HISTORIC CONTEXT FOR THE AGRICULTURE THEME

MANAGEMENT REGION #1

1885 - 1942

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Submitted to:

State Historic Preservation Office
Oklahoma Historical Society
Historical Building
Oklahoma City, Oklahoma

1992

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CHAPTER I

REGIONAL OVERVIEW

This Historic Context for the Agriculture Theme pertains to Management Region #1. Specifically, it addresses the experiences and architectural legacy of farmers and farm families in the Panhandle of the State of Oklahoma between 1885 and 1942. Containing the counties of Beaver, Cimarron, and Texas, the Panhandle extends from the Texas state line on the South to the Kansas and Colorado borders on the North and from the 100th meridian on the East to the New Mexico border on the West. From East to West it measures 167 miles; from North to South only 34.5 miles. Altogether the three Panhandle counties emcompass 5681 square miles, or 8 per cent of the total area of the State of Oklahoma (see Map I).

Management Region #1 includes diverse geographical features. Terrain ranges from rolling in the "breaks," to flat on the table lands, to undulating in the flood plains. Elevation rises from 2000 feet on the eastern fringes to 4,973 feet at Black Mesa in the northwest corner. The eye is virtually unobstructed by the presence of trees. Instead the surface is carpeted by short grasses (blue grama and buffalo) on the uplands and mixed grasses (blue grama, bluestem, and sand sage) in the river breaks and bottoms.[1]

Although a landscape of unimpeded vision and minimal ground cover might suggest otherwise, the Panhandle soils

are both rich and productive. This is especially true of the brown soils in the western one-third and the reddish chestnut soils in the middle one-third of the region. The lithosals and more shallow soils in the eastern one-third are only slightly less productive. All are loosely compacted.[2]

Actually, soils are richer than water is abundant. No place in Oklahoma has less precipitation than the Panhandle. In eastern Beaver County, for example, it averages 20 inches annually, while in western Cimarron County it averages 16 inches. That compares to 32 inches in Oklahoma County and 54 inches in McCurtain County. In addition to being limited, precipitation is also erratic. Small flow rivers and creeks do not provide much of an alternative source of water either. The Beaver River (or North Canadian) extends the length of the study area with major streams emptying into it from both North (Goff and Pony) and South (Kiowa, Duck, Palo Duro and Coldwater). The Cimarron River cuts through the northwest and the northeast corners of the region. Both it and the Beaver, unfortunately, are often "too thick to drink and too thin to sow."

More dependable than either rain or rivers for water is an underground reservoir known as the Ogallala Aquifer. First buckets lowered into hand-dug wells, then pumps powered by hand, wind, gasoline, and electricity brought the water to the surface to quench the thirst of man, animals

and fields. Today, 98 percent of all water used in the study area, most of it for irrigation purposes, is pumped out of the Ogallala Aquifer.[3]

Temperature variations are not extreme in the Panhandle. The mean daily air temperatures range from 34 degrees F in January to 79 degrees F in August. Frosts in mid-April and late-October permit a 190 day growing season. These do not differ all that much from the rest of Oklahoma, and thus when rainfall is normal dry-land farming is possible. But when it is not, or temperatures exceed norms, agriculture is an irrational act of faith. More than once did that happen during the study period.[4]

The economic profile of Management Region #1 is less varied than other parts of Oklahoma. Ranching has been and remains the most important economic activity in the area. In 1980 the three Panhandle counties produced 22 percent of all the livestock sold in Oklahoma. But as this Historic Context will illustrate, agriculture has made significant economic contributions to the region for the last 100 years. Sorghum grains were the principal crop during the first 30 years; since then wheat has been dominant. In 1980 the study area alone produced nearly 12 percent of Oklahoma's total wheat crop.

Oil and gas production has been increasingly important since World War II. In 1981, Texas County produced more natural gas than any other county in the state. The value

of all petroleum produced in the Panhandle totalled more than $277 million in the same year. Helium returned another $12 million to Cimarron County.

In the Panhandle counties population has fluctuated significantly. At statehood it totalled 35,739, decreasing to 30,960 in 1930. The Dust Bowl, combined with the effects of mechanized agriculture and New Deal policies, engendered a mass exodus from the region, reducing the population to 22,198 ten years later. Only in the last decade have total population figures matched those of the pre-depression era, although in 1990 both Beaver and Cimarron counties still had less population than 50 years earlier.[5]

The Panhandle counties are becoming more and more "urbanized." In 1990, more than 50 percent of all population lived in an incorporated town, although of this number most reside in Guymon, Beaver or Boise City. At the same time, the total population of the Panhandle counties was less than 1 percent of Oklahoma's total population.

The Panhandle counties may be more sparsely populated than others in Oklahoma, but that has its benefits: total personal income is divided among fewer people. Statewide in 1980 per capita personal income averaged $9,066. In the study area, however, it averaged more than $14,000; in Cimarron County alone it averaged $17,411, the highest in the state.[6]

In summary, Management Region #1 is an area of grand

vistas enjoyed by essentially the same number of residents as 80 years ago. The contribution those residents make to Oklahoma's economy, however, is significant, none more than in agriculture. The historical development of that contribution, and its architectural legacy, is the focus of the study that follows.

ENDNOTES

1. A very useful survey of geographical conditions in the Panhandle is available in John W. Morris, ed., Geography of Oklahoma (Oklahoma City, 1977).

2. Ladd Haystead and Gilbert S. Fite, The Agriculture Regions of the United States (Norman, 1955), ???.

3. Wayne A. Pettyjohn, et al., Water Atlas of Oklahoma, University Center for Water Research (Stillwater, Ok., 1983), 13, 27, 37.

4. Ibid., 23; see also Morris, Geography of Oklahoma, 44-45.

5. Directory of Oklahoma, 1981 (Oklahoma City, 1981), 453, 471 and 585.

6. Statistical Abstract of Oklahoma, 1982 (Norman, 1982), 339ff.



MAP I

MANAGEMENT REGION #1

CHAPTER II

AGRICULTURE IN MANAGEMENT REGION #1

1898 - 1942

Not that long ago most highway maps of Oklahoma detached the three Panhandle counties from the rest of the state and displayed them in the lower left-hand corner. Intended or not, the format suggested that the region was not really a part of the larger whole, that it continued to be symbolically if not in fact, a "No Man's Land." Happily that situation no longer exists, in large part because cartographers and politicians now recognize that the Panhandle has helped to make Oklahoma what it is socially, culturally and economically. It and the "Lower 74" counties are different threads in the same fabric.

There are many facets of this connectedness, but among the most important is agriculture. The purpose of this short essay is to chronicle the development of agricultural activity in Management Region #1 between 1885 and 1942. Its essential purpose is to provide a context for assessing and understanding the different property types associated with agriculture over time in the study area.

Despite its treelessness and hearty climate, Management Region #1 has never lacked for human habitation. Discovery of Clovis and Folsom points at the Nall site in Cimarron County puts the earliest occupation at before 8000 years ago. By 700 AD, if not before, peoples with eastern-derived

tools and pottery were undertaking seasonal agriculture in such arable settings as the Stamper site near Optima in Texas County. Between 1200 and 1400 AD sedentary farming societies were cultivating corn, beans and squash. As illustrated at the Roy-Smith site in Beaver County, these peoples lived in permanent villages in houses made of a grass and mud mixture plastered over upright poles and topped with a thatched roof. Significantly, these houses rested on stone foundations. That kind of permanence came, however, only after these early residents had adapted agricultural techniques learned elsewhere to the challenging environmental conditions of the study area.[1]

When the Europeans first observed the Panhandle area in the 16th Century, there were few Native Americans living in permanent villages engaging in agriculture. Instead three recently arrived groups--the Apache, Comanche, and Kiowa--utilized the region as a summer hunting ground for buffalo.[2] Their use of the land was not disturbed by Spanish explorers Hernando de Coronado (1541) and Juan de Onate (1601) nor by Frenchmen like the Mallet brothers who pushed into the area in the mid-eighteenth century. The latter came from the Mississippi River valley first to trade with local tribes and then to negotiate with them for safe passage via the Canadian River to pursue a lucrative commerce with Santa Fe.[3]

Trade with Santa Fe became more feasible after the

United States purchased Louisiana in 1803 and Mexico secured its independence from Spain in 1821. William Becknell of Missouri pioneered the trade that initially linked Franklin, Missouri, and Santa Fe via the Arkansas River. To reduce the number of days on the trail Becknell in 1823 pioneered a "Cut-off" that took him across the northwestern corner of Cimarron County to the Canadian River, which he followed on to Santa Fe. Over the next several years, hundreds of men and wagons, thousands of animals, and merchandise valued at hundreds of thousands of dollars traversed the "Cimarron Cutoff" on an annual basis. Evidence of that traffic is still visible...in wagon ruts and in graffiti, especially.[4]

Because of the growing volume of the trade, Senator Thomas Hart Benton of Missouri lobbied successfully to have the United States government survey and mark the route. That much of the trail lay within the boundaries of Mexico made little difference. Joseph C. Brown of Missouri surveyed and marked the trail between 1825 and 1827, including that section crossing the Oklahoma Panhandle. Thereafter so long as travelers and traders remained near the surveyed road, they were not molested by the native peoples who hunted the area. Yet if they ventured off the marked trail, they risked a deadly confrontation.[5]

As United States interest in the Panhandle increased, so too did that of Mexican authorities. To promote settlement of their vast northern border they, like their

Spanish colonial counterparts before them, conveyed vast tracts of land to individual "empresarios" who then assumed the responsibility of recruiting settlers for the lands. Stephen Austin acted most successfully in such a capacity in south central Texas. Between 1825 and 1840 at least four different empresario grants were made that included sections of Region #1. One of the tracts was even surveyed in 1832.[6]

The fact that such grants were made illustrated that authorities for the Mexican state of Coahuila and Texas considered the Oklahoma Panhandle within their borders. Indeed, the United States had recognized that claim in the Adams-Onis Treaty of 1819 which set the 100th meridian as the nation's western boundary between the Red and Arkansas rivers. Texas's independence from Mexico in 1836 did not alter the claim, one that Texas itself reasserted in 1845 when it became one of the United States. The legislative compromise of 1850, however, fixed the northern boundary of Texas's panhandle as 36-30 inasmuch as the area north of that line was to be free of slavery as per the famous Missouri Compromise of 1820. It also established the eastern boundary of New Mexico. Accordingly, by 1850 the western and southern borders of what is now the Oklahoma Panhandle had been established. The eastern boundary had already been defined by the Adams-Onis Treaty as the 100th meridian. The northern border was set in 1854 by

legislation that established the boundaries of the territory of Kansas (and ultimately Colorado).[7]

Apparently without malice of forethought, the borders as drawn in the 1850s left the study area without formal attachment to any political entity. Clearly it belonged to the United States, but administratively it was beyond the authority of any one state or territory. This ambiguous status meant that the region was frequently called "No Man's Land." But it was not quite that, even in the 1850s. The Comanches, Kiowas and Apaches still considered it one of their important hunting grounds. The Cherokees, removed to Indian Territory in the 1830s, countered that it was an extension of their "outlet" to the Plains.

