#### INTENSIVE SURVEY OF BROWN COUNTY INDUSTRIAL SITES

# HISTORICAL INDUSTRIAL SURVEY

BROWN COUNTY WISCONSIN

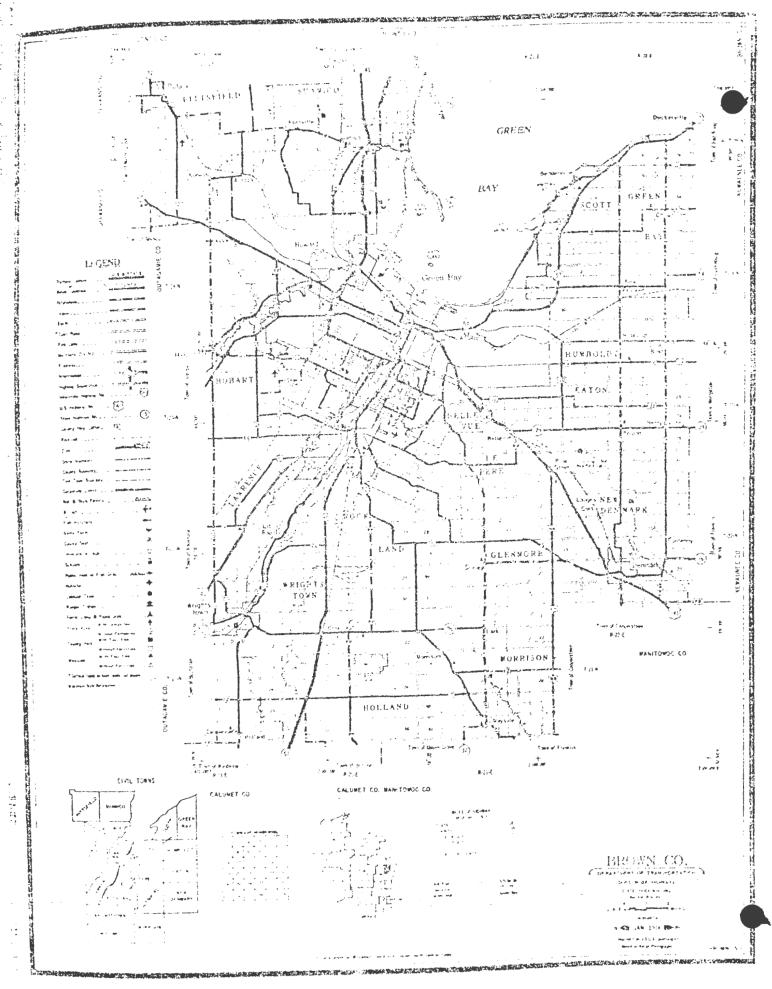
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Dr. Paul P. Abrahams Principal Investigator Reporter



# 3. ABSTRACT

The project undertook to locate, identify and describe significant industrial sites established prior to 1945 in Brown County. Sixty sites were discovered, the oldest a cheese plant constructed in 1877 and the newest a charcoal briquette factory built in 1933. The sites fell into the following industrial classification categories:

a. pulp and paper

b. industries related to pulp and paper

c. other metal working industries

d. wood and wood related products

e. clothing

f. printing and publishing

g. coal processing

h. electrical generating

i. mills and elevators

j. canning plants

k. cheese factories

1. breweries and bottling works

m. bakeries

No properties were nominated for the National Register because of lack of owner interest.

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#### CONVENTIONS AND ABBREVIATIONS

This report has used representative sites to present a background historical account. Existing sites are <u>underlined</u> when referred to by name. Those of exceptional architectural or historical importance are <u>underlined</u> twice. National Register recommendations are preceded by an asterisk (\*) and <u>underlined</u> twice.

Photographs and information on all the sites discovered in the survey are available on the Historic American Engineering Record (HAER) cards on file with the State Historical Society of Wisconsin.

#### 5. INTRODUCTION

The purpose of the investigation was to locate, inventory, describe and evaluate the remaining industrial sites of historical importance in Brown County. The University of Wisconsin-Green Bay cooperated with the State Historical Society of Wisconsin and the Heritage Conservation and Recreation service of the U. S. Department of the Interior in funding the project by providing some released time for the services of Dr. Paul P. Abrahams, the project director and for secretarial assistance.

The county-wide project began with several hundred possible sites derived from city and village directories. These were narrowed down to seventy-one existing sites, several involving more than one structure. The process of surveying locations required numerous field trips. In all, the project logged about 2,000 miles when survey, research, and follow-up trips are included. When the sites were reduced to (75) fifteen rolls of 35mm black and white photographs were taken and for each site, a map was produced. In addition several rolls of color photographs were taken of the three sites chosen for recommendation to the National Register.

We hope that the results of the survey will contribute to a greater understanding and appreciation of the industrial environment of Brown County and the role of industry in the experience of its citizens.

# 6. Documentary and Literature Research

While general sources on the economic history of Brown County are not abundant a variety of informative sources were available at the Library of the University of Wisconsin - Green Bay, the Area Research Center also at UWGB, the Brown County Library and the State Historical Society of Wisconsin. Deborah Martin, <u>History of Brown County</u>, <u>Wisconsin</u> (1913) remains the best single source. The Federal Census is necessary and useful for gathering the broad perspective of economic growth and the relative importance of various industries.

#### Background Research

Brown County has three historical industrial sub-divisions. There are the two industrial cities (1) De Pere and (2) Green Bay, which were settled and grew rapidly first because of the combination of resources and transportation at those locations. Bulk processing characterized industry here as elsewhere in the county but more advanced metal-working, boat building, woodworking and papermaking industries became important in De Pere and Green Bay; they did not develop in (3) the surrounding country towns of Denmark, Pulaski and Wrightstown. The country towns, which may be considered the third industrial sub-division, are characterized by the bulk processing nature of their industries.

The Fox River, which flows through the county from south to north, enters the county at Wrightstown, flows through De Pere and Green Bay, and enters the Lake Michigan at Green Bay. The only rapids on this stretch of the river are at De Pere, which enjoyed an early industrial advantage over Green Bay because of availability of cheap water power. In 1855, Joseph

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Lawton incorporated a dam, bridge, and lock system at the rapids and leased industrial sites along the dam above the rapids.<sup>1</sup> The dam thus became the site of numerous saw and grist mills located along the dam directly over the river and falls. Excellent shipping facilities above and below the locks attracted additional sawmills, boat building and other wood working establishments, and several iron works including the large National Iron Company. The iron works drew ore from Michigan.

