Building 20 is the former military Bachelor Officer Quarters. It was built in the 1932–1933 era and exhibits an ornamented interpretation of the Spanish Colonial Revival architectural design. The entry of this building includes an elegant grand lobby reminiscent of a fine hotel. A dining hall and kitchen are situated behind the lobby. Much of the interior of the building retains the original custom tile work, paneled wooden doors and art and crafts lighting.

Building 22 was under construction in 1943 and completed in 1944. This building has a rectangular-shaped plan with an interior courtyard. It is surrounded by a structural exoedon comprised of geometric and bent. Building 22 was the largest wind tunnel complex in the world, consisting of the 40 by 80 foot Wind Tunnel plus the 80 by 120 foot Wind Tunnel added in 1949. Building 22 is significant in the area of space and science and invention, as well as being an engineering structure, which embodies the distinctive characteristics of wind tunnel construction style.

Building N221 was one of the earliest buildings on the NASA Ames Research Campus. It was located under the direction of Smith de France, the Ames Research Center's first Director, and became the main administration building. It is significant at the national level for its use as the Ames Aeronautical Laboratory Administration Building (1942 - 1948) and later as the Ames Research Center Administration Building (1959 - Present). Recruit concrete pillars are located where the first roof doors and windows are patterned with concentric squares.

Building 23 was located across the mall from Building 25, was originally designed to serve as the base dispensary for the U.S. Navy. It has two stories and consists of 28,000 square feet of floor area. This building is a good representation of the Spanish Colonial Revival design, and, like most others of the original US. Naval Air Station, dates from the 1932–1933 era. The memorial arch, which is seen in the foreground, is also considered a significant object within the Historic District.

Building 25 was originally designated as the Aerological Building. It has been used for various purposes over the years including a communication and a carrier pigeons deployment facility. The 3,700 square foot building is unique with its third floor observation platform rooms. The architecture is an interpretation of the Spanish Colonial Revival Style.

Building 10 was constructed in 1943 and completed in 1944. This building has a rectangular-shaped plan with an interior courtyard. It is surrounded by a structural exoedon comprised of geometric and bent. Building 10 is significant in the area of space and science and invention, as well as being an engineering structure, which embodies the distinctive characteristics of wind tunnel construction style.

Building 19 and Hangar 1, were together down shenandoah Plaza's housing corridor, are the most prominent and structures of the historic district. Building 17's architectural style represents a late example of Spanish Colonial Revival and it includes an ornate decorative facade and an ornate cupola. Hangar 1 was also built in 1932 as a dirigible hangar. It originally housed the USS Mazon, a U.S. Navy dirigible. The hangar structure consists of a main arch and a pair of large doors which give it an ornate and distinctive “Spanish Mission” style. The hangar has a 1,146 feet long, 508 feet wide and 198 feet high. Hangar 1 is a distinctive landmark in the San Francisco Bay Area.

One of the original buildings of the Historic District, the green plant is a large block building mast to an irregular “‘L” shaped that is two stories in height. The building is attached to mussel with a flat roof. With its semi-terraces, it is a handsome version of the utilitarian industrial design. Building 16 is located with other functional buildings in the service area of the Historic District.