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**DOE/NV/0003590-21, SR071018-1**
Evaluation of Buildings 23-531, -532, -535, and -536 in Block 17, Mercury, Area 23, Nevada National Security Site, Nye County, Nevada

**DOE/NV/0003590-21-FOE, LR071018-1-FOE**
Cultural Resources Report on the Finding of Adverse Effect and Proposed Mitigation for the Modification of Buildings in the 23-531 Series Dormitory Complex in Mercury, Nevada National Security Site, Nye County, Nevada

**DOE/NV/0003590-21-MIT, LR071018-1-MIT**
Cultural Resources Report for the Submission of Mitigation Documentation Related to the Modification of Buildings in the 23-531 Series Dormitory Complex in Mercury, Nevada National Security Site, Nye County, Nevada

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DOE/NV/0003590-21

DESERT RESEARCH INSTITUTE
CULTURAL RESOURCES REPORT SR071018-1
PROJECT NO. 1810223

# Evaluation of Buildings 23-531, -532, -535, and -536 in Block 17, Mercury, Area 23, Nevada National Security Site, Nye County, Nevada

*Prepared by*

**Ron Reno, Cheryl Collins, and Maureen King**

*Photography by*

**Steven Carragher**
**Mission Support and Test Services, LLC**
**Maureen King, Desert Research Institute**

**September 2018**

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Cover Illustration: Mechanical Building 23-536, Dormitory 23-531, and Dormitory 23-532. View toward the northeast from Greenhouse Avenue. Detail from rendering by Ron Reno, 2018.

DOE/NV/0003590-21

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*Prepared for*

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**National Nuclear Security Administration**
**Nevada Field Office, Las Vegas, Nevada**

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**September 2018**

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## EXECUTIVE SUMMARY

The U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office (NNSA/NFO) plans to install new heating, ventilation, and air conditioning (HVAC) systems at dormitories 23-531, -532, and -535, and decommission the current boiler and cooling tower housed in Mechanical Building 23-536 in the town of Mercury at the Nevada National Security Site (NNSS) in Nye County, Nevada.

These buildings are within the Mercury Historic District (Nevada State Historic Preservation Office [SHPO] Resource No. D230). This district was recommended eligible to the National Register of Historic Places (NRHP or National Register) under Criteria A and C after an architectural inventory (Reno et al. 2018), but was unevaluated under Criteria B and D at that time. All four buildings involved in this project (SHPO Resource Numbers B15264, B15265, B15266, and B15267) are managed as contributing elements of the historic district during its period of significance corresponding to nuclear testing during the Cold War from 1951 through 1992. During most of the Cold War, the facility now called the NNSS was named the Nevada Test Site (NTS).

This upgrade project is an undertaking subject to review under Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act, Title 54 U.S.C. §300101, et seq., and its implementing regulations, 36 C.F.R. Part 800.

Further evaluation of these properties for the present report indicates that in addition to contributing to the Mercury Historic District, the three dormitories are also individually eligible to the National Register under Criterion C at the local level of significance. The initial evaluation of the significance of the mechanical building remains unchanged as contributing to the Mercury Historic District under Criteria A and C at the local level of significance.

## ACKNOWLEDGEMENTS

Most architectural descriptions and the major portion of this report were completed by Ron Reno, PhD, RPA, who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural Historian, Historian, and Archaeologist. Reno also has direct knowledge of Mercury during the Cold War from working there through most of the 1980s as an archaeologist with the Desert Research Institute (DRI). Historical research and document preparation were completed by Cheryl Collins, with assistance from Susanne Rowe and Megan Stueve, all of whom are archaeologists at DRI. Collins did GIS for the project and prepared the maps, and DRI archaeologist JD Lancaster drafted additional building plans as needed and assisted with document reviews. High-resolution photography was completed by Steven Carragher, Mission Support and Test Services, LLC (MSTS), with some supplementary photography by Maureen King and others. A portion of the historical background sections are revised versions of earlier work by King, who is also responsible for project administration and quality control.

Carrie Stewart, National Environmental Policy Act Compliance Officer for the NNSA/NFO served as the program manager overseeing this project. Jacob Huffines, Indirect Support, Facilities Program Manager with MSTS, administered the project for the NNSA/NFO. Tom Folk, MSTS, provided on-site logistical support and also shared some of his recollections of the resources from the many years he has worked at the NNSS. Alex Norwood, Jr., MSTS, and the staff with Housing and Custodial Services arranged access to the dormitories. James "JT" Treppicione with MSTS also assisted with the photography.