The depression of the 1870's and the diffusion of steam power brought great changes to industrial De Pere. The sites along the dam were abandoned. The iron foundries and many of the sawmills failed or closed, made uncompetitive because of relatively high costs of raw materials at that location. In 1879, the successor to the De Pere Company, C. A. Lawton founded the <u>C. A. Lawton Novelty and Manufacturing Company</u> (233 North Broadway, De Pere, 1879: 2/21). This began as a machine shop but developed into a machinery making plant which produced whole mills for sale to agricultural processors in Northeast Wisconsin.<sup>2</sup>

Green Bay was more diversified in its economy than De Pere because of the excellent port facilities, an asset which increased in importance with the arrival of the Chicago and Northwestern railroad in 1865, and the connection of the west shore of Lake Michigan to the trans-Mississippi wheat region through Green Bay by the Kewaunee, Green Bay and Western Railroad around 1874.<sup>3</sup>

Anony. Commemorative Biographical Record of the Fox River Valley (Chicago: Beers, 1895), p. 31.

<sup>&</sup>lt;sup>2</sup>The Wisconsin Magazine, Green Bay Edition, 1951, p. 107.

<sup>&</sup>lt;sup>3</sup>United States Corps of Engineers, <u>History of the Green Bay Harbor</u>, <u>Wisconsin</u> (Milwaukee: U.S. Engineers Office, 1938), p. 2.

Green Bay became the hub of a distribution center sending coal west and flour east; bringing manufactured goods from the south and returning ore and timber from the Upper Peninsula of Michigan to Chicago and points south. The U. S. Army Corps of Engineers regularly deepened the turning basin and inner and outer channels of the river and the bay, allowing access to the largest ships on the Great Lakes. Steam power and electrification permitted the steady growth in the number and size of firms of the paper industry at Green Bay, while limited water power at De Pere restricted operations there to one paper mill, the <u>Shattuck and Babcock</u> mill (Main Ave., De Pere, 1890; 6/15). Moreover, because of its advantages for distribution Green Bay attracted large food processing industries. Together, the paper mills and the food processing plants outgrew and replaced the declining grain and wood processing industries that had characterized the industrial economy of the preceding period. Such alternatives were not available to De Pere on an economically competitive basis.

Industrial activity in Brown County increased steadily in economic importance paced by the developments at Green Bay and accelerated by the unusual market demands of World War One (1915-1918) and World War Two (1940-1945). The value added to the aggregate industrial product by each industrial worker increased from \$918 (1910) to \$3,535 in (1929), then to \$5,795 in 1947. While the population increased from 54,000 to 83,000 (1940) industrial workers increased as a proportion of total population from 5.5% to 7.6%. By this time the paper industry employed one-third of the industrial workers.<sup>4</sup>

<sup>4</sup>U. S. Census, 1940, p. 587

The survey identified ten different types of industrial sites in Brown County: paper, paper related industries, other metal working industries, wood and wood products, clothing, printing, and electricity; food including mills and elevators, canning and packing plants, breweries and bottling works, and bakeries.

#### Paper

The paper industry in Northeast Wisconsin had its origins in the Noenah-Menasha area where an assured supply of water power fulfilled one basic requirement of that industry. Though the paper making process has incorporated many technical improvements generally the basic process has remained the same: chipping or grinding the wood, cooking the chips to separate the fibers and give the final product whatever special qualities were desired, drying and pressing the wet fiber mass on moving screens, rolling, folding, and/or cutting (converting) and packaging the resulting product for distribution. The power generated by the falls and by the hydro-electric installations gave the Upper Fox, with its many rapids, a distinct advantage over the lower Fox at first. However, Kimberly-Clark Company's vigorous expansion of the 1880's included the establishment of a mill in Brown County at the De Pere falls in 1890.5 The Shattuck and Babcock mill (Main Ave., De Pere, 1890; 6/15) as it was called after its directors, took all but 290 horsepower of the water power at the site to drive sixteen large turbines with a rating of 1,565 horsepower. The building is in very good condition but important additions have been made by the present owner, Nicolet Paper, a subsidiary of Philip Morris Company.

<sup>&</sup>lt;sup>5</sup>Charles N. Glaab, Lawrence Larsen, <u>Factories in the Valley</u> (Madison: SHSW, 1969), p. 116.

The conversion of mid-Western industry to steam power created the demand

for enormous amounts of eastern coal and this product soon became the dominant item of traffic at the port of Green Bay. Shipping rates declined and it became feasible and necessary to utilize coal in competition with hydroelectric power. As the paper mills of the upper valley were compelled to add coal fired steam power to drive their expanding plants, the cost of power at Green Bay gradually fell below that of Appleton and, by 1929 it was substantially lower (\$0.0216/hp; \$0.0352/hp).<sup>6</sup>

John Hoberg, who had previously established a steam-powered paper mill at Kaukauna, was the first industrialist in this region to build a steam driven paper mill; he built a second in Brown County on the East River near the mouth of the Fox (800 University Avenue, Green Bay, 1895; 12/19).<sup>7</sup> The original small mill was torn down. Two older buildings which remain on the site were built after 1940. They are owned by Procter and Gamble Company. Other mills followed Hoberg's example and by 1911 pulpwood constituted 10% of the receipts at the port of Green Bay. Besides low shipping and power costs, the Green Bay mills enjoyed the additional advantage over the upper Fox Valley mills of beginning in product lines in which they were able to maintain a competitive edge in future years: toilet tissue, napkins, cartons, bags, fruit wrappers and paper towels, i.e. more or less the same products on which the success of their industry still depends.

Wisconsin Magazine, Green Bay Edition, 1951, p. 45.

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<sup>&</sup>lt;sup>6</sup>Calculations based on figures in United States, <u>Census of Manufactures</u>, 1929 (Washington: USGPO, 1933), p. 289.

# Paper Related Industries

The paper industry at Green Bay, as elsewhere, stimulated the growth of ancillary industries which supplied special machines or parts necessary for the operation of the paper making machinery. An early example of this was the Hudson Sharp Machine Shop (120 Main Street, Green Bay, 1890; 10/13) which produced parts for steamboats and sawmills, then adapted to make equipment for the Hoberg Mill.<sup>8</sup> Similarly, the Green Bay Foundry and Machine Works (401 S. Broadway, Green Bay, 1883; 7/15), located in the building of the earlier Duncan Foundry, invented, patented and produced a screen to segregate and remove solid materials from pulp liquor. The Paper Converting Machine Company (630 Day Street, Green Bay, 1928; 10/2) specialized in rotary folders in the production of which it came to have a dominant position in most countries of the world. Paper Converting moved to larger quarters (c. 1933) and sold the building to the Economy Machine and Tool Company which continued in the manufacture of special parts for converting machinery. The Straubel Machine Company (615 University Avenue) was established in 1897 to produce machinery for the paper industry. Louis Straubel invented and patented a machine for making interfold towels. In 1920, the company began to convert paper on the premises instead of selling the machines.<sup>9</sup> The building is in good condition and much of the original machinery is in use.

