

**United States Department of the Interior
National Park Service**

National Register of Historic Places Multiple Property Documentation Form

This form is used for documenting property groups relating to one or several historic contexts. See instructions in National Register Bulletin *How to Complete the Multiple Property Documentation Form* (formerly 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items

_____ New Submission X Amended Submission

A. Name of Multiple Property Listing

- Tucson Health Seekers: Design, Planning, and Architecture in Tucson for the Treatment of Tuberculosis, Pima County, Arizona

B. Associated Historic Contexts

- Sanatoria Development and Community Planning, Tucson, Arizona 1880—1945
- Sanatoria Architecture in Tucson, Arizona, 1880—1945

C. Form Prepared by

name/title Prepared by: Jennifer Levstik/Mapped by: Tyler Theriot

organization Tucson Historic Preservation Foundation date Amended July 31, 2012

street & number P.O. Box 40008 telephone 520-398-4933

city or town Tucson state AZ zip code 85717

e-mail info@preservetucson.org

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

(_____ See continuation sheet for additional comments.)

Signature and title of certifying official	Date
State or Federal Agency or Tribal government	

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Signature of the Keeper	Date of Action
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Provide the following information on continuation sheets. Cite the letter and title before each section of the narrative. Assign page numbers according to the instructions for continuation sheets in National Register Bulletin *How to Complete the Multiple Property Documentation Form* (formerly 16B). Fill in page numbers for each section in the space below.

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Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 460 et seq.).

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Tucson Health Seekers, Pima County, Arizona

Section Number E Page 1**Context 1: Sanatoria Development and Community Planning, Tucson, Arizona, 1880—1945**

Tuberculosis, the "White Plague" of the 19th and 20th centuries, spawned a variety of treatment protocols; protocols characterized by "superstition, myth and subjectivity" (Campbell 2005). The American Southwest and especially Tucson, Arizona, capitalized on the reported curative powers of hygiene, fresh air and sunlight as well as traditional indigenous healing practices to entice health seekers to relocate to the city. In doing so, Tucsonans developed an "Architecture of Tuberculosis." Tucson's sanatoria* architecture promoted the eastward and northward expansion of the city, prompted the introduction of zoning regulations, and solidified the popularity of revival style architecture—all of which has left a distinctive mark on the city that persists to the present day.

Incidence and Identification of Tuberculosis in the United States, 1830—1945

In 1882, German bacteriologist, Robert Koch, identified *Mycobacterium tuberculosis*. Prior to Koch's identification of the tuberculosis bacterium, the disease was commonly known as *consumption* or *phthisis* and characterized as a dry persistent cough, throat irritations, chest and shoulder pains, difficulty breathing and in severe cases, emaciation (Ryan 1993). The disease was common throughout industrialized Europe and while less severe in the United States, by the early-to-mid-19th century (1830-1850), tuberculosis became the leading cause of death, accounting for one in every four deaths in the United States (Ryan 1993). The incidence of this disease was highest in urban and industrialized areas in New England and the eastern seaboard. At the time, little was known about the disease, including the fact that it was contagious. Because the disease was thought to be hereditary, little attention focused on public sanitation practices as a way to curb its spread. Further, certain individuals with "weakened constitutions" who were identified as predisposed to the disease were advised to reduce their intake of rich foods, remove themselves from rainy climates, and take up vigorous exercise. These early medical advisements did little to combat a disease that was highly contagious, spread indiscriminately among persons of every race, class, and sex, and incubated in densely-packed urban centers (Rothman 1994).

Despite Koch's identification of a causative bacterium, by the end of the 19th century medical practitioners continued to attribute the disease to heredity, climate, diet, lifestyle, and ventilation. It was not until the early 20th century that doctors acknowledged that the disease was contagious and passed from person to person. Notwithstanding this realization, sanatoria architecture during the 19th and 20th centuries continued to

* *Sanatoria* is the plural of Sanatorium

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reinforce the ideas that climate, diet, good ventilation, and a healthy lifestyle were curative. In fact, Koch's discovery of the tuberculosis bacterium reinforced rather than reduced the perceived need for the development of sanatoria offering such benefits. By the 1880s, improved sanitation practices, diet and living conditions, as well as genetic resistance within the population did, in fact, reduce the number of deaths attributed to tuberculosis to one in every eight deaths in the United States (Ryan 1993). Despite the decreasing incidence of disease and death, however, tuberculosis continued to be a significant public health problem. This was especially true in urban centers among the working poor, particularly among immigrants and other minorities who lived in cramped and unsanitary conditions. Increasingly, then, the disease became linked in the public mind with both groups. As a result, those with the least resources were not only most susceptible to the disease but often victims of the public fear surrounding the disease.

As the medical community in the early 20th century became increasingly educated about the spread of the disease, many medical and public officials saw modern industrialized centers as a root cause of the disease and argued that curing tuberculosis required an antidote to modernization (Campbell 2005, Topp 1997). One such antidote came in the form of sparsely populated cities such as Tucson, Arizona that were remote from eastern urban areas. As former army doctor, C. L. G. Anderson noted, Tucson was an ideal location and more desirable because it lacked "mammoth hotels with their thousand guests and gilded cesspools" (9 April 1890). From this perspective, the remoteness of Tucson and Arizona more generally, would appeal to consumptives who feared hospitalization in industrialized cities plagued with throngs of sick people. In the 1890s Tucson was exactly what the doctor ordered: a place where a natural lifestyle could be fostered and a cure could be found away from the terrors of modern cities. Further, Tucson and many cities throughout Arizona emphasized their communities' associations with American Indians, arguing that the health of American Indians was attributed not only to hereditary makeup, but to a natural lifestyle found in the vast deserts and towering mountains of Arizona. Indeed, throughout the 19th and 20th centuries Arizona's medical establishment and community leaders lured consumptives to the state with romantic images of American Indians living healthily and close to nature (Rothman 1994).

The backlash against industrialization corresponded with increased understanding among the general public regarding the spread of the disease and the need for isolating the sick, especially in sanatoria. Although sanatoria development continued to include treatments related to proper diet, rest, and good ventilation, their architecture became increasingly more standardized. In part this reflected the need to keep patients isolated from the healthy population, but architecture also reflected then-current medical ideas about the best way to treat the disease. Much of this information was made available through public awareness campaigns. The creation of anti-tubercular organizations including the National Association for the Study and Prevention of Tuberculosis (the

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precursor to the American Lung Association), as well as public health campaigns like *Easter Seals*, were established to further raise awareness about the disease, but also to raise funds for research. Prior to the effort to eradicate tuberculosis, no other disease had been the recipient of such concentrated efforts to educate the public. Insurance companies like *Metropolitan Life*, local health leagues, and even the *Journal of the Outdoor Life*, a magazine dedicated to the topic of tuberculosis, were established to further educate the public and combat the disease. By 1916, there were also 1,324 organizations throughout the United States dedicated to the treatment of tuberculosis (National Tuberculosis Association 1919). Increasingly, Americans learned that the disease could be spread through saliva and close proximity to someone with the disease. Until the end of the 1920s, however, these and other public health campaigns focused largely on improving social conditions that many thought led to the contraction of the disease (Teller 1988).

By the early-to-mid-20th century, doctors were finally able to diagnose the illness through the use of tuberculin skin tests and x-rays, identifying the disease through the presence of tubercle bacillus, rather than waiting for symptoms to manifest. Early detection helped curb the spread of the disease by identifying patients with the bacterium and treating them before the disease became more advanced and highly contagious. In addition, surgical procedures that included collapsing or partially removing pieces of a patient's lung were introduced as treatments for the disease. Public health campaigns continued to flourish during this time, but moved away from attacks on industrialization by emphasizing individual accountability, communal good—and continued isolation. Public health information was everywhere; public buildings posted signs advising people to avoid spitting and coughing in public, movie theaters hosted films about how to maintain a clean and well-ventilated home, and local health leagues campaigned at county fairs and in public schools. City and state health departments throughout the United States required doctors to identify all patients who tested positive for tubercle bacillus, and any patient who refused treatment was forcibly removed and placed in a sanatorium or isolated from the general public (George 2003). Health departments would also fumigate any dwelling they deemed posed a threat to the public's health and even went so far as to advise which building materials were less likely to harbor bacteria. Non-porous building materials, such as metal, porcelain, and linoleum were recommended over wood and cloth that were thought to hide disease-spreading bacteria (George 2003).

The aggressive health campaigns of the 19th and early 20th centuries resulted in a rapidly declining mortality rate amongst those with tuberculosis. In 1930, the mortality rate dropped to an all-time low of 50 deaths per 100,000 people. Then, in 1943, microbiologist Selman Waksman developed the antibiotic, *streptomycin*, and by 1954 tuberculosis accounted for only 10 deaths per 100,000 people (Ryan 1993). Despite

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Waksman's creation of an antibiotic, however, wide-spread vaccinations were not implemented in the United States. Instead doctors advocated testing for tubercle bacillus rather than implementing universal vaccinations. The results were positive enough that in 1989 health officials predicted that tuberculosis would be completely eradicated in the United States by 2010 and world-wide by 2025 (Ryan 1993). Unfortunately, this proved overly optimistic. The displacement of people due to military conflicts, immigration from country to country, international air travel, drug-resistant strains of the disease, high levels of incarceration, homelessness, and intravenous drug-use have made tuberculosis, once again, a worldwide public health crisis (George 2003).

The White Plague in Tucson, Arizona, 1880—1945

Historically, the southwestern United States was a popular destination for both Easterners and war veterans suffering from pulmonary and respiratory diseases. The western (and Southwestern) United States offered abundant sunshine, warm and temperate climates, and was less densely populated than the more industrialized cities of the East Coast. Prior to the 1880s, only the wealthy, adventure-seekers or truly desperate Easterners made the westward trip, but with the arrival of the railroad in the 1880s, hordes of "health-seekers, lungers, and consumptives" flocked to the western United States in search of healing. Every western state welcomed and hosted their share of these health-seekers, many of whom were looking for relief from tuberculosis symptoms. Prior to 1890, Denver, Colorado served as the "tuberculosis capital" of the United States, but as other western states followed suit, Arizona became the state of choice for consumptive patients (Sonnichsen 1987). Populous eastern and southern states were reluctant to accommodate such patients. Western states and territories, however, welcomed the new arrivals despite the fact that they were bringing a contagious illness with them. From the perspective of territorial officials, every new arrival signaled a step closer to statehood. By 1912, these new residents helped Arizona reach the population required for Statehood. Nor was Arizona alone in this population boom. In 1913, a federal public health survey noted that more than half the population of Pasadena, California; Colorado Springs and Denver, Colorado; El Paso, Texas; Albuquerque, New Mexico, and Tucson, Arizona had emigrated west in search of a cure for consumption (Rothman 1994).

Because good climate, ventilation, and rest were thought to help cure tuberculosis, more and more doctors prescribed Arizona's dry climate and plentiful sunshine to their patients as curative for tuberculosis as well as other respiratory illnesses. By the 1890s some medical personnel published recommendations regarding the region's curative powers. One former army doctor, C. L. G. Anderson, for instance, presented a paper at a medical meeting in Hagerstown, Maryland on April 9, 1890, entitled "Arizona as a Health Resort."

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He declared that every part of Arizona would provide a “haven for a sick man,” but he particularly recommended the southern deserts around Tucson. In support of his recommendations, Anderson argued that he had met few sick people in Arizona and that illnesses like tuberculosis were rare among American Indians and Mexicans there (Sonnichsen 148:1987). Further, he emphasized that the remoteness of the state was ideal for rest and recuperation, but did warn that some individuals (namely women) who were high-strung or “with finer nervous organizations” would be unlikely to “stand [Arizona’s] stimulating atmosphere” (Anderson 1890). The local Tucson newspapers also encouraged the theory that the local climate, air, and sunshine would cure whatever ailed you, and promptly announced that Tucson would “soon be known as the sanatorium of the southwest” (2 March 1888, *Star*). By 1897, the *Star* called Tucson “the health seekers Mecca and the invalid’s paradise” (24 February 1897). The newspaper also quoted local physicians who dismissed the medical benefits of California and Colorado climates. According to Dr. W.B. Purcell and Dr. N.H. Matas, Colorado was unsuitable for winter residency because it was too cold and California was too humid and foggy. In contrast, Arizona, and in particular Tucson, was dry and warm year round. Further, Drs. Purcell and Matas, noted that native Tucsonans born to consumptive parents rarely developed the disease and advised others who wished to remain exempt from the disease to move to Arizona’s southern deserts (24 February 1897, *Star*).

True to the newspaper’s prediction, Tucson quickly became a mecca for health-seekers. Because of the abundance of available space, temporary towns sprang up around Tucson to accommodate the invalids and capitalize on the money-making potential in the throngs of frightened and sick people that immigrated to the city. By 1892 however, the demand for accommodations outpaced supply and area doctors remarked to the Tucson Board of Trade that very few good accommodations were available to the newly arriving sick. Clearly, the early advertising campaigns had worked, but Tucson was not equipped to handle the rush of invalids coming to the city. By the turn of the 20th century, Tucson only had one formal public sanatorium, St. Mary’s Hospital and Sanatorium, and a sprawling squatter’s camp known as Tentville. For those who could not find housing at one of these locations but who had cash in hand, other arrangements with hotels and enterprising residents could be made. Others looked to the Homestead Act of 1862 to acquire free or— with preemption claims—inexpensive land where they could recuperate (Stein 1990). Few people who came to the city, however, had the financial resources to secure appropriate lodging. Temporary squatter camps and shacks outside Tentville and in the foothills of surrounding mountains soon dotted the desert landscape along the edges of Tucson (Sonnichsen 1987).

Despite the boon to the local economy, not all Tucsonans were receptive to the new arrivals. Further, even while local papers were espousing the curative benefits of

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Tucson's climate, they were simultaneously warning local residents about the threat of disease. Many Tucson businesses turned health-seekers away for fear of contracting tuberculosis, and this fear was aided by an 1890 editorial in the *Star* explaining that tuberculosis was contracted through saliva and that healthy people should stay at least four feet away from a consumptive for fear of being spat upon (31 January 1890). Furthermore, because there was no cure for tuberculosis and very little was known about how to treat the disease, area doctors began contracting the illness themselves, further spreading fear among the local population in regards to their new neighbors (Sheridan 1995). By 1900, tuberculosis was a major health crisis in the city.

Numerous philanthropic organizations were created to address the new crisis. Women like Congresswoman Isabella Greenway, president of the Tucson Hospital Society, and Mr. Emanuel Drachman of the Arizona Health League were at the forefront of local efforts to curb the spread of disease (Arizona Health League 1908). In a leaflet provided to attendees of the Tucson County Fair, the Arizona Health League remarked that great strides had been taken to clean-up Tentville, that rags, paper, and refuse had been burned, that garbage wagons picked up refuse once a week, and that residents of the camp had been provided information on good sanitation practices (Arizona Health League 1908). In addition to cleaning up the squalor of Tentville, information was also provided to the healthy population about appropriate hygiene practices to avoid contracting tuberculosis. The health leagues also warned would-be consumptive immigrants to make the trip to Tucson only if they had enough money to last an entire year. Those without financial resources were advised to stay at home so they would not add to the financial strain imposed on the citizens of Tucson, who, "[f]or years...have borne a steadily increasing strain, till their pockets are depleted and their patience exhausted with third-rate physicians who continue to allow hopeless cases to come here to needless suffering, friendless and alone" (Arizona Health League 1908).

Despite local pleas to the contrary, destitute invalids continued to flock to Tucson. Although the incidence of tuberculosis was slightly higher among women, men comprised the primary patient population in Tucson and most were poor (Ryan 1993). Certainly a number of women came to Tucson, but by in large they were wealthier women or were preceded by their husbands who acquired sufficient accommodations prior to their arrival. In fact, in the late 19th and early 20th centuries women were advised against making the long journey to Arizona because women had "finer nervous organizations [and were] liable to neuralgia and insomnia. They [were] apt to suffer from dysmenorrhoea and ovarian pain" (Anderson 1890).

Because women were the primary care-givers in their families, too, they were often forced to stay behind while their husbands traveled west in search of a cure. Ironically,

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their role as care-giver made local Tucson women more susceptible to and prone to contracting tuberculosis. Tucson “stay-at-home” women and single working women came to the rescue of invalids by creating charitable organizations, acting as nurses at hospitals and camps, and establishing their own sanatoriums. Indeed by the late 1920s, over twenty Tucson sanatoriums were owned and operated by women (Tucson Magazine 1928:15). While these activities provided needed income, they often put these women in close contact with infectious diseases.