The commissioner of the United States General Land Office, like the Indians, did not consider the Panhandle area no man's land either. To him it was clearly a part of the public lands of the nation. Consequently after the passage of the Homestead Act in 1862 he had the area surveyed into six mile square townships, the lines of which were designated by zinc markers. The commissioner obviously saw the region as having an economic value beyond a buffalo hunting ground.[8]

Meanwhile, the Santa Fe Trail became one of the major thoroughfares by which travelers and gold seekers made their way to New Mexico and California, territories that were added to the United States by the Treaty of Guadalupe

Hidalgo in 1848. By 1860, some 3000 wagons, 7,000 men and 60,000 mules used the route annually. To protect them from a perceived threat of Indian attack United States authorities in late 1865 directed Kit Carson to establish a military post on the Trail. He selected a site now 25 miles west of Boise City and planned a stone fortification which he named Camp Nichols. Work was halted on the structure within less than a year, but the activity that did occur further illustrated that "No Man's Land" as applied to the Panhandle region was inherently contradictory.[9]

Most non-Indians who visited the study area before 1865 were just passing through, like those on the Santa Fe Trail. Thereafter they came to take advantage of the region's natural resources. Among the earliest of these were the buffalo hunters. Destruction of the bison herd had been underway since the 1830s, but it became systematic in the 1860s as hunters killed to provide meat for railroad construction crews laying rails across the plains. In the 1870s it reached a flood tide as hunters slaughtered to meet the demands of an eastern market for skins that could be turned into cheap leather. On the southern plains between 1872 and 1874, hunters took an estimated 4.3 million buffalo, while Indians killed another 1.2 million. Two noted hunters, Ed Jones and Joe Plummer, organized a freighting firm to haul hides by wagon between Adobe Walls, Texas, and Dodge City, Kansas. Known as the Jones and

Plummer Trail, the north-south route they followed crossed the Beaver River (Canadian) at the site of present Beaver, Oklahoma. By 1889 the once mighty southern herd had been reduced to no more than 25 buffalo that sought refuge in the Oklahoma Panhandle area. The bones of many of the rest lay bleaching in the sun.[10]

The destruction of the buffalo in the study area reduced its value to the Comanches, Kiowas and Apaches who had hunted the uplands and breaks and even planted the floodplains. With the buffalo gone, there was not much of a reason to linger. Others soon took their place, and other economic activities soon replaced buffalo hunting. Indeed, as early as 1863 Jose Baca from Las Vegas, New Mexico Territory, pushed several hundred sheep into the vicinity of what is now Kenton. Others herders soon followed. They were disturbed in their use of the public domain only by the notorious outlaw gang led by Cyrus Coe. By 1870 these sheepmen were shipping carloads of wool by rail to Independence, Missouri.[11]

Where sheep thrive, so too do cattle. Accordingly, cattlemen soon contested the claim of Baca and other sheepmen to the use of the public grass of No Man's Land. By the late 1870s they virtually controlled the range. Among the larger spreads were the British-owned Cross L and 101 ranches in the Kenton area, the OX Ranch on the Cimarron River northeast of Boise City, the Anchor D west of Guymon,

the Hardesty Brothers Ranch (Half Circle S) east of Guymon, the Boss Neff Ranch (NF) northeast of Hardesty, and the Hitch Ranch (LV) east of Goodwell on Coldwater Creek. Collectively these and other spreads ranged hundreds of thousands heads of cattle, driving them to market at the Dodge City railhead early on and then to Liberal, Kansas in the mid 1880s. For the study area, the 1870s and 1880s constituted the golden age of the range cattle industry, the nature of which is reasonably well reflected in National Register and Oklahoma Landmarks Inventory listings.[12]

The cattleman's domination of No Man's Land ended in 1885. Under pressure from the same forces that sought admission to the Unassigned Lands of Indian Territory, Secretary of the Interior L.C.Q. Lamar ruled that all Indian claims, especially Cherokee Indian claims ended at the 100th Meridian. His decision meant that No Man's Land, previously surveyed into 6 mile square townships, was public land, but because it had not yet been surveyed into mile-square sections it was not eligible for entry under the terms of Homestead Act. For thousands of land-hungry agriculturalists, that prohibition was nothing more than a legal abstraction. First in a trickle and then in a flood they poured into the Panhandle. By 1888, two years before sections were finally surveyed, at least 15,000 "squatters" were already on the land.[13]

Representing the first true wave of agricultural

settlement in the Panhandle, its starting point was in northeastern Beaver County in the Gate vicinity where "buffalo grass was knee high." From there it moved south of the Beaver River, along the Kiowa, Mexico, Duck Pond and Clearwater creeks, and then on to Willow and Palo Duro creeks. By the Spring of 1888, squatter homesteads extended some 90 miles west of the eastern border of the Panhandle, beyond which the cattleman still reigned. Other than in the floodplains, squatters considered those homesteads situated on the tablelands to have the greatest potential.[14]

According to historian Oscar Kinchen, the squatters were slow to improve their claims. For housing most relied upon tents or half- or full soddies. Most of the sod houses were little more than "four mud walls and a roof," but some were relatively elaborate. The Overton house on Clearwater Creek south of Beaver, for example, was built in 1887, was 25 feet square and was divided into four rooms, each of which had a pine ceiling. Whether elaborate or crude, few of these structure seem to have survived.[15]

Plentiful rains meant that drinking water was readily available in Panhandle streams. When surface sources were distant, water was accessible via hand-dug wells 40 or 50 feet down. Once planted, kitchen gardens of black-eyed peas and other vegetables, supplemented with wild plums and grapes, provided much of the table food, fare that was often supplemented by "surplus" beef from nearby ranches. If

money ran short for staples, as it often did, squatters could gather up the readily available buffalo bones and sell them in Dodge City, where they received $8 to $10 a ton. Because of the unbroken sod, preparing fields for planting was no easy task. But once that was accomplished, squatters usually sowed corn or wheat, crops with which they were familiar and which did relatively well so long as it rained...a very substantial condition. And they did well if they withstood the hazards of blizzards and prairie fires, to name only two.[16]

In 1886 and 1887 a surprisingly large number of sod towns sprang up in the Panhandle, 28 of which had actual post offices. Among these were Gate City, Neutral City, and Sod Town in what is now Beaver County; Hardesty and Optima in Texas County; Carrizo (later Kenton) in Cimarron County. More substantial in construction and more realistic in ambition was Beaver City, founded in 1886 by Kansas entrepreneurs at the point where the Jones and Plummer Trail intersected the Beaver River. To carry out their scheme they had to buy the squatter claim of a so-called road rancher, Jim Lane, who had operated a general supply station on the site since 1879. Lane's sod house still stands on the northwest corner of the town. Beaver City itself promptly became the principal commercial and residential center in the Panhandle.[17]

Stories of outlaw activity during this first settlement

era have been exaggerated. Apparently there was some gang activity, but there were fewer than 20 homicides between 1885 and 1890, one-third of which were executions by vigilante committees. Most of the lawlessness related to the activities of so-called "road trotters" or claim jumpers, individuals who by threatening violence tried to force squatters from their land, which if vacated they then claimed. As early as August 1886 "legitimate" squatters met at Beaver to organize a "Respective Claims Committee" with the stated objective to "discourage claim-jumping and avoid discord among settlers over claims to town lots and homesteads." This organization metamorphosed the following year into an elected territorial council that called for the creation of Cimarron Territory, that produced an official seal, and that sent a delegate to Washington, D.C. to persuade Congress to respond to the governmental needs of the Panhandle. Congress largely ignored the request. Undaunted, residents elected territorial officers in 1888 and hoped for a better reception from the legislature the following year.[18]

By then, however, circumstances in the Panhandle changed dramatically. For one thing, it had quit raining. Beginning in 1887, the Southern Plains experienced a drought cycle accompanied by searing heat in the summer and incredible blizzard conditions in the winter. Agriculture was chancey under the best of circumstances, but without

water it was impossible. Throughout the region, squatters wondered if they had invested their time wisely.

As they were second-guessing themselves, word arrived in the spring of 1889 that government authorities were opening the Unassigned Lands of Indian Territory to settlement under terms of the Homestead Act. The prospect of a new start in "The Land of the Fair God" was irresistible. Perhaps 12,000 abandoned their squatter's claim in the Panhandle and on April 22, 1889, ran for a 160 acre homestead in Oklahoma, beginning on the western perimeter just beyond Kingfisher. Whether they improved themselves is uncertain. It is certain that they left No Man's Land virtually depopulated (with an estimated population of only 3500) and once again in possession of the cowman.[19]

The creation on May 2, 1890, of Oklahoma Territory profoundly affected the political history of the Panhandle. It was attached officially to the territory as County Seven, later Beaver County, with Beaver City as the administrative center. The single county was divided into the present three county configuration when Oklahoma entered the Union in 1907. By that time the lot of the Panhandle and been cast irrevocably with the Sooner State. And, moreover, agriculture had regained a major presence in the region.