#### Other Metal Working Industries

Green Bay was a net importer of unfinished iron and steel products which were utilized for the manufacture of a large number of articles. Much of this work was done by artisans, blacksmiths or wagon makers, for example, in small handcraft shops.

<sup>8</sup><u>Ibid.</u>, p. 96.

<sup>9</sup>Green Bay Press Gazette, Tercentennial Edition, 18 July 1934.

The survey discovered three such shops, the most outstanding example being the <u>Henrick Gaede</u> blacksmith shop in the southern part of Brown County (Wayside Road, east of Highway 32, Town of Morrison, before 1874; 5/15). The building is a one-story frame structure with a wood foundation and is representative of its type. It has been continually used for the same purpose and many of the tools and other pieces of equipment for the craft remain in the intact interior.<sup>10</sup>

Two other local markets created an important demand for unfinished iron and steel before 1890: boilers and agricultural machinery. Boilers for steamboats were made along the lower Fox prior to the Civil War but sawmills, gristmills, cheese plants and other manufacturing turned increasingly to steam until electricity became common after 1930. The <u>Burns Boiler Works</u> (Fort Howard Avenue, De Pere, 1903; A/3A) now housing the U. S. Paper Company, is a remainder of the important activity of boiler making. Also in De Pere is the <u>Western Iron and Steel</u> <u>Gate Company</u> (549 Main Avenue, De Pere, 1906; 6/13) where dairy barn equipment was manufactured until 1911.

The Joseph F. Rothe Foundry Company building is an early reinforced concrete structure (620-630 University Avenue, Green Bay, c. 1912; 10/4). The facility is due for demolition to provide right of way for a bridge across the East River which is directly adjacent to the plant. The Rothe Foundry prospered on orders for such cast iron urban improvements as manhole covers for sewers.

10 Robert P. Falck, Pioneer Days in the Town and Hamlet of Morrison (Brillion: Brillion News, 1956), p. 21. Northwest Engineering Company (201 W. Walnut Street, Green Bay, 1917-1934; 7/4) is an aggregation of ten buildings on a 15½ acre site along the West bank of the Fox River. The firm was a successor to the Hartman-Greiling Company which manufactured ships for the United States Navy during World War One. They adapted to the post-war economy by manufacturing cranes on caterpillar tracks, and backhoes, introducing these important innovations to the construction industry. Their products enjoyed worldwide popularity.

#### Wood and Wood Products

Green Bay enjoyed a special place in Wisconsin's legendary wood industry of the post-Civil War period; two hundred million shingles as well as 40 million feet of lumber were produced and shipped from there in 1867 alone.<sup>11</sup> Besides the numerous lumber mills, there were woodworking establishments of many kinds, including saloon and hotel equipment, furniture, wagons, barrels, and ships. Little remains of all this activity except one important boatyard, a cheese box factory, the remains of a small sawmill now used as a zinc plating establishment, and a fairly recently constructed lumber mill. <u>The Kidney and Sons Boat Builders</u> (550 Main Avenue, De Pere, 1900; 6/9) built a variety of small pleasure and work boats until closed by the adverse economy of the 1930's. The family reopened the facility in 1941 under the name of the Fox River Boat Works and manufactured PT boats for the United States Navy during World War Two.<sup>12</sup>

11 U. S. Corps of Engineers, op. cit.

12 Matt Maes, "History of De Pere," (unpublished) in De Pere Historical Society Collection.

The cheese box manufacturing plant at Denmark has been in continuous use since 1915 and is constructed on the site of two prior buildings which burned. <u>Dufeck Manufacturing Company</u> (210 Maple Street, Village of Denmark, 1915; 3/10) offers a unique construction feature: the wooden walls of the 1915 structure were used as forms for the pouring of concrete walls which eventually housed the present facility. It features a brick boiler house of about the same date (1915) and a massive timbered interior. An adjacent wooden room and boarding establishment for workers, maintained by the business, was torn down in 1978.

#### Textiles and Clothing

Textiles and related industries were not promiment in Brown County at any time but a few can be noted, established for diverse reasons. The raw material factor was important in the establishment of the <u>Willow Grass Rug Company</u>, a large one story structure altered and adapted several times since its construction in 1912 (1206 Velp Avenue, Green Bay, 1912; 9/10). The company gathered the willow grass that grew in abundance in the wetlands around Green Bay and wove it into rugs. The plant was converted into the manufacture of wire cloth for paper making in 1924.<sup>13</sup>

The <u>Wainwright Glove Company</u> is a remnant of a once large leather industry that thrived in Green Bay around the turn of the century. The present structure (1232 East Walnut Street, Green Bay, 1908; 13/19) has been a glove factory since 1908, when it was constructed, until 1963. It was converted into apartment dwellings in 1972. The <u>Brenner Candy Company</u> (120 S. Washington, Green Bay, before 1917; 15/8) is a good example of adaptive use in the clothing industry. The narrow

<sup>&</sup>lt;sup>13</sup>Interview with Lorraine Kocha, October 1980.

structure housed different stages of the wholesale candy business on each of its three floors. In 1929, Green Bay Specialty Company bought the building and manufactured mens' work and sports clothes there. The facility is used today by North Trail Sportswear which specializes in coats and ski wear.

#### Printing and Publishing

The <u>Green Bay Press Gazette</u>, a merger of two earlier newspapers, began publication in 1915. In 1924 the company built the present structure (435 E. Walnut Street, Green Bay, 1924; 15/14) and added a third story in 1954. The building was constructed of reinforced concrete and has a number of decorative features.<sup>14</sup>

# Coal Brickettes

Green Bay has become an important trans-shipping point for coal since 1880. The coal comes from Pennsylvania, West Virginia and Kentucky through the Great Lakes and is shipped to inland consumers. After 1880 Reiss Coal Company became prominent in the business, maintaining a large dock space with unloading and storage facilities along the West bank of the Fox River. In 1936; the company built a <u>charcoal briquet plant</u> (1401 State Street, Green Bay; 1936; 2/12). The briquettes combine coal remainders with a combustible binder and were developed to reach residential consumers, primarily in Wisconsin. The briquette plant is in very good condition and contains the original pulverizing and pressing machinery.

<sup>&</sup>lt;sup>14</sup> Wisconsin Magazine, Green Bay Edition, 1951, p. 104. Brown County Publishing Company, an important printing establishment, is housed in the Denmark Brewery Building (1930). See HAER cards on file at SHSW Preservation Division.