Although Anglo men made up the majority of tuberculosis cases in Tucson, the disease was no respecter of persons and other ethnic and racial groups were equally susceptible. Very little is known about the rate of tuberculosis amongst Tucson’s local Mexican, Chinese, or African-American population, in part because racial and ethnic prejudices meant that little attention was paid to minority groups, but also because Tucson’s Chinese and African-American population was relatively low. More recent scholarship on these groups suggests patterns of segregation marked people’s experiences in Tucson just as they did in other parts of the country. The Southern Pacific Railroad, for instance, established a sanatorium that had segregated quarters for African-American patients (Devine 2010). Even into the mid-20th century, race figured in perceptions of disease. A United States Congressional report in 1923, for instance, noted that since Emancipation, African Americans were more likely to contract tuberculosis and that, “while in bondage showed no evidence of physical degeneracy. It is well known that the American negro in bondage was well housed, supplied with proper and nutritious food, well cared for in case of sickness, and free from the vices and dissipations of modern civilization” (U.S. Senate 1923).

Nonetheless, African Americans migrated to Tucson in search of relief from tuberculosis and other ailments. John Alfred Ward, an African-American World War I veteran, was one such individual. Initially, Ward moved to Tucson’s Pastime Park, a military tent city for consumptives. Eventually, however, he filed a homestead patent on property on the outskirts of Tucson and lived there with his wife and adopted children until the 1950s, before moving back to Tucson (Levstik 2008).

Tucson’s Mexican American and American Indian populations met with a somewhat different experience. In the late 19th century they were frequently cited in medical journals and local newspapers as exhibiting a low incidence of tuberculosis due to a perceived robust hereditary makeup and “natural” lifestyles. While the rate of tuberculosis among this population was relatively low in the early 19th century, the picture changed rapidly with the onslaught of consumptives immigrating to the state. Nonetheless, local officials continued to draw on romantic images of healthy American Indians to entice people to come west (Rothman 1994). Belying these characterizations, however, by the early 20th century, Arizona had the highest percentage of American

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Indians in the United States with tuberculosis (Arizona Department of Health Services 1911). Interestingly, the same U.S Congressional report that described African Americans as being better off in Anglo households provided a very different analysis of the American Indian experience. The report laid the blame for the higher rate of tuberculosis among Indians as a direct result of permanent housing and reservations. Further, (and ironically, given Congressional support for the Indian Wars) the report rhapsodized that, "...those of us who have seen the Indians in the wild state, admired their splendid physique, and wonderful power of endurance, can not believe that such a race is destined to become extinct...by tuberculosis" (U.S. Senate 1923). Eventually, the staggering rate of tuberculosis among American Indians in southern Arizona led to the establishment of Tucson's San Xavier Sanatorium (now San Xavier Health Clinic) in the 1930s and Oshrin Hospital in the 1950s (17 September 1952, *Arizona Daily Star*).

Between 1920 and 1930, Tucson witnessed an explosion of sanatoria development. During this ten year period over 40 sanatoria were in operation in the city and Tucson's population expanded from 20,292 in 1920 to 32,499 in 1930 (Tucson Magazine 1930:20). Advertising campaigns continued unabated and related health benefits of the local environment with tourism. Indeed the local tourism board, the Tucson Sunshine Climate Club, linked their tourism campaigns with Tucson as a health destination, declaring Tucson the "Sunshine City" or "Sunshine Center" of the United States (Tucson Magazine 1930:4-5). In a 1924 American Magazine article, "Why I Did Not Die" (Wright 1924), novelist and playwright, Harold Bell Wright proclaimed that the clean air and warm climate of Tucson cured his tuberculosis. Notwithstanding the proclamations of Wright and the Tucson Sunshine Climate Club, tuberculosis was still a major health crisis for the City and the State Board of Health and even editors of the popular anti-tubercular magazine, *Journal of the Outdoor Life*, had a very different take on Tucson's and Wright's declaration that the Sunshine City could cure tuberculosis. According to a December 1922 article:

publicity issued by a Southwestern City that calls itself the "Sunshine City" in which the following phrase is prominently displayed, "Tuberculosis is cured by climate"...is absolutely false. Tuberculosis is not cured by climate and the perpetrators...know it. They are just trying to get people to come to their particular city because they want to get all the money they can out of them. (Journal of the Outdoor Life, December 1922).

Even into the 1930s, the local tourism board continued to espouse the curative benefits of Tucson's climate, although it was becoming increasingly apparent that climate alone was not an antidote to lung disease. In 1936, the State Board of Health conducted a survey of health conditions in the state, declaring that more than four times as many people die from tuberculosis in Arizona than in any other part of the country. Further,

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that despite the “glorious” climate, environmental sanitation and general health conditions in Arizona were “most deplorable and persisting threats to the well-being of our inhabitants as well as...tourists and health seekers whom we importune to come here” (Arizona Office of Public Health 1936). Two years after this survey the State Board of Health issued another report, again noting that tuberculosis was a major health crisis and that the majority of deaths attributed to the disease were associated with people who had resided in the state for 10 years or more (Arizona State Board of Health 1938[?]). Certainly this would indicate that climate alone was not curative. In fact, the 1938 report noted that not enough sanatoria were available to isolate the sick and prevent the spread of disease, especially among the poor. This statement seems surprising given the number of sanatoria in Tucson alone. Regardless of pleas to construct additional sanatoria, the problem was not just the *number* of available facilities, but the *types* of facilities available. Large-scale institutions like the Desert Sanatorium, St. Mary’s Sanatorium, and Veteran’s Administration Hospital for example, were filled to capacity, but they practiced isolation of the sick, removing them from the general public. While doctors at these institutions could not cure tuberculosis, they could at least isolate the sick and curb the spread of communicable disease among the healthy population. On the other hand, private facilities and “Mom-and-Pop” operations were part of the problem. Many of the facilities were established to make a profit, and although many were operated by nurses, these facilities were characterized by boarding house style architecture in which the sick lived in close quarters and in residential areas—ripe for the spread of disease.

By the end of the 1920s, the problem of these boarding-house style sanatoria was readily apparent. While larger institutions were constructed on the edges of town, these smaller private facilities were popping up throughout central Tucson and in established residential districts. Neighbors began complaining about the close proximity of contagious disease, the threat to property values, and the generally depressing effect sanatoria construction had on their neighborhoods (23 July 1927, *Star*). In 1927, city officials established a sanatorium ordinance, requiring sanatorium owners to obtain written consent from neighboring property owners in order to acquire a sanatorium permit. Under this ordinance, if a sanatorium owner wanted to build a facility on a corner lot, for instance, then the majority of property owners along all four sides of the frontage must provide consent (23 July 1927, *Star*). The ordinance was established largely in response to concern over the growing number of sanatoria in central Tucson and the danger of placing a high number of tubercular patients in one central and densely populated location.

It appears that neighbors took this ordinance seriously and many potential sanatorium owners were denied permits (19 January 1928, *Star*). In 1928, a group of sanatorium owners who had been denied permits by neighbors met with local attorney George

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Darnell to start legal action against the Tucson City Council (19 January 1928, *Star*). At the time of their grievance, the "sanatorium question" was under the purview of the City Council and no zoning ordinances had yet been established. According to the then city attorney, sanatorium building permits would remain under the discretion of the Council until someone had come up with a reasonable solution to the sanatorium question (23 January 1927, *Star*). The City Council even went so far as to discuss hiring a sanitation engineer who would devise a sanatorium district where all such institutions could be housed. Despite disagreements over how the sanatorium question was to be solved, the council agreed that the zoning commission should have the ability to exclude sanatorium development in strictly residential areas (23 January 1927, *Star*). By 1928, even the local newspaper noted the change of attitude by members of both the City Council and the zoning commission towards sanatoria development in residential districts (25 February 1928, *Citizen*). For example, they denied a sanatorium building permit to B.M. Bright who wanted a permit for the Menlo Park neighborhood. The basis of their denial was that the planning and zoning commissions were trying to regulate sanatoria development in residential areas (25 February 1928, *Citizen*).

Between January and April of 1928, the planning and zoning commissions devised a new zoning system, noting the rapidly increasing population of Tucson necessitated stricter regulation. Further they cited the need for additional zoning in order to safeguard and uphold what was best for (and wanted by) the citizens of Tucson. The commissions began by dividing the city into classes (A-D) based on types of districts (i.e. residential, industrial, etc.). In order to establish a hospital within a residential district, the facility had to be set back 50 feet from the property line, and be constructed of specific architectural styles compatible with the neighborhood. For sanatoria and other facilities catering to those with infectious disease (regardless of district type and class), the facility had to be set back 200 feet from the property line; the equivalent of two city blocks, and meet the requirements of the previous sanatorium ordinance. By 1930, the R-3 sanatorium zone was implemented (12 April 1928, *Citizen*). The associated zoning regulation stipulated that a building constructed for use as a sanatorium could occupy only 20 percent of the parcel to ensure plenty of fresh air and sunshine for patients (personal communication with Jonathan Mabry of the City of Tucson Historic Preservation Office, November 2009).

The increased regulation of sanatoria development during the later part of the 1920s and early 1930s meant that fewer private and boarding-house style institutions were being established. In addition, the impact of the Great Depression meant that few such institutions were able to survive the economic turmoil and many closed their doors by 1940. During this time, many long-time residents, including the writer Harold Bell Wright, who had come to Tucson to escape industrialized city centers, began migrating to less congested areas. Tucson nearly doubled in land area and population since the early 1900s. In 1936, Wright left Tucson for California. He complained that the air was no

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longer clean, that Tucson was overrun with people, and that open-space was rapidly disappearing (Langdon 1975). Rather than a mecca for health-seekers Tucson had become the large urban center earlier migrants were fleeing.

In combination with increasing urbanization, the onset of the Great Depression and World War II, the number of local sanatoria declined rapidly. The few that remained in operation were larger medical institutions like Veteran's Administration Hospital, Desert Sanatorium (later Tucson Medical Center), St. Mary's Hospital, San Xavier Sanatorium (later Hospital), Arizona State Elks Association Hospital, Oshrin Hospital, Comstock Hospital, and St Luke's-In-The-Desert. By the time that the streptomycin vaccine was discovered and implemented, few of these hospitals continued to offer tubercular care, reverting instead to general health care. Although tuberculosis was a continual health problem, by 1945, the number of sanatoria in the Tucson had dropped precipitously.

The Early Years, 1880-1910

Despite the number of sanatoria, hospitals, and preventoria that were built during the 20th century most accommodations in Tucson amounted to simple canvas tents located along the edges of town or in the foothills of the surrounding mountains. By 1880, only one permanent institution, St. Mary's Hospital (and later Sanatorium) provided tubercular care. In May of 1870, a group of nuns affiliated with the Sister's of St. Joseph of Carondelet (a religious order founded in France), arrived in Tucson. They had come to Tucson at the behest of the Tucson Catholic Archdiocese in order to establish the city's first schools.

A decade later, the sister's turned their attention to health care, noting the need for a local hospital. By the time that the railroad arrived in Tucson, the city's first hospital, St. Mary's, was established (<http://parentseyes.arizona.edu/carondelet/index.html>, accessed August 30, 2010). In 1880, St. Mary's hospital consisted of a large stone building situated on 60 acres adjacent to downtown Tucson and just beyond the west bank of the Santa Cruz River (Sister's of St. Joseph of Carondelet, 1910).

At the time of its construction, St. Mary's Hospital was close to downtown, but still removed enough to take advantage of the desert surroundings and provide a reasonable distance between the patients and healthy population. Over the first two decades of its operation, the first building, a large stone hospital, was enlarged numerous times, and additional patient and staff wards were added to the hospital campus. In 1893, Sister Fidelia McMahon was appointed as Superintendent of the hospital (she remained as chief executive of St. Mary's until 1920) and under her leadership the hospital continued to expand in size and services. One of her significant contributions was establishing the St. Mary's Sanatorium. Sister Fidelia was concerned by the growing number of patients with communicable diseases arriving at her hospital. In response, sometime between

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1893 and 1900, the *Isolation Cottage* was built. The *cottage* was a single-story building consisting of four rooms that opened onto a single veranda. Further, the building was set back from the main hospital, and bed linens and clothing from the cottage were frequently removed and burned to prevent the spread of disease. Despite the new tubercular ward, the number of tubercular patients continued to grow and more space was needed. By 1910, a two-story rotunda was built adjacent to the cottage to accommodate the high consumptive population (<http://parentseyes.arizona.edu/carondelet/index.html>, accessed August 30, 2010).

The "Round Building," as it was known by hospital staff, was designed by a medical staff member, Dr. Hiram W. Fenner, who also oversaw its construction. The newly built rotunda of St. Mary's Sanatorium encircled an open courtyard overlooking a manicured garden. Wide verandas flanked both the interior and exterior of the new sanatorium. Patient rooms opened onto these verandas where lounge chairs, couches, and tables were stationed for the patient's use while they recuperated in the warm, dry desert air. According to a sanatorium brochure, patient rooms were furnished with comfortable and cheerful appointments to provide a home-like atmosphere, while also being carefully selected so that furniture and bedding could be disinfected. Indeed, patients who failed to adhere to strict rules regarding sanitation practices could and would be dismissed from the hospital (Sister's of St. Joseph of Carondelet, 1910). The rotunda also offered a large dining room and solarium, again carefully decorated to resemble a home rather than a hospital.

In addition to the rotunda, private tents were also available at St. Mary's. The tents had a wood frame and floor and the upper portion of the tents were fitted with wire mesh screens that could be covered with canvas awnings. The roofs were covered with "paroid," a waterproof and reflective material, and each tent had electricity and a wood-burning stove (Sister's of St. Joseph of Carondelet, 1910). The *Isolation Cottage* continued to be used for consumptive patients, but was reserved for patients in advanced stages of the disease. Because patients in the cottage were highly contagious, special care was taken to curb the spread of disease. Patients were forbidden from having physical contact with any other patient and they were attended by a special nurse who worked exclusively in the *Isolation Cottage*.

For ambulatory patients St. Mary's Hospital and Sanatorium also offered a convent and chapel located left of the main hospital building. Further, patients of all creeds were allowed to attend services or invite their own clergymen to visit. Patients were also allowed to invite their own nurse and physician (if they were accredited) to attend them while staying at St. Mary's (Sister's of St. Joseph of Carondelet, 1910). In addition to the various services offered consumptive patients, treatment was largely related to isolation, open air, and a strict diet. Patients were advised to spend most of their time outdoors and consume a physician prescribed diet.

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The hospital continued to expand over the next few decades, witnessing its largest expansion in 1950, when Lew Place, son of architect Roy Place, designed the towering nine-story Central Services Building. During the 1950s, the Round Building was slowly subsumed by hospital expansion and because tuberculosis was no longer considered a major health crisis, it was demolished in 1965 (www.cardondelt.org, accessed Sept 1, 2010).

During the time St. Mary's operated as a sanatorium, it could not accommodate all those seeking care. As a result, tent camps were often patients' only alternative. At the beginning of the 20th century, the poorest invalids were concentrated into several tent cities, the largest of which was located on vacant land north of the University of Arizona on Park Avenue. It was known locally as "Tentville or Tent City" (Sonnichsen 1987). At the time, Tentville and other squatters camps were miles from local services and streetcar stops, and often invalids were too weak to walk to services that they needed. Further, their habitations typically included a canvas tent resting on a wooden platform while "better" accommodations meant a canvas tent with wooden sides and a wood floor covered by a steel roofed ramada-like structure to provide shade from the sun.

Regardless of the type of tent structure or the promotional spin associated with local advertisements, life inside the tent cities was bleak, and "the nights were heartbreaking, as one walked along the dark streets, [one] heard coughing from every tent. It was truly a place of lost souls and lingering death" (Sonnichsen 150:1987). Even by the turn of the 20th century, Tentville and St. Mary's Hospital were the only real options for consumptives in Tucson. Despite the lack of accommodations for the sick, consumptives continued coming and Tucson officials continued advertising. It was not long, however, before three institutions were created along the northern boundary of Tentville at Adams Street to meet the continuing need of newly arriving consumptives. The first was Whitwell Hospital (later Tucson Arizona Sanatorium and Southern Methodist Hospital [1906]), followed by the Adams Street Mission (later Comstock Children's Hospital [1909]), and St. Luke's-In-The-Desert (1917) (Rogers 1992). Of the three newly created institutions, both the Adams Street Mission and St. Luke's-In-The-Desert were available to the poor. Initially only the Adams Street Mission would take patients at no charge, but with the 1917 opening of St. Luke's-In-The-Desert, another facility was available to help young men who could not afford medical care (Hall 1978, Sheridan 1995). Despite the need for additional sanatoria, particularly for those with limited means, few such institutions were established. Further, even with the construction of permanent buildings at St. Mary's Sanatorium, St. Mary's continued to offer tent accommodations to patients.

