the house would rise. The earth was free, few other materials were needed (most would come from other structures), and labor costs would be minimal.

Rammed earth or pisé de terre is an ancient building technique, introduced into Europe by the Romans. It was used in colonial America by French and English settlers lacking other materials. But in most places, people built with the abundant timber cleared for agriculture. In the nineteenth century, rammed earth was noted as a possible shelter for immigrants on the treeless prairies, and later studies of ethnic settlements occasionally mention it.20

By the end of the century, buildings of earth were mainly a stop-gap until there was cash for other materials; railroads readily carried milled lumber across the country. Only an international crisis could again bring attention to the value of building with dirt. Population growth and shifting demographics after World War I, along with limited housing stock and reduced income, created that crisis in America and Europe. Beginning in 1919, numerous books and articles about the problem—and rammed earth as a solution—appeared. That year, Cottage Building in Cob, Pisé, Chalk & Clay was published in England and the United States, and the popular American magazine House & Garden printed an article, illustrated with clear line drawings, that emphasized the availability of the material and simplicity of construction.21

In July 1920, while the Nelsons were living in Minneapolis, the Minneapolis Tribune published “Mud Hut Construction Being Revived in Britain to Meet Housing Problem.” The paper followed up a year later with another article, which advised, “Here’s an occupation for enterprising men and women who may do much to solve the housing problem among us, to bring good homes to our people, and at the same time support themselves.”22

Meanwhile, the U.S. Department of Agriculture was investigating housing solutions, including rammed earth. Land-grant colleges, such as the University of Minnesota, already had a federal mandate to address rural settlement problems. Now, they were encouraged to research and test rammed earth. Agricultural extension publications and conferences provided a network of information. In 1924 the USDA sponsored the construction of a rammed-earth house just outside of Washington, D.C., for Harry B. Humphrey, their chief plant pathologist. The house was planned and supervised by his wife, Olive, and the family did some of the work. It not only attracted widespread publicity but became a lasting model. In a descriptive booklet, Humphrey and a colleague enthused: “It is an old, tried and true method of building and not the dream of a crack-brained theorist.”23

Other books soon followed, and illustrated articles appeared in popular magazines, including Fortune, The Spectator, Coronet, Popular Mechanics, and American Home, as well as less-expected ones such as Literary Digest and Fan Fare. Newspapers as diverse as the New York Times and Boise City News ran stories and display ads offering information on building in rammed
While Mamie’s desire for a better house intensified, Marcus did not share her enthusiasm. Determined to go ahead but unwilling to create conflict—and realizing that Marcus might better accept plans from his son—Mamie asked Orvis in 1937 to present her ideas as his. Orvis, with a promising career as a pilot, was concerned about his parents’ living conditions and often contributed financially to them. He gave thought to the difficult problem of financing.

In February 1938 he acknowledged: “Your clipping about dirt houses came. Seems plausible at that. I am sure you can do what you set out to do.” But money remained a problem. Mamie must have been excited to see an announcement in the February 1938 issue of Woman’s Home Companion of a “Personality House-building Contest” for readers, not professional architects. First prize was an astounding $500, second was $250, and third, $100. “The conditions are simple: Draw your plans as clearly as you can and give general dimensions of room sizes and windows and doors.” Contestants also submitted a full description “stating why you have planned the house as you have and how it meets your family needs.” Architects would judge the entries and design the winning houses; these drawings would be published in the Companion. The deadline for entries was April 1.

A March 28 draft of her entry shows Mamie planning to use cinder blocks or “the rammed earth construction the government has been experimenting with.” In May she received an acknowledgment:

I don’t know all the FHA or Federal Home Loan details but I am wondering if I couldn’t get enough from them to furnish the cash and have 20 years to pay for it. So that you could have a real place that would make life easier and more enjoyable. Electric light, running water, bath and toilet inside with a septic tank and cesspool & with plaster or wood walls, decent floors and so on. Could use a lot of material that we already have. . . . I think it is high time that we all got a decent home to live in.