#### Electrical Generating

The <u>Wisconsin Public Service Corporation</u>, also known as the Pulliam Power Plant (north end of Bylsby Avenue at the shore of the bay of Green Bay, 1926; 10/1) presently the third largest power plant in Wisconsin, was constructed in 1926 at a cost of \$2,000,000. It has been added to several times to keep production at demand levels and is constructed primarily of steel, concrete and brick. Still primarily a coal-fired plant, it features seven smoke stacks.<sup>15</sup>

#### Grain Mills and Elevators

Brown County was an important producer of grain, especially before the transition to dairy farming that occurred in strength during the 1880's. Because of its railroad and port facilities, and its proximity to the developing wheat belt of Minnesota and the Dakotas, Green Bay was, for a time, the preeminent flour shipping port in the United States, yielding place to Duluth after 1880.<sup>16</sup> After 1900, little wheat was produced in the county and little flour went out of the port. Some mills and elevators remained in operation grinding, mixing and distributing feed for local dairy operations.

The <u>Dousman Milling Company Building</u> (corner of James and Front Street, De Pere, 1892; 2/4) retains a few architectural features from the heyday of flour milling, although the upper floors burned and were removed in 1924. Strategically located on the east bank of the Fox River and adjacent to the tracts of the Chicago and Northwestern and the Milwaukee and St. Paul railroads, the company manufactured wheat, rye, and buckwheat flours as well as corn products. Also in De Pere, the <u>A. G. Wells and Company</u> (Front Street, De Pere, 1873; 2/2) represents an early milling operation that distributed on a regional basis.

<sup>15</sup>This is the only electric generating plant in the county.
<sup>16</sup>U. S. Corps of Engineers, op. cit., p. 30.

Originally a grocer, Wells ventured into flour milling, then became a supplier of food and feed to the logging camps of Michigan's Upper Peninsula.<sup>17</sup> The Wells family owns the business, distributing feed and other supplies to local farmers.

The <u>Denmark Flour Mill</u> (217 Broadway, Village of Denmark) is a mill and elevator representative of a number of small operations located by the survey. The building was constructed in 1909 and produced "Bohemian Ryc Flour." It now specializes in milling and mixing custom feeds for local farmers. The Denmark firm still sells "Bohemian Rye Flour," but obtains the product from Winona, Minnesota.

# Canning and Packing

The canning industry, which developed earlier in New England and other eastern states, appeared in Wisconsin at Manitowoc in 1887. A few years later, William Larsen, a wholesale produce dealer in Green Bay established the <u>Larsen Canning</u> <u>Company</u> (300-600 N. Broadway, Green Bay, 1895; 9/15) adjacent to the Chicago and Northwestern depot. He bought several thousand acres around the plant for the production of peas and other vegetables, the economic importance of which was not fully understood by local farmers at that time. He also invested in horses, agricultural machinery and labor to produce and harvest the crops as well as in the buildings, canning equipment and hands to process and pack. The necessity for considerable storage space for seed and for other preliminary production materials, as well as for the cartons of canned goods, influenced the design and layout of the buildings. By 1945, the company possessed 200,000 square feet of factory space housing the variety of belts, blanchers, cookers, lifters and fillers that had become the standard operating machinery.<sup>18</sup>

<sup>&</sup>lt;sup>17</sup>Wisconsin Magazine, Green Bay Edition, 1951, p. 111.

<sup>&</sup>lt;sup>18</sup>Fred A. Stare, The Story of Wisconsin's Great Canning Industry (Baltimore: Canning Trade, 1949), pp. 474-479.

The importance of proximity of supply to processing is illustrated by the failure of the De Pere Canning and Preserving Company which closed in 1912 after several years of struggle. Its failure was attributed to lack of experience and to a location too far from sources of supply. The <u>Green Bay Canning Company</u> (1125 - 29 Main Street, Green Eay, 1907, 1915, 1934), on the other hand, represents a small processing plant which survived, organized on the Larsen system. The same may be said for <u>Smith</u> <u>Brothers Truck Farm</u> (215 Berger Street, Green Bay, 1872, 12/3) which began as a wholesale produce operation but developed gradually into a sauerkraut cannery. In 1936, the Zimonick Brothers bought the buildings and continued the produce and canning business, adding beans and tomatoes to the line of canned goods. The original building, with its cornerstone inscribed 1872, is in good condition but

The <u>C. W. Streckenbach and Company</u> building, a large three story rectangular structure on the north side of the East River (801-881 Cedar Street, Green Bay, 1890's; 12/15) is all that remains of the once considerable fish packing industry at Green Bay. The company, called "the largest and best known," of the local shippers, cured and packed whitefish, trout, pike, perch and other fish from regional waters until 1911, when they sold out to a fish and produce wholesaler. It has been used for storage purposes since the 1930's.

the present owner, Vera Bornemann, anticipates its removal soon.<sup>19</sup>

#### Cheese Plants

Brown County plants were among those participating in the early development of the factory cheese industry in the State of Wisconsin. The first factory appeared in Ladoga, Fond du Lac County, in 1864. By 1865 there were thirty plants in the State showing that the benefits of uniformity and higher quality which came from the factory process and which invariably brought higher prices were perceived

19 Martin, History of Brown County Wisconsin, p. 324-325. Also, John Zimonick interview.

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by dairy farmers from the beginning. They were available, however, only because the factory imposed higher standards on the farmers. Since Wisconsin farmers were not committed dairymen at this time but continued to respond to the possibilities of wheat farming, diversified farming, and dual purpose (meat and milk) dairy farming, there were many diversions which kept the farmers from concentrating on improving the quantity and quality of the milk available for making cheese.

By the 1870's cheese manufacturing in several Wisconsin counties contributed significantly to the market for Wisconsin milk. Sheboygan, Jefferson and Green were the top three producers in the State with slightly more than 1,000,000 lbs. each; Brown County was ninth with a total of more than 750,000 lbs.<sup>20</sup> Wisconsin Agricultural Statistics for 1889 showed 21 cheese plants in Brown County and the total value of their production was \$11,910; their average income \$567. The largest plants in the county were at Glenmore, New Denmark, and Wrightstown areas in the southern part of the county. Here Scandinavian and German farmers predominated and were among the first to move in the direction of strict dairy farming. The large New Denmark plant, actually at Fontenoy, was operated by Deidrich Benecke. A Benecke Cheese Factory (corner County Trunk P and Langes Corner Road, Town of New Denmark, 1933; 8/8) still exists on the site, though not in operating condition. A one-story limestone plant, The Morrison Co-op Dairy (Morrison Rd., 1/2 mile north of Morrison, Town of Morrison, 1877; 3/6) built in 1877 is the oldest existing plant and is still in operation. It is the only building from the "pioneering" period of Wisconsin cheese-making remaining in Brown County.

<sup>&</sup>lt;sup>20</sup>Eric Lampard, <u>Rise of the Dairy Industry in Wisconsin</u> (Madison: SHSW, 1969), p. 119.