The reestablishment of agricultural activity took time. The organization of local government as a part of the

Territory of Oklahoma brought a certain stability to the region, replacing the need for vigilante justice and claims club protection with regular channels of law and order. More important was the federal government's completion in 1890 of the official survey that marked section lines throughout the Panhandle. With one mile square sections now clearly identified, homesteaders could legally claim 160 acres according to the terms of the Homestead Act of 1862, e.g. get clear title to public land after five years of residence. Squatters who had settled land before the survey was completed, or between 1885 and 1890, were allowed a credit of up to two of those five years. Early on claims had to be filed in the United States land office in Woodward. As late as 1912, land was still being entered.[20]

Little made the Panhandle area more attractive to agriculture settlement than access to transportation facilities, and especially the railroad. As early as 1888, rail lines were extended to towns along the Kansas border, specifically the Rock Island Railroad to Liberal and the Frisco to Englewood. Those two communities became points of entry into the Panhandle, for people as well as goods, and they also provided market opportunities for Beaver County residents, especially cattlemen. No rail line penetrated the Panhandle until 1901 when the Rock Island pushed southwest through what is now Texas County, giving birth to

such towns as Hooker, Optima, Guymon, and Goodwell. This development tended to draw attention and population away from Beaver City, the administrative center of the county.[21]

Realizing that the future of their city was in jeopardy, residents of the county seat worked diligently to attract a railroad to their community. The Santa Fe declined to build the 25 miles from Englewood, but after two decades of unremitting effort (and the admission of Oklahoma to statehood in 1907) citizens thought that the Wichita Falls and Northwestern Railroad would finally provide the desired service. The line did push into Beaver County from the West in 1912, but rather than construct rails to the county seat the WF&NW terminated the road at a new town that it built on the north side of Beaver River, Forgan. Disappointed but undaunted, Beaver townsmen organized their own railroad, the Beaver, Meade, and Englewood, and in 1915 laid rails connecting the county seat with Forgan. Subsequently, the BM&E pushed on West, reaching Hooker (Texas County) in December 1927 and Keyes (Cimarron County) in June 1931.[22]

If the eastern one-third of the Panhandle had troubles securing rail service, so too did the western one-third. In 1913 a predecessor of the Santa Fe did reach Elkhart, but it was not until 1925 that the line (the Santa Fe) finally crossed into the Panhandle to build southwest through Keyes,

Boise City, and Felt. Four years later the Rock Island constructed a feeder line connecting Liberal, Kansas, with Amarillo, Texas, running rails through Texas County adjacent to the communities of Baker, Adams and Hardesty. Then in 1931 the Santa Fe linked Boise City with Amarillo, Texas.[23]

With so much invested in the Panhandle counties, the Rock Island, Santa Fe, and the BM&E (later KATY) railroads were at pains to make the region productive agriculturally. The Rock Island especially boomed the area as a veritable Garden of Eden, with cheap and even free land available for all comers. Among the more notable and successful homesteaders attracted to the Panhandle were German emigrants from Russia, specifically Mennonites who settled near Adams in Texas County and Turpin in Beaver County and Lutherans who took farms near Balko in Beaver County. Most of the others attracted to the region, if the records of Old Hardesty are instructive, came from midwestern states like Indiana, Illinois, Iowa, Missouri and Kansas.[24]

Railroad promotion efforts would have had limited effect had the drought of the 1880s and 1890s continued unabated. The rains, however, returned after 1896, with normal amounts continuing to fall for the next three decades. During most years the short-grass country greened and bloomed. With water sufficient, with transportation facilities improving, with the Rock Island and other

railroads booming the country, and with land virtually free, population rose dramatically, from 2,548 in 1899 to 35,000 in 1907.[25]

Called "grangers" and "pumpkin rollers" by the cattlemen whose old free range they now fenced and forced to adopt different operational styles, these newest homesteaders struggled to establish themselves on 160 acre claims.[26] Of immediate concern was housing. Like the squatters before them, many relied upon tents and sod houses, none of which are known to remain. A substantial number built small, one-room frame houses, hauling the necessary building material to their claim by wagon, a necessity that certainly dictated a minimal size. In this first generation of construction (1896-1914), homesteaders also built two-room stucco houses with gable ends, some of which also had an upper half story. Agriculturalists sometimes built small houses from native stone, materials that ranchers had already adopted. The expense of barns and other farm buildings meant that substantial structures of that kind were generally delayed pending a more stable economic picture. Still, taxable property (meaning improvements) increased from $625,168 in 1896 to $1,097,458 in 1897, suggesting that the "grangers" were in the Panhandle to stay.[27]

The agricultural practiced by the homesteaders was primarily dry-land farming, which, according to one

historian, was an "agriculture adaptation as regionally significant as the introduction of the Colt revolver, barbed wire, or the windmill."[28] Rather than depend upon corn and cotton, they planted in addition such drought resistant crops as kafir corn, sorghum grain and broomcorn. They also practiced summer fallowing and used deeper and more frequent cultivation to preserve the limited moisture. Northeast of Gate along the Cimarron River in present Beaver County a few even tried irrigation. Beginning in 1902, also at Gate, farmers had great success with wheat, averaging 30 bushels per acre. The next year others had equally good success near Tyrone, now in Texas County. With a new variety of wheat, Turkey Red, and optimum growing conditions, by 1910 the wheat harvest was particularly good, totalling in the Panhandle 672,635 bushels. But for the majority of farmers kafir and sorghum grains remained the staple crop, yielding 708,736 bushels. Other grains harvested were corn (162,764 bu.), oats (117,000 bu.) and barley (33,549 bu.) The cash value of all cereal grains in 1910 totalled $2.6 million.[29]

The first decade of the 20th Century saw the establishment of profitable dry-land farming in the Panhandle counties, but the second decade saw its flowering. Wheat illustrated the transformation: in 1920, the region produced 4.7 million bushels of wheat, almost an eight-fold increase in ten years. This kind of output made Oklahoma

the third largest wheat producer in the nation after Kansas and Illinois. Kafir corn and sorghum grain also totalled 4.7 million bushels, nearly a seven-fold increase in a decade. Cash value of all cereals equalled $21 million in 1920, or a ten fold increase. Several factors accounted for this dramatic rise in cereal production.[30]

Of most importance was the onset of World War I which resulted in abnormal demands upon all American farmers, demands that impacted Panhandle farmers as well. Government officials encouraged farmers to meet these needs by putting additional acres under cultivation. Farmers on the Great Plains responded by plowing up and planting to cereals 11 million acres of new grassland (an area twice the size of Mass.). In the Panhandle counties the area under cultivation more than doubled between 1910 and 1920. Meanwhile, the prices farmers received for their grains soared. In 1914, wheat averaged .83 per bushel; the price rose to $1.11 the next year; it increased to $1.18 in 1916; and it reached $2.07 in 1917. In the 1910s farming in the study area was very profitable, although not every year![31]

The economic success enjoyed by Management Region #1 farmers during World War I permitted them to improve their homesteads physically, among other things. In the area a second generation of housing appeared to replace the soddies and one and two room frame houses. More affluent farmers constructed as family residences wood-frame, two-story I-

houses and single-story massed side-gable houses as well as single-story pyramidal houses. On these houses the preferred siding was generally stucco. They also built large general purpose barns, one of the best examples of which was erected in the Mennonite community southeast of Hooker in Texas County by George Ewert. Near Adams, currently on the Jake Balzer farm, another family even construsted a wood-frame granary with an elevator. Major improvements were also made to water systems: more efficient windmills, better water tanks, and more effective enclosures.

The price for agricultural commodities dropped precipitously in the 1920s creating serious distress throughout rural America. Wheat in 1930, for example, was selling for one-third of what it had twelve years earlier, e.g. 70 cents per bushel. This proved devastating for farmers who had over indebted themselves during the golden years of World War I. George Ewert, to illustrate, lost his farm because he could not pay for his barn. Others were able to survive by diversifying and/or employing economies of scale in their operations.

Those who diversified did so by incorporating "the cow, the sow, and the hen" into their farming activities, or, put differently, make their operation more self-sufficient. If they did not already have one, virtually every Panhandle farmstead added chicken houses, pig pens, and small general

purpose barns. The eight-sided pig sale barn on the old Ernest Slocum place south of Beaver illustrates this trend. Equally suggestive of diversification efforts is that during the first 10 months of 1926 farmers at Forgan in Beaver County shipped 321 cars of wheat, 28 cars of milo and kafir, 19 cars of broom corn, 55 cars of livestock, 6 cars of poultry, and 12 cars of eggs and cream.[32]

To employ economies of scale meant that farmers in the 1920s had to be more efficient in their day to day operations, to produce more at less cost. Panhandle agriculturalists achieved this goal primarily by mechanization, namely by the use of combines, tractors and trucks. The first combines (a shortened name for "combined header and thresher") appeared in the Oklahoma Panhandle about 1915. Two years later a dealer at Tyrone reportedly sold 190 Holt combines, machines that cut a 20-foot swath and was pulled by 12 horses or mules. Horse power was soon replaced by light-weight tractors. In 1920 there were nearly 5800 tractors on all Oklahoma farms; five years later there were 10,000. Most of these were in the wheat belt. The harvested crop, moreover, was transported to the grain elevator on railroad right-of-way via truck rather than horse drawn wagon.[33]

Mechanization made it possible for a farmer to accomplish more with the same amount of effort. During the 1920s even more acreage was put under the plow and planted

to wheat and other cereal grains. In Texas County, for example, acreage planted to wheat alone increased 300 percent between 1920 and 1929, from 151,380 acres to 475,478.[34] Not only was more land cultivated, but individual farms themselves became larger, primarily because of the combination of one or more farms. In 1920 the total number of farms in the Oklahoma Panhandle were 5551 (down some 2400 from 1910), but in 1930 they numbered only 4954. Nine years later (1939) there were only 3672. The obvious consequence of the reduction in number of farms and the expansion of cultivation meant that farm size in the study area became larger, up from some 219 acres in 1910 to nearly 350 acres in 1930. This, especially more acreage in production, and mechanized and more efficient producers helped account for the fact that in 1921, 1926, 1928, and 1929, Texas County produced more winter wheat than any other county in the Nation.[35] In 1931 Cimarron County alone harvested nearly 6 million bushels of wheat, a crop that was just as bountiful in the other two Panhandle counties.[36]

The practice of planting more acres to compensate for lower grain prices only exacerbated the problem. Larger harvests glutted the market further, causing prices to decline more sharply. Despite all of this, most Panhandle farmers survived the 1920s; the frugal ones even prospered. Rates of farm tenancy, which reached 70 percent in eastern Oklahoma, reached only 34 percent in the study area,

impacting only 24 percent of that acreage under cultivation. Although it went down $1500 in Beaver County during the decade, per farm income actually increased by $500 in Cimarron County and $350 in Texas County.[37]

These economic conditions, spotty though they were, enabled some farmers to make additional physical improvements on their properties. This third wave of construction was generally limited to new houses or major improvements to old ones. Much of the new construction employed academic styles like Craftsman and Tudor. And not surprisingly, many of the new improvements were located in the two western counties or along BM&E Railroad line.