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# I. INTRODUCTION

The U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office (NNSA/NFO) plans to install air conditioning units under the windows of dorm and recreation rooms at three dormitories (23-531, -532, -535), and make interior modifications to the Mechanical Building 23-536 in the town of Mercury at the Nevada National Security Site (NNSS) in Nye County, Nevada. These buildings, referred to in this report as the 23-531 Series Dormitory Complex, are within the Mercury Historic District (Nevada State Historic Preservation Office [SHPO] Resource No. D230) (Reno et al. 2018).

This upgrade project is an undertaking subject to review under Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act, Title 54 U.S.C. §300101, et seq., and its implementing regulations, 36 C.F.R. Part 800.

The NNSA/NFO has consulted with the Nevada SHPO and the Advisory Council on Historic Preservation regarding the upgrade and modification to resources in Mercury, and has developed the Mercury Programmatic Agreement (PA) with the SHPO that specifies the approach that NNSA/NFO will take to meet its statutory obligations toward historic preservation within the district.

The Mercury Historic District is located in Sections 10–12, 14, and 15, T15S R53E Mount Diablo BM (projected) in Area 23 of the NNSS. In 2010, the Nevada Test Site became the NNSS, and will be referred to as such throughout this report as appropriate.

# II. RESEARCH DESIGN

## Objectives

This architectural resources evaluation was undertaken to comply with requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, in order for the NNSA/NFO to manage historic resources under its jurisdiction. In particular, it complies with the *Programmatic Agreement between the National Nuclear Security Administration Nevada Field Office and the Nevada State Historic Preservation Officer regarding Modernization and Operational Maintenance of the Nevada National Security Site, at Mercury in Nye County, Nevada* (Mercury PA or PA).

## Project Description

On February 27, 2018, DRI received a request for an evaluation related to air conditioning unit installation at Dormitory Buildings 23-535, 23-531, and 23-532. After the proposed installation, the current boiler and cooling tower located in nearby Mechanical Building 23-536 would be decommissioned. The project description is summarized as follows:

> **23-535/23-531/23-532 HVAC Replacement**
> This project provides an alternate air conditioning system to replace the failing, end-of-life HVAC system in all three dormitories. The recommended strategy and approach would be to execute the system installation one dorm at a time, starting in 23-535. A central boiler and cooling tower is housed in Mechanical Building 23-536, providing heating/cooling to each of the three dormitories. Once all three dormitory projects have been completed, the boiler and cooling tower would be removed, and 23-536 would become storage.
>
> Scope calls for the decommissioning of existing heat pumps in each dorm serviced by the 23-536 cooling tower/boiler and the installation of packaged thermal air conditioner (PTAC) systems. The scope of work would require cutting openings in interior and exterior walls below existing windows and placement of new PTAC units in each dorm room and common area (approximately 55 units per dorm).

## Area of Potential Effect

The direct area of potential effect (hereafter simply referred to as the APE unless otherwise noted) for this undertaking was determined by the NNSA/NFO. The APE comprises the three neighboring dormitories and the associated mechanical building, plus the adjacent gravel yards and both gravel and asphalt-paved parking areas The APE has been extended beyond that required by the PA to include the entire lot footprint identified during the district inventory for the combined buildings. This area includes a pergola, recorded as Accessory Resource 1 to Dormitory 23-535 during the district inventory, which will be avoided during project activities. The outlines of the historic district along with the APE are shown on Figure 1 and on a satellite image in Figure 2. A

detailed oblique air photo of the APE showing all of the historic resources documented in this report is in Figure 3.

As shown in Figure 4, the APE includes the northeast portion of Block 17, as defined in the district inventory (Reno et al. 2018). The APE covers 3.6 acres (1.45 hectares) and is bounded on the north by Sandstone Avenue and on the west by Buster Street. It is located in Section 11, T15S, R53E, Mount Diablo BM (projected). Equipment staging and temporary storage of materials will be on paved or graveled locations within the APE. No elements separate from the buildings will be disturbed as a result of the undertaking.

As stated in the Mercury PA (II.B), the APE for indirect effects coincides with the boundary of the Mercury Historic District. This is the area where indirect physical, visual, atmospheric and audible effects on historic properties could diminish the integrity of historic properties for which setting, feeling, and/or association are aspects of integrity. The APE for indirect effects—the boundary of the Mercury Historic District—is also considered the APE for cumulative effects.