As Wisconsin agriculture turned increasingly to dairy farming and production per cow increased during the period 1890 - 1900, the number of cheese plants increased significantly to handle the supply of milk. In Brown County the number of plants rose to 37 in 1896 and to 47, a level which was maintained for many years, by 1924. The plants increased their capacity during this period and produced American cheese almost exclusively. They used about 10 pounds of milk to make one pound of cheese. Another factor influencing the increased number, which also limited the size of the plants, was the necessity of locating them near enough to the producers so that the milk remained fresh during the period of transportation from farm to factory, usually a distance of no more than five miles in the days of the horse and wagon.

As their function and location suggest, Brown County cheese plants provided important services to the rural economy. An additional service was added when the manager added a retail grocery to his operation as for example at <u>Benecke's</u> and <u>Oneida Farmers' Company</u> (County J and County U, Oneida, 1926; 14/6). At the former the patron could exchange his milk, eggs, live chickens and almost anything else for a credit against groceries; at the latter milk payments and grocery bills were separate transactions. The plants increased their capacity during this period (1896 - 1924) producing American cheese almost exclusively. They used about ten pounds of milk to make one pound of cheese.

All the evidence provided by the existing structures indicates that prior to 1920 cheese plants were small, housing equipment sufficient to handle 100 patrons at most. The average was probably closer to 70 patrons. They included a receiving station where the cans entered the plant, pasteurizing and processing tubs, packaging and cooling/storing areas. They were frequently one-story structures with a dwelling attached at the rear or, if unattached, adjacent to the plant. According to James Scray (West De Pere) the attached residence at the back of his plant was derived from the Dutch tradition. Sometimes living quarters were provided for in a second story. Until electrification became more common, not before 1930, the buildings were prone to destructive fires since all the heating, lighting and cleaning equipment used wood or coal-fired steam.

A tendency to concentrate production in very large processing plants became noticeable as early as the 1920's. On the basis of this tendency, and the operations of three large plants, Green Bay became the center of the cheddar cheese market. <u>The Fairmont Creamery</u> (156-162 and 200-216 N. Broadway, Green Bay, 1928 and 1923 respectively; 9/19, 9/18), began operations in Nebraska in 1884 and established a branch in Green Bay in 1915. By 1930, Fairmont had constructed two large five-story buildings to manufacture and store ice cream, butter, cheese and other dairy products. The buildings were constructed of reinforced concrete with brick exterior and are in good condition.

#### Breweries and Bottling Works

A half-dozen breweries flourished in Green Bay prior to 1900 and the brewery buildings were often quite prominent among the structures of that time. The businesses did not survive the Prohibition years, however, and the structures were razed or converted to other uses.

One that has survived in good condition is the <u>Van Dycke Brewing Company</u> building (710-712 Chicago Street, Green Bay, 1872; 10/14). It was part of a complex of buildings the rest of which have not survived. In 1925 it was bought by the Farmer Labor Publishing Company for the publication of <u>The People's Voice</u>. The structure is made of brick on a solid stone foundation and is in good condition. Nearby, the buildings of the <u>Allouez Mineral Spring Company</u> (804 Chicago Street, Green Bay, 1889; 10/16) mark the location of a mineral spring water bottling operation whose product was acclaimed for its medicinal qualities by doctors throughout the midwest. The pump to the spring is still in working condition and the interior of one of the rooms remains in good original condition.

After the end of Prohibition there was renewed interest in refurbishing old or constructing new breweries. The <u>Denmark Brewery</u> (138 Main Street, Village of Denmark, 1934; 5/18) is an attractive brick structure which housed beer making operations until 1945. The interior has been adapted to the operation of a substantial printing establishment, The Brown County Publishing Company.<sup>21</sup>

#### Bakeries

Commercial bakeries were not prominent in Brown County at any time but distributional advantages encouraged the growth of two: <u>Wernig's Sunlit Bakery</u> (1437 Cedar Street, Green Bay, 1923; 1/25) and the <u>Bohemian Baking Company</u> (1259-1267 Main Street, Green Bay, c. 1917; 1/13). Bohemian was converted to glove manufacturing in 1963 but Interstate Brands Corporation, distributors of Mrs. Karl's brand baked goods, currently uses the Wernig plant for the production of buns and rolls.

<sup>&</sup>lt;sup>21</sup>Wayne Kroll, <u>Badger Breweries Past and Present</u> (Jefferson, Wisconsin: Kroll, 1976).

#### 7. METHODOLOGY

As an industrial site survey the Brown County phase of the Fox Valley Historical Industrial Survey undertook to identify, locate, and describe sites of industrial activity that had been constructed prior to 1945. We included in this category only those activities which involved processing materials. We conscientiously excluded transportation (including railroad station, service buildings and bridges), warehouses, retailing and wholesaling establishments and service activities such as banks, insurance companies, etc. The "Engineering and Industrial Structures Classification" published by the Historic American Engineering Record was used to distinguish between types of industrial activity and to identify sites on Historic American Engineering Record forms (see appendix - attached).

In pursuance of the terms of an agreement made between the State Historical Society of Wisconsin and the Historic American Engineering Record, which, though later modified, required us to use HAER procedures we followed their guidelines as well as those suggested by the SHSW. To this extent HAER inventories of the Upper Peninsula of Michigan and of Rhode Island assisted us in conceptualizing our goals.

Dr. Paul Abrahams, the project director, had extensive conversations with SHSW and HAER staff and was in contact with SHSW staff throughout the duration of the field and research work. Craig Laurent, enrolled as a Master's degree candidate at the University of Wisconsin-Green Bay joined the project in September, 1978 as fieldwork and research coordinator under the supervision of Dr. Abrahams. His first task was to develop comprehensive lists of industries which had existed in Brown County using the city and county directories. Cheese plants were also identified and located through the use of Wisconsin creamery and cheese factory inspection reports.

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From these preliminary locations and field lists were constructed field survey schedules and techniques were developed. The first field work crews were recruited at the beginning of the summer of 1979. These included Peggy Noonan, Ann Nelson, and Holly Wouters, undergraduates with an interest in history, as well as Laurent and Abrahams. The surveys began guided by site lists compiled from the directory list.

The goal of the field trips was to locate, measure, photograph and otherwise describe the remaining (existing) historical industrial sites. In addition, survey teams approached local libraries, government offices, newspaper offices and other possible locations of historical records for additional descriptive materials. A considerable amount of interviewing was undertaken for the same reason or to identify knowledgeable persons who could be reached by the project phone for authoritative information.

As part of a follow-up on the first results of the survey, Laurent and two recruits, Nancy Senn, an undergraduate student of architectural history, and William Meindl, an undergraduate history major, went to Madison in August, 1980 and received training in procedures leading to more intensive use of sources. As a result of this conference and others, the criteria for site selection was revised, stressing buildings in which industrial function lent distinctive features to the structure. Meindl, a history undergraduate and Patt Baenen, an Urban Planning graduate student were added to the staff. Baenen became chief project assistant in December 1980 and supervised the completion of the HAER forms and SHSW inventory cards. Dey Watts, an Urban Planning graduate student was on the staff in 1981.