Emergence of Permanent Sanatoria, 1900-1920

For consumptives with moderate financial resources, the outlook slightly improved with the 1906 opening of Whitwell Hospital (Rogers 1992). Whitwell Hospital, named in honor of New York physician Dr. Sturges B. Whitwell, became the first private sanatorium in

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Tucson. Shortly after arriving in Tucson in 1911, Dr. Jeremiah Metzger (a consumptive himself) took over operations at Whitwell Hospital. Metzger, greatly influenced by his medical studies in Berlin, helped create the first sanatorium in Tucson dedicated to providing medical diagnosis and treatment of tuberculosis. Prior to the establishment of Whitwell Hospital, tuberculosis treatment was largely related to rest, diet, and soaking up the benefits of the local environment. Metzger was among the first in the city to use pneumothorax treatments (partial collapse of the lungs) to treat patients and at the time, owned one of only two x-ray machines in Tucson (Grubb 1984). In addition to Metzger's role as supervisor of Whitwell Hospital, he was also influential in the establishment of the Desert Sanatorium (now Tucson Medical Center). Metzger's interest in heliotherapy (using the sun's rays to treat illness and disease), led him to collaborate with Dr. Bernard L. Wyatt, Dr. Charles Wilson Mills, as well as Dr. Daniel MacDougal of the Carnegie Institute's Desert Laboratory to establish the Southern Arizona Heliotherapy Foundation (Grubb 1984).

In 1912, Whitwell Hospital became the Tucson Arizona Sanatorium, and continued under Metzger's supervision until 1927. Sometime prior to 1927, however, the hospital caught fire and was rebuilt using fire-proof concrete and brick, reinforced concrete roof, and floors. The newly renovated hospital, designed by the Tucson architectural firm of Henry O. Jaastad (who also helped design additions to both St. Luke's-In-The Desert and Comstock Hospital,) provided space for 83 patients and operated under the auspices of the Methodist Church (Jaastad 1915). It was also unique in design, in that it resembled a large fortified castle, a design that suggests protection—whether protecting patients or protecting the community from its patients is unclear. In either case, its design influenced its contemporary use and name, The Castle Apartments. As the Southern Methodist Hospital, it continued operations until 1938, when mounting debts forced the sale of the building (N.D. *Star*).

While the Whitwell Hospital was engaging in cutting-edge medical treatments for middle and upper-class patients, destitute invalids continued to waste away in one of Tucson's tent camps. This situation began to change however, with the arrival of Reverend Oliver E. Comstock in 1907. Comstock, a Southern Baptist minister from Alabama, came to Tucson when his daughter contracted tuberculosis (Hall 1978). In addition to his missionary work, he was also a printer and editor, and quickly established a printing business in Tucson. Comstock was a member of numerous philanthropic organizations and even served as Tucson's Justice of the Peace from 1912 to 1914. His primary interest, however, was the plight of consumptives in Tucson's tent colonies; a plight he witnessed daily as Tentville was located only a few blocks from his North Second Street home. Using his printing press and the numerous connections he established through membership in civic and fraternal organizations, he was able to raise enough funds to open the Comstock Mission—also known as the Adams Street Mission—at 1034 East Adams Street (now 1435 N. Fremont Ave) (Rieder 2009). The first incarnation of the

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mission consisted of three tents that made up Mercy Emergency Hospital. In 1916, *Organized Charities* took over the mission and by 1919; the mission included two frame buildings and several tents (Hall 1978). It was, however, Comstock's relationship with novelist Harold Bell Wright that had the greatest impact on the Adams Street Mission. Wright, the consumptive who established an encampment in the foothills of the Santa Catalina Mountains, came to Tucson for his health, and famously penned the 1924 testament to Arizona's climatic benefits (Langdon 1975, Wright 1924).

After spending a Christmas recovering at St. Mary's Hospital, Wright felt compelled to give back to the Tucson community. He began by staging the play, *Shepard of the Hills*, to benefit St. Mary's Hospital (Wright 1920). Later he met Reverend Comstock and continued to use his pen to raise money for tubercular patients. Through the proceeds raised from productions of Wright's plays, Wright helped raise enough money so that between 1920 and 1926, the Adams Street Mission expanded to include permanent patient wards. In 1928, *Organized Charities* assumed complete control of the hospital, renaming it Comstock Hospital after its founder Reverend Oliver E. Comstock. During the 1930s and well into the 1950s, the sanatorium continued to expand patient care for tubercular cases, eventually adding a children's ward and later earning the name Comstock Children's Hospital (Rieder 2009). The later 1930s-era additions to the facility were alternately undertaken by the architectural firms of Lyman and Place, and Henry O. Jaastad (Lyman and Place n.d., Jaastad and Rockfellow c.a 1920, 1931).

In 1917, further relief was provided to Tucson's poorer invalids with the opening of St. Luke's-In-The-Desert. The new hospital was a mere half block west of the private Southern Methodist Hospital within the Feldman Neighborhood (now Speedway-Drachman Historic District). Like Reverend Comstock, Episcopal minister J.W. Atwood was also concerned with the plight of Tucson's "lungers" and had come to Arizona for his wife's health (Bret Harte 1972, Hall 1978). When the hospital opened in 1917, it consisted of a small frame building, similar in appearance to a long rectangular wood-sided tent. Its first patients were chosen based on medical examinations in which local doctor's identified patients with the best chance of recovery. Patients were encouraged to learn a craft, read books from the library, and make every effort to spend their convalescent time as constructively as possible.

At the time, only nine patients could be accommodated for a charge of \$9 a week. Over the years, the rate increased to \$12 a week, but if a patient could not afford care they were not turned away (Hall 1978). In addition, the sanatorium was opened to men of all races and all creeds regardless of financial means (Bret Harte 1972). Over the next few years, the hospital grew to include a superintendent's residence, chapel, and an expansion of the original buildings, undertaken in part by the architectural firm of Henry O. Jaastad. The sanatorium was operational largely because of generous women like Miss Kate B. Sturges who provided funds for expansion of the original hospital building

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and provided over eighty thousand dollars in donations; Mrs. Nellie Pomroy who provided over 12,000 dollars, as well as many others. In 1925, Reverend Atwood retired, and the Arizona Health League became the holding company for St Luke's-In-The-Desert, as well as their other facilities; St. Luke's Home in Phoenix, and St. Luke's-in-the Mountains in Prescott. Reverend Walter Mitchell replaced Atwood in 1925 and continued to help raise funds to expand the facility. In 1929, a new brick Mission Revival styled main building was erected to replace the original frame hospital building (Bret Harte 1972).

As the Adam's Street Mission and St. Luke's In-The-Desert quickly filled to capacity, boarding house style private institutions began to emerge. In 1912, Carter's Hotel Rest Sanatorium was established at the corner of Euclid Avenue and East First Street. The sanatorium provided accommodations for 50 patients and each room had access to a *sleeping-out* porch. According to a promotional brochure, the sanatorium, a two-story brick Victorian home flanked by sleeping porches, was founded to provide a moderate-priced sanatorium (\$12-\$30 a week) where patients could reap the benefits of proper care and diet, but also enjoy the comforts of home away from larger and impersonal institutions (Ohlander 1912). The sanatorium was run by Mattie J. Cummings, a registered nurse, and overseen by Dr. H.M. Carter, Jr. (Ohlander 1912). The Hotel Rest Sanatorium was also the earliest known sanatorium to be built within the Tucson City limits, and more importantly within an upper middle-class neighborhood—the University District (now part of the West University Historic District). In 1922, the building changed ownership and was known as the Smith Sanatorium, and in 1925, it became a private residence (Tucson City Directories 1922-1925). By the mid-1920s and early 1930s, boarding house style sanatoria similar to Carter's Hotel Rest Sanatorium would become the primary example of sanatoria in Tucson. Further, these facilities were established throughout central Tucson and in residential districts, differing from the isolated hospitals and tent cities outside Tucson corporate limits.

Sanatoria Development Boom, 1920-1930

Over the next few years, more clinics, hospitals, sanatoriums, and boarding houses opened to accommodate the masses of consumptives residing in Tucson. Options continued to improve following World War I (WWI) when veterans who had contracted tuberculosis during the war (or mustard-gassed veterans who had been incorrectly diagnosed with tuberculosis) flocked to Arizona. In 1920, over 7,000 health seekers, many of whom were WWI veterans, were residing in Tucson. One group of veterans who had come to Tucson in 1917 established a small tent city on the grounds of Pastime Park, four miles north of downtown Tucson along Oracle Road (Kimmelman 1990). Pastime Park was a 13.5-acre parcel surrounded by eucalyptus trees. The park once housed a skating rink, bowling alley, dance hall, and tavern until it fell into disrepair with the death of park owner, Charley Loeb (Kimmelman 1988). Two years later, Lieutenant Neill MacArtan of the Army Medical Corp, a WWI veteran and consumptive himself, was.

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sent to Tucson to establish a government sanatorium for military veterans at Pastime Park.

Pastime Park Hospital opened its doors on March 15, 1920, but it was only able to accommodate 38 patients. Over 1,000 more veterans requested admittance. With support from Mayor O.C. Parker as well as local fundraising efforts, the hospital expanded by January of the following year to include accommodations for 275 patients and quickly filled to maximum capacity (Kimmelman 1990). When Pastime Park Government Hospital, also known as Veteran's Hospital No. 51, was established it consisted of one brick building housing the boiler and two adobe buildings used as a ward and a kitchen. Over time the hospital grew to include 86 buildings, most of which were wood-frame cottages. The cottages consisted of 16 x 16 wood-framed buildings with 4-foot-tall wainscoting and mesh-screened windows. Windows were covered with canvas flaps, roofs consisted of steel sheeting, and all cottages were wired for electric and included a single coal-burning stove (Kimmelman 1988). In addition to housing for consumptive veterans, Pastime Park Hospital No. 51 also offered small contract hospital units established by local women, such as Ms. Roger's Contract Hospital, and the *Arizona Hut*, a small organization led by Isabella Greenway in which crafts made by patients were sold to the public to raise money. Like most sanatoria in Tucson, tuberculosis therapy included diet and sunshine, but Pastime Park remedies also included utilizing water, milk, and snake venom to treat patient. Patients referred to the injection of snake venom as "Vacilla," or "The Dart", and not surprisingly few favored this form of treatment (Kimmelman 1988).

Locally, Pastime Park was considered a blemish on the city, more often called "Passaway Park" than Pastime Park. A January 1922 editorial in the *Tucson Citizen* called for greater controls at Pastime Park Hospital, referring to the patients as "dope fiends and rum hounds" (12 January 1922). According to Tucson locals, the veterans were not far removed from the Park's previous rowdy patrons who frequented its roadside tavern. Further, the patient overflow did not help local perceptions either. The lack of family housing also meant that the "civilizing" influence of wives was not present at the Park. This changed by the mid-1920s. Spurred by a population boom at the Park, a new residential district, known as the Amphitheater district, was established. Out-patients and hospital staff began homesteading acreage around the Park, selling lots to the families of veterans. As a result, by the mid-1920s many wives and families of patients were able to move to Tucson's Amphitheater district and add some degree of respectability to the area (Kimmelman 1988).

Through the continued fundraising efforts and lobbying of local citizens, the American Legion Morgan McDermott Post No.7, the Disabled American Veterans, the Chamber of

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Commerce, and businessman Albert Steinfeld's offer of 116 acres south of town, the United States Congress approved the construction of a formal hospital (<http://www.tucson.va.gov/about/History.asp>, accessed July 2010). In 1927, ground-breaking began along South Sixth Avenue and on October 13, 1928, the *new* 1.4 million-dollar Veteran's Hospital No. 51 was formally opened (Tucson Magazine 1928:10-11). When the hospital opened in 1928, the more than 200 Pastime Park patients were moved to the new spacious building. The new hospital, designed by noted Tucson architect, Roy Place, resembled a small Venetian *cum* Spanish city, exhibiting towers with gold-colored domes, decorative tiles, courtyards, fountains, and wrought-iron fixtures.

Around the same time that Veteran's Hospital was under construction (1927), New England physician Dr. Bernard L. Wyatt was working to establish the Desert Sanatorium. Wyatt had studied the methods of physicians like Herman Brehner, who established the first open-air sanatorium for tuberculosis patients in Gorbersdorf, Germany, Oscar Bernhard, the founder of solar therapy, and Bonnet who recommended sun-baths to patients suffering from chronic arthritis and non-pulmonary tuberculosis. Like them, Wyatt held to the belief that environmental factors such as dry climate and sunshine were integral to healing the infirm. Wyatt was especially interested in the work of Dr. Auguste Rollier, whose approach to solar therapy, or *heliotherapy*, he wanted to replicate in a sanatorium of his own (Grubb 1984). Wyatt considered Arizona an ideal location to establish his own sanatorium and continue his research into the use of sunlight as a method of treating patients. With the help of Tucson physicians, Dr. Metzger, Dr. Mills, and wealthy New York advertising executive Alfred Erickson and his wife Anna, Wyatt was able to purchase 160-acres of land on the outskirts of Tucson near the intersection of Grant and Craycroft Roads.

Utilizing plans based on Rollier's Swiss clinics, Dr. Wyatt employed the Tucson architectural firm of Henry O. Jaastad and Annie Rockfellow, Jaastad's chief architect, to develop a complete set of building plans for the campus. By the summer of 1926, a Water Tower, the Main Building, the Wyatt Residence, the Administration Building and four patient court buildings were built on the Desert Sanatorium site. The sanatorium opened its doors on November 15, 1926. The Desert Sanatorium's emphasis was on finding a cure for tuberculosis and arthritis through direct solar radiation. While other institutions were promoting heliotherapy as beneficial, the Desert Sanatorium was one of the first to measure the sun's strength by means of a radiometer. In Dr. Wyatt's view, "...the Desert Sanatorium will be equipped with the names of quantitative as well as qualitative analysis of the solar spectrum and its results will therefore rest upon a sound scientific foundation" (2 February 1926, unknown newspaper). True to his word Dr. Wyatt contracted Dr. Edison Pettit of the Mount Wilson Solar Observatory near Pasadena to build the second known radiometer in the United States, so that exact doses of sun could be prescribed to each patient (Poster Frost Associates 2005, Grubb 1984). That same February, the radiometer was housed inside a clear glass dome and

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mounted to the top of the Main Building. The telescopic mounting for the radiometer was pointed towards the sun and a timer allowed it to follow the sun's path throughout the day recording minute by minute the intensity of the sun's ultraviolet rays.

Based on patient demand and the general popularity of the Desert Sanatorium, Dr. Wyatt lobbied Alfred Erickson and the Board of Directors to expand the Sanatorium. During the period of expansion between 1927 and 1928, three buildings creating the entry to the Sanatorium grounds were also constructed —the Patio Building (former Institute of Research and Diagnostic Clinic), the Erickson Residence (vacation home of Alfred and Anna Erickson), and the Arizona Building (former nurses' residence). All but the designs for the Patio Building were undertaken by the architectural firm of Henry Jaastad and the theme of pueblo revival architecture was continued. The new buildings were appointed with whicker furniture, Navajo rugs, reproductions of Zuni ceremonial paintings, and large wall panel illustrations drawn by Hopi artists. The new buildings not only housed the sanatoriums staff and its patients, but also provided the space for additional medical services, like physical therapy, dental care, and maternity care.

In 1928, Roy Place of Place and Place Architects completed the Institute of Research and Diagnostic Clinic featuring two copper domes flanking the courtyard on the east elevation of the building. The domes housed the radiometer (moved from the Main Building) and the new siderostat (Grubb 1984). The siderostat, the only one in the world, was housed in the northern dome of the Patio Building and similar to the radiometer, was also designed by Dr. Edison Petit of Pasadena California. The siderostat was fitted with four quartz lenses made by the General Electric Company specifically for the Desert Sanatorium. At the time, the lenses on the siderostat were the largest of their kind (Grubb 1984). Both the siderostat and the radiometer would follow the sun's path over the course of the day, but the siderostat differed in that, instead of a single beam of white sunlight, the sunlight could be separated into each color of the spectrum. The individual rays were then cast into a dark room where small animals and plants were housed to test the effects of different components of the sun. With the establishment of the Institute of Research and Diagnostic Clinic, many researchers from a broad array of scientific fields flocked to the Desert Sanatorium. But it was also during this time that Dr. Wyatt and others concluded that heliotherapy had little benefit for patients with tuberculosis. In 1929, the Desert Sanatorium stopped accepting tubercular patients.

In the 1920s, large-scale institutions like Veterans Hospital and the Desert Sanatorium, while representative of the growing importance of tuberculosis research and treatment, were not the norm in Tucson's sanatoria development. Instead, sanatoria development was typified by modest institutions and boarding-house style facilities. By the mid-1920s over 40 sanatoriums held permits with the City of Tucson (Tucson Magazine 1928:15).

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This number did not include the likely substantial number of individuals who rented out rooms in their home.

The sanatoria developed between 1920 and 1930 were largely an economic response to a troubling situation. Although Tucson had initially invited consumptives to the city, many locals continued to be frustrated by the constant flow of invalids (Sheridan 1995). By the early 1900s, Tucson officials obtained what they had set out to achieve; a larger Anglo population to ensure statehood. But by the same token, successful advertising campaigns also brought more people into Tucson than could be reasonably accommodated, especially since so many were destitute. Certainly the number of consumptives was problematic even as early as 1890, but by 1920 the situation was dire. Clearly, asking people to leave (while simultaneously espousing the curative powers of Tucson's climate) did not work. To the casual observer, the high percentage of Tucson institutions catering to consumptives appeared as if Tucsonans eagerly welcomed consumptives, but this was misleading. The staggering number of sanatoria revealed little of Tucsonans complex feelings about the "lungers" flocking to the city. Although numerous local health leagues and philanthropic organizations attempted to dissuade health-seekers from coming west, their cries went unheard. Many Tucsonans were not subtle in their response to the influx of health-seekers. By the end of the 1920s, Tucson businesses, hotels, and guest resorts began posting signs and placing advertisements reminding visitors that tuberculars were not welcome (Sheridan 1995). At the same time, many Tucsonans continued to cash-in on consumptives. In essence, a cottage industry emerged in which local women began operating sanatoria in their homes and in residential areas, and physicians began opening their own small clinics and hospitals.