## Element Category Identification

The NNSA/NFO and DRI, in consultation with the SHPO, are in the process of developing categories of elements within the Mercury Historic District for Appendix C of the Mercury PA. In the absence of a category list, DRI is treating all four buildings as Category I properties. Therefore, the properties are subject to evaluation for potential individual eligibility to the National Register of Historic Places under the Secretary of Interior's Significance Criteria. Dormitories 23-531, 23-532, and 23-535 are identical in design and represent an element class. Building 23-536, which houses mechanical facilities in support of the dormitories, is the only representative of its design in the district.

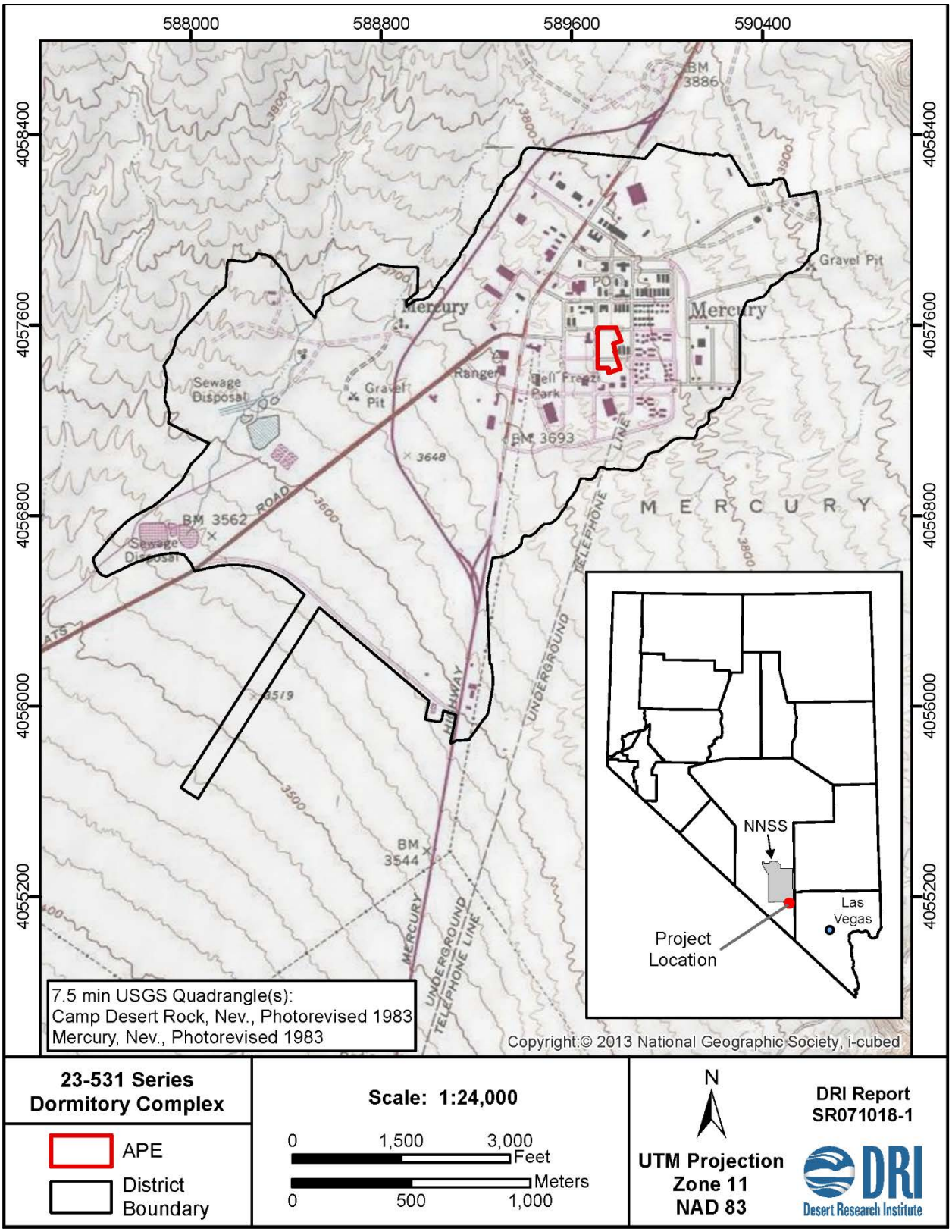


Figure 1. Map showing the location of the project APE within the Mercury Historic District and the NNSS.