In addition to those already listed, the following sources were employed in compiling the entries for the HAER cards and the SHSW inventory cards: newspapers and magazines, Wisconsin government reports, maps available at the Area Research Center (UWGB), Brown County Library, De Pere Historical Society. These sources included the Sanborn Insurance maps. Our interest in establishing exact dates of construction led us to public records like the Register of Deeds, tax records, and abstract offices. Finally, volumes of general history such as Stare, <u>The Story of Wisconsin's Great Canning Industry</u> (1949), Kroll, <u>Badger Brewers, Past and Present</u> (1976) and others listed in the bibliography proved useful in developing understanding of the significance of individual sites and the industrial activities that went on there.

#### 8. Survey Results

The survey located several architecturally and historically important structures in Brown County. Unfortunately, not much enthusiasm has appeared, either in the community or among the owners, for the preservation possibilities of these structures. Institutions exist in the Historical Society and the County Museum, for influencing the community at some future date.

For other results see maps associated with the survey and with the report, on file at the State Historical Society of Wisconsin.

#### 9. Impact of Survey

There was not a great deal of interest in this survey in Brown County. One indication of this was the failure of the survey to locate any owners who were willing to have their building recommended for the National Register. The County Historical Society is primarily interested in the new Heritage Hill State Park. The County Museum has been going through a rough period of transition connected with funding a new building, moving and the re-organization of their governing body. The Preservation Society has expressed a limited interest in the industrial survey, a group that is definitely interested in residential improvement.

Perhaps this situation will change. In the meantime, a copy of this report will be placed on file at the Area Research Center of the University of Wisconsin at Green Bay.

#### Demolition Status

#### Green Bay

The Joseph Rothe Foundry (620-630 University Avenue) will be removed to provide space for a right of way of a new bridge and access across the East River at University Avenue and Monroe Streets. The significance of the buildings lies in its reinforced concrete construction. It is an early example of the type, the date of erection being 1912. Metal Service Company, a metal goods manufactory since 1935, is scheduled for demolition in 1981 to make space for city bus transit facilities. The City of Green Bay has already demolished some wooden structures on the site of the North End Fuel and Lumber Company. The site is not historically important. The Burdeau Poultry Farm, a chicken processing establishment, also known as the Wyand Pountry Farm, a three-story wood frame structure closed since 1974, will probably be destroyed when the sale of the property is completed. C. W. Streckenbach & Company buildings, formerly a large fish packing facility, later a warehouse, will suffer destruction of its oldest portions built around 1895. It is important as a representative of a business that once flourished in the area and is now mostly defunct. The Smith Brothers Truck Farm, also known as Zimonick Brothers Produce Company, is an important brick structure scheduled for demolition by its' now owner Vera Bornemann. The site, which is associated with significant developments in the canning industry, is in an area which is undergoing change and development.

The farmland associated with the structure is being offered for sale and is zoned for residential and commercial development.

#### De Pere

The wood frame building which once housed the Oneida Knitting Company, lately a warehouse, will probably be destroyed as part of an area rejuvenation there. It is not especially important as a structure or for its historic function. The A. G. Wells Company is an important old and representative structure which housed a retail grocery business but within a few years was adapted to the flour milling trade. The establishment continued in the processing and distribution business for many years. Parts of this building are older than any other building in this survey.

# Buildings in Historic Districts

Che historic district was represented by a structure included in the survey: the Astor Historic District (NRHP 2-27-80) in Green Bay. The Astor Neighborhood Association is adjacent to the Fox River on the East side. The Allouez Mineral Springs is an architecturally distinctive and historically important brick structure built in 1889. The pump to the spring is still operable and the original brick drive exists on the south side of the building. Some of the original interior remains unaltered. The Allouez Mineral Springs building is in the Astor Historic District.

This building is not scheduled for destruction.

# Educational Possibilities

The educational possibilities of this survey are considerable but interested parties or appropriate agencies have not yet been located. Some curriculum use might be discovered in primary and secondary schools. The information would probably have to be organized and presented in some familiar fashion for use by the instructors. There has been some talk of establishing a summer training course at UWGB which might include some of the material along with other innovative historical materials and techniques. At the present time, however, the University does not have the budget for anything but established courses and is closely restricting its summer program to those.

Students who worked on the project benefitted by extending their acquaintance with applied history and urban studies. There is little doubt that the research and field work associated with the project introduced them to a dimension that would otherwise have been missed in their education. The following is a quote from two of these students which was used in describing this aspect of educational opportunity at the University of Wisconsin-Green Bay:

"This is ideal experience for me," says Nancy. "I am leaning toward a career in historic preservation. Among other things, it gives me an opportunity to see what the possibilities are."

Bill adds, "This is putting my academic background to work in the 'real world'. For me, it has the obvious connection with my interest in history. I find it interesting. I suspect it will have something to do with my future."

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# Recommendations

The Historical Society should take steps to publicize the findings of this report in order to increase community appreciation for its industrial past. This should result in the eventual minimation of some industrial structures identified in this survey to the National Register. It would also increase the opportunities for educators to avail themselves of the out-of-classroom possibilities for instruction offered by the historical industrial sites. APPENDIX

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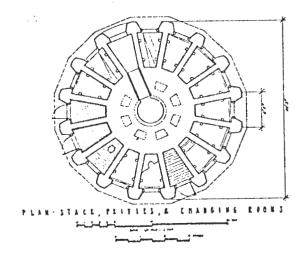
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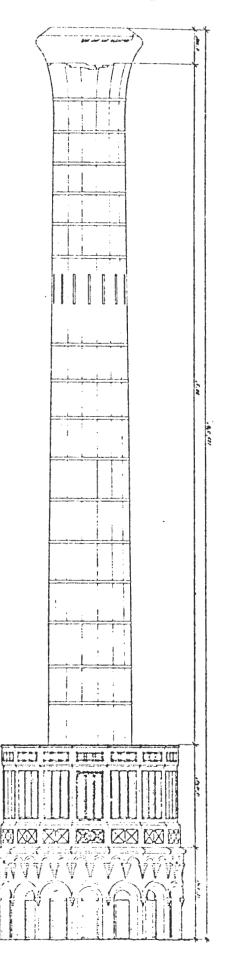
17. DIV