Operating according to economies of scale meant that farmers could tolerate prices much lower that $2.10 per bushel. They could even survive on 70 cent wheat. But they could hardly manage the 22 cents per bushel for which wheat sold in 1931, a much reduced price that resulted obviously from a market burdened with overwhelming surplus. One bad year was hardly a disaster, but the 1930s served up a succession of bad years for Panhandle farmers. Because of drought conditions and the infamous Dust Bowl, the latter fostered by imprudent plowing of grass land, one crop after another failed. In 1935, Beaver and Texas counties harvested less than 600,000 bushels of wheat; Cimarron County harvested not a single bushel. 1936 was almost as bad. The situation changed somewhat in 1937 and 1938 in

Texas and Beaver counties with 1.5 million and 4.8 million bushels of wheat being harvested. But for the same period Cimarron County continued to suffer with total crop failures.[38]

Only five Oklahoma counties were affected by the Dust Bowl, but three of those were in the Panhandle. Dust storms were not new. They had plagued the study area since 1893. The so-called "Dirty Thirties" was previewed in the Guymon area in March, 1923, when blue-black clouds boiled, rolled, and tumbled silently over the landscape. Aggravated by drought conditions and 100 plus degree temperature, the "Dirty Thirties" began in earnest on April 12, 1934 when the wind lifted 300,000,000 tons of soils off the Great Plains and carried then eastward at a height of two to three miles, and spilled them into the Atlantic. 1935 was even worse, with the "Black Blizzard," on April 14th bringing two hours of total darkness at high noon. In 1937 Guymon suffered 110 different dust storms. But the worst storm came on March 11, 1939 when "'4,779,320 acres of land, one foot deep, left the 'dust bowl' and moved to Oklahoma."[39]

By 1940, the once golden fields of the Panhandle were no more. Instead they were heaps of dust, the boundaries of which were marked by half-buried fence posts. Throughout the course of the black blizzards, many farm families remained on the land. But many did not. One who did drove the thirty miles between Eva and Guymon in 1937 and counted

only 16 occupied homes. It was an observation that matched reality. Population in the Panhandle counties fell from 30,960 to 22,198 during the course of the "Dirty Thirties," or approximately 28 percent. The number of farms decreased by 78 percent, down to 3672.[40]

Given such distress, it was no wonder that structures associated with agriculture activity should be impacted. Many houses and barns were abandoned; others fell into decay if not disuse. A housing survey of Cimarron County in 1936 concluded that a majority of houses were either "fair" or "poor" in quality; only 30 percent were "good," and one would suspect that most of the "good" ones were located in Boise City, the county seat. Another survey four years later found that only one in four houses had electric lights.[41] Put differently, during the decade of the 1930s most agriculturalists in the Panhandle counties did not have the will much less the resources to maintain farm structures dating from the 1890s, 1910s and even 1920s. Not all that many of them have survived, therefore.

The federal government in its New Deal programs spent at least $250,000,000 to help mitigate some of the hardship of the depression decade in the Southern Plains. All of that was important but nothing helped so much as 14 inches of snow during Christmas week, 1939, and a soaking rain the following April. It produced the best crop year in the Panhandle counties since 1931 with 6.3 million bushels of

wheat and 1.2 million bushels of kafir corn and sorghum grain.[42] There were more dust storms to come, some as late as the 1950s, but the worst was over. One or two good crops, sold at higher prices, enabled the farmers in the study area to invest in new buildings, especially barns. Reflective of this era of construction were the two barns built in 1942 by the Zimmermans and Katchels in the vicinity of Balko in Beaver County and the wood granary with an elevator on the Hammond estate southwest of Boise City in Cimarron County. With the onset of World War II, however, construction activity on Panhandle farms virtually ceased.

Agriculture in Management Region #1 is prehistoric in its genesis. At the same time, commercial agriculture as currently defined is of recent origins, namely 1885 when the Panhandle counties were identified as public lands open for agriculture settlement. Through World War II, the period that terminates this study, dry-land farming characterized the study area with the principal crops being wheat, kafir corn, sorghum grain, broomcorn, and some barley and rye. Because agriculture, given the environment and international price structure, was always a gamble, construction of farmstead structures occurred irregularly, generally when harvests were good and prices were high. During the time frame of this study, there were three periods of building activity: 1896-1914, 1914-1920, and 1920-1942. Of these three eras, by far the most active was 1914-1920, but in

them all we can find a chronicle of the development of agriculture in the Panhandle of Oklahoma.

END NOTES

1. Bernice Jackson, et al., Man and the Oklahoma Panhandle (North Newton, KA, 1982), 47, 56, 63, 73, 79-114. Joseph Thoburn in 1923 concluded that the Plains Village people had undertaken agriculture with an early system of irrigation, the ditches of which were still visible on the Cimarron River north of Gate. But Don G. Wyckoff of the Oklahoma Archaeological Survey has recently questioned the theory, suggesting instead that the "ditches" were not man-made but natural occurrences. See "The Laventy Ditch: Prehistoric Irrigation in the Oklahoma Panhandle"? Bulletin of the Oklahoma Anthropological Society, 34(1985): 147-178.

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3. Elizabeth A. H. John, Storms Brewed in Other Men's Worlds: The Confrontation of Indians, Spanish, and French in the Southwest, 1540-1795 (College Station, TX, 1975), 20-21, 316-317.

4. "Preliminary Report of Survey of Inscriptions Along Santa Fe Trail in Oklahoma," Chronicles of Oklahoma, 38(Autumn, 1960): 310-322.

5. Morris L. Wardell, "The History of No-Man's-Land, or Old Beaver County," Chronicles of Oklahoma 35(Spring, 1957): 23-25.

6. Ibid., 17-21.

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8. Wardell, "History of No-Man's-Land," 27.

9. "Preliminary Report of Survey of Inscriptions Along Santa Fe Trail in Oklahoma," 310-322; Carl Coke Rister, No Man's Land (Norman, Ok., 1948. See also The WPA Guide to 1930s Oklahoma, rev. ed. (Lawrence, KA, 1986), 251.

10. Richard White, "It's Your Misfortune and None of My Own": A History of the American West (Norman, OK, 1991), 216-219. For the best account of the Jones-Plummer Trail, see C. Robert Haywood, Trails South: The Wagon-Road Economy in the Dodge City-Panhandle Region (Norman, Ok., 1986), chapter 4.

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13. Oscar A. Kinchen, "Squatters in No Man's Land," Chronicles of Oklahoma, 26(Winter, 1948-1949): 385.

14. Ibid., 387-388.

15. Green, Panhandle Pioneer, 17.

16. Ibid., 388-389; Jackson, et.al., Man and the Oklahoma Panhandle, 222.

17. Kinchen, "Squatters in No Man's Land," 389. See also George Rainey, No Man's Land (Guthrie, OK, 1937), 141, 145.

18. Wardell, "The History of No Man's Land, or Old Beaver County," 28-30; Rainey, No Man's Land, 182-84; Muriel H. Wright, "The Seal of Cimarron Territory, Chronicles of Oklahoma 35(Spring, 1957): 2-10.

19. Rister, No Man's Land, 157-170; Jackson, et al., Man and the Panhandle, 234.

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21. Donovan L. Hofsommer, "The Construction Strategies of Railroads in the Oklahoma Panhandle," Chronicles of Oklahoma 58 (Spring 1989), 78. See also Fred Floyd, "The Struggle for Railroads in the Oklahoma Panhandle," Chronicles of Oklahoma 54 (Winter 1976-1977).

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39. Rister, No Man's Land, 179-185; Johnson, Heaven's Table Land, 215-16. See also Hurt, The Dust Bowl, chapter 3.

40. Rister, No Man's Land, 186, 189; Oklahoma Agricultural Experiment Station, A Statistical Handbook of Oklahoma Agriculture, 1894-1947; Directory of Oklahoma, 1981 (Oklahoma City, 1981), 453, 471, 585.

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CHAPTER III

PROPERTY TYPE ANALYSIS

I. FARM HOUSES

Description: There was no one style of farm house architecture in Management Region #1 prior to 1942. The absence of a true American type of rural dwelling helps explain this phenomenon, but just as important, if not more so, was that housing construction in the study area was associated with particular historical events--political, economic and environmental. In analyzing farm houses, therefore, it will be helpful to employ a chronological model, drawing in part upon the classification scheme of Virginia and Lee McAlester.

A. Pre-Railroad Dwellings: Excluding the prehistoric houses of Native Americans, no known residential dwellings were constructed in the Oklahoma Panhandle until after 1860s. Those structures were associated with sheep and cattle herding and thus beyond the purview of this study. Euro-American agriculturalists did not arrive in the area until 1885, and only then as "squatters" on the unsurveyed public domain. Far from the railroad and occupying a treeless environment, they constructed their houses from local materials, namely sod and stone. Legal homesteaders who came after 1890 utilized the same resources for a number of years, even

though two railroads had by that time penetrated to the very border of the Panhandle.

Sod house dimensions varied, but 16' x 24' was apparently average. Sod "bricks" were cut from the prairie surface and usually were 2-3' long, 1-1.5' wide, and 3-4" inches thick. Walls were two bricks wide and laid with grass side down. Door and window frames were placed into the walls at the desired positions. Straight poles extending from the walls to a ridgepole, which was supported by forked poles at either end, covered with brush and sod formed the roof. Judging from settler recollections and local historians, "soddies" were once ubiquitous in Region #1, both in the country and in the towns. Only one is known to have survived, the Jim Lane sod house in Beaver, and it has been radically altered.

Dugout or Half Dugout Houses were fashioned by excavating the bank or wall of a ravine some 15'. A roof of split poles, brush, and dirt overlay the excavation to form the dugout. If walls were raised around the excavation to square the roof, then the structure was a half dugout. Such dwellings were common in the river breaks; if any have been preserved, however, it is unknown.

B. Post-Railroad Dwellings: Arrival of the railroad in any given region changed its architecture. Rather

than rely upon natural materials alone, house builders were able to utilize manufactured products, ranging from concrete, to milled wood, to double sash windows. Although they did not penetrate into and across the region until 1901, railroads reached Panhandle border towns Englewood and Liberal, Kansas, in 1888. When Beaver County opened to legal settlement in 1890, therefore, the first wave of homesteaders had options other than sod with which to build their homes.

1. Settlement Era Houses: Until several crops were planted and harvested, sod houses, as described above, remained the dominant form of dwelling. As an alternative, some homesteaders constructed Rubble Rock Houses. These were identical to those houses built of sod except that their walls were formed by field stone and were laid undressed and uncoursed with concrete mortar. The crude rock dwelling on the Richard place east of Hardesty in Texas County illustrates the type. The Abbot house northeast of Gate in Beaver County, of which only the walls now stand, was a later (1907), much larger and more sophisticated native stone structure with both dressed and coursed masonry.