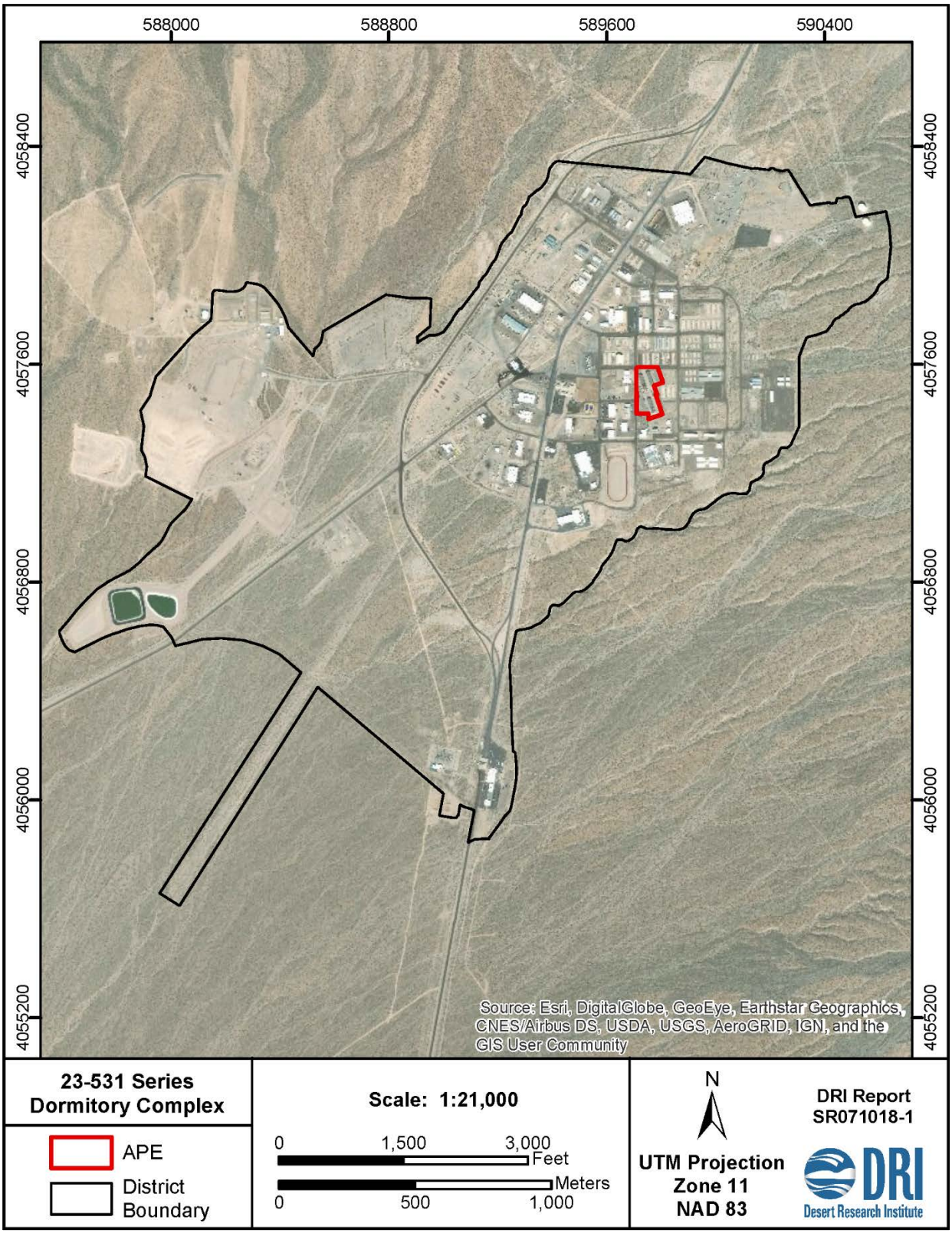


Figure 2. Satellite view of the Mercury Historic District showing the APE for the present project.

Figure 3. The APE facing northwest (RSL 2013).