In 1907, Dolly and Dixie Cate moved to Tucson from Chattanooga, Tennessee. The couple had come to Tucson to join Dixie's sister and because Dixie Cate was suffering from tuberculosis. Upon arrival they established a farm near the ruins of Fort Lowell, but a year later, Dolly's husband died of tuberculosis. Upon his death, Dolly acquired ownership of the couple's property (now called the Fort Lowell-Adkins Steel parcel) at the southwest corner of Fort Lowell and Craycroft Roads. The property contained adobe buildings related to the former military reservation known as Fort Lowell. The Cate's property contained three buildings—Officer Quarter's 1, 2, and 3. Directly east of their property was the historic Fort Lowell Park. According to her obituary, Dolly ran a convalescent home at Ft. Lowell between 1909 (1908?) and 1928 (Thiel et al. 2008).

Around 1908, she opened "Mrs. Cate's Tuberculosis Sanatorium" in the former officer's quarters. She and two young women, Lottie and Ruth Monger, ran the facility, and according to the 1920 U.S. Census, 13 invalid men between the ages of 21 and 48 were

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listed as patients at her establishment (Thiel et. al 2008). In 1928, she sold the property to Harvey and Fronia Adkins. The Adkins, like the Cates came to Tucson in part because their daughter Dicey had tuberculosis. They arrived in 1926 and established themselves at Mrs. Cate's Sanatorium, living on the property while their daughter received treatment at the sanatorium. Dicey succumbed to pulmonary tuberculosis in 1927 and a year later her family purchased the property and continued to run a sanatorium in the former Ft Lowell officer's quarters. The Adkins renamed the facility, "Adkins Rest Ranch" and it remained open until at least 1950 (Thiel et. al. 2008). In addition to the former officer's quarters, the Adkin's family also constructed two adobe homes, one in 1927 and the other in 1935 (Thiel et. al. 2008).

Both the Cates and Adkin's families utilized the existing buildings on their property for their sanatoriums. The former 1870s-era Fort buildings were single-story buildings constructed of adobe, sheathed in a lime-plaster and represented a military adaptation of local Sonoran architecture. Today, the best preserved of the three officer's quarters is Officer Quarter No. 3; a square adobe building with flat roof and low parapet and north and south-facing wood-framed porches. The typical building plan of the officer's quarters consisted of two bedrooms, a living room, pantry, dining room, kitchen, entry hall, and bath. Floors were made of pine, with saguaro-rib ceilings rising to a height of 11-to -12 ½ feet (Works Progress Administration 1940). Based on records compiled by historical archaeologist Homer Thiel, during the Cate's and Adkin's occupation of the officer's quarters, the three buildings could accommodate 13 patients at a given time (Thiel et. al. 2008, Thiel 2009).

In addition, an adjacent adobe building and now privately owned property, was also used as a sanatorium during the early 1900s. In 1873, John "Pie" Allen opened the Post Trader's Store adjacent to the military reservation near the northwest corner of Craycroft and Fort Lowell Roads. The store had 19 rooms including storerooms, a bar, gaming rooms and living quarters. A year later the store was sold to Frederick Austin who operated the store until the fort closed in 1891 (<http://parentseyes.arizona.edu/ftlowell/posttraders.html>, accessed September 1, 2010). In 1916, Mrs. Nellie Swan converted the store into a sanatorium, naming it "Swan Ranch". In 1925, she sold the sanatorium, later called "Fort Lowell Health Resort", to the St. John Family who ceased operations at the sanatorium shortly after purchasing the property (Thiel 2009). After a brief period as a hog farm, the Bolsius family purchased the former store, renovated the building, and it now serves as a private residence.

Some of the smaller Tucson institutions (less than 40 beds) that emerged during the 1920s and early 1930s include Barfield Sanatorium, Fairview Sanatorium, Reardon Sanatorium, Ansons Sanatorium, and Hillcrest Sanatorium. Except for addresses and

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advertisements in *Journal of the Outdoor Life*, little substantive information could be found about Ansons and Hillcrest Sanatoriums. Further, all of these facilities have since been demolished. Nevertheless, all represented mid-sized institutions apart from their boarding house neighbors and offered at least the pretense of medical expertise.

The Barfield Sanatorium, established in 1922 at 2100 East Speedway Boulevard (now the location of a U.S. Post Office) by Karl Barfield was a 22-bed private sanatorium comprised of six brick cottages and administrative buildings within a one-city block (Barfield Sanatorium 1939, 17 September 1952, *Arizona Daily Star*). The facility was located along the northern edge of the affluent Sam Hughes Neighborhood. The cottages had a four-bedroom plan, with each room accessing a sleeping porch where heliotherapy sessions were performed (Barfield Sanatorium 1939). The property was planted with palm trees, water features, and gardens. In 1947, Karl Barfield sold the sanatorium to Albert Oshrin, who opened a contract hospital for Navajo and Hopi Indians suffering from Tuberculosis (5 January 1947, *Arizona Daily Star*). Because of hospital overcrowding in Northern Arizona, Indian patients were sent to Tucson. Native populations in and around Tucson were served at the San Xavier and Sells hospitals on the Tohono O'odham Reservation. According to the *Arizona Daily Star*, tuberculosis deaths among Navajo and Hopi were 10 times higher than the national average among all races and ethnicities across the entire United States (17 September 1952). The Oshrin Hospital also included occupational therapy classes in which patients participated in traditional handicrafts, such as weaving, painting, and leatherwork.

Established in 1926 at the corner of North Sixth Avenue and East Fourth Street within the West University District, the Fairview Sanatorium featured a long rectangular two-story brick Victorian building flanked by narrow porches, and partially surrounded by a low volcanic-cobble retaining wall. Like most Tucson sanatoria, it also offered sleeping porches for patients. Historical documents describe Fairview Sanatorium as surrounded by well-kept grounds, substantial in construction, well-arranged, and homelike (Sloan 1930). The sanatorium was operated by Emma L. Mau, who, with her mother moved to Tucson in 1911 on account of her mother's health. Her mother recovered and Ms. Mau took up nursing. Ms. Mau was a registered nurse, charter member of the Arizona State Nurses Association, a prolific writer of medical articles related to diet and health, and member of the Business and Professional Women's Club (Sloan 1930, Pioneer Publishing Company 1940, 18 June 1943, *Tucson Daily Citizen*). In 1940, the sanatorium was listed as "Fairview Rest Manor" and later (1942) as "Fairview Rest Home" when it was sold to Ruth Grimes (Tucson City Directories 1931-1945). In 1945 the property was sold again and reopened as an apartment building. Although little is known about the day-to-day operations at this sanatorium, a 1928 *Tucson Magazine* article noted that the facility could accommodate 30 patients and was recognized as a

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sanatorium by the City Health Inspector (1928:15). According to the 1930 United States Census, 9 individuals were listed as patients at Fairview Sanatorium and biographical information notes that the sanatorium was typically filled to capacity (United States Census 1930, Sloan 1930). Ms. Mau retired from nursing in the mid-1940s and continued to reside in Tucson until her death in 1954 (Arizona State Department of Health 1954). Sometime prior to the 1980s, the building was demolished and the building that occupies the lot today was constructed. The former grounds of the Fairview Sanatorium now support the Imago Dei Middle School and private residences (personal communication with Imago Dei Middle School personnel, August 26, 2010).

In 1930, Arthur J Reardon, a businessman from New York, and wife Madeline hired the John W. Murphy Company to build a sanatorium in the Jefferson Park neighborhood at the northwest corner of Warren Avenue and Copper Avenue. Prior to the establishment of Reardon Sanatorium, Reardon and his wife cared for patients in their home at 1809 Hawthorne Street (United States Census 1930). Although the sanatorium was established by Arthur, his wife Madeline took on the primary care of patients and was listed as “graduate nurse” in the 1930 census. The Reardon Sanatorium was designed by noted Tucson architect, Josias Joesler, and according to the local newspaper (20 June 1930, *Citizen*), the building “would comprise 25 rooms and Indian architecture will be followed”. True to the Joesler aesthetic, the Reardon Sanatorium was modeled after Pueblo-Revival architecture, but also featured Middle-eastern details flanking the doorway. Reardon Sanatorium was a long rectangular building housing a private interior courtyard accessible through individual patient quarters. Between 1930 and 1937, the sanatorium was recognized by the American Medical Association, but after 1939, when Madeline and Arthur divorced little is known about the institution and it was demolished sometime in the 1970s (13 April 1939, *Citizen*).

Larger institutions (40+ beds) modeled in part after the Veteran’s Administration Hospital were also established during the mid-20th century and include, the San Xavier Sanatorium, Arizona State Elks Association Hospital, Southern Pacific Sanatorium, and County Hospital. Further, many of these larger intuitions were designed around a specific population—such as a local indigenous group, company employees or members of a fraternal organization. Further, more facilities were emerging that catered to the wellbeing of consumptive children, including the House at Pooh Corner and the Mary J Platt School. At first glance these larger institutions resembled general hospitals, yet they differed in that provisions were made for improved ventilation, they had open-air sleeping porches and/or verandas and often included multiple buildings within a single campus. Further, such institutions were often modeled after prevailing medical ideas about how to best treat tuberculosis. T.B. Kidder from the Advisory Service of the National Tuberculosis Association recommended that larger hospital-like intuitions be designed to accommodate patients at different stages of recovery, meaning separate

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dining facilities and detached wards should be included for ambulatory patients to promote exercise and isolation rooms for bed-ridden patients should be housed next to operating rooms and infirmaries. Moreover, Kidder and others believed that these types of institutions should be housed on large campuses away from the local population (Kidder 1921). At the time that many of Tucson's larger institutions were established they were located outside the city limits on large campuses housing multiple buildings. By the 1940s however, and with the exception of San Xavier Sanatorium, these formerly isolated institutions would be subsumed by a post-war housing boom.

Prior to the creation of the Oshrin Hospital, the local Tohono O'Odham, were treated at the San Xavier Sanatorium, located west of the San Xavier del Bac Mission off of Nogales Highway. The San Xavier Sanatorium and others like it were built largely in response to a 1928 report issued by the Institute for Government Research, called the Merriam Report (Merriam 1928). The report laid the blame for the staggering number of Indian-related health issues, primarily tuberculosis and trachoma, at the hands of federal Indian Policy. As a result, President Franklin Roosevelt began implementing sweeping changes within the Indian Bureau's Division of Health. In 1933, Roosevelt appointed John Collier as Commissioner of Indian Affairs and he set to work lobbying Congress to appropriate funds for health care and educational facilities on reservation lands. By 1942, 78 hospitals and 12 sanatoriums were built exclusively for the care of American Indian people (Van Citters and Dodge 2006).

On 19 December 1930, the *Tucson Daily Star* reported that Dr. Paul Mossman, medical director of Indian Affairs had arrived in Tucson to inspect a site for the new "Papago Indian Sanatorium". Along with J.W. Elliot, Superintendent of the Papago Reservation, they chose a 25-acre site along the south-facing slope of Martinez Hill. By 1931, congress had appropriated \$128,000 dollars towards the construction of the sanatorium, equipment, and living quarters for doctors and nurses. The Office of the Supervisory Architect, Department of the Interior, in Washington, D. C. prepared plans for the new building and living quarters, and the newly appointed sanatorium superintendent C.H. Shiveley, solicited bids from local contractors to construct the 65-bed facility (Van Citters and Dodge 2006). The sanatorium was opened in 1932 and included four buildings—the sanatorium, doctor's quarters, nurses' quarters, and a garage. Between 1932 and 1942, an additional five buildings were constructed on the grounds of the San Xavier Sanatorium (now San Xavier Clinic). By 1942, the facility consisted of 9 Spanish Colonial Revival-styled buildings—a hospital, a superintendent's house, physician's quarters, nurses' quarters, garages, a greenhouse, and a warehouse (Van Citters and Dodge 2006, Arizona Historical Society 1930). The choice of Spanish Colonial architecture for the San Xavier Sanatorium was likely a response to the growing popularity of regional expressionism in government architecture, made popular during Work's Progress

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Administration projects. Commissioner of Indian Affairs, John Collier too, was an advocate for using regional architecture (Van Citters and Dodge 2006). Although Spanish Colonial architecture was not a style utilized by the local Tohono O'Odham, it was, however, a style mirrored at neighboring San Xavier del Bac Mission and throughout the City of Tucson.

The facility was pushed up against the backdrop of Martinez Hill on a low hill where patients could benefit from cooling desert breezes. The facility was also surrounded by a low volcanic cobble wall, the materials for which were mined from Black Mountain located within the San Xavier District of the Tohono O'Odham Nation (30 March 1994, *Tucson Citizen*). Following World War II, the federal government sought to terminate Bureau of Indian Affairs hospitals in an effort to combine public health facilities. In 1954, the newly created Indian Health Service was established to further help assimilate American Indians into mainstream American hospitals and facilities. This policy did not however improve health statistics among Indians living on reservations and as a result, President Dwight Eisenhower once again increased funding for Indian health care programs (Van Citters and Dodge 2006).

As preservationists Karen Van Citters and William Dodge point out, the changes to the San Xavier campus— from sanatorium to hospital, to a health clinic – reflect the changes in federal Indian policy over the past 70 years with regard to health care (Van Citters and Dodge 2006:3). With the exception of newer auxiliary buildings, the former San Xavier Sanatorium remains very much like it appeared in the 1930s and 40s. The hospital continues to serve the health care needs of Tucson's Tohono O'Odham, as well as Navajo and Spanish-speaking patients. Further, the hospital continues to offer monthly tuberculosis-related services to its patients. In 1931, the Arizona State Elks Association Hospital (also known as the Long Term Care Center) was established at 1900 West Speedway Boulevard, two miles northwest of the Tucson city limits and adjacent to Silverbell Road. The hospital was developed in association with city and county support and funds raised by the Elks Grand Lodge Charity Foundation (10 July 1930, *Arizona Daily Star*). According to a promotional brochure, the Elks sanatorium was established to deal with the tuberculosis problem, specifically aiding consumptive Elks, whom, "like all people, some are rich and some are poor, but still they are Elks and we must take care of them" (Arizona State Elks Association Hospital n.d.). As was the case with so many of Tucson's sanatoria and hospitals, the Elks sanatorium was designed by Henry O. Jaastad (1931). The sanatorium was opened to tubercular Elks from across the nation, had a 40-bed capacity, and was established at the site of a former county hospital at the top of a low hill overlooking the City of Tucson. The facility included a single-story H-shaped, Spanish Colonial Revival main building with sleeping porches, courtyards, and a square stone building serving as nurses' quarters. Although early newspaper reports

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noted that the facility could accommodate 40 patients, by the end of the 1930s, the hospital was listed as supporting 25 patients (American Medical Association 1937-1939). In the 1940s, the widespread use of streptomycin to treat tuberculosis meant that fewer tuberculosis patients were coming to the Elks hospital. In 1950, the hospital dedicated itself to care of the elderly and in 1991 the hospital closed briefly. That same year, the facility was purchased by and continues to be operated by La Frontera, a behavioral health organization. Today, a granite plaque commemorating the former Elks sanatorium adorns the southeast corner of the building.

Like the Elks, the Southern Pacific Railroad Company (Southern Pacific) also established a tuberculosis sanatorium to provide treatment for its employees and affiliates. In 1931, the Southern Pacific established their sanatorium at the former freight depot of the El Paso & Southwestern Railroad Company (built in 1913) along Congress Street and (now) Interstate 10. Prior to the construction of their own sanatorium, patients were treated at St. Mary's Sanatorium. The Southern Pacific, with financing from board member Edward Harkness, extended the passenger station of the old Neo-classical depot eastward to accommodate a 100-bed hospital. The sanatorium included 12 wards for Anglo-American patients, four wards for African-American patients, operating rooms, x-ray rooms, a pharmacy, nurses' office, and private rooms (Henry 1989, Devine 2010). The hospital was operated by Dr. Charles A. Thomas, and nurses were culled from Dr Thomas's own clinic. At its dedication ceremony on September 2, 1931, local officials proclaimed that the hospital was "a model of its kind for the entire world" and at the time, it was one of few local hospitals with modern medical instruments and procedures, including x-ray machines and partial lung and rib-removal surgeries. In addition, ceilings in patients wards were coated in a product called *Selotex*, purported to "cast heat waves from the sun" onto non-ambulatory patients who were unable to enjoy the porches, courtyards, and lawns of the facility (Henry 1989). Again, like the Arizona State Elks Association Hospital, the introduction and widespread use of streptomycin meant that the numbers of consumptives seeking treatment began to decline. In 1946, the sanatorium converted to a general hospital for employees of Southern Pacific, Pacific Greyhound, Pacific Fruit Express, and Pacific Motor Trucking (Henry 1989). In 1974, the hospital closed and was demolished five years later. Today, only the original 1913 El Paso & Southwestern passenger depot remains.