From railroad terminuses in Kansas or along the Rock Island in what is now Texas County, homesteaders were able to haul building materials

to their distant claims by wagon. Number and size of wagons, as well as capital resources, dictated the amount of materials that could be transported. Dwellings, therefore, tended early on to be very small, usually one room structures with wood frames and horizontal siding, gable ends or sides, a single entry doorway and one window. The Alexander Homestead House near Knowles in Beaver County illustrates the type, while the Barby House southeast of Beaver and the Old Noble homeplace south of Goodwell in Texas County demonstrate that other first generation houses often had two ground-level rooms, usually defined as hall-and-parlor houses (two rooms wide and one room deep). In the latter there were usually single entries and windows in each of the rooms. An abandoned homestead south of Turpin in Beaver County and another one west of Adams in Texas County reflect that the basic one and two room structures often had second level half stories, in these cases with gable roofs but sometimes with hipped roofs (see the unidentified house east of Hooker).

Excepting soddies, virtually all settlement era houses "grew" over time. To the gable end of a one room structure was added a second room, as illustrated by the unidentified house southeast of Boise City; to the rear of a hall-and-parlor

dwelling was constructed an extension covered with a shed roof as in the case of the Barby House, and to both the rear and front sides as demonstrated by the Mansfield House northeast of Balko. Sometimes the additions were in the form of cross gable (the Thrasher house north of Texhoma in Texas County); sometimes they involved both cross gables and shed roofs. The result was to transform a one or two room dwelling into a six, seven, eight or even thirteen room dwelling, as illustrated by the Cayton House southeast of Boise City in Cimarron County, the Duer Home southeast of Hooker in Texas County, and the Sanders Home southeast of Boise City.

Although not universal, over time the exteriors of many first generation wood framed and sided houses were stuccoed. This kind of finish probably was not added until the World War I Era, but by that time a stucco veneer came to characterize farm houses in Management Region #1.

2. World War I Era Houses: Optimum growing conditions, increased areas of cultivation, and wonderfully high grain prices brought prosperity to Panhandle farmers after 1914. With greater disposable income than ever before, many invested in more substantial housing, housing that had architectural styles which the McAlesters classify

as "Folk Houses: National."

Prominent among these were structures designed as Gable-front-and-wing Houses. Constructed of wood frame and clapboard siding, this type of house had single-door entryways and double-sash windows singly placed. A shed-roofed porch was typically placed within the L made by the two wings. Most often these houses are single story, but there are exceptions (the Lawson House east of Boise City in Cimarron County); some have gable and full-side rear extension. The Mathis Farm house at Goodwell in Texas County as well as an abandoned farm home west of Adams, also in Texas County, illustrate this type of residence.

More common in Management Region #1 is the Pyramidal House. With a massed-plan, nearly square shape, these structures were covered with equilateral hipped roofs, which were less expensive to build than those with side gables. The single story pyramidal house, that which is most typical in the study region, was especially popular in the American South. Distinctiveness is achieved by the addition of dormer windows, by size and placement of porches (partial, full front, wrap-a-round, shed, gable), by use of clapboard or stucco siding, and/or by gable or shed extensions. The Ashpaugh Home southeast of

Beaver in Beaver County, the Straus House southwest of Hooker in Texas County, and an unoccupied house east of Keyes in Cimarron County reflect this prominent style. The Balzar House west of Adams in Texas County illustrates that the pyramidal house can also be two stories, a style not frequently found among farm houses in the Panhandle.

A third folk house style found Management Region #1 is the I-House. One room deep, two full stories high, and two-three rooms wide, the I-house had side gables, symmetrically placed single entry front doors and sash windows singly placed. They were sided with either clapboard or stucco; most had a central, internal flue; the single story front porch was partial and had either a shed or hipped roof. In the study area I-houses usually have central gables, and most have rear gable extensions. The Brown Farm House southeast of Beaver and the Bennett House east of Turpin, both in Beaver County, illustrate this particular architectural style.

3. Between the Wars Era: The bounteous prosperity of the World War I era was not sustained for Management Region #1 farmers during the 1920s. Grain prices plummeted after 1918. At the same time, because of growing mechanization

and adequate growing conditions, the Panhandle area experienced some of its largest harvests ever during the 1920s, off setting somewhat the vastly lower prices. Farm home construction continued--the third wave--in the area, and for the first time some elements of academic styles of architecture, or hints thereof, began to appear.

Most notable of these was the Craftsman House. Rectangular in floor plan, these single story houses had gable fronts or sides and were usually three bays long and two bays wide. Generally with a balloon wood frame and either clapboard or stucco siding, the Craftsman House was notable for its low-pitched gable roof with wide, unenclosed eave overhangs, for exposed roof rafter and triangular knee braces, and for vertical muntins in the upper window sash. Often gables contain fishscale shingles, and usually full basements undergird the house. These elements are often subtle in Management Region #1, yet they are clearly visible in such houses as the Wiens/Frantz home and the old Slocum house north and northeast of Balko in Beaver County, the Houts Farm Home southwest of Boise City in Cimarron County, and Beck House south of Goodwell in Texas County.

Although occurring less frequently, farm

homes in the Tudor style were also built between the wars in the study area. These houses are single story, have steeply pitched roofs with multiple front gables, feature external chimneys, end porches under the main roof of the house, brick veneered external walls and wood casement windows with diagonal muntins usually placed in threes. The best example of this style in the study area is the Beck House east of Turpin in Beaver County.

Occasionally Panhandle farmers constructed houses with more Modernistic styles, namely art moderne. The Jones house north of Goodwell, for example, features stucco walls, a flat roof with stepped parapets and coping, a portico with a cover identical to that of the main roof, singly placed double sash windows with sills and a single entry doorway. The modernistic elements of the Jones house sets it apart from most farm houses in the study area.

Theoretically every architectural style employed in America prior to 1942 could be represented in the rural areas of Management Region #1. This would include Colonial, Dutch, Mission, Prairie, Queen Anne, "Chicago," "Neutral," "American" and two-story houses with "offices" and "men's rooms" recommended by the U.S.D.A. Extensive windshield surveys would suggest,

however, that they are not. The fact that the Oklahoma Panhandle was not effectively occupied until 1900 and that farm house construction was pretty much limited to one room and hall-and-parlor houses until 1914 tends to confirm the windshield survey. When it did occur, construction was generally utilitarian in character, manifesting itself in gable and shed roof additions to existing structures or in modest pyramidal houses.

C. Utility Buildings: Every farm house was surrounded by several utility buildings where activities occurred that were critical to the comfort, if not survival of the farm family. Among those common to each farmstead were the following:

1. Water Tower and Tank: For most Management Region #1 farms, drinking water for both animals and humans had to be retrieved from beneath the ground. Drawn by bucket from hand-dug wells initially, it was ultimately pumped to the surface by windmills. Usually water was stored in circular tanks made of different materials over time--wood staves, concrete, metal, and fiber glass. These tanks had conical roofs and were generally elevated some eight feet so that they could furnish the farm house and wash house with water by gravity flow. Water tanks sat either unprotected from the weather on a single-story,

square house constructed of concrete with a flat roof or protected in an enclosed two-story wood framed and sided square building with a hipped roof and a single-door entryway. The former style is illustrated by the tower on the Brown farmstead southeast of Beaver, while the latter is demonstrated by the stucco structure on the Katchel farm northeast of Balko in Beaver County. Sometimes the enclosed tower is joined to a single story wash house with a gable roof. The resulting structure, as on the Miley farmstead southeast of Boise City, has the profile of an early 20th Century oil drilling rig and pumphouse.

2. Wash/Pump House: Almost every homestead had a wash house, usually adjacent to the water tower or water source (windmill). These were usually small, rectangular, and constructed of wood frame and wood or stucco siding. Occasionally, however, they were fashioned from native stone or crudely poured concrete. Whatever the nature of the walls, the roofs were always gable, the single entry door was placed in the front gable, and either a half or full window set in one side wall. Sometimes the wash house was constructed over a root cellar, as in the case of the Zimmerman wash house northeast of Balko in Beaver County. When electrical systems driven by

wind turbines or gas-engine driven generators were installed on an individual farmstead, the batteries or motor were often placed in the wash house. Few rural homesteads were serviced by REAs until after World War II.

3. Out Houses: Every pre-1942 farmstead in the study area also had an outside toilet. These were generally square, with one wall given over almost completely to a door. They were constructed of wood frame and clapboard siding and had either gable or shed roofs. As often as not, the outhouse was placed more than 100 feet away from the farm dwelling, frequently adjacent to the chicken house, and it was a two seater, that is could accommodate two people at the same time. The outhouse was also mobile; thus when the drop was full, it could be placed over a new drop at another location.

4. Tornado and Root Cellars: Almost as common as the outhouse on pre-1942 farmsteads was the tornado and root cellar. Situated beneath the ground, most of these were rectangular, had poured concrete walls as well as a concrete, circular roof. The roof was frequently above the ground; steps down into the cellar were covered with a door that lay slightly perpendicular to the ground.

5. Vehicle Garages: Engine propelled, passenger vehicles were scarce in the study region until the 1920s. To protect such expensive items farmers generally constructed free standing garages several dozen feet from the house. These tended to be gable end structures of wood frame and siding (stucco as well), with a single vehicle entry on the gable front. At times, as on the Katchel farmstead northeast of Balko in Beaver County, the garage also contained a mechanical workshop for the farm, which necessitated a single entry doorway on the side as well as double sash windows.

Significance: The farm house was the center of rural life in Management Region #1. In 1910 there were 7901 farm homes in the area, a number that had decreased to 3672 in 1939. The farm house was a shelter and refuge for both children and adults. It was where women spent most of their time in the care of the family; it was the business center for the operations of the farm. A close study of the farm house can tell us much about daily life in the Oklahoma Panhandle prior to 1947.

The farm house can also tell us much about the growth and development of agriculture in the study area. The modest houses constructed before 1914

suggest that the area was in the first stages of settlement, that agriculture was still an act of faith. The large number built between 1914 and 1919 reflect some of the prosperity that came with the high prices of World War I, while those constructed in the 1920s and 1930s illustrate a maturing society but one bedeviled failing markets and blowing soil.

Utility buildings of the farmstead convey especially the challenges associated with living in a natural environment deficient in water and overly endowed with turbulent weather. The enclosed water tower is architecturally unique in Oklahoma, appearing only in a few places outside of the Panhandle. The wash and pump houses demonstrate how rural people organized such mundane tasks like clothes washing and sought to garner some of the advantages of electricity.

Eligibility: To be eligible for listing in the National Register of Historic Places, Farm Houses and their Utility Buildings associated with the Agriculture theme in Management Region #1 should retain integrity of design, setting, and materials. They should be located in a rural setting on a pre-1942 farmstead that can be documented by deed records in the county clerk's office and assessment records in the county assessor's office. The house and the buildings must be on their

original site and free of additions or major alterations that detracts from its historic and architectural integrity. No aluminum or vinyl siding materials should cover its original walls. Also, Farm Houses should be outstanding examples of the architectural type, and they must have been occupied by a farm family during the pre-1942 period. All properties must be documented by literary, pictorial, oral, and/or archaeological source materials.