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Woman's Home Companion, February 1938, page 69

"No doubt you will be surprised to learn that 9,898 Companion readers submitted plans and descriptions!... Every single entry is being examined with the greatest care." 27

From April to May, Mamie was in Minneapolis where Marcus was intermittently hospitalized. When back at the Prairie River, she again wrote to Orvis of ways to improve her husband's housing. With no encouragement from Marcus, who continued to travel when able, Mamie seems to have gone ahead in planning to build with rammed earth. The October Woman's Home Companion published the first-prize winner's narrative, architect's rendering, and an announcement: "More than ten thousand house plans! We could not be content with awarding only three prizes... So we increased the number to twelve!" 28 Mamie may have been disappointed that she was not a winner, but by then she was deeply involved in construction.

FOLLOWING THE SUGGESTION OF H. B. White of the University of Minnesota School of Agriculture, Mamie obtained a USDA booklet covering all aspects of the technique and contacted South Dakota State College, a heavy promoter of rammed earth for farm structures. With this information to guide her, "I got together all I could and with three men went to work. Used common laborers," Mamie later wrote. 29

Nor did her contest entry go to waste, as she incorporated its elements into the house she built. Her home shared features with several of the prize-winning plans. It was a small, story-and-a-half building with an open, multifunctional interior design. The compact kitchen was large enough to eat in, because, as she wrote, "kitchens today are well worthy of that." But she placed a table in the sitting room to accommodate larger gatherings, and she included an "old-fashioned corner cupboard made long ago by my pioneer grandfather." 30

Her descriptions of the equipment for bathroom, laundry, garage, and heating—all contest requirements—differed considerably from other entries. Where others specified all-electric kitchens and outlets throughout the house, Mamie spoke of erecting a windmill for power. "We of course live out too far to get on a high line," she wrote, adding, "That might be a blessing" because many would be unable to pay, even if service were available. 31 The winning entries were designed for a lifestyle not common in the cutover.

It is not known if Mamie limited her final entry to rammed earth or included it as one option, as in her draft. But we do know that she followed the entry's sound building principles while conserving energy and fitting the environment. She built where "the sand hill makes it so we will have no trouble with water seeping in," cutting the house "into the hillside with only a small basement across the width... placing it in center we can get the heat to every part of the house." A centrally located fireplace not only provided ambiance but was "useful too when only a little heat is needed." The southern exposure below the crest of the hill heated the earthen walls in winter and added protection from the strong winds that swept across Big Sandy Lake.

Her site on glacial till had suitable soil for rammed earth: sand, clay, and loam with enough natural moisture to bind them. The house's footprint was laid out on the surface and the soil excavated for a 22-by-
Although Mamie’s project was interrupted by rain, a complete house with windows and roof rose in three weeks.
Country. Its pleasing design was a part of its environment rather than a startling contrast. The main floor, a rectangle aligned with its length parallel to the road, contained three rooms in a modern, open plan. The upstairs held two more rooms. A deep red roof with unboxed eaves spanned the length. Windows were placed under the end gables on the top floor. On the first floor, three large vertical casement windows with 16 lights, flanked by working board-and-batten shutters, faced the road. A frame vestibule, plastered to imitate the house’s stucco, with a steeply curved asymmetrical roof, was added to the main entrance. Six glass blocks beside its blue Dutch door provided light. A small plastered-frame screened porch was built at the opposite end of the façade.

The exterior’s cream-colored paint contrasted with the blue door and red shutters, while the interior sported ivory casein paint. The first level’s cement floor was covered with asphalt tiles. Glass block, worked into several places in the back walls for light, was both aesthetically pleasing and efficient in the cold climate. The living room had the built-in bookshelves from Mamie’s contest entry—also seen in contemporary room designs. The fireplace incorporated the flue for a pipeless basement furnace, to be made from an oil drum and sheet iron.
In October 1939 Mamie wrote, “The bedrooms are nice now. I am as snug as a bug in a rug.” And added, “I am sure Oliver can make the furnace. I could almost myself. . . . I have a good fire, so good I have had to move.” She used a piece of screen “to prevent sparks getting out when I am out or in bed.”38 Even with fire-proof walls, Mamie had to be careful. She lived alone, had no immediate neighbors, and was on a sandy road 11 miles from the volunteer fire department.