The County Hospital, established in 1922, also offered treatment for tubercular patients. The campus of buildings, located south of Veteran's Administration Hospital and along South 6th Avenue offered brick cottage style patient quarters with small porches, connected to a larger administration building. The hospital was designed by noted Tucson architect Henry O. Jaastad and constructed of exposed red brick with Mission Revival-style details, including clay-tiled porch roofs, flat roofs, and arched parapets with

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brick coping (Jaastad 1922). Surprisingly little is known about this building, as a number of institutions were known locally as the "county hospital". The patient capacity was unknown, but like many of the later institutions provided an x-ray department where patients could be properly diagnosed (Arizona Historical Society 1930). At an unknown date, the county hospital was demolished and a shopping center took its place (Pima County Assessors Office, Parcel No. 11902123F, accessed 26 August 2010).

In the late 1920s, sanatoria catering to tubercular children emerged as well. The Reverend Oliver E. Comstock was the most outspoken advocate for tubercular children, as he had lost his own daughter to the disease (Hall 1978). Women's organization, the Arizona Health League, also did their part in reducing the spread of the disease in local schools by banning communal drinking cups and introducing a cup-less water fountain that debuted at the Plaza School (Arizona Health League 1908). In addition to Comstock's sanatorium, two smaller institutions were established to curb the spread of tuberculosis among Tucson's children. The Mary J. Platt School was established in 1911 by the Women's Home Missionary Society of the Methodist Episcopal Church as a private school providing Christian training for Mexican-American girls. The school was located at 1200 East Seventh Street south of Mansfield Middle School and situated within the Rincon Heights neighborhood. At the time of its closure in 1928, the school had 45 students in attendance (Mary J. Platt 1928). In 1930, the school was converted to a children's sanatorium and preventorium to help both sick children and those who were considered at-risk of contracting the illness. In 1936 the school was leased as an annex building to Mansfield Middle School and was later condemned and demolished in 1953 (Cooper and Fahr n.d). During its occupation, the school featured both first and second story wraparound porches complete with Victorian gingerbread details. It was a large two-story brick building with square massing surrounded by mature vegetation and landscaping. Around 1928, Mrs. Thelma Holstein opened a children's convalescent home called "House at Pooh Corners" (after the A.A Milne children's book). She operated out of her home at 1209 North Stone Avenue where she accommodated 8 patients, ages 12 years and younger for "each season." According to her promotional brochure, a season encompassed 6 months between October 1 and May 31 in which children would be provided housing, medical care by a "practical nurse...trained in child psychology", and classroom studies by an accredited Arizona State teacher (House at Pooh Corner n.d). Mrs. Holstein claimed that her facility was the most "exclusive boarding home for children who need health building" and the attendance fee of \$125 to \$150 a month supported her claim of exclusivity. She noted that her facility provided a homelike atmosphere in an exclusive residential neighborhood where children's rooms offered proper ventilation and were provided with strict physician-prescribed diets (House at Pooh Corner n.d). With the exception of a promotional brochure and city directories no other information could be identified as to what the facility looked like

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during its occupation. The House at Pooh Corners was demolished at an unknown date and the lot is now part of the Pima Community College campus.

Homesteading was another option for consumptives who came west in search of better health. The majority of homesteads in Arizona were patented between 1910 and 1920 with a second boom during the Great Depression (Stein 1990). The first National Homestead Act was passed in 1862 and it entitled heads of households and/or persons over the age of 21 to file claim to up to 160 acres of government-owned land. Claimants were also required to reside on the land continuously for a period of five years and have cultivated a portion of the property for at least four of those years. Further, "proving up" meant that claimants also needed to construct a habitable dwelling, sink a well, and have a least a portion of the land fenced. The definition of habitable dwelling was often subjective, as most claimants were poor and their living quarters frequently amounted to framed tents, shacks, and dug-outs (Stein 1990). Despite the over 4 million acres of Arizona land that passed from public to private ownership through the Homestead Act, more homesteads failed than succeeded. Further, despite Arizona's genial climate that encouraged homesteading, most land offered by the government was marginal, and most claimants did not have the financial resources to maintain land that had little water, vegetation, and dusty soil. In response to the growing number of homestead failures, the U.S. government made successive changes to the Homestead Act, allowing for fewer restrictions on claimants to prove up, expanding land ownership to 320 acres, and reducing the residency requirements. Homesteading in Arizona peaked shortly after WWI, when many veterans who had been exposed to mustard gas or contracted tuberculosis came to Arizona for their health. As noted previously many veterans who resided at Pastime Park Hospital and Veteran's Administration Hospital No. 51 filed homestead claims upon discharge. Interestingly, the second greatest boon to homesteading in Arizona occurred between 1930 and 1936—the worst years of the Great Depression. Even during troubling economic times, homesteading still offered the hope of personal advancement through the acquisition of land and in the case of consumptives, a means of combating illness.

The Owen and Ward Homesteads located on the outskirts of Tucson were among those established by consumptives. The Ward Homestead (demolished) located along the periphery of the Tohono O'Odham reservation is now the site of a housing development. The Owen Homesite remains and is now part of a densely developed residential area on the edge of the Winterhaven Historic District. According to land records housed at the Bureau of Land Management and the National Archives, the Owen Homesite was once a smaller portion of a 160-acre plot patented by Martin Samuels on June 1, 1911 (Bureau of Land Management Serial Patent No. AZPHX 0003013, accessed 26 August 2010). In 1927,

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1.61 acres of the Samuels homestead was sold to David Owen, a consumptive from Pennsylvania who came west for his health. During the first three years that he lived on the property, Mr. Owen built a 9 x 18 foot corrugated tin and wood frame shed that was subdivided into living quarters for himself and a shelter for his goats. Like many who homesteaded, Mr. Owen had limited resources, so he made do with what he had and what could be reused and recycled. This meant that his first dwelling, again like many homesteaders, was little more than shelter from the weather, and constructed using recycled metal signs and wood 2 x 4s (Lobo 2008). Further, he kept goats for milk and later chickens for eggs. It was during his first few years on the property that he began excavating and manufacturing adobe bricks to construct a more substantial house so that his wife and daughter could join him. According to the Pima County Assessor's records, the "first" house, the adobe house, was constructed in 1937 and consisted of four rooms, a flat roof with parapet, and casement windows (Pima County Assessor's Parcel No. 11301114A, accessed 26 August 2010). Through the years, Mr. Owen and his family made additional improvements to the property including a brick-constructed addition to the southwest corner of the house with shed roof, the purchase of a 1930s-era gable-roofed wood-framed cottage from the former Tucson airport (now Davis Monthan Air Force Base), and a wood and corrugated tin garage (Lobo 2008). In the 1970s, David Owen and his second wife Ina moved into a retirement home.

Although the Owen Homesite continues to be occupied to the present day, recent archaeological excavations around the property provide a detailed glimpse into what daily life was like for the Owen Family. A brief review of materials excavated from a refuse pit confirms that someone in the household was ill, as evidenced by numerous medicine bottles, vials, and eye-droppers. Further, the majority of discarded materials were disposable and inexpensive, including food cans, condiment jars, and soda bottles. Very little crockery and dishware was discarded and those that were, were inexpensive dishware. Few personal effects were found in the refuse pit, but suspender slides, garter clips, perfume bottles, and marbles were recovered indicating that at least one man, woman, and child lived at this location. Interestingly, few alcohol bottles were identified in the recovered archaeological materials which that may reflect the personal preferences of the Owens or reflect adherence to the Federal Prohibition enforced between 1920 and 1933. Overall, the lack of expensive or heirloom specimens, the higher density of food and medicine-related items support the archival record; the Owens were typical of depression-era homesteaders.

Around the same time that David Owen was building his second home of adobe mined from his own property, John Alfred Ward, was paying a contractor \$4,000 to build a 1,400 square foot main house with indoor plumbing and electricity, a guest house, two wells, and a stable along West Valencia Road. In 1931, Ward had "proved up" his property and by 1934 he had received patent to 160 acres (Levstik 2005). In 2004,

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Tierra Right of Way Services, Ltd. conducted archaeological excavations at the Ward Homestead in advance of a housing development. During the course of their excavations, archaeologists recovered a number of expensive goods, such as monogrammed china plates, a radio, and a camera. In addition, evidence of his literacy, found in the form of a half-burned book in the main house, was also recovered. All of these items suggest an uncommon affluence for a homesteader, especially during the 1930s (Levstik 2005).

John Ward's affluence was not the only surprising discovery. Land patent files and military service records housed at the National Archives indicate that John Ward was an African-American World War I veteran who served with the 351st Field Artillery ("Buffalo Soldiers") in France. Ward had been recruited by the U.S. Military while attending Knoxville College. During his time overseas, Ward was exposed to mustard gas and when he was discharged in 1919, he came to Tucson's Pastime Park to recover. Like many WWI veterans, Ward filed homestead papers shortly after leaving Pastime Park. During the years that Ward occupied his homestead, he wrote a number of letters to the Department of the Interior, asking for additional information on homesteading. His letters spoke not only to the condition of his health at the time that he lived on his homestead, but also to the struggles of homesteading in a marginal and dry environment. Ward had managed to build an impressive homestead. His health, however, made maintaining the land difficult, and was further complicated by the lack of water as evidenced by the number of wells Ward sank. Eventually his wife was forced to seek work in Tucson in order to support John and their adopted children (Levstik 2005). In a letter dated April 1, 1934, Ward pleaded with the Department of the Interior to help him acquire a loan to finish sinking another well.

I am thirteen miles from town and I am hauling water for chickens, goats, and horses. Now if there is anything you can do to help me get this loan so as to finish my well, I will sure appreciate it. I am an ex-soldier and here for my health and its some job getting water here.

(1 April 1934, Letter to Department of the Interior from John Alfred Ward, on file at the National Archives)

Sometime in the 1950s, a catastrophic fire forced the Ward family off their homestead. The Wards, like many homesteaders were unsuccessful in their bid for making a life off the land, however John was successful in his bid for better health; he lived to 104 years of age (Levstik 2005). David Owen too, outlived one wife, remarried, and lived well into his eightieth year (Lobo 2008). Further, he continued to defy the odds by making a successful homestead that is occupied to this day.

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The End of the Sanatoria Era, 1930-1945

By the end of the 1920s, Tucson had over 40 permitted sanatoriums, a staggering number for a city with a population hovering around 30,000 people. Even though many sanatoria appeared to have emerged over night, by 1930, many disappeared just as quickly as they have appeared. The first wave of sanatorium closures corresponded with the Great Depression. All, but the larger institutions like San Xavier Sanatorium, Veteran's Administration Hospital, and Desert Sanatorium for example, were hit hard by the economic depression. By-in-large, smaller private institutions, particularly boarding-house style facilities closed their doors. The Desert Sanatorium, although a private institution at the time, was able to keep its doors open because of the generous patronage of the Erickson family. It did however; expand its patient's services to general care and arthritis when it was found that they could not cure tuberculosis (Grubb 1984).

St Mary's Sanatorium and Veteran's Administration Hospital too, converted to general medicine and no longer focused on tubercular care. In addition, some of the larger institutions were able to stay open because they were funded by the government, as was the case for San Xavier Sanatorium. Interestingly, other facilities opened their doors during the economic turmoil, such as the Southern Pacific Sanatorium and the Arizona State Elk's Association Hospital. Despite the closure of many facilities and the lower rate of tuberculosis nationwide, tuberculosis still continued to be major health crisis in Arizona. The facilities that opened during this time were largely successful because of private-sector funding and because they catered to a specific population, such as railroad employees and members of the Elks fraternal organization.

Tucson's economic picture brightened at the start of and following World War II, largely related to the establishment of military aviation facilities that brought increased revenue into the state (Sheridan 1995). The increasing economic prosperity however did not bring back the sanatoria of the previous decade. This was in part related to the discovery of the antibiotic, *streptomycin* by microbiologist Selman Waksman, the realization that previous tuberculosis treatment was ineffective, and the lower incidence of the disease (Ryan 1993). While the rate of tuberculosis continued to drop rapidly across the U.S., it continued to be the number one cause of death in Arizona, particularly among Arizona's native population. By the 1940s, Tucson had become the antithesis of what it had proclaimed itself to be only a decade earlier—the native population once advertised as the exemplar of healthy living exhibited staggering rates of tuberculosis, residential development encroached on the desert landscape, and congested networks of streets connected new suburbs with the city. Tucson no longer offered the same sense of refuge to ailing health-seekers and sanatoria construction reflected this change.

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After World War II the only known sanatorium established in Tucson was the Oshrin Hospital located at the former site of Barfield Sanatorium. Rather than attempting to lure ailing outsiders to Tucson, Oshrin was a government contract hospital created to deal with the exorbitant rate of tuberculosis among Arizona's Indian populations. The San Xavier Sanatorium too, continued to offer tubercular care to Tucson's American Indian and Mexican population into the 21st century. Thus the people, whose lives were mythologized to promote migration to Tucson and the desert southwest, fell victim to the very mythology that they unwittingly came to represent.

Context 2: Sanatoria Architecture in Tucson, Arizona, 1880—1945

[O]n the day when contemporary society, at present so sick, has become properly aware that only architecture...can provide the exact prescription for all its ills, then the time will have come for the great machine to be put in motion (Le Corbusier 1933, cited in Topp 1997).

Tucson's Canvas Period

Even with the establishment of Tucson's first permanent hospital and sanatorium, St. Mary's Hospital, tents typified the "architecture of tuberculosis". Tents were thought to provide the best means by which a patient could reap the full benefits of the Arizona climate. As noted previously, these types of structures included a canvas tent resting on a wooden platform. In some cases, tents were more substantial in appearance and construction, with wooden sides, screened windows, a wood floor, and covered by a steel roofed ramada-like structure to provide shade from the sun.

The popular use of tents in Tucson was related to a number of factors; the belief that environment was curative, the idea that tents offered the best form of ventilation, and because tents could be quickly assembled to accommodate a growing consumptive population. Moreover, in the early part of the 20th century, little was known about how to treat respiratory illnesses such as tuberculosis, although people understood how the disease spread. What this meant for the sick, was that their built environment not only mirrored what the medical community understood to be the best way to treat illnesses such as tuberculosis, but it also reflected the local healthy population's fear of contagious illness. On the one hand, doctors advised that dry air, warm climate, and good ventilation would help cure tuberculosis (or at least alleviate the worst of its symptoms). At the same time, because tuberculosis was contagious, healthy people were advised to stay at least four feet from someone with the disease. As a result, the early tent camps were purposely located away from the healthy population, outside the populated city center and on vacant desert parcels.

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Further, the establishment of the tent cities was not simply a result of patient demand outstripping supply, but a response to the fear of contagious disease making its way through the local population. The geographical isolation of the tent cities, including the formal sanatoria that followed, represented a direct response to the local population's fear and impacted town planning in later years (Nequette and Jeffery 2002). While the fear of illness became a motivating factor in the location and design of the early tent cities and later in permanent sanatoria, the belief that the desert environment provided relief to consumptives directly influenced the resulting architecture, especially the tent cities.

Prior to the establishment of additional permanent institutions such as the Desert Sanatorium, Veteran's Administration Hospital, and San Xavier Sanatorium, tents were thought to offer the best ventilation possible for the patient. Tents represented the closest thing to outdoor living and access to the full benefits of Arizona's weather. Even into the early 20th century the tradition of building tents or small cottages to house consumptive patients was practiced at many of the permanent sanatoriums. Even luxury or resort-type institutions, such as the Desert Inn near Phoenix or St. Mary's Hospital and Sanatorium in Tucson (Sisters of St. Joseph of Carondelet 1910) offered such accommodations. According to the Desert Inn's promotional brochure, its colony of cottages and bungalows provided the maximum benefits of outdoor life with indoor conveniences:

You will never know what you have missed until you have 'slept out'...Sleeping out is not only a delightful experience, but it is one of the chief factors in the restorative process of your life at Desert Inn (Redewill 5:1910).

Although the number and types of sanatoria increased over the next century, tents continued to be built, including on the campuses of larger permanent institutions. By the mid-20th century the vernacular began to change, tents were modified and were now recognized as "cottages". In many cases, this was a difference in semantics, as the newly christened cottages were little more than a tent with an exalted name. The Pamsetgaaf Sanatorium in Prescott, for example, referred to their tents as "porch cottages", even though they varied little from the accommodations at Tucson's Tentville (Pamsetgaaf 10:1913). With a nod towards the humble tent, some of the larger institutions created their own cottages in the form of small brick bungalows with names like "cottage buildings" and "patio courts". While frame and screen walls were replaced with brick and mortar, the underlying design theme remained consistent—isolation of the sick and buildings designed around proper ventilation. Tents vis-à-vis cottages began featuring cruciform and u-shaped plans to encourage adequate cross-ventilation, a design feature considered essential to a patient's recovery.