II. GENERAL PURPOSE BARNS

Description: There is a relatively large and interesting literature on the barns of America. They have been classified by shape: square, rectangular, L-, T-, or U-shaped, and round. They have been categorized by a historical/geographical topology: Dutch, English, Pennsylvania, Sweitzer, Quebec Connected, Shaker Circular and Prairie. As in other historic contexts relating to the agriculture theme, these could all be described in great detail. To do so, however, is to describe something that does not exist in the field: there are no square, round, L-, T-, or U-shaped barns; there are no Dutch, English, Pennsylvania, Quebec Connected, or Shaker Circular barns. The most that can be said is that Region #1 barns are rectangular and that some have "Prairie" qualities. Constructed as they were during the first 25 years of this century (most between 1914 and 1919), they have in actual fact floor plans that vary only slightly and external appearances that can be distinguished from one another primarily by roof styles.

The basic barn type in the Oklahoma Panhandle is simple. Rectangular in shape, it is constructed of wood frame and various types of wood siding (usually beveled, dropped or flush if horizontal; but occasionally lapped and flush if vertical), is 1.5 to 3

stories tall, has a front end with animal and/or vehicle entries as well as openings to the hay loft, and possesses on the sides a series of 4-paned half-windows. In the interior, animal (usually horse) stalls are found on both sides, separated either by a walkway or a vehicle drive through. In smaller barns, the drive-through might be laterally placed or situated in a wing covered with an extended or shed roof.

What distinguished Region #1 general purpose barns from each other is their roof style. Although they appear less frequently than some, traditional gable roofs cover some of the older as well as newer barns in the Panhandle. The Hull farm barn southeast of Beaver appears to date from before 1910, whereas the Zimmerman barn northeast of Balko was constructed in 1942. More rare than the gable roof is a variation of it, the monitor roof, a style clearly reflected in the Black family barn east of Forgan in Beaver County. Almost as rare is the gothic arch roof that was utilized primarily by the German Mennonite families that settled in the vicinity of Balko and Adams, as, for example, the Karber Barn north of Balko in Beaver County and the marvelous Ewert/Duer Barn as well as the Schinkoski Barn northwest and west of Adams, both in Texas County. The Ewert/Duer Barn also has windows set in gothic arches.

Most prominent of all roof styles in the study is gambrel. The fact that the style reached its greatest popularity in the early 20th century, just as the Panhandle area was opening to settlement, helps account for its widespread usage. Also important is that the gambrel roof with its plank truss or braced rafter frame provided more space for hay storage than the traditional gable style. The Straus family barn southwest of Hooker is a pristine example of the gambrel roof style, while the Houts barn southwest of Boise City is one of the larger barns with that type of roof. A variation, reflected in the Baker family barn east of Hooker in Texas County, is a gambrel roof with flared eaves. Still another is a gambrel roof that extends to cover wings on either side of the main unit of the barn. The Coleman barn east of Forgan is a good example of this style that is sometimes identified as a "three-portal barn."

Significance: The significance of the General Purpose Barn is both economic and architectural. The barn was the economic center of every farmstead, most of which were fairly diversified in terms of producing corps and livestock. By 1920, nearly 60 percent of all Panhandle farms were larger than 320 acres, of which 200 were in wheat, 30 in sorghum grain, 5 in hay and 50 in pasture.

On each farm, also, there was an average of 8 horses and 4 cows. General purpose barns provided storage for cut hay and harvested grain as well as shelter for farm animals, especially draft horses. Many also had space where cows could be fed and milked. A functional barn was absolutely critical to the economic success of any farmstead.

Region #1 barns are also significant architecturally. Among other things, there would appear to be a greater incidence of gambrel barns in the area than elsewhere in Oklahoma. The gothic arch barns of the Balko and Adams areas are remarkable for their graceful symmetry. These structures also reflect the historical influence of the Mennonite immigrants to the Panhandle area.

Eligibility: To be eligible for listing in the National Register of Historic Places, general purpose barns must retain integrity of setting, materials, and design. They should be located on their original site on a pre-1942 farmstead and retain their original wood frame and sided walls. There should not be any additions or other major alterations such as tin or vinyl siding which would detract from their architectural integrity. The roof design, the major distinguishing element of Region #1 barns, must be

intact and follow any one of several shapes including gable, monitor, gambrel and gothic. The general purpose barn must have been associated with a pre-1942 farming operation and used for shelter for farm animals and storage for grain, hay, and other farm produce. The barns must be documented by literary, photographic, and oral sources.

III. SPECIALIZED BARNS

Description: General agricultural activity, whether on any single farmstead or in a surrounding area, often requires physical facilities beyond the all purpose barn. For these activities, specialized barns are often constructed to meet specific needs. Given the fact that Region #1 was essentially a grain producing area, these barns are unique and significant.

A. Animal Sale Barns: The average 320 acre farmstead in Texas County in 1925 had 8 horses, 4 cows and 2 hogs; in Beaver County the figures were double. Experts encouraged farmers everywhere to increase their animal population, especially hogs, as a hedge against depressed grain prices. Doing so caused farmers to enter into a commerce that required specialized facilities, where animals could be bought and sold. These facilities doubtless took on various shapes and sizes before 1942, but because our knowledge is limited details are sketchy and locations are uncertain. One structure has been identified, however, namely a pig sale barn. Built by Ernest Slocum in the mid-1920s on his homestead east of Balko, the barn is eight sided, constructed with wood frame and vertical flush siding, has two 4/4 double sash windows on each wall, and has a hipped roof crowned with an eight sided cupola that also has a hipped roof. When seating risers were

installed in the interior, the circular character of the building created a small arena beneath the cupola that was ideal for showing Duroch hogs.

B. Dairy Barns: Early on most dairy activities occurred in multi-purpose barns, where milking stauntions were adjacent to horse stalls and beneath hay lofts. These structures differed little in architectural style from the general purpose barns (rectangular, wood framed and sided, two story, gambrel roofs) other than they usually had large ventilators on the ridge, had concrete floors, and had no vehicle entryways. Constructed in 1916 but moved to the site in 1924, the Wiens/Frantz barn north of Balko in Beaver County demonstrates all of these elements. Excepting a double entry doorway on the front facade, so too does the Balzar barn west of Adams in Texas County.

There must be others, but as of the present we know of only three barns in Region #1 that were wholly dedicated to dairy operations initially. One of these was and is privately owned; the other two were and are institutionally owned. The two-story milking barn of the Teel Dairy north of Hooker in Texas County, the largest and one of the few commercial dairies in the Panhandle, was constructed in 1929 of "homemade" concrete blocks, had a flared gambrel roof with two ventilators, utilized dropped wood siding under the

eaves on the front facade where there was also an opening to the hay loft and two 4-paned half windows. A large vehicle entryway has been cut into the front, affording entry for large trucks and other machinery. Although they have now been enclosed and stuccoed over, multiple side windows also existed. On the interior, the concrete floor featured two rows of milking stalls, and thus two mangers and two gutters. Although badly altered, in all the structure's architectural style is reminiscent of a Wisconsin Dairy Barn.

Oklahoma Panhandle State University at Goodwell in Texas County has two large dairy barns. The oldest, dating from the 1910s, is a classic 2.5 story Wisconsin Dairy Barn, with board and batten siding, a gambrel roof with three ventilators, a hay loft, a row of side windows and a central driveway for litter removal. Attached to it is a milk processing area constructed of brick, with a flat roof and casement windows. Nearby is a large silo constructed of tile blocks.

In 1937 the university constructed a single-story milking barn of poured concrete walls with a gable roof and cross gable extensions. There were ventilators on the ridge, fishscale shingles in the gable ends, 24 pane steel casement windows, and an adjacent tile block silo.

C. Experimental Barns: Experimental barns can

assume different shapes and sizes. Judging from the hog barn on the farm at Panhandle State University, they are generally rectangular and have gable roofs with ventilators. They also have steel casement windows as well as animal entries. Constructed in the 1910s, if not before, the hog barn illustrates a different kind of wall construction--sod, stuccoed somewhat later with concrete.

Significance: Specialized Barns are significant economically, historically and architecturally. Among other things, they illustrate that agricultural activity in Region #1 involved more than planting and harvesting grain, but also extended to the commercial production of milk, hogs and cattle. Census material illustrates that the average 320 acre farmstead in the study area had from 2 to 5 hogs and 4 to 10 cows, numbers sufficient to impact the economic standing of an individual and to foster vital market activity. Specialized Barns also illustrate the historic effort to encourage the grain farmers of the study area to diversify their agricultural operations during the 1920s. Finally, the barns have architectural importance in that they tend to have unique styles and features, e.g. circular designs and sod walls.

Eligibility: To be eligible for listing in the National Register of Historic Places, specialized barns must retain integrity of setting, materials, and design. They should be located on their original site on a pre-1942 farmstead, experimental farm (which current knowledge limits to Oklahoma Panhandle State University), or market center. They should also retain their original walls, whether those be wood frame and sided, poured concrete, or stuccoed sod. There should not be any additions or other major alterations such as tin or vinyl siding which would detract from their architectural integrity. The original roof design must be intact, although roofing materials may very well be different. The specialized barn must have been associated with such pre-1942 agricultural activities as animal sales, dairying, or large animal production experiments. The specialized barns must be documented by literary, photographic, and oral sources.

IV. FARM ANIMAL SHELTERS

Description: Because of the diversity of agricultural activity, on any typical pre-1942 farmstead in Region #1 there was a variety of different farm animal shelters.

A. Poultry Houses: In the study area two types of poultry houses were commonly used: colony, or small house, and community, or permanent house. The colony house was usually built on sills, which served as runners so that the house could be moved. It had wood framing and siding, usually had a shed roof, and on the front had a single entry door with a row of half windows. Roosts and nests were located within the house to the rear.

Because they were permanent, community poultry houses were larger. All had wood frame walls, but wrapping varied between the preferred stucco to drop horizontal siding. Shed roofing was popular, but gable and half-monitor roofs were also used. As illustrated by the Kline chicken house east of Forgan in Beaver County and the Wiens/Frantz chicken house north of Balko, also in Beaver County, shed roof houses generally had multiple single door entries, with rows of half windows matching the number of doors. Gable or half-monitor houses had entries on the ends with windows on the sides (and in the monitor), as

illustrated by the Hodge and Alexander chicken houses, the former northeast of Forgan and the latter southeast of Knowles in Beaver County.