With the house finished, Mamie landscaped the hill, a difficult and time-consuming task in the rough terrain. But she created a unique, romantic landscape: terraces flanking steps and a flower garden behind an English-style gate. She used large boulders for terracing, small rocks for steps, and many native plants—orange Turk’s-cap lilies, brilliant blue closed gentians, wild roses, and ferns—along with tall yellow sunflowers, iris, and peonies from her home in Indiana. These would appear in many of her paintings, and some still bloom along the hillside. Mamie’s 14-year-old grandniece wrote to her family in 1945, “Her rammed earth house with its thick walls was fascinating. It was unique in this northern location for sure. Her front yard was really a hill of flowers rising from the road.”39 Beatlands had become an oasis of charm and beauty along the dusty road.

Next, Mamie concentrated on transforming the remnants of the old logging camp into a simple resort. Cabins were rebuilt with salvaged wood or moved in from other locations. From one structure she created a temporary art studio. She advertised the resort as “The original Camp Marcus Nelson,” using photographs of the location’s historic aspects and “Beatlands—Unique Rammed Earth Home of the Marcus Nelson Family. . . . conclusive proof that a comfortable dwelling can be built almost entirely from the earth itself, with little cost for materials or skilled labor.”40

Although the Woman’s Home Companion prize money was surely a draw, Mamie’s entry also demonstrated her desire to build a house that others of limited means could emulate. Nelson family papers provide evidence of attempts to publicize her accomplishment. In January 1942 H. B. White, whose work had been a catalyst, thanked her “for the clever picture of your rammed earth house and your letter explaining about it.” He closed with, “You deserve a lot of credit for working out many details for your particular locality.” In 1945 a South Dakota State College bulletin on rammed earth buildings featured a photograph of Beatlands. That same year Orvis wrote a manuscript about it, citing Mamie’s long concern “with the efforts of settlers to build better homes for less money. . . . Perhaps here was the solution,” and Myrtle mentioned the house as a model and the possibility of publishing a booklet. In May 1946 the University of Minnesota’s College of Engineering and Architecture published an extensive illustrated article, “Rammed Earth Housing,” featuring Beatlands. And Mamie must have been particularly pleased by a 1946 letter from Harold Ratcliff of Michigan: “I am quite interested in the possibilities
of this type of construction and am preparing a magazine article on the subject." A draft of her reply explains construction details, ending with, "I am sending a pamphlet of our own that has pictures of the home which is still fine." She also told Ratcliff of plans to experiment with "stabilized bricks" of rammed earth "as I believe more folks would try it." Despite the attention, the author has found no evidence of other rammed-earth houses in Minnesota.

Mamie did not forget her desire for a studio. By 1945, when Camp Marcus Nelson was a viable fishing resort, she wrote to a friend, "I am doing a little planning for the studio" and enclosed two sketches. But she did not build immediately, and her trip to California that winter appears to have given her some new ideas.\(^4\)2

Instead, in 1947, at age 70, Mamie built a one-story rammed-earth house on a narrow, flat lot in Tamarack. She added a small amount of cement to the soil to protect it from moisture, important because of Tamarack’s high water table. Originally painted terra cotta, the house is similar in style to the adobe homes Mamie would have seen on her western travels and the often-imitated California Rancher popular nationwide in the 1940s. Its details again revealed her interest in innovation: six-light casement windows topped by horizontal rows of glass blocks directly under the eaves and, on one side, glass block windows. A connected garage formed a recessed entry.\(^4\)3

Mamie continued to live at Beatlands while supervising construction of the Tamarack house. With financing from her family, she launched a series of enterprises (between 1941 and 1972) to rehabilitate the fading town and provide jobs: a movie theater; a revitalized Nelson store, managed by her son-in-law; a laundromat; and a series of small plants making brooms (to use local skills), boats (to meet resort demands), camel-saddle TV stools (seen on Middle East travels with Orvis), and birdhouses (to use slabs from local sawmills). Only the store was somewhat successful and only remnants of these buildings still stand.\(^4\)4

Finally, in 1949, Mamie constructed a rammed-earth studio at the resort across the road from Beatlands. It featured a shed-roof section with large windows facing north flanked by two low, narrow wings. A southwestern-style hand-built
earthen fireplace in one corner provided heat. The soil for these walls, too, was stabilized with cement, and the walls rested on a cement slab. The roof was supported by peeled log beams. There was no electricity or plumbing.45

Beatlands was razed in 1958 to accommodate realignment of the county road and a new bridge across the river. Almost 40 years later, the memory of it was strong enough to elicit an epitaph from Bob Kelly, son of one of the builders: “That was quite a house!” Reluctance to waste good material and, perhaps, a desire to keep one relic of Beatlands led to a major moving job requiring four workers: transferring the still-sound roof down the hill and across the road to a new building.46

The roof, now shingled in modest brown, still provides shelter for the current owner. Although the solid walls of Beatlands were demolished, some segments of the terrace remain among grasses, brush, a few flowers, and tall trees.