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By 1921, the vernacular had changed again as tents became cottages and cottages had become “pavilions”. Again, this was little more than a semantic difference, but the prevalence of sanatoria development throughout the United States was gaining the attention of architects, philanthropists, and government officials—individuals who sought to offer their opinions and expertise on the newly burgeoning sanatoria industry. In 1921, the *Architectural Review* featured an article on the proper design of sanatoria for tubercular cases. The author, T.B. (no irony there) Kidder of the Advisory Service of the National Tuberculosis Association, noted that there were distinct periods of sanatoria development, the earliest of which was the *Canvas Period*; a period marked by the proliferation of “structures of the flimsiest type” (Kidder 1921:17). Further he noted that well into 1920, these “crudely designed structures” continued to exist side-by-side with modern comfortable quarters (Kidder 1921). Tucson’s own Tentville exemplified Kidder’s Canvas Period, and as Kidder noted, tents continued to exist side-by-side, and in some cases on the same campus with permanent, modern institutions.

Between 1900 and 1920, the number of institutions available to patients continued to expand and diversify. A number of facilities touted a country-club atmosphere with large campuses housing grand administration buildings and staff quarters, as well as recreation and dining facilities. Some emphasized communing with nature and simplifying one’s life as a route to recovery. The Pamsetgaaf Sanatorium in Prescott, for instance, described its porch cottages and bungalows as resembling a summer camp with simple and minimal furnishings, explaining that, “[t]he majority of those that come to Pamsetgaaf are in need, not of luxury, but of the simple life” (Pamsetgaaf 10:1913). A number of features typical of the tent city model however, remained, even as formal sanatoria and other permanent institutions took its place. Sanatoria continued to be built outside of city centers in isolated areas; patient care was often undertaken in separate smaller auxiliary buildings, and outdoor space was incorporated as living space through the use of sleeping porches, verandas, and courtyards.

Reinventing the Southwest—Tourism, Tuberculosis and Tucson’s Built Environment

In Tucson, the greatest changes to sanatoria development and associated urban planning occurred between 1920 and 1930. These changes were influenced by a number of economic and social factors. Tourism, for instance, emerged as a major economic force during this decade, brought about in part by the push to promote Arizona as an exotic destination. Additionally, as historian C.L. Sonnichsen points out, the 1920s was a decade of prosperity for Arizonans (1987). World War I was over, and more people had extra money in their pockets. As tourism brought increased revenue into the state, groups such as the Tucson Sunshine-Climate Club advertised the wonders of the state in national magazines and newspapers (Sheridan 1995). Interestingly, they began

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by advertising in medical journals promoting the state as a place offering a healthy lifestyle, proclaiming “[c]hildren of the sun live here... [b]rown, sturdy, rosy-cheeked...growing into robust, vigorous youths” (Sheridan 240:1995). These early advertisements linked health and tourism, but as the 1920s continued, and as the local population grew (largely aided by the invention of the swamp cooler), fewer health-seekers were welcome. Advertisements shifted towards attracting healthy individuals who wished to experience the “wild west,” complete with cowboys and Indians. As Thomas Sheridan explains,

[A]s the harsh realities of westward expansion receded from memory, everyone from popular novelis[t] Zane Grey to...historia[n] Frederick Jackson Turner were transmuting the West into the heroic mirror of the nation, an alchemy accelerated by the young Hollywood film industry. The West was a mythical arena where individualism and innovation flourished, where the character of the American people wrote itself large (242:1995).

By offering geological glories such as the Grand Canyon as well as cultural exotica such as the Indian tribes scattered throughout the state, Arizona became an exotic destination for many Americans. Resort hotels and dude ranches sprang up offering tourists a “chance to meet nature in her ruggedness and still lead a white-man’s life” (Sheridan 242:1995). Soon, too, it became clear that American Indians could draw crowds of tourists to the state. The pioneering man behind the successful promotion of American Indians was Fred Harvey. Together with the Santa Fe Railway, his train tours led to the commercialization of Indian arts and crafts. Tourists could purchase something exotic from American Indians at stops in Winslow and Holbrook, or at trading posts and hotel lobbies. American Indian arts and crafts were so popular that Navajo women were pressured to leave their traditional blankets behind and weave rugs for the tourists. Hopi women began firing replicas of prehistoric polychrome pottery to meet the demand for souvenirs. In addition, Harvey sponsored his own version of anthropological tourism by busing tourists to various American Indian communities in northern Arizona and New Mexico. A trip to the Hopi Mesas, for instance, allowed tourists to witness Katsina (Katchina) dances first hand.

Anglo tourists were particularly fascinated by such Arizonan and New Mexican Pueblo Indians as the Hopi and Zuni. The Pueblo Indians were popular with Anglo Americans because they were viewed as “peaceful Indians”, unlike nomadic tribes who were historically “hostile” to Anglo encroachment and settlement. This stereotype was further aided by the Pueblo Indians own religious and cultural practices that encouraged pacifism and emphasized the basic tenant that humans should live in harmony with their environment (Parezo 1996). From an outsider’s perspective, the Pueblo Indians were also considered more “advanced” because they were farmers who built permanent settlements complete with multi-story masonry architecture.

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As Historian Thomas Sheridan notes, the southwest became a mythical arena for the American tourist (1995). The American populous had forgotten the harsh realities of westward settlement and Indian Wars and instead viewed the Southwest as an antidote to the industrialized cities east of the Mississippi River. In an ironic reversal, the Southwest, once considered a hostile environment, was suddenly the cure for the poverty, congestion, and disease now associated with Eastern urban centers. Clean air and open space could cure whatever ailed you, and American Indians were the living proof of a clean and simple life. The backlash against urbanization and industrialization took root in Tucson's sanatoria architecture. Regional expressionism and romanticism in the form of Spanish Colonial Revival, Mission Revival, Pueblo Revival, and local Sonoran adaptations were the favored architectural forms. They were not only a response to local climatic conditions, but helped promote Tucson as a romantic and exotic place, populated with "happy and healthy" Mexicans and American Indians. To the extent that local architecture differed from the European and colonial buildings of the eastern seaboard, it served to further promote Tucson as a place for tourists and tuberculars alike.

In the 1920s, the Anglo interest in Pueblo Indians manifested itself in non-native local architecture (i.e. Pueblo Revival architecture) built upon the Pueblo idiom of the previous decade. As Chris Wilson (1997) explains, *pseudopueblos* were popular architectural displays at the American world fairs between 1893 and 1915, and these Anglo copies dotted the tourist path through the Southwest (1997). The most notable examples are Hopi House (1905) designed by architect Mary Colter at the Grand Canyon and the City of Santa Fe, New Mexico, where the entire cityscape centers on Pueblo architecture. In Tucson, the Desert Sanatorium and Reardon Sanatorium referenced Pueblo Revival architecture. This interest in Pueblo architecture fueled and was fueled by tourism, institutional and corporate identity, and a burgeoning Romantic Movement in the United States (Wilson 1997).

The Romantic Movement in architecture referenced historic styles. In Arizona the architecture of Pueblo Indians, Mexicans and Spanish missionaries offered just such a historic reference point. Further, romantic architecture of the variety characterized by Revival style architecture offered an antidote to an increasingly complex industrialized society. Revival architecture, particularly Mission, Spanish Colonial, and Puebloan, spoke to a perceived simpler time when life was characterized by hard work and a connection with the land. Moreover, Revival style architecture was promoted by local builders and architects, and while these styles were external to Tucson's cultural heritage, they helped achieve a generic Southwestern architectural vocabulary for the city (Nequette and Jeffery 2002:28). This ideology was further reflected in medical theories about how pulmonary and respiratory disease could be treated, especially as they harkened back to a time when humans lived in harmony with nature and life was

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seen as simpler. This is evident in the evolution of the *sleeping porch*—once used for consumptive patients, later branded as exterior living rooms or *Arizona Rooms*. In the Southwest, these ideals came to be exemplified by a particular kind of sanatorium and consequently an Anglo-imagined American Indian.

As historian and American Indian, Philip Deloria explains, “[w]henver White Americans confronted crises of identity, some of them have inevitably turned to Indians” (17:1998). Although the 1920s were a time of prosperity and innovation in the United States, its citizens were grappling with how to cope with rapid industrialization during a post-war boom as well as how to deal with major illnesses such as tuberculosis. For many, the Southwest provided an answer to these concerns. Arizona was still a relatively isolated place with low population density, low incidents of disease, and with a singular dry and warm climate. Tubercular patients could easily be isolated there, away from the more densely populated Eastern states. Further, the Southwest seemed to offer an exotic and simpler culture as an antidote to industrialization. The desire to simplify life in the face of rapid technological and scientific growth provided fertile ground for romantic portrayals of American Indians. American Indians unwittingly provided a public face for an Anglo crisis. The emerging image of the stoic and self-reliant Indian reinforced anti-modern sentiments for 20th-century Anglos who longed for physical vitality and spiritual insight (Armitage 2003). Sanatoria and other aspects of the built environment reflected these historical and cultural forces.

The vast majority of sanatoria in Arizona were based on the idea that the treatment of disease was directly related to the natural world, often harkening back to a simpler time. The *Architecture of Tuberculosis* came to mirror the pressing issues of the 1920s, combining the desire to treat disease through modern scientific methods and facilities while at the same time offering up a simpler life attuned to the natural world. The founders of the Desert Sanatorium and Reardon Sanatorium, for example, designed Hopi-inspired architecture to house “modern” science. The Desert Sanatorium appointed their buildings with scientific equipment as well as an extensive collection of American Indian themed murals, motifs, and accessories. Rooms contained Navajo rugs and were minimally but tastefully furnished. Walls in many of the buildings were decorated with ceremonial Hopi and Zuni murals and Navajo sand paintings. The murals contained traditional Pueblo symbols representative of life, breath and healing powers, and the Navajo sand paintings were replicas of similar paintings used in traditional Navajo healing ceremonies. At the same time, sanatoria directors advertised their work as rigorous science using state-of-the-art technologies.

Further, Spanish Colonial Revival architecture exemplified by San Xavier Sanatorium and the Veteran’s Administration Hospital, were similarly reflective of the relationship between regionalism, romanticism, and current medical theories. Although prevalent in the southwest, the use of Spanish Colonial Revival architecture in the design of Tucson

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sanatoria was also strategic. The popularity of this particular style helped Tucson affect a Spanish Colonial image that would help lure health-seekers west. Sanatoria architecture of this style and its predecessor Mission Revival architecture (e.g. County Hospital) helped Tucson achieve a romantic old world charm and an appearance of antiquity. By reinforcing the city's "ancient cultures", Tucson's Revival architecture signified harmony with the environment and served as a tangible extension of the healing associated with the Arizonan climate.

Between 1920 and 1940, the successful promotion of Tucson's Revival style architecture was aided in part by local architects. Indeed, four of the city's most prominent architects—Henry O. Jaastad, Annie Rockfellow, Roy Place, and Josias Joesler—were responsible for many of the sanatorium buildings that survive today and for establishing Tucson's architectural vocabulary. One of the most prolific Tucson architects was Henry O. Jaastad (1872-1965) who completed over 500 projects. He is best known, however, for his political career as a city councilman, and later as Tucson Mayor (1933-1947). As an architect, Jaastad was known primarily for his plain, utilitarian residential designs. In 1916, his design aesthetic began to change when he hired Annie Rockfellow (1866-1954) as his chief designer. Rockfellow, greatly influenced by the architectural displays she witnessed at the Panama-California Exposition, helped introduce popular "academic styles", namely Revival Style architecture, to Jaastad's design projects (Nequette and Jeffery 2002). Her influence is evident in the design of the Elks Association Hospital, the majority of the buildings at the Desert Sanatorium, the County Hospital, additions to the Comstock Hospital and St. Luke's-In-The-Desert, and Whitwell Hospital.

Roy Place (1887-1950) also reinforced the popularity of Revival style architecture through his design of the Veteran's Administration Hospital, additions to the Comstock Hospital, and the design of the Patio Building at the Desert Sanatorium. In 1919, Place, a California architect, who had originally come to Tucson to supervise the construction of buildings on the campus of the University of Arizona, formed a friendship with local architect, John Lyman. Together Lyman and Place designed over 20 buildings in Tucson before Lyman left the firm in 1924. Place continued to create notable public buildings and was responsible for many of Tucson's landmark buildings (e.g. Pima County Courthouse). Place's buildings are distinguishable by highly crafted Renaissance and Spanish Colonial Revival style designs; with the Veteran's Administration Hospital representing one of his most ornate building projects (Nequette and Jeffery 2002).

Josias Joesler (1895-1956), a Swiss-born architect, was one of Tucson's most celebrated and prolific residential architects. His eclectic use of and mix of Mediterranean, Spanish, and indigenous architecture, helped establish what was to be known as the "Tucson Style." His designs seamlessly blended different architectural styles, but also paid close attention to landscape, topography, orientation, and local building traditions (Nequette and Jeffery 2002). While largely a residential designer, so

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too did his public buildings reflect his eclectic design aesthetic. The former Reardon Sanatorium was a fitting example of Joesler's attention to setting, and his interest in indigenous and Mediterranean architectural styles.

In addition to reinforcing the idea that architecture and the environment could treat disease, the design of interior space, interior furnishings, and landscaping also played a significant role in the development of Tucson as a health-destination. Regardless of the size of the facility or architectural style, Tucson sanatoria all exhibited related features, such as sleeping porches and verandas, and in many cases interior courtyards. Not only were these practical architectural applications in a desert environment but they were based on the theory that architecture and environment were integral to patient treatment and well being. Further, ventilation, fresh-air, and sunshine were considered key features of the healing process, and so it was paramount that all sanatoria provide at least one of these architectural features.

Other design features included examination and surgery rooms, large dining facilities, and recreational rooms, often adorned with Indian art. Patient wards varied to some degree but by-in-large, non-ambulatory patients were housed adjacent to the surgery or infirmary, while ambulatory patients were housed in separate auxiliary quarters, such as tents, cottages, and pavilions (Kidder 1921). For facilities with larger campuses such as the Desert Sanatorium, St. Mary's Sanatorium, Veteran's Administration Hospital, San Xavier Hospital, Elk's Hospital, and Barfield Sanatorium, their campuses were made up of a number of buildings in order to house patients according to their stage of recovery, provide recreational and dining facilities, and provide housing for nurses and doctors. The expansive design of these campuses was not only to provide a variety of services to patients and ensure good ventilation, but also because most facilities were in isolated areas away from public transportation and with little access to recreation and entertainment. As T.B. Kidder notes, "tuberculosis patients get tired of bed rest...and it is advised that separate...facilities...be included in the design plan so that they can walk around a bit "(1921:18). Indeed, until the mid-1920s many of Tucson's sanatoria resembled small medical cities complete with swimming pools, reading rooms, operating rooms, laboratories, and x-ray rooms. Later, as small private facilities emerged in residential neighborhoods, the close proximity to general care hospitals and recreation reduced the need for such extensive services on the sanatoria grounds. Except for distinctive sleeping porches, most of the private boarding house-style sanatoria varied little from convalescent homes and by the mid-20th century, a chaise lounge chair occupied by a robed patient became the dominate image of sanatoriums.

Certainly Tucson was no stranger to the chaise lounge, but local sanatoria furnishings also included small beds with canvas shade tarps used for sunbathing or *heliotherapy* sessions, and all manner of medical equipment including oxygen tents, x-ray machines

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and in the case of the Desert Sanatorium, an iron lung, a siderostat, radiometer, and therazic lenses (Grubb 1984). Where Tucson sanatoria differed however, was in their use of Indian-inspired furnishings. A review of interior photographs and brochures of Tucson sanatoria during the mid-20th century reveals that regardless of type or size the vast majority of facilities used Indian-themed art and accessories in their interior design. As noted previously, the best example of this was the Desert Sanatorium, but others chose Indian arts and crafts as well. The Barfield Sanatorium, Reardon Sanatorium, and Carter's Hotel Rest Sanatorium all picture Navajo rugs and Tohono O'Odham basketry in their brochures. Surrounded by Indian-created art, patients were meant to see sanatoria as places in touch with "natural" healing practices supplemented by modern science.

Landscaping extended the Indian-inspired architectural design features and interior furnishings of sanatoria. Although sanatoria developers worked in part from the theory that pleasant surroundings would help hasten recovery, local zoning regulation offered an equally compelling impetus for attention to setting. Over time, local zoning regulations began stipulating not only that sanatoria be set back 200 feet from the property line and that neighboring property owners had a voice in where sanatoria could be built, but that restrictions could be placed on incompatible architectural styles (12 April 1928, *Citizen*).