B. Hog Houses: In the windshield survey of the study region, no hog houses were identified. There must have been some, however, given census records, sale barns, and diversification in the 1920s. Literary sources suggests that there likely would have been either permanent or moveable hog houses on any particularly farmstead. Moveable houses measured 6' x 8', were constructed on runners, had wood floors and frames wrapped with lapboard siding, and had gable, combination or A-shaped roofs. End doors provided access to the house; south facing windows were features of houses with gable or combination roofs.

Permanent houses were usually 12 to 14 feet wide and with varying lengths. They too were constructed of wood frame and siding and had one of several roof types: gable, gambrel, shed, combination, monitor and half-monitor. Permanent houses usually had concrete floors with drains and various window configurations, some of them even in the roof (as in the case of those with gambrel roofs).

C. Cattle Sheds: Livestock was often sheltered and fed in structures of various kinds and shapes. These have been categorized as open-shed barns, monitor

barns, or closed barns. In Region #1, the open-shed barn has been the only one so far identified, the best example of which is at the Teel Dairy north of Hooker in Texas County. It is constructed of wood pole and 2" x 4" wood framing and is wrapped on three sides with sheet metal. It opens to the south, protecting the animals from the cold north winds.

Significance: Farm animal shelters in Management Region #1 have economic significance primarily. They reflect the fact that poultry, hogs, and cattle were vital to the economic survival of an individual farmstead. Indeed, they provided the eggs, meat and milk, or the basic foods that farm families depended upon for most of their daily meals. Census data confirms the importance: on average in 1924 a 320 acre farm in the study area had 120 chickens, 4 hogs, and 5 stock cows. The farm animal shelters also suggest an era, perhaps much simpler, when families produced much of the food that they ate.

Eligibility: To be eligible for listing in the National Register of Historic Places, farm animal structures must retain integrity of setting, materials, and design. They should be located on their original site on a pre-1942 farmstead and have been utilized in

the operation of that farmstead. They should also retain their original walls, whether those be wood frame and sided or wood frame and stuccoed. There should not be any additions or other major alterations such as tin or vinyl siding which would detract from their architectural integrity. The original roof design must be intact, although roofing materials may very well be different. Because they are relatively mundane in purpose, farm animal structures often fall into disrepair. The large number of those structures (especially chicken houses) that remain extant, however, demands that those chosen for nomination to the National Register should be in a very good state of repair. They probably ought to be nominated in conjunction with an entire farmstead, rather than just by themselves.

V. GRANARIES AND SILOS

Description: Grain was the principal crop in Management Region #1. In 1920, the value of all cereals produced in the area totalled nearly $22 million. In terms of acreage, twice as much wheat was planted as sorghum grain, although the gross yield was essentially the same (4.7 million bushels each in 1920). Handling the grain was always a problem. It was not always convenient, possible or even desirable to sell it once it was harvested. Market centers were usually along railroads, and railroads did not finish their construction programs until 1930. Under those circumstances the grain had to be stored locally. To meet that need farmers constructed different styles of granaries on individual homesteads.

Region #1 farmers who kept large cattle herds, either as dairy stock or for commercial purposes, also had to store considerable amounts of feed. Because that feed was green and in various stages of fermentation, it was kept separately from dried grains and stored in different kinds of silos.

A. Granaries without elevators: Primarily there are two types of granaries without elevators in the study area: one with a shed roof and another with a gable roof. Both are rectangular and constructed of wood frame and horizontal siding; both have floors,

although one may be concrete while the other is wood; both have single door entries (usually one per granary and/or bin) and rectangular vents in the gable ends or on the front facade. To provide stronger walls, most granaries have lapboard siding on the inside of the studs like the Thrasher granary north of Texhoma in Texas County; some have external lapboard siding with internal tie rods that are fastened to external braces as in the Sanders Granary southeast of Boise City in Cimarron County; others have internal siding as well as external wrapping, the latter fashioned from siding cut into 4 foot lengths, which then are arranged to cover one section of the exterior wall from bottom to top. As illustrated by the two old granaries east of Turpin in Beaver County, an 8' long wall would have two such configurations, while a 12' one would have three.

With the same purpose but a different design is the circular granary. Constructed of wood staves and covered by a conical roof, this structure is always reinforced by metal straps and steel wire.

B. Granaries with elevators: Prior to the arrival of the railroad and the construction of commercial elevators, some agriculture operations were so extensive and/or successful that they required extensive granaries on the farmstead itself. To enable them to place grain in the bins, farmers also installed

elevator equipment. Three different structural types have been identified: those with monitor roofs, those with gable roofs, and those with a hipped roof. All three, however, have rectangular headhouses, cupolas, with gable roofs that sit above the ridge line or as a cross gable. In the headhouse elevated grain is sprouted to different bins. These unique granaries are all constructed of wood frame and horizontal shipboard or drop siding; their sides are often clad in sheet metal and tie rods affixed to external braces reinforce grain bins; the grain is dumped into an internal dump that is accessed by a central drive through. There are no windows in the granary except in the headhouse.

C. Silos: As silos store green forage "in a succulent [and] palatable condition," they were a necessary feature of any farmstead that fed large numbers of cows, pigs and other animals. Because of environmental conditions and because Region #1 was essentially grain country (and ranch country), large feeding operations were rare prior to 1942. Consequently there are not all that many silos in the study area that were constructed before World War II. Those that do exist, based upon limited knowledge, were associated with dairy activities.

Three are three types of silos--vertical, pit, and bank. Vertical silos almost always have cylindrical

walls with dome roofs. Their walls are supposed to be air tight, strong and ridge, and perpendicular and smooth on the inside. They are primarily distinguished from each other by construction materials. Some of the earliest were built from wood staves reinforced with metal hoops; others were constructed from clay tiles, concrete blocks, bricks, cement staves, poured concrete, or metal. The best examples of pre-1942 vertical silos in Region #1 are on the farm of Oklahoma Panhandle State University at Goodwell in Texas County. Both are constructed of concrete tiles and reinforced by steel ring hoops; one has a dome roof, while the other has a flat one. Post 1942 examples are located on the Teel Dairy farm north of Hooker.

Pit silos are essentially vertical silos placed beneath the ground. The pits are excavated and then their walls are plastered with a cement and sand mixture. Once forage is placed in the silo, it is sealed with a cement cover until the feed is removed by a bucket attached to a windlass. The advantage of the pit silo was that it was that its construction costs were small; the disadvantage was that it took twice as much time to empty as its vertical cousin.

Bank silos were fashioned from the side of a hill. After a large trench was excavated into the hill, it was filled with silage, draped with a tarpaulin, and

covered with dirt. After it had "cured" sufficiently, it was opened at the end and fed to the animals. Only one bank silo has been identified in the study area (on the Thrasher farm north of Texhoma in Texas County), but it is uncertain as to whether it is pre-1942 in usage.

Significance: Granaries in the study area have economic, architectural and historic significance. The Panhandle counties before 1942 constituted one of, if not the largest wheat producing region in Oklahoma. Its production of sorghum grains was unsurpassed. In this activity granaries played critical roles, enabling farmers to store their crops efficiently until they could be marketed. Granaries without elevating equipment are notable because of their internal and external siding; those with elevating equipment constitute wholly unique structures. The present state of our knowledge would suggest that farmstead granaries with elevating equipment are found in Oklahoma only in the Panhandle. Historically granaries remind us of those days when wheat harvests were stored "at home" and not in commercial or cooperative grain elevators situated along railroad tracks. Those kind of granaries also speak to smaller harvests and to the time when farmsteads were more self-contained as

economic units.

Silos also have economic and historic significance. That there seem to be so few of them in Region #1 illustrates that the area was primarily a grain producing and ranching area rather than an animal feeding one. But silos did service the dairy industry, an activity that was very important to farmsteads like that of the Teels north of Hooker and to experimental enterprises such as that at Panhandle State University. The pit silos have some architectural significance primarily because of their rarity.

Eligibility: To be eligible for listing in the National Register of Historic Places, granaries and silos must retain integrity of setting, materials, and design. They should be located on their original site on a pre-1942 farmstead or experimental farm (which current knowledge limits to Oklahoma Panhandle State University), and they should also retain their original walls, whether those be wood frame and sided, concrete tile, or plastered earth. There should not be any additions or other major alterations such as tin or vinyl siding which would detract from their architectural integrity. The original roof design must be intact, although roofing materials may very well be different. Granaries and silos must have been

associated with such pre-1942 agricultural activities as grain storage, dairying, or beef-feeding. Moreover, they must be documented by literary, photographic, and oral sources. Because of the ephemeral nature of bank silos, they probably will not be eligible for nomination; pit silos should probably be nominated in conjunction with an entire farmstead.

VI. IMPLEMENT AND MACHINE SHEDS

Description: During the settlement era of Region #1, agriculture implements and machines were easily stored in general purpose barns. With World War I and especially during the 1920s, the mechanization of agriculture by trucks, combines, tractors, larger plows, etc., generated new requirements for storage facilities. Expensive machinery needed housing just like expensive horses! The result was the implement shed, which was 2-4 (or more) bays long and 20 to 30 feet deep. Almost always constructed of wood frame and siding, the shed was either closed or open, meaning that the front of the shed had a row of continuous doors or did not. The roof of the structure was usually shed, but occasionally it was gable or gambrel. The later roof design was generally associated with a structure that had vehicle doors on the gable end, making it more of a multiple machine garage than a "shed." The floor of the implement machine shed was either dirt, concrete, or plank.

Significance: Implement and machine sheds are significant economically and historically. Machinery was expensive and lost value rapidly if left exposed to weather. In 1922 it was estimated that nationally farm equipment lost value at the rate of more than $100

million annually. To protect against such a loss, farmers in Region #1 built suitable housing. The implement and machine sheds in the area illustrate how valuable they considered their combines, trucks, and tractors, to mention only three. The structures also speak to the historical phenomenon of mechanization in the study area. Specifically they symbolize the struggle of farmers to meet declining prices by reaping even greater harvests with the aid of agriculture machines.

Eligibility: To be eligible for listing in the National Register of Historic Places, implement and machine sheds should retain integrity in setting and design. Specifically, the sheds should be associated with a pre-1942 farming operation and have been used to store farm implements and machinery. Generally they will have had easy access to the fields and horse barn. Sheds must be located on their original site.

Because they are not central to the activity of a farmstead, implement and machine sheds often fall quickly into disrepair. Yet a fairly large number of them remain in the study area. Those that are selected for nomination to the National Register ought to be in conjunction with an entire farmstead. By themselves, an implement and machine shed is not that important.