Mamie had no time to mourn the loss. She began working to establish an art colony at the resort, hoping to fill the cabins (fishing business had declined) and fulfill her dreams about art. It opened in 1959, and a brochure announced: “For those guests who enjoy art a studio is available at no extra cost. During certain periods of the summer art classes are conducted by Walter Quirt at very reasonable fees.” The colony continued through 1964, first under Quirt, a well-known artist teaching at the University of Minnesota, and then Philip Thompson (Augsburg College, Minneapolis), assisted by Fargo artist Elsa Hertel. In 1962 music was added under the leadership of Robert Karlen of the Twin Cities Philharmonic. Mamie moved a small frame structure to the colony for a summer home. The Tamarack house remained her permanent residence until her death at 96 in 1976.47

The small house in Tamarack, with recent minor alterations, is the only remaining example of Mamie’s creative determination to prove that rammed earth is both a practical and durable building material for northern Minnesota. Given her life experiences, it is not difficult to see why Mamie thought she could provide a model for others. But geographical isolation limited the spread of knowledge about her accomplishment, and changing cultural and economic conditions affected its relevance. And for some, the thought of living in a “dirt house” was unappealing. Even for those accustomed to making do, it was easier and more familiar to cover a flimsy structure with tarpaper and lath or salvaged odds and ends than to dig and compact dirt.

By the time Mamie finished Beatlands in 1939, national and local
changes had decreased the support for innovation. The University of Minnesota’s resources and training for promising new ventures were meant for better agrarian landscapes. The federal government had turned from encouraging individual enterprise to focusing on jobs that paid wages and spurred manufacturing. Standardization and large housing developments backed by bank financing became the norm.48

During World War II, Aitkin County civilians found jobs far away, never to return to the life for which Mamie had built. By the end of the war, the economy of rammed-earth construction no longer seemed important. In 1947, when she built the Tamarack house, veterans—who might well have been inclined to construct their own dwellings—had other options in areas with job potential. The new idea of starter homes, purchased with loans and easily expanded as needs grew, drove the housing market. The very durability of rammed earth made it obsolete in a culture that craved change.49

Nevertheless, in the 1940s and following decades quite a few rammed-earth houses were built elsewhere—from Massachusetts to Montana—by those who valued independence and frugality. More recently, the development of “green” construction has given rammed earth something of a new life. Building codes and the permanence of walls may be deterrents today, but for those who reach into the past to provide for the future, Mamie’s efforts demonstrate the feasibility of building from the earth.

Notes

1. In the 1930s the federal government divided rural America into regions for economic development. Areas of Minnesota, Wisconsin, and Michigan, where lumbering had left a “stump-dotted, brush covered landscape,” were designated the Great Lakes Cutover, dubbed “the slums of the country” because of their flimsy dwellings. R. I. Nowell, “Experience of the Resettlement Administration Program in Lake States,” American Journal of Agricultural Economics 19 (Feb. 1937): 212.


3. Tingdale was also a Norwegian immigrant. Robert Harder, A Minnesota Remembrance (Aitkin: Aitkin Co. Historical Society, 1998), 1: 20, 2: 27; family letters and documents, Nelson Collection, in family possession. Unless otherwise noted, all correspondence, receipts, bills, and other manuscript material cited below is in this collection.


5. C. E. Lively, “Growth and Decline of Farm Trade Centers in Minnesota, 1905–1930,” University of Minnesota Experiment Station Bulletin 287 (July 1932), 10; Harder, Minnesota Remembrance, 1: 38, 35. Mamie’s visual skills are evident in her writing, illustrated descriptions (particularly houses), paintings, and photography. Her works appear in the first three volumes of Minnesota Remembrance; paintings in author’s collection.

6. Kent, Among the Tamaracks, 3–4. Running tabs and borrowing was common; see “Use of Credit in Developing a Farm Business,” Minnesota Farmers’ Institute Annual, 1920, 33–35, covering everything from chattel and land mortgages to unsecured notes and store credit. Nelson correspondence shows that Marcus used all of these forms, which led to the family’s continuous economic difficulties.