فيريدون الاشتر فبلاست

Engineering<sup>and</sup> and Industrial Structures Classification



HAER



#### HAER INDUSTRIAL STRUCTURES CLASSIFICATION SYSTEM

#### 0. EXTRACTIVE INDUSTRIES (EXTRAC)

- 01. Iron Mining (IRON)
- 02. Anthracite & Bituminous Mining (COAL)
- 03. Crude Petroleum & Natural Gas (OIL)
- 04. Non-Metalic Minerals (UNRL)
  - 0 Dimension stone
  - 1 Crushed and broken stone
  - 3 Sand & Gravel
  - 4 Chemical and fertilizer minerals
  - 5 Gemstones
  - 6 Salt
  - 9 Other
- 05. Non-Ferrous Ores (NON-FER)
  - 0 Copper
  - 1 Lead and Zinc
  - 2 Gold and Silver
  - 3 Bauxite and Aluminum
  - 4-8 (BLANK)
  - 9 Other
- 06.0 Surface
- 07.0 Subsurface
- 08.0 (BLANK)
- 09.0 Other
- 1. BULK PRODUCTS INDUSTRIES (BULK)

10. Agriculture and Rural Industries (AGRI) 0 Agriculture engineering 1 Farm buildings and machinery 2-3 (BLANK) 4 .Ginning 5 Tobacco products 6-9 (BLANK) 11. Thermally produced products (THERM) 0 Brick & structural clay works 1 Pottery 2 Glass works 3 Cement plants 4 Charcoal Kilns 5 Lime Kilns 6 Coke ovens 9 Other 12. Chemical Industry (CHEM) 0 Industrial organic and inorganic chemicals 1 Plastics & synthetics . 2 Pharmaceuticals

# 1. BUIK PRODUCTS INDUSTRIES (BULK) cont.

12. Chemical Industry (CHEM) cont. 3 Soaps, detergents, and animal products 5 Paints and varnishes 7 Agricultural chemicals 8 Petroleum products 9 Other 13. Food Processing (FOOD) 0 Meat, fish, and poultry products 1 Dairy and bakery products 2 Grains and cereals 3 Sugar (beet and cane) 4 Beverages (breweries, distilleries, and bottling plants) 5 Food preservation (refrigeration and canning) 6-8 (BLANK) 9 Other 14. Primary Metal Industries (METAL) 0 Stone-based iron furnaces 1 All other iron furnaces 2 Steel works and rolling mills 3 Iron and steel foundries (cast ferrous products) 4 Iron and steel forges 5 Non-ferrous metal smelters & refineries 6 Rolling, drawing, and extruding works (non-ferrous metals) . : 7 Non-ferrous foundries 8 Non-ferrous forges 9 Other 15. Textiles (TEXT) 0 Cotton spinning and/or weaving 1 Wool spinning and/or weaving 2 Silk spinning and/or weaving; man-made fibers 3 Knitting 4-5 (BLANK) 6 Handloom weaving 7 Textile finishing (printing, dyeing, etc.) 8 Twine, cordage, netting, and bagging 9 Other 16. Lumber, Timber, and Paper Industries (WOOD) 0 Logging 1 Millwork, veneer, plywood and other wood products 2-3 (BLANK) 4 Paper making 5 (BLANK) 6 Sawmills and/or planing mills 7-8 (BLANK) 9 Other

2.

1.

# 1. BULK PRODUCTS INDUSTRIES (BULK) cont.

- 17. (BLANK)
- 18. (BLANK)
- 19. (BLANK)
- 20. (BLANK)

# 2. MANUFACTURING INDUSTRIES (MFG)

21. Machine Manufacture (MACH)

- 0 Engines, turbines, pumps, and compressor manufacturers
  1 (BLANK)
- 2 Agricultural implements and machinery manufacturers
- 3 Construction, mining, and materials handling equipment manufacturers

4 Metal and woodworking machinery manufacturers

- 5 Paper making machinery manufacturers
- 6 Textile machinery manufacturers
- 7 Printing trades machinery manufacturers
- 8 Electrical generating manufacturers
- 9 Other machinery manufacturers

22. Fabricated Metal Products Manufacturers (FABR)

- 0 Cutlery and handtools
- 1 (BLANK)
- 2 Metal containers
- 3 Plumbing fixtures and equipment
- 4 Fabricated structural metal products
- 5 Metal stampings
- 6 Wire and screw machine products
- 7-8 (BLANK)
- 9 Other

23. Transportation Equipment Manufacturers (TEQUIP)

- 0 Automobiles and trucks
- 1 Air and space equipment
- 2 Ships and boats (including repairs)
- 3 Railroad locomotives and rolling stock
- 4 Motorcycles and bicycles
- 5 Carriages, wagons, and accessories
- 6 Fire engines and equipment
- 7 Auxiliary and control equipment
- 8 (BLANK)
- 9 Other
- 24. Professional, Scientific, and Precision Instrument Manufacturers (INST)
  - 0 A11
- 25. General Manufacturing (GENMFG)
  - 0 (BLANK)
  - 1 Publishing and allied industries
  - 2 Rubber products manufacturers

#### 2. MANUFACTURING INDUSTRIES (MFG) cont.

25. General Manufacturing (GENMFG) cont.

3 Leather and other animal skin products manufacturers

4.

5.

- 4 Cooking and heating equipment manufacturers
- 5 Toys, games, and novelties
- 6 Paper and plastic consumer products manufacturers
- 7 Craft industries
- 8 (BLANK)
- 9 Other
- 26.0 Ordnance, Munitions, and Explosives (ORDAN)
- 27.0 Finished Wooden Product Manufacturers (furniture, spools, barrels, baskets, etc.) (FNWOD)
- 28. (BLANK)
- 29. (BLANK)
- 30. (BLANK)
- 3. UTILITIES (UTIL)

31. Municipal Water Supply (WATER)

- 0 Collection & storage
- 1 Treatment
- 2 Distribution and transportation
- 3 Pumping
- 4-8 (BLANK)

9 Other

- 32. Sanitation (SANI)
  - 0 Sewage collection
  - 1 Sewage treatment
  - 2 Sewage disposal
  - 3 Storm drainage systems
  - 4 Pumping
  - 5-8 (BLANK)

9 Other

- 33. Gas (GAS)
  - 0 Manufacture
  - 1 Storage
  - 2 Distribution
  - 3-8 (BLANK)
  - 9 Other
- 34. Electricity (ELEC)
  - 0 Generation
  - 1 Municipal distribution
  - 2 (BLANK)

3 High-voltage transmission

- 4-8 (BLANK)
- 9 Other
- 35. (BLANK)