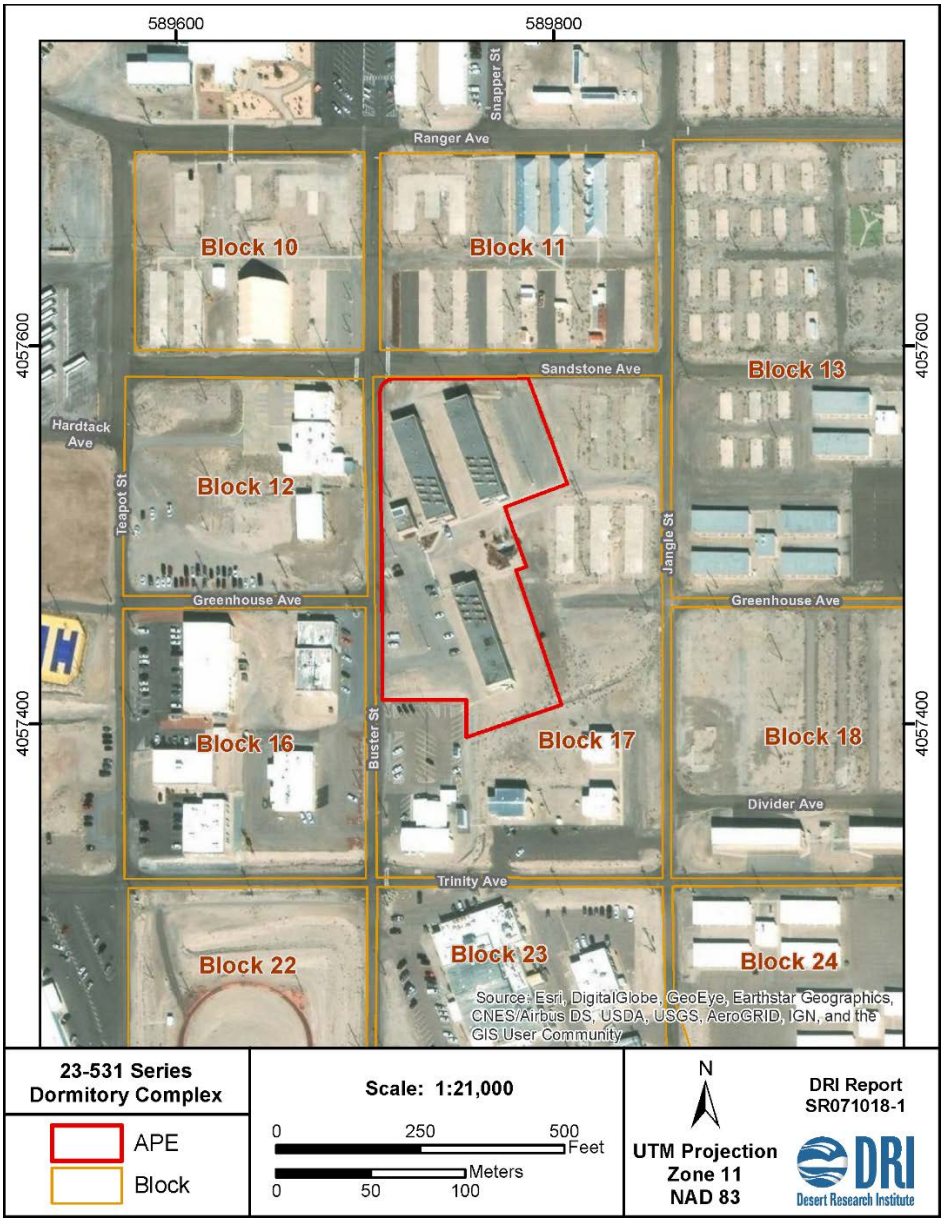


Figure 4. Satellite image of the project APE showing block numbers referred to in Reno et al. (2018).

## Methods

Field methods, documentation research, and this report were designed to meet requirements in the Mercury PA (VI.A–B) for evaluating Category I elements. In order to identify potential sources having information about the interiors of the two building designs, additional research on the individual buildings beyond what was accomplished for the original architectural inventory was carried out primarily using engineering records maintained at the NNSA/NFO North Las Vegas facility. A representative sample of the available drawings was recovered from that facility, and a selection was made of those with sufficient informational content to warrant detailed examination. Available copies of the *NTS News* were also reviewed for material of architectural interest. A selection of Mercury maps, aerial photos, and drawings are included in this report.

The architectural firm that designed the buildings was investigated by checking repository holdings, including SHPO architectural files, a newspaper search, and American Institute of Architects (AIA) directories.

Recording of the building interiors was conducted by Ron Reno under the direction of Maureen King on July 12, 2018. High-resolution digital color photography of exteriors, interiors, and context was done by Steven Carragher with the assistance of Maureen King and James Treppicione. DRI also took supplementary digital photos. No interior recording was done as part of the original inventory.