VII. FARMSTEADS

Description: In the late 1920s, agricultural extension experts defined a farmstead as the individual locations of buildings, arrangement of buildings in relation to one another, and the location of driveways, trees, and other features which made up the living and working space utilized by an individually-owned agricultural unit. It is a correct but cumbersome definition. More useable is that a farmstead is that discreet collection of buildings in a rural setting where a single farm family lived and worked.

The structures that made up a pre-1942 farmstead were usually arranged in a rectangle. Closest to the country road, but set back from it 100 to 150 feet, was the single most important structure, the farm house. To the rear of it on one of the corners of the rectangle was the second most important structure, the general purpose barn. Nearby stood a granary and various types of feeding shelters as well as implements and machine sheds. Located opposite to the barn on the other side of the rectangle but closer to the farm home were poultry houses. Near the poultry house one would ordinarily find the out house. Further out was the hog house, if pigs were kept. Even more distant, perhaps beyond the rectangle, would be granaries with elevators.

Positions varied, of course, but behind and usually to the side of the farm house, the farmer was likely to place a windmill, water tower, wash house, and tornado shelter. Vehicle garages were always detached from the house, perhaps opposite the water tower. Nearby was a clothes line. Farm implement sheds and machine workshops, if there were any on a pre-1942 farmstead, were close to the barn.

Farmsteads also included planted materials. These included yards, vegetable gardens, trees, shrubs, and precious flower gardens.

The literature notwithstanding, Region #1 farmsteads that had their genesis in the 1890s followed no single design. The only commonality seemed to be that the farm house would be closer to the road than the barn. Certainly this is the only pattern shared by farmsteads like those belonging to the Katchels and the Wiens/Frantz families north and northeast of Balko in Beaver County, to the Balzers west of Adams and the Straus' southeast of Hooker in Texas County, and to the Mileys southeast of Boise City in Cimarron County.

Significance: The farmstead has economic, architectural and historical significance. The farmstead was the heart of agriculture in Region #1. In 1910 there were 7901 farmsteads in the study area;

by 1930 there were nearly 3000 less, or 4954 in all; by the end of the "Dirty Thirties" there were only 3672. Whatever the number, it was on the farmstead where the activity occurred that made the Panhandle area one of the richest agricultural regions in Oklahoma. The farmstead would seem, moreover, to have some relevance to landscape architecture in that the placement of buildings and activities helps explain the human condition. Finally, Region #1 farmsteads illustrate the impact of impersonal historic forces (drought, markets, mechanization, etc.) on a single agricultural unit.

Eligibility: To be eligible for listing in the National Register of Historic Places, farmsteads should retain integrity in setting and design. Specifically, the farmstead should be associated with a pre-1942 farming operation and have been used as the center in coordinating farm activities, providing shelter for farm family and farm animals and storage for farm produce and machinery. Farmsteads will contain such structures as a farm home, a general purpose barn, a windmill, a water tower, a tornado shelter, a wash house, an out house, poultry houses and other animal shelters and granaries. It should be laid out with a rectangle design, with the house toward the road and

the barn behind the house.

VIII. GRAIN ELEVATORS

Description: Grain elevators in the Oklahoma Panhandle have been thoroughly described by the PI in "Thematic Survey of Grain Elevators in Western Oklahoma, 1889 - 1950," completed in 1990 for the Oklahoma State Historic Preservation Office. Wood elevators in the region have also been the subject of a National Register Nomination submitted by the SHPO in ????. Many of those structures are now on the register. It is redundant, therefore, to provide an elaborate description here of the grain elevators in Management Region #1. That has already been done. Suffice it to say that there are essentially two different kinds of grain elevators in the study area: wood frame and sided as well as concrete.

A. Wood Frame and Sided: There were two styles of wood elevators. The walls and bins of "cribbed" elevators were constructed of 2" thick planks of varying lengths laid flat and spiked through one another. To protect the exterior walls from natural elements and sparks from locomotives, builders wrapped them in some kind of metal sheeting. Examples of cribbed elevators are to be found at Hooker in Texas County, Keyes in Cimarron County, and Gate in Beaver County.

Wood elevators were also constructed with lapped-

board sides. These structures had balloon frames with wood siding nailed to the studs. Tie rods extended through the bins and were anchored to horizontal braces on the exterior walls. These elevators too were covered with some kind of tin or corrugated iron and sheeting. "Iron clads" of this type can be found at Boise City and Keyes in Cimarron county, at Guymon, Baker and Adams in Texas County, and at Turpin, Eva and Knowles in Beaver County.

Whether cribbed or lapped-board sided, wood elevators all had full or partial headhouses (cupolas), a grain dump that could be located either to the side of the full bins and covered with a shed roof or situated inside the elevator beneath overhead bins. Ordinarily there were windows in the head houses.

B. Concrete Elevators: The elevator usually associated with the wheat country is concrete and cylindrical in shape. The so-called "main house" consists of four to six cylindrical concrete bins that are 125 feet high and 18 feet in diameter, each capable of storing 25,000 bushels of wheat. The bins are capped with a flat roof, also of concrete, on top of which is a rectangular headhouse with a flat concrete roof. The grain dump pit is located adjacent to or within the main house. Two of the earliest of this type of elevator built by Borton and Company, a

Hutchinson, Kansas, company that constructed more concrete elevators in Oklahoma than any other single firm, are located at Texhoma and Goodwell in Texas County.

Historically cylindrical concrete elevators were preceded by rectangular ones. Not many of those remain, with the Light Grain Elevator at Hooker being one of the few in the state and the only one in the Panhandle.

C. Annex Bins: Harvests often exceeded the storage capacities of both wood and concrete elevators. That being the case, operators often supplemented the storage facilities with bins constructed of steel plate and/or concrete. These additional containers were then fed grain from the elevating equipment in the main house. Virtually every elevator complex has annex bins, but two good examples are the elevator at Goodwell in Texas County and the Equity Grain elevator east of Keyes in Cimarron County.

Significance: Grain elevators have economic, architectural and historical significance. To repeat that here when the studies cited above exist seems redundant and unnecessary. Suffice it to say they illustrate the pervasive role of wheat culture in Region #1, they demonstrate the importance of railroads

to marketing wheat, they speak to a sense of place, and they demonstrate a local adaptation of New Age architecture among other things.

Eligibility: To be eligible for listing in the National Register of Historic Places, grain elevators should retain integrity of setting, materials, and design. The grain elevator must be situated along a historic railroad track used prior to 1942, specifically the Rock Island, Santa Fe, WF&W (Katy) and the BM&E railroads. Most, if not all, will be constructed either of wood or concrete. The elevators should be free of any major alterations, vertical extensions of the headhouse in wood elevators to accommodate modern elevating equipment excepted. Elevators will not always be associated with a small town. A thematic nomination for wood elevators in the Panhandle has already been made and accepted, but to this should be added elevators at Guymon and Boise City as well as the Equity elevator located east of Keyes.

IX. WATER RESOURCES

Description: In an area than gets only 20 inches of rain a year, and only then on an average, water is a precious commodity. The sustenance of human and animal life and the success of any given crop requires a dependable source. Surface water tended to be in limited supply, a circumstance that Region #1 farmers tried to mitigate by tapping the underground Ogallah aquifer via one of several methods.

A. Hand-Powered Wells: Prior to 1942 the simplest form of well was hand dug, its walls lined with some kind of masonry, and its head covered by a round or square, 3' high structure which was covered by a gable roof set on four wood pillars. Water was raised to the surface by a bucket attached to a windlass covered by the gable roof. Later the windlass and bucket system of drawing water was replaced by a mechanical pump which sat on wooden platform that covered the well-head.

B. Windmills: To lessen the labor involved in operating the mechanical pump farmers endeavored to harness the power of the wind. This was accomplished by use of the windmill, an invention that had its inventions in the 1850s but was not introduced into the Plains areas until the 1870s. If they could afford it, therefore, the first legal homesteaders in the

Panhandle in the 1890s brought the windmill with them. Possessing a series of curved steel blades set in a rosette pattern as well as a fan rudder, the typical farm windmill in the study area sat on either a wood or steel frame of four sloping legs which were braced at intervals. (Steel frames were in use as early as the 1890s, but wood frames continued popular in Oklahoma until the 1940s.) A ladder provided access to the blades and rudder mechanism which required periodic maintenance, repair, and especially lubrication (even in the self-oiling types). Associated with windmills is always some kind of a water tank: open faced and of permanent concrete or of moveable galvanized metal, if intended for cattle; enclosed and of wood staves, concrete tiles, or plate metal, if intended as a water supply for the farmstead.

Although not used to pump water, some windmills were designed to power electrical generators that produced electricity that was then stored in batteries. They had essentially the same superstructure.

C. Irrigation Works: Walter Prescott Webb has written that "The windmill mitigated the thirst of the Great Plains but did not assuage it." The search for additional supplies of water was continuous, a quest that caused some enterprising farmers in northeast Beaver County to utilize the Cimarron River as a source

of water to irrigate their crops. They excavated ditches, built flumes of stacked 6" x 6" timbers, and constructed gates of concrete (almost bunker-like) and manufactured steel mechanical devices. Floods that altered the channel of the river in 1914 made the gates and the channels useless. Less elaborate surface water irrigation facilities were also constructed in the 1930s along Sand Creek west of Goodwell in Texas County.

Significance: Water Resource properties have economic, historical and environmental significance. Hand-powered wells and windmills enabled Region #1 farmers to modify their physical environment to the extent that it made human and animal occupation, or settlement, possible. For that reason farmsteads and pastures could be established on the uplands of the region, far distant from its few streams. The irrigation works along the Cimarron River and Sand Creek, a tributary to Beaver River, speak other efforts on the part of man to conquer an environment hostile to traditional agricultural activities.

Eligibility: To nominate hand-dug/hand-powered wells as well as windmills both for the National Register of Historic Places on an individual basis will be

difficult. Only if it had rare historic significance would it be suitable, as for instance should it be the "first" well or windmill in a given area or it is a rare specie of one of the 100 different types of windmills identified by T. Lindsay Baker in A Field Guide to American Windmills. In those special cases it should retain integrity of setting, materials, and design. That would mean that the windmill was situated on a pre-1942 homestead over a deep water well, that the blades, gears and rudder can be identified as having been manufactured prior to 1942, and that its frame was either wood or steel but more likely wood. As a general rule, however, hand-powered wells and windmills should be nominated to the National Register as part of a farmstead.

To be eligible for listing in the National Register irrigation works must also retain integrity in design, setting, and materials. Our present knowledge of irrigation for agriculture (as opposed to that for ranching) would limit eligible properties to those along the Cimarron River in northeastern Beaver County and along Sand Creek west of Goodwell in Texas County. Such properties should show evidence of canals and water gates and be associated with surface water irrigation activities prior to 1942.