In 1930, the City of Tucson adopted its first zoning code; the R-3 zone. The R-3 zone was designated as the "Sanitarium Zone". The associated zoning regulations stipulated that a building constructed for use as a sanitarium could occupy only 20 percent of the parcel to ensure plenty of fresh air and sunshine for patients (personal communication with Jonathan Mabry of the City of Tucson Historic Preservation Office, November 2009). Even though these regulations were *ad hoc* and in response to sanatoria development in residential areas, most sanatoria, (even those *grandfathered* in and located on small residential lots in neighborhoods) employed some form of landscape design. T. B. Kidder of the National Tuberculosis Association advised that sanatorium administrators and designers create lawns and gardens on their campuses and further advised sanatorium designers to retain as much of the natural surroundings as possible for the well-being of its future patients (1921). In fact, landscape design and the incorporation of outdoor space as living space is a crucial element of sanatoria design—not only in Arizona, but throughout the world (Campbell 2005). This is exhibited in the incorporation of porches, loggia, verandas, courtyards, gardens, and water features in sanatoria design and medical treatment. Again, using outdoor space as a form of medical treatment was central to the theory that the natural world could cure tuberculosis. It is this key feature of sanatoria design however that has had a lasting impact on medical theory and hospital design. Recent studies have found that patients indeed recover faster and have a more positive outlook on their treatment if they are able to look outside and have access to gardens and natural surroundings (Tieman 2001).

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Until the mid-20th century, sanatoria architecture and development in Tucson was characterized more by treating tuberculosis through symbolic association rather than sound scientific methods. As Margaret Campbell explains, “superstition, myth and subjectivity partnered functional [architecture] that emphasized purity, hygiene, fresh air and sunlight. It was not until the triple drug therapy breakthrough in the 1950’s that an objective treatment regime ruptured the direct association between architectural design, treatment, and physical recovery” (2005).

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Associated Property Types

Although no single architectural style defines Tucson sanatoria, local sanatoria architecture is identifiable largely because it exhibits a number of specific design features. Of the property types associated with the development of Tucson sanatoria all exhibit attention to ventilation, isolation of the sick, and the inclusion of outdoor space. By the mid-20th century, revival-style architecture reflected the belief that hygiene, fresh air and sunlight were paramount to sanatoria design. Further, the varying types of sanatoria available to Tucson health seekers between 1880 and 1945 reflected both national and local medical knowledge about the best ways to treat respiratory diseases.

Property Type: Tent Community Sites

Description: Prior to the development of permanent sanatoria in Tucson, tents and tent camps characterized the architecture of tuberculosis. Tents, by their very nature and design, were temporary and not intended to survive the ravages of time. Further, tents were constructed of lightweight materials that could be constructed and removed in short order and could be quickly assembled on available vacant land. Tucson's tuberculosis tent camps are examples of ephemeral sites. While the tent structures are no longer present, vestiges of these former tent communities remain, and the location of the former tent camps has had a lasting impact on Tucson's residential development.

Significance: Between 1890 and 1940, Tucson's tuberculosis tent camps were established in isolated settings, but as the local population expanded, due in large part to the consumptive population, the city had to expand as well. The logical growth occurred around the core population—the sick. Further, population growth spurred development north and east of the downtown area; the same areas as the tent camps. The location of these former tent camps influenced future residential development. During the periods in which these camps were established, they represented isolated locations well outside of the central business district and more importantly, away from the local healthy population. Nonetheless, it was their isolated location and ability to sustain a large number of invalids in such isolated areas that encouraged future residential development and expansion surrounding the camps.

While the physical remains of the tents no longer exist (above the modern ground surface), as noted below, there still remain visible and physical representations of these former tent communities. Moreover, the location of these camps and the resulting residential development in these locations serve as an early testament to the growth and expansion that has characterized much of Tucson's history.

Registration requirements: To qualify for National Register listing, tuberculosis-related tent community sites should maintain integrity of location, design, materials, workmanship, setting, feeling, and association with tuberculosis. Specifically, this property type should possess both material and archival evidence of its historical use as a tuberculosis-related tent community.

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Location, Setting, and Feeling: In order to possess integrity of location, setting, and feeling, tuberculosis-related tent community sites should be located north of the central business district, should be associated with a large area covering multiple acres, should retain physical evidence—either structures, buildings, archaeological features or landscape features—of their historical occupation as a tent community. In the case of tent community sites, *feeling* is a relatively abstract concept and will depend upon the integrity of setting and design.

Design, Materials, and Workmanship: Because tents and tent camps are ephemeral by their very nature, their design, workmanship, and materials can be gleaned through remaining structures and buildings, landscape features, archaeological features, and land-use patterns. Structures and buildings would include associated permanent sanatoria and road alignments established along and within the boundaries of the site, as well as site-specific vegetation related to the historical occupation of the tent community. Material evidence of these tubercular tent community sites should include evidence of posts holes, privies, medicine bottles, tent stakes, and tent weights. While many of these former tent community sites now support residential development, the nature of and location of these sites directly impacted the resulting development patterns imposed upon them. These patterns include streets named after prominent residents associated with these sites, haphazard and irregular lot sizes associated with former residents buying up lots within and directly adjacent to these camps, and the establishment of businesses and permanent sanatoria catering to the consumptive population.

Association: In order to possess integrity of association, tuberculosis-related tent community sites should have originally served as a temporary camp for consumptives. In addition to the aforementioned criteria, archival evidence of its use as temporary consumptive site is essential and would include historical newspaper articles, maps, and photographs. In addition, the property type should date between 1890 and 1930; a period in which tent camps were commonly used as a method for treating respiratory ailments.

Eligibility Criterion: If the above-mention registration requirements are met, Tucson's former tuberculosis tent camps are eligible under Criterion A and Criterion D. Because tuberculosis had a profound impact on both population growth and urban development, these tent community sites are eligible under Criterion A for their association with sanatoria development and community planning. Under Criterion D, the location of these tent communities and the booming population growth as a result of these sites can provide additional information about how these temporary sites, not only influenced, but helped facilitate the northward expansion of the city, and ultimately the development of permanent sanatoria.

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Property Type: Homestead

Description: Homesteading was another option for consumptives who came west in search of better health. The majority of homesteads in Arizona were patented between 1910 and 1920 with a second boom during the Great Depression. Homesteading was a favored option for WWI veterans, many of whom had contracted tuberculosis during the war. Returning consumptive veterans, like many of the consumptives flocking to Tucson, had limited financial resources with which to acquire and pay for medical care. As a result, homesteading was an inexpensive means to acquire land in the *Sunshine City*.

The definition of a homestead is rather broad. In the most general sense, a homestead includes the home and adjacent grounds occupied by a family. Through this definition, the key feature of a homestead is that it includes a more substantial amount of land than a typical residence within a subdivision. Further, homesteads are typically found or were originally established in a rural setting. A narrower definition of a homestead refers to land acquired from the United States government by filing a claim, living on and cultivating a portion of the land.

Significance: In 1990, when Pat Stein wrote her historic context study of homesteading in Arizona, only two homesteads were identified in Pima County (Stein 1990). Since that time, the number of identified homestead properties has increased through the efforts of cultural resource surveys. In the context of tuberculosis, homesteading is often overlooked as a form of treatment, but was nonetheless an important part of sanatoria and later residential development in Tucson. Homesteads were very similar to sanatoria and tent community sites in that they were established in isolated areas, often marked by a simple habitation that resembled many of the temporary and “well-ventilated” qualities of Tucson’s early tent cities. Similarly, homesteads once situated well-outside the city limits, helped pull residential development northward and eastward away from the central business district.

Registration requirements: To qualify for National Register listing, homestead properties should maintain integrity of location, design, workmanship, materials, setting, feeling, and an association with tuberculosis. Specifically, this property type should possess both material and archival evidence of its historical use as a homestead associated with tuberculosis.

Location, Setting, and Feeling: In order to possess integrity of location, setting, and feeling, tuberculosis-related homesteads should be located miles outside the central business district, they should continue to exist in their original location, and they should be situated within a large parcel totaling one or more acre. Moreover, this property type should retain a rural feel reinforced by mature vegetation and exhibit a deep setback from a public thoroughfare.

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Design, Materials, and Workmanship: Tuberculosis-related homesteads should retain key design features of homesteading, including a “habitable house”, structures for collecting and storing water, outhouses, as well as auxiliary buildings and structures associated with livestock. In some instances in which any of the aforementioned buildings and structures are no longer standing, archaeological evidence of their existence is acceptable (e.g., stained soils and earthen depressions indicative of a privy or refuse pit). Because many homesteads were originally located in remote areas away from ready access to goods and services and because many homesteaders were without significant financial resources, buildings and structures associated with homesteads frequently feature salvaged or recycled materials, as well as locally available materials such as adobe.

Association: In order for a historic homestead to be eligible under the *Tucson Health Seekers* context, the property should exhibit both material evidence for and archival evidence of tuberculosis. Material evidence would include artifactual remains such as, but not limited to, medicine bottles, syringes or syringe caps, and vials. Archival documentation would include, letters indicating a homesteader was ill, death certificates, oral history interviews with relatives and former neighbors, as well as military discharge papers. In addition, the homestead should have been established between 1910 and 1935; the peak years of homesteading in Arizona and the peak years of homesteading by consumptives.

Eligibility Criteria: If the above-mentioned registration requirements are met, Tucson’s tuberculosis-related homesteads are eligible under Criterion A and/or Criterion D. Under Criterion A; tuberculosis-related homesteads are associated with the larger context of sanatoria development and community planning. The combination of tuberculosis and the U.S. Homestead Act had a profound impact on both population growth and urban development. Moreover, many WWI veterans who had been mustard-gassed during the war flocked to Arizona to recuperate, many of whom were poor and could not find appropriate accommodations. Like Tucson’s tent camps, local homesteads helped further residential development away from the city center. Further, tuberculosis-related homesteads are also eligible under Criterion D, as they have the potential to provide additional information about the homesteading experience, especially as it relates to the history of tuberculosis. Continued documentation and excavation of these property types has the potential to provide quantitative geographical and demographic data about the relationship between tuberculosis and homesteading.

Property Type: Institutional Buildings

Many of Tucson’s extant sanatoria buildings represent institutional properties, meaning they represent a building or collection of buildings associated with a particular group or organization. In the case of Tucson sanatoria, institutional properties typically supported a larger patient population, provided specialized medical care, featured larger

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campuses, landscaping, and specific design features such as isolated patient quarters, sleeping porches, and in many cases revival-style architecture. Within this definition of institutional properties, Tucson sanatoria can be further subdivided into two additional subtypes—hospitals and convalescent homes.

Subtype 1: Hospital

Description: In the most general sense, a hospital is a health care institution that provides specialized staff, equipment, and medical treatment to its patients. Although hospitals can accommodate long-term care, their primary function is that of short-term patient care. Tucson's hospital-styled sanatoria did not differ significantly from general care hospitals. Both featured large campuses with wards or separate buildings, many of which are multi-storied and house patients, surgery rooms, staff quarters, administrative offices, and dining facilities. The primary difference between hospital-style sanatoria and general care hospitals is the use of outdoor space in patient treatment. As a design feature, hospital-like sanatoria incorporated sleeping porches, verandas, and courtyards.

Further, these types of hospitals utilized landscape design to aid in the healing process by requiring that patients undertake an exercise regime to speed their recovery. This was possible only through landscaped gardens and pathways, where ambulatory patients could move around the property. Unlike general care hospitals, hospital-style sanatoria offered recreational features such as tennis courts and swimming pools. Recreational features, as well as gardens and sleeping porches, are common features of hospital-style sanatoria.

Significance: Many of the sanatoria described in this document represent the hospital subtype. Further, many of these property types have survived to the present day. Tucson's surviving examples of this property type represent some of the earliest permanent sanatoria in Tucson and further were designed by prominent local architects. Local sanatoria architecture continues to showcase the lasting impact tuberculosis had on Tucson's architecture and development.

Registration requirements: To qualify for National Register listing, sanatoria hospitals should maintain their integrity of location, design, workmanship, materials, setting, feeling, and an association with tuberculosis.

Location, Setting, and Feeling: In order to possess integrity of location, setting, and feeling, tuberculosis-related hospitals should continue to exist in their original location, should occupy a large parcel or lot (typically a corner lot or parcel), should exhibit a deep setback from a public thoroughfare, and should feature landscaped grounds. In addition, the combination of expansive grounds and associated architecture should reinforce the property type's institutional feeling.

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Design, Materials, and Workmanship: Although numerous architectural styles are represented in sanatoria hospitals, all exhibit related design features, including porches, verandas, and courtyards, expansive campuses with multiple auxiliary buildings, landscape features, recreational features, and monumental scale. More specifically, these types of properties should exhibit most if not all of the following design features: a main multi-story building exhibiting a “lean-to” design which includes a central entrance flanked by sleeping porches or enclosed wings to house non-ambulatory patients or a main building that exhibits a design plan that promotes cross-ventilation, such as a cruciform shape or t-shaped plan. Hospital-type sanatoria should also have auxiliary buildings or structures to house staff, dining facilities, and recreational facilities. Hospital campuses should also have separate stand-alone patient quarters for ambulatory patients—be they tents or permanent cottages. Hospitals should also exhibit landscaped grounds and have a deep set-back from the street.

Association: In order to possess integrity of association, the hospital property subtype should have been constructed for and used historically as a sanatorium. In addition to the aforementioned design criteria, archival evidence of its use as a sanatorium is paramount. The period of significance for the hospital should date between 1880 and 1945; a period in which standard architectural guidelines for proper sanatoria design were widely used across the United States.

Eligibility Criteria: If the above-mention registration requirements are met, Tucson's sanatoria hospitals are eligible under Criterion A and Criterion C. Because numerous permanent, hospital-like sanatoria were established in Tucson to meet the needs of its high consumptive population and the creation of these hospitals helped encourage additional residential development, the hospital property subtype is eligible under Criterion A for its association with sanatoria development and community planning. Further, Tucson's sanatoria hospitals are also eligible under Criterion C, in the area of sanatoria architecture, if they include all or most of the following: extant architectural features related to ventilation, large campuses with multiple buildings, retention of landscape features and in some cases incorporation of revival-style architecture. Additionally, sanatoria hospitals representing academic architectural styles or designed by a master architect should include additional documentation beyond their association with tuberculosis to convey their architectural significance under Criterion C.

Subtype 2: Convalescent Home

Description: Prior to the introduction of antibiotics to treat tuberculosis, the term *convalescent home* was synonymous with sanatoria. The primary characteristic of convalescent homes is that they are medical facilities for long-term illness. They were designed as a place for consumptive individuals to rest and recuperate for an extended period of time. Although they are defined as long-term medical facilities, they did not provide surgical or other medical procedures allowed at hospitals. Further, convalescent homes often only had one visiting doctor on staff and a few nurses that oversaw the day-

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to-day care of the sick. While convalescent homes share a number of architectural design features with hospitals, such as courtyards and sleeping porches, they are typically scaled down from larger hospital-style sanatoria. Convalescent homes, as the name implies, are more residential in appearance than hospitals, often only a single story, and frequently situated on corner lots. In addition, this subtype consists of attached patient wards, smaller campuses, and few if any auxiliary buildings. Because convalescent homes are smaller than hospitals and located on smaller lots (smaller than a hospital campus, but larger than a single-family residence), they were designed to accommodate only their patients and a handful of staff, and they offered few recreational amenities.

Significance: Numerous permanent convalescent homes were established in Tucson to meet the needs of its high consumptive population. By establishing themselves closer to residential areas, convalescent homes helped encourage additional residential development beyond the central business district. In addition, many were designed or redesigned by prominent local architects on behalf of enterprising locals hoping to cash in on the consumptive population.

Registration requirements: To qualify for National Register listing, Tucson's convalescent homes should maintain their integrity of location, design, workmanship, materials, setting, feeling and an association with tuberculosis.

Location, Setting, and Feeling: In order for a historic convalescent home to be eligible under the *Tucson Health Seekers* context, it should possess integrity of location, setting, and feeling. Tuberculosis-related convalescent homes should continue to exist in their original location, should occupy a lot within or adjacent to a residential area, and should exhibit a deep setback from a public thoroughfare. In addition, the slightly larger lot size, combined with both a residential appearance and more massive scale, should reinforce a "homey", yet institutional feel.

Design, materials, and Workmanship: Although numerous architectural styles are represented by these convalescent homes, all exhibit related design features, including porches and courtyards, in many cases large corner lots for adequate cross-ventilation, multi-room plans, and single-story design. Specifically these types of properties should exhibit most if not all of the following design features: larger lot size, single-story main building featuring a multi-room plan with numerous windows for appropriate cross-ventilation or "lean-to" design (i.e. long narrow building with patient wards along the long axis of the building flanking a central administrative or communal room), sleeping porches, courtyards, or verandas and attached patient wards. In addition, many of Tucson's convalescent homes were originally established near or adjacent to residential areas.

Association: In order to possess integrity of association, the convalescent home property subtype should have been constructed for and used historically as a sanatorium. In

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addition to the aforementioned design criteria, archival evidence of its use as a sanatorium is paramount. In addition, the property should date between 1880 and 1945; a period in which standard architectural guidelines for proper sanatoria design were widely used across the United States.