#### 4. POWER SOURCES AND PRIME MOVERS (PS&PM)

```
36. Human and Animal Power (MUSL)
      0 All types
    37. Water Wheels (WW)
      0 Horizontal (tub flutter)
      1 (BLANK)
      2 Undershot
      3 Overshot
      4 Breast
      5 Pitchback
      6-8 (BLANK)
      9 Other
    38. Water Turbines (WTURB)
      0 All types
    39. Wind (WIND)
      0 (BLANK)
      1 Smock
      2-8 (BLANK)
      9 All other
   40. Steam Reciprocating (STEAM RECIP)
      0-5 (BLANK)
      6 Industrial/mill
      7 Agricultural/portable
      8 Marine/pumping
      9 Other
   41. Steam Turbine (STEAM TURB)
      0-2 (BLANK)
      3 All types - vertical
      4 All types - horizontal
      5-8 (BLANK)
      9 Other
   42. Internal Combustion (INT COMB)
      0 All types
   43. (BLANK)
   44. Electric Motors (ELEC)
      0 · All types
   45. (BLANK)
   46. (BLANK)
5. TRANSPORTATION (TRANS)
   47. Railroads (RR)
      O Construction & engineering: non-sheltering such as cuts,
           fills, revetments, bridges, and tunnels
      1 Structures: sheltering (for maintenance of route &
           rolling stock)
      2 Passenger stations & sheds
      3 Freight facilities
```

# 5. 3

TRANSPORTATION (TRANS) cont.
<ul> <li>47. Railroads (RR) cont.</li> <li>4 Objects (such as locomotives, rolling stock, and other mechanical artifacts)</li> </ul>
5 Street railways, subways, and elevateds
6 Incline planes
7-8 (BLANK)
9 Other
48. Roads (ROADS)
0 Systems
1 Construction
2 Structures
3 Objects: milestones, signposts, etc.
4-8 (BLANK)
9 Other
49. Canals and Inland Navigation (CANAL)
0 Systems
1 Construction 2 Structures
3 Objects: canal and river boats 4 Navigational aids
5-8 (BLANK)
9 Other
50. Marine and Harbor Works (MARINE)
0 Docking facilities and structures
1 Navigational aids
2 Coast protection works
3 Objects: ships and other marine related artifacts
4-8 (BLANK)
9 Other
51. Air (AIR)
0 Airport facilities & structures
1 Aircraft
2-8 (BLANK)
9 Other
52. Pipelines (PIPE)
53. (BLANK)
54. (BLANK)
COMMUNICATIONS (COMM)

7.

100

19

55. Telephone and Telegraph (T&T)
0 All types
56. Radio and Television (R&TV)

- 0 All types 57. (BLANK)

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6.

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## 7. BRIDGES, TRESTLES, AND AQUEDUCTS (BT&A)

58. Beam or Girder (BEAM) 0 Wood 1 Stone 2 Cast iron 3 Wrought iron 4 Steel 5 Mass and reinforced concrete 6 Cast & wrought iron 7-8 (BLANK) 9 Other 59. Arched (ARCH) 0 Wood 1 Cast iron 2 Wrought iron 3 Stone 4 (BLANK) 5 Mass and reinforced concrete 6 Steel 7 Brick 8 (BLANK) 9 Other 60. Trussed (TRUSS) 0 Wood 1. Cast iron 2 Wrought iron 3 Steel 4 Covered 5 Cast & wrought iron 6-8 (BLANK) 9 Other 61. 0 Suspension 62. 0 Aqueducts 63. Viaducts and Trestles (VIAD or TRES) 0 All types 64. Cantilever (CANT) 0 All types 65. Movable Bridges (MOVE) 0 Bascule 1 (BLANK) 2 Swing 3 Vertical lift 4-8 (BLANK) 9 Other

### 7. BRIDGES, TRESTLES, AND AQUEDUCTS (BT&A) cont.

9.

- 66. (BLANK)
- 67. (BLANK)
- 68. Miscellaneous (MISC)
  - 0 Pontoon

# 8. BUILDING TECHNOLOGY (BLD TECH)

- 69. Foundations (FOUND)
  - 0 A11
- 70. Framed Superstructures (FRAME) -
  - 0 Wood
  - 1 Cast iron
  - 2 Wrought iron and steel
  - 3 Stone and brick
  - 4 Mass and reinforced concrete
  - 5 Ferro-vitreous
- 71. Floor Systems (FLOOR)
  - 0 All
- 72. Roof Systems (ROOF) 0 All
- 73. Fenestration (FENES)
  - 0 Cast-iron facades
- 74. Mechanical and Electrical Systems (MECH) 0 All
- 75. Ancillary Components (ANCIL)
- 0 A11

- 76. (BLANK)
- 77. (BLANK)
- 78. (BLANK)

9. SPECIALIZED STRUCTURES AND OBJECTS (SPEC STRUC)

- 79. Dams (DAM)
  - 0 Masonry
  - 1. Earthfill
  - 2 Rockfill
  - 3 Arch
  - 4 Flat slab or Amberson
  - 5 Multiple-arch
  - 6 Tainter (movable)
  - 7 Rolling (movable)
  - 8 (BLANK)
  - 9 Other
- 80. ' Tunnels (TUNLS)
  - 0 Cut & cover
  - 1 Rock-cut
  - -2 Earth-cut

#### 9. SPECIALIZED STRUCTURES AND OBJECTS (SPEC STRUC) cont.

```
80. Tunnels (TUNLS) cont.
  3 Subaqueous
  4-9 (BLANK)
81. Hydraulic Works (HYDRA) - See also 31: Water Supply, and
      49: Canals
  0 Flood control works
  1 Drainage works
  2 Power canals
  3 Irrigation works
  4-8 (BLANK)
  9 Other
82. Specialized Construction (CONST)
  0 Underground structures
  1 Rocket launch facilities
  2 Facilities for reactors and particle accelerators
  3 Fortifications
  4 Towers
  5 Observatories
83. Thermal Structures (HEAT)
  0 Chimneys and smokestacks
  1 Ovens
  2 Kilns
  3 Furnaces (see also 14.0)
  4 Glass cones
5 Refrigeration plants
 -6-8 (BLANK)
  9 Other
84. Materials Handling and Equipment (MATH)
  0 Excavating and dredging machinery
  1 Lifting and hoisting
  2 (BLANK)
  3 Conveyor systems
  4 Combined systems
  5 Processing, screening, and separating equipment
  6 Aerial tranways
   7-8 (BLANK)
  9 Other
85. Materials Storage (MATS)
  0 Elevators & Silos
  1 Tanks & towers
   2 Gas holders
   3 Warehouses
   4 Reservoirs
   5-8 (BLANK)
   9 Other
86. Power and Energy Transmission (P&ET)
  0 Mechanical
   1 Electrical
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## 9. SPECIALIZED STRUCTURES AND OBJECTS (SPEC STRUC) cont.

86. Power and Energy Transmission (P&ET) cont.

- 2 Hydraulic
- 3 Pneumatic
- 4 Steam

87. Workers Housing, Communities, and Other Related Artifacts (HOUS)

- 88. Adaptively Used Industrial and Engineering Works (ADAPT)
- 89. Museums of Technology (MUSEUM)
- 90. Land Surveying Landmarks (LAND)
- 91. Amusements
- 92. (BLANK)
- 93. (BLANK)

- 11

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