It was anticipated in the Mercury PA that detailed interior recording and high-quality digital photography would normally be done of one representative element of a repetitive class such as the 23-531 Series Dormitory Complex. In this case Dormitory 23-535 was selected as the representative example for detailed interior description of the element class since it was the easiest to access.

Buildings and major structures in this report are identified by numbers with the prefix 23, indicating their location in Area 23 of the NNSS. These numbers were used as field identifiers and are also used when discussing resources in this report because they are tied to existing documentation extending back through the entire Cold War period.

All of the buildings in the APE are summarized in this document. One of the purposes of the enhanced research, along with further consideration of resources in the context of SHPO consultations, was to complete the partial significance evaluations in regard to possible individual eligibility to the National Register and to eligibility under Criteria B and D. The revised significance discussion is at the conclusion of this report. In addition, the Architectural Resource Assessment (ARA) form for each building will be updated and submitted as part of a separate submission per the terms of the PA.

# III. HISTORIC CONTEXT

## Natural Setting

Mercury is located on a southwest-facing bajada below the Spotted Range in the northeast corner of Mercury Valley. The center of Mercury is at an elevation of approximately 3,700 feet. Red Mountain towers over Mercury to the north, and the valley is bounded by the Specter Range to the southwest. The Spring Mountains lie to the south. To the northeast is the Mercury Ridge, which shields Mercury from Frenchman Flat, where atmospheric nuclear testing occurred. The APE is located in the completely developed center of Mercury.

## Mercury, the Cold War, and Nuclear Testing at the NNSS

This historic context specifically addresses the area within and surrounding the APE for this specific undertaking within the Mercury Historic District. The district's relationship to larger national patterns of historic events known as the Cold War and nuclear testing are detailed in Reno et al. (2018) and will not be repeated here.

The continental nuclear test site has gone through a number of name changes from South Site, Alternate Test Site B, Site Mercury, and Nevada Test Site in 1950-51 to Nevada Proving Grounds in 1952 and back to Nevada Test Site (NTS) in January 1955, which remained its name for the remainder of the Cold War. The facility is presently managed as the NNSS.

Mercury, located 65 miles northwest of Las Vegas, Nevada, is toward the southern end of the NNSS. The town has always served as the principal entrance to the NNSS. Since 1951, it has provided a wide range of support for nuclear testing activities, including an extensive administrative role. Like many other government installations, Mercury resembles a typical company town. It is self-contained and established to provide facilities, services, and amenities for personnel working on the site. Architecturally, there are elements similar to other small towns in the United States: administration buildings, infrastructure (airstrip, roads, power, communications, water, and sewer), residential buildings, community support (post office, church, healthcare, and recreation), and transportation corridors.

However, unlike any other town, the origin and history of Mercury are inexorably linked to developments during the Cold War and the nuclear testing program from 1951 to 1992. Several other communities scattered around the United States provided support for the development and production of weapons, but Mercury supports the only location in the continental United States where a long series of nuclear explosive tests were undertaken. Over this time span, the town expanded and diversified to accommodate a growing workforce and a year-round testing schedule. Although most of the buildings in Mercury were not integral to nuclear testing mission requirements, support facilities such as those that are the subject of this report were critical to operations and the well-being of the workforce.

### *Camp Mercury: The Early Years (1951-1962)*

The beginnings and growth of nuclear testing at the NNSS in relation to Mercury is described in Reno et al. (2018). In summary, Nevada was selected as the location for a continental nuclear testing site, and the Atomic Energy Commission (AEC) began bringing in personnel to conduct tests in January 1951. Initially workers lived offsite, but after the first series of tests, it was decided a camp needed to be built closer to the testing areas.

Mercury's initial design followed a classic Roman military outpost or *castrum*. The design's usual gridiron street pattern aligned arbitrarily on the cardinal points of the compass (Figure 5) was not suited to the local topography, which warranted a northwest to southeast orientation. This resulted in the construction of an array of cut-and-fill terraces that were either at ground level or somewhat sunken below grade at the northeast corners and berms, sometimes quite tall, at the southwest corners.