11. Harder, Minnesota Remembrance, 3: 47, 49.

12. Harder, Minnesota Remembrance, 3: 55, 82. Fresh air and escaping urban pollution were considered cure-alls for many problems, especially tuberculosis which, according to Mamie’s correspondence and Marcus’s accounts, affected both Marcus and Orvis. See also Kent, Among the Tamaracks, 4.


14. Harder, Minnesota Remembrance, 3: 3, 5–6, 10, 57, 60, 91–92, 4: 8; numerous accounts, Nelson Collection.

15. Letters throughout Nelson Collection. Those on hotel stationery, including Hotel Vendome in Minneapolis, Winnawahik in Decorah, IA, and Foley and Willard in Aitkin, plus receipts and correspondence reveal his many absences.


17. Mamie to Marcus, Sept. 1936; Mamie to Myrtle and Orvis, Sept. 1936; Mamie to Myrtle and Orvis, Oct. 16, 1936.

18. Myrtle to Mamie, Jan. 17, 1937; Mamie to Myrtle, Jan. 25, 1937; Wilma Phelan (Mamie’s great-niece) to author,

19. Mamie to Orvis and Mid, June 21, 1938; Harder, Minnesota Remembrance, 4: 94–96.

20. Rammed earth is sometimes confused with other mixtures and techniques such as tabby, adobe, and cobb. What distinguishes pisé is its impermeability, resulting from compaction, and the fact that it can be used immediately. Its story in America is scattered among historic-preservation records for specific sites, such as Monticello, VA, and Gardendale, AL, and brief mentions in books and articles. Periodicals such as American Farmer, Farmer's Register, and Prairie Farmer published on rammed earth in the mid-nineteenth century, as did handbooks including Charles P. Dwyer's The Immigrant Builder, or Practical Hints to Handy-Men (Philadelphia: Claxton, Remsen, & Huffelinger, 1878).


27. The Nelson Collection holds one draft addressed to “Personality Home contest” and another, similar proposal with no date or addressee. Gertrude B. Lane to Dear Mrs. Nelson, May 7, 1938.


30. Woman’s Home Companion, Nov. 1938, 66, 67, Jan. 1939, 39. All details and quotes, here and below, from draft entry.

31. There is no evidence that a windmill was built; Mamie had no electricity for some time. Dick Hall, Once Around the Prairie River Bridge (Austin, MN: self-published, 1999), 38; recollections of author and family.


34. Wallace Hanson, “Rammed Earth Housing,” Minnesota Technolog (University of Minnesota College of Engineering and Architecture), May 1946, 316–17, 352.

35. Nelson, “Beatlands,” 3; Mamie to Orvis and Mid, various dates, fall 1938; death certificate 1938-MN-000088, filed under a variant of Marcus’s birth name: Nels Marcus Nelson.


38. Mamie to Orvis and Mildred, Oct. 17, 1939.


40. Hall, Prairie River Bridge, 65; undated brochure, author’s collection. Mamie estimated that Beatlands cost $500.

41. H. B. White to Mrs. Nelson, Jan. 14, 1942; Patty, “Rammed Earth Walls,” 60 (rev. ed., 1945); Nelson, “Beatlands,” 3; Myrtle to Orv and Mom, Apr. 22, 1945; Hanson, “Rammed Earth Housing,” 316–17, 352; Ratcliff to Dear Madam; Mamie to Dear Sir. No pamphlet on Beatlands has been found, but the Nelson Collection includes one on asphalt-stabilized adobe bricks: Paul Conant, Your Next House May Be Mud: Get a Load of This Dirt (San Francisco: American Bitumels Co., 1946).

42. Mamie to Elsa Hertel, 1945, author’s collection. Family correspondence records Mamie’s travels throughout California.

43. Mamie remodeled the house in 1957, making a minor change in roofline and filling the recessed entrance to create a continuous façade.

44. Author’s discussions with Clyde Nelson, who worked on these projects.

45. Mamie to Elsa and Family, Sept. 1949, author’s collection.


47. Mamie managed the resort until the property was once again foreclosed in 1972. Brochures, author’s collection; author’s conversations with Robert Harder; death certificate 1976-MN-008675.


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