Eligibility Criteria: Tucson's convalescent homes may be eligible under Criterion A and Criterion C. Under Criterion A, convalescent homes are eligible for NRHP listing for their association with sanatoria development and community planning. Numerous permanent convalescent homes were established within and adjacent to Tucson's residential districts and helped encourage additional residential development. Tucson's convalescent homes are also be eligible under Criterion C, in the area of sanatoria architecture, specifically the incorporation of specific architectural features related to ventilation and long-term patient care. These design features specific to Tucson's sanatoria architecture helped reinforce the association between health and the built environment.

Property Type: *Boarding House*

Description: The majority of Tucson sanatoria were boarding house style sanatoria. This term is used to best describe residential buildings that were converted to sanatoriums, the majority of which were operational during the mid-20th century. With the exception of patient lodgers, these types of properties are similar to a typical boarding house in which a family home is let out to lodgers. The lodgers share common parts of the house and some services such as laundry, food, and cleaning are often provided at an additional cost. Tucson's boarding house sanatoria differed from general boarding houses in that they were often operated by general nurses and required (eventually by law) a substantial set-back from the street to allow for proper ventilation and safe distance between the facility and neighboring properties. These property types were typically located in residential neighborhoods, multi-storied, rectangular in massing and contained sleeping porches.

Significance: Boarding house style was the most commonly represented type of sanatorium in Tucson during the 20th century. Most of these types of sanatoriums were established and operated by local women. Further, the high tubercular population meant that enterprising women were able to make additional income by renting out rooms in their homes. Because of its location within residential districts, this property type prompted the implementation of local zoning regulations. Despite the high numbers of this property type during the 20th century, few such properties remain.

Registration Requirements: To qualify for National Register listing, Tucson's boarding house sanatoria should maintain their integrity of location, design, workmanship, materials, setting, feeling and association with tuberculosis.

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Location, Setting, and Feeling: In order to possess integrity of location, setting, and feeling, tuberculosis-related boarding houses should continue to exist in their original location, should occupy a large corner lot within a residential area, and should exhibit a moderately deep setback from a public thoroughfare. In addition, the slightly larger lot size, combined with a residential appearance and more massive scale than adjacent properties, should reinforce a “homey” but less institutional feeling than other sanatoria property types.

Design, Materials, and Workmanship: Although numerous architectural styles are represented by these homes, in order to meet the above registration requirements, this property type should exhibit specific design features, including sleeping porches, larger lot size than adjacent properties, deeper setback, multi-story, multi-room plans, and rectangular massing. Further and with the exception of a larger scale than neighboring properties, these types of sanatoria should resemble the architecture of the surrounding neighborhood.

Association: In order to possess integrity of association, a tuberculosis-related boarding house should have been originally constructed as a residential property and then converted to a boarding house catering to consumptive patients. In addition to the aforementioned design criteria, archival evidence of its use as a residence as well as tuberculosis-related facility is paramount. In addition, the property should date between 1880 and 1930; a period representing the height of boarding house style sanatoria in Tucson.

Eligibility Criteria: If the above-mentioned registration requirements are met, Tucson’s boarding house style sanatoria are eligible under Criterion A, for their association with sanatoria development and community planning. Numerous boarding house sanatoriums were established in Tucson during the 20th century as a way for local women to earn additional income. Further, the establishment of sanatoria within residential neighborhoods led to significant changes to local zoning ordinances. Tucson’s boarding house style sanatoria are also eligible under Criterion C, in the area of sanatoria architecture, as these homes were modified to accommodate the specific needs of tubercular patients.

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Geographic Data

The following documentation form encompasses properties located within Tucson corporate limits, and two properties located immediately adjacent to the Tucson corporate limits. Eligible properties are depicted on the *Tucson*, *Tucson SW*, *Tucson North*, *Cat Mountain*, and *Jaynes 7.5'* topographic quadrangles. Further, the 12 potential National Register eligible properties are included in Township 14 South, Range 13 East (St Luke's-In-The-Desert and Arizona State Elks Association Hospital), Township 13 South, 13 East (Pastime Park), Township 13 South, Range 14 East (David Owen Homesite, Desert Sanatorium and Cate's Sanatorium), Township 14 South, 14 East (Tentville, Whitwell Hospital, Comstock Children's Hospital and Carter's Hotel Rest Sanatorium), and Township 15 South, Range 13 East (San Xavier Sanatorium), of the Gila Salt River Baseline and Meridian (Map: Figure 1).

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Summary of Identification and Evaluation Methods

Amongst Arizona history scholars, it has long been known that tuberculosis had considerable influence on the history and development of Arizona. Nowhere else in the state is this influence as apparent as it is in Tucson. The current documentation form seeks to identify significant tuberculosis-related properties, many of which are rapidly disappearing.

Because numerous tuberculosis-related properties exist (or have existed) around the State of Arizona, it was decided that it would be a daunting task to create a document detailing all significant tuberculosis-related properties. Instead, this documentation form focuses specifically on the City of Tucson, with some references to other properties in the state. It is the hope of this preparer that the Tucson Health Seekers documentation form will encourage other scholars to create similar multiple properties documents for tuberculosis-related properties in other Arizona cities. This document would not have been possible without grant assistance provided by the Southwestern Foundation for Education and Historical Preservation, the Tucson-Pima County Historical Commission, and in-kind donations from Poster Frost Mirto, Desert Archaeology, Inc., and the Tucson Historic Preservation Foundation.

Identifying Tucson's historical tuberculosis-related properties was achieved by reviewing city directories, trade, healthcare, and tourism magazines and pamphlets, historical photographs and maps, as well as books and journal articles. During the course of archival research over 40 tuberculosis-related properties were identified within or directly adjacent to the City of Tucson (see Map Figures 2-5). Each of these properties was evaluated to determine if they retained their historic integrity. A determination of significance was based on field visits and archival research. During the course of field investigations it was noted that by-in-large the majority of tuberculosis-related properties have been demolished and therefore their significance could not be evaluated. Consequently, because so few properties remain and those that do remain are working hospitals or are used for residential or commercial purposes, many of these properties have undergone alterations since their period of significance. As a result, the properties that have undergone alterations had to be carefully evaluated to determine if these properties still retained enough of their significant character-defining features to be potentially eligible for listing on the National Register (see below for property-specific evaluation criteria).

Of the 40 properties identified, 12 were found to retain sufficient integrity to be potentially eligible for listing on the National Register of Historic Places (NRHP). These properties include, *Tent Community Sites*: Tentville and Pastime Park; *Homesteads*: Owen

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Homestead; *Hospitals*: San Xavier Sanatorium, Whitwell Hospital, Desert Sanatorium, Veteran's Administration Hospital No. 51, and Arizona State Elks Association Hospital; *Convalescent Homes*: Comstock Children's Hospital, St. Luke's-in-the Desert, and Cate's Sanatorium and *Boarding Houses*: Carter's Hotel Rest Sanatorium.

The properties included in this documentation form relate to one or more of the two identified contexts: Context 1 (Criterion A and D)-Sanatoria Development and Community Planning in Tucson Arizona, 1880-1945, and Context 2 (Criterion C)-Sanatoria Architecture in Tucson, Arizona, 1880-1945. Each of these contexts covers the time period impacting the 12 potentially eligible properties and property types are organized by function/typology. The Arizona State Historic Preservation Office guidelines were followed when assessing integrity, while also recognizing that each property is unique and exhibits its own distinguishing characteristics.

A number of the properties included in this document have been previously listed on the NRHP as contributing properties to residential historic districts. Although they will not be reevaluated here, it is the recommendation of the preparer that these properties be recognized for their contributions to the developmental history of Tucson. The properties currently listed on the NRHP include;

- Whitwell Hospital (Speedway-Drachman Historic District)
- St. Luke's-In-The-Desert (Speedway-Drachman Historic District)
- Carter's Hotel Rest Sanatorium (West University Historic District)
- Cate's Sanatorium (Fort Lowell Historic District).

At present, the former sanatorium buildings at Fort Lowell, adapted from the 1870s-era Officer's Quarters, are currently undergoing restoration work by Poster Frost Mirto. Because these buildings are undergoing restoration work to restore them to their earlier period of significance, the salient sanatoria-related features will be lost. The restoration will, however, include interpretive signage that will provide information about the sanatoria period at this site. Cate's Sanatorium is included in this document because this property, like the other previously listed NRHP properties, helps to further illuminate the importance of sanatoria development in Tucson.

Many of the properties listed in this document consist of campuses with multiple buildings—Desert Sanatorium, San Xavier Sanatorium, Veteran's Administration Hospital, Comstock Children's Hospital, and Arizona State Elks Association Hospital. Among these types of properties it was necessary that the historic integrity of all tuberculosis-related buildings and structures on each campus be evaluated. The Owen

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Homestead was similarly evaluated and all buildings, structures, and features within the two-acre parcel were assessed.

Evaluation of Desert Sanatorium

When the Desert Sanatorium was deeded to the Tucson Medical Center in 1944, its campus included 16 buildings and one structure (Water Tower). Today, the Tucson Medical Center is about to undertake a dramatic redevelopment and modernization of its campus and intends to honor the historic roots of its modern facility. In 2007, the Planned Area Development (PAD) for Tucson Medical Center (TMC) was approved by the Mayor and Council. The project entails expansion and redevelopment of their medical campus and the commitment to preserve and maintain the historical integrity of three “entry features” of TMC’s campus, including the Patio Building, the Arizona Building, and the Erickson Residence. Because the redevelopment of the campus includes the construction of intrusive modern buildings, the new development will weaken the contextual relationship between the entry features and the remaining 8 historical buildings. Therefore, the decision to include only the “entry features” was strategic.

Although the first patient court buildings from 1926 have long ago been demolished or subsumed by the Tucson Medical Center, the Water Tower and eleven buildings still remain. The 11 remaining buildings consist of four patient care buildings or “court buildings”, two medical buildings—Nuclear Medicine/Vascular Laboratory and Cardiac Non-Invasive Services Building, and five administrative buildings—the Patio Building, the Erickson Residence, the Arizona Building, the Catalina Building, and the Education Building.

Of the 11 remaining buildings, the Catalina Building and Education Building are scheduled for demolition to make way for a new hospital structure. The second set of patient court buildings—Papago Court, Hopi Court, Yavapai Court, and Moqui Court—were evaluated and were found to have undergone extensive exterior and interior modifications to the point that, today, they lack integrity, no longer possessing many of their original character-defining historic features. The physical condition of these buildings is poor and would require a significant expenditure to restore them to their historic appearance and make them code compliant. Further, the location of the Court Buildings on the site would make them discontinuous with other historic structures and they would be further compromised as TMC undertakes their proposed redevelopment plans. The intrusion of proposed modern facilities will further geographically isolate these court buildings from the rest of the remaining Desert Sanatorium buildings and further compromise the historical integrity of their setting and location.

The remaining two buildings—The Nuclear Medicine / Vascular Laboratory and Cardiac Non-Invasive Services Building—have been absorbed into the main hospital building,

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including the original walls, basements, and roof structural supports. Further, these two buildings are also slated for demolition to make way for a modern hospital building to accommodate an expanding patient population.

The Patio Building, the Erickson Residence, the Water Tower, and the Arizona Building, however, were found to be in good to excellent condition, and have retained the majority of their historic features. The structure and the three buildings are prominently located near the original campus entry at Beverly Boulevard north of Grant Road, and retain a strong sense of entry, character and place.

Evaluation of Veteran's Administration Hospital No. 51

The Veterans Administration Hospital No. 51 consists of a large campus supporting the main hospital building, two buildings representing the former nurse's residences, six residential buildings for doctors and administrators, and Water Tower (there are two water towers; only the cylindrical one with cap is eligible). A total of 9 buildings and one structure are included for this property. All 10 retain a high degree of integrity of design, workmanship, location, setting, and feeling. Although these buildings have undergone some modifications over the years, such as wheelchair ramps, and in the case of the main hospital, new windows, none of these modifications has detracted from the buildings appearance and feeling. Instead these modifications reflect the continued occupation of the building and its need to modernize certain features over time.

Evaluation of San Xavier Sanatorium

The San Xavier Sanatorium (now San Xavier Health Clinic) is also situated on a large campus supporting 9 buildings and one structure; a volcanic cobble wall. The San Xavier Sanatorium buildings include the main hospital (SX 1[see continuation sheets]), former nurses residences (SX 6 and SX 2), former superintendent residence (SX 3), custodial/warehouse shop (SX 10), former greenhouse (SX 9), physician housing (SX 4 and SX 5), and physician garage (SX 7). Like the Veteran's Hospital, the majority of changes to the former San Xavier Sanatorium are related to the addition of wheelchair ramps and changes to window and door openings. By-in-large, most of the 9 buildings retain their original casement windows, however three buildings, the former nurses residence (SX 6), the greenhouse (SX 9), and the former garage (SX 7), have had alterations to both their window and door openings. The original door and window frames are still visible, however many of them have been bricked in and covered with stucco. Because the original form of these fenestrations has not changed, alterations are easily reversible and do not detract from the overall integrity of these individual buildings. In addition, the original volcanic cobble perimeter wall is still present and exhibits only minor deterioration.

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Evaluation of Comstock Children's Hospital

The former Comstock Children's Hospital (now offices for the University of Arizona) includes two buildings on a large corner lot—the main patient ward and the crippled children's ward. The main building is a single-story roughly U-shaped building opening onto and facing the smaller box-like children's ward. Because both buildings have been continually modified between the early 1900s and 1960s, some of the original features, such as wood window frames were replaced with casement windows. In addition, a porch was added along the main entrance in the 1960s. For the most part, changes to the building's appearance and footprint occurred historically and the changes that are visible today reflect the expansion of the sanatorium over its occupational history. While rather banal in appearance, the building retains a high degree of integrity of setting, location, design, and feeling.

Evaluation of Arizona State Elks Association Hospital

Of the properties listed in this documentation form, the former Arizona State Elks Association Hospital (now La Frontera Behavioral Services), has undergone the most modifications since its establishment in 1931. Today the historic portion of the campus consists of two rectangular buildings built into the slope of a low hill. The buildings are connected by a narrow hallway (presumably added in the 1960s), flanked by two courtyards. Of the two buildings, the administrative building that faces the entry drive has undergone the most modification. The original wood window frames have been replaced with modern aluminum sash windows, the building has been repainted, the entrance walkway has been sloped to accommodate wheelchairs, and the entrance has been enclosed by a modernist, 1960s-era concrete block shade and privacy structure. In addition, the original architectural drawings drafted by Henry O. Jaastad, depict a Mission-Revival entry way and decorative arches over the east-facing windows. Because no historic-era photographs were found for this building, it is unknown whether or not these details were ever implemented. Despite these changes, all are easily reversible, the building continues to retain its integrity of setting, location, materials, and its footprint, roofline, and scale remain unchanged. Further the rear of the administrative building contains an open air porch on its west elevation that faces onto both courtyards. The second building, the patient ward, has retained more of its original features, including its wood-framed double-hung windows, and the original brick chimneys and incinerator (for burning contaminated materials). The original sleeping porches are no longer present on the west elevation, but an open air porch is still present along the east elevation. In addition, the original commemorative cornerstone adorns the entrance to the building (although its original location is unknown). Although this property has undergone multiple changes, it appears that the vast majority of changes were undertaken by the Elks Association prior to the 1991 purchase of the property by La

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Frontera. As a result these changes reflect the use of the building over its occupational history and the need to modernize the facility for its continued utility. Moreover, the majority of salient sanatoria-related design features, such as courtyards and porches, and incinerator reinforce its association with Tucson's sanatoria architecture.

Evaluation of Owen Homesite

Unlike the previously mentioned institutional properties, the Owen Homesite was evaluated as to whether or not it retained features typical of homesteads. These key features include a "habitable house", structures for collecting and storing water, outhouses, buildings and structures associated with livestock, and artifacts. Presently the former Owen Homesite supports multiple buildings, structures, and archaeological features. Among the contributing buildings, structures, and features, are the original wood frame house (now chicken coop), wood frame garage, post and mesh fencing, adobe main house, water pump (*Johnson turbine pump*), and trash pit. Additional buildings and structures that are non-contributing include a galvanized steel ramada salvaged from the estate of the late Ted DeGrazia, and a modern adobe-built home and detached adobe-built bathroom. The non-contributing buildings and structures do not detract from the historic setting as the modern buildings are constructed of adobe, and the salvaged building and ramada are a fitting compliment to the historic use of salvaged and recycled materials during the early occupation of the Owen Homesite. The original wood frame habitation and garage look very much as they would have historically, and are constructed of recycled materials. In fact, graffiti and writing is still visible on the galvanized steel siding, and includes lists of materials and their costs as well as names of individuals Mr. Owen came into contact with. The second (and permanent) home, the adobe house, has remained relatively unchanged, except for the addition of a brick walled room at the rear (west elevation) of the house. The addition does not detract from the façade and is reflective of the occupational history of this property. Overall, the Owen Homesite retains integrity of setting, location, workmanship, design, and feeling.

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