Initially, the camp, named Base Camp Mercury, was planned to provide minimum facilities for two or three test series a year, with a six-week time frame for each test. Design of Mercury was shared between Holmes and Narver (H&N) and Silas Mason Company. Both of these firms would be prominent government contractors throughout the Cold War. The most primitive initial housing, in small plywood buildings called hutments that resembled tents, was constructed by Haddock Construction. The base camp would include barracks, a mess hall, and administrative buildings. It was designed to accommodate 412 persons at peak periods of use for only 18 weeks a year. By late 1951, these expectations were already obsolete because the camp overflowed with 1,100 residents (Fehner and Gosling 2000:81). In 1951, a $6.7 million construction project was approved to meet the needs of the growing testing program and population (NNSA/NFO 2013). The AEC expanded the base camp, adding more barracks, a second mess hall, a recreational facility, a warehouse, offices, and laboratory space (Fehner and Gosling 2000). Figure 5 shows the APE on a map of Mercury during this early period. On this map, the Mercury Highway is at the upper left and the streets have not yet been named. It shows the early dormitories that would eventually be removed to provide space for the 23-531 Series Dormitory Complex.

Over the decade, testing-related activities steadily increased and testing occurred on a year-round basis. Mercury grew to keep pace with a larger population, but there was no master plan and most structures were temporary constructions.

By the end of the decade Mercury had expanded well to the west of the Mercury Highway. Extensive storage yards were packed with materials to conduct testing in the forward areas, and the parking lots were jammed with cars. Figure 6 shows completion of the 1950s period of construction in and around the APE. Recreational facilities were added, and trailers and Quonset huts providing additional offices were packed into empty spaces. Dormitories and a parking lot covered the corner of Buster Street and Sandstone Street (the northwest corner of the APE). Arrays of temporary trailer housing were installed to the west, southwest, and southeast of the APE, but the half of Block 17 south of Greenhouse Avenue was not yet utilized.

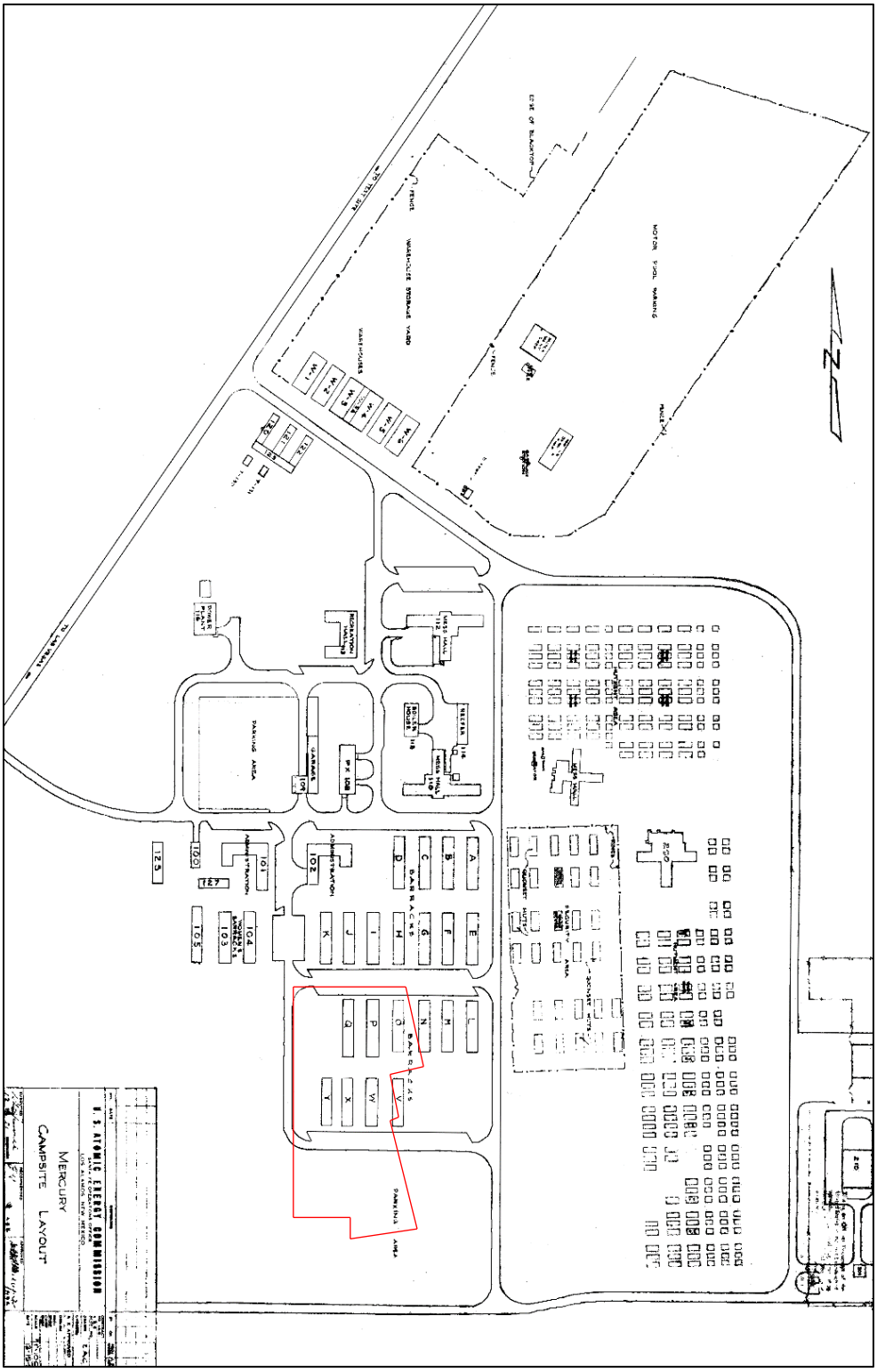


Figure 5. Map of Mercury in December 1951 (AEC Drawing NTS-187-C Sheet 1 – best available copy). The APE for the current project is shown in red.

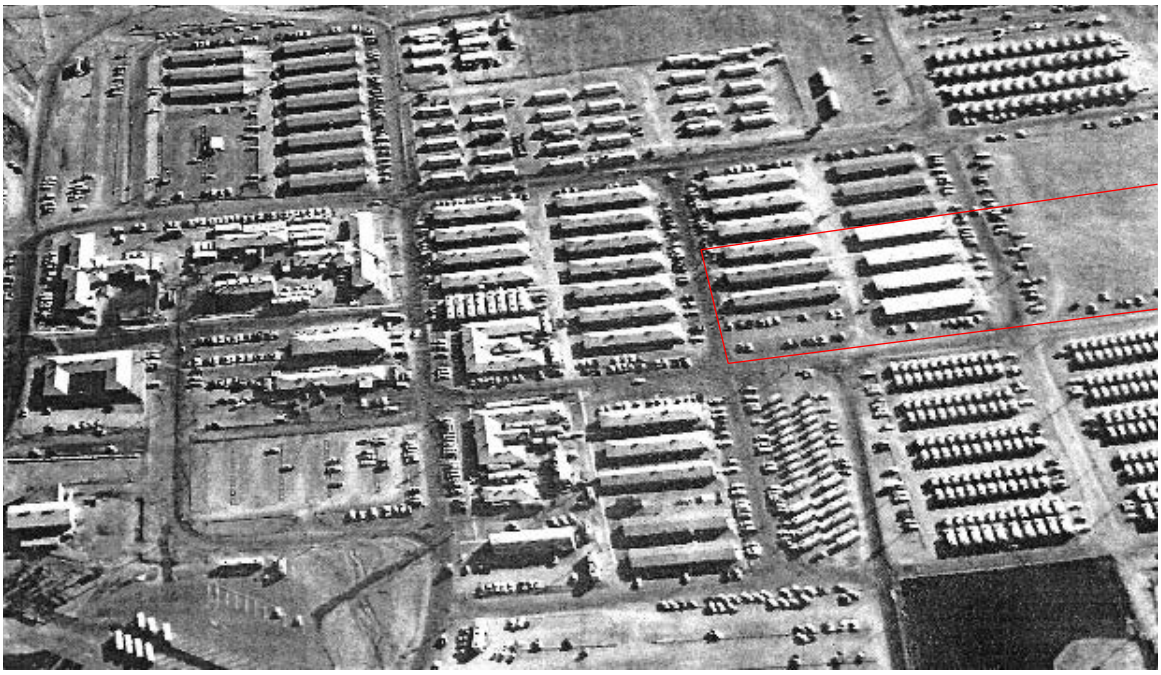

Figure 6. Mercury in the early 1960s (courtesy of Chuck Costa). North is to the left. General area of APE shown in red.

Arthur Benedict Associates analyzed the functional layout of Mercury at the end of this period (Figure 7). Housing was concentrated in the southeast end of Mercury. It can be seen from this figure how central the APE was in Mercury and how the area's use for housing continues to this day. Other facilities included fabrication and repair shops, a motor pool, warehouses, mess halls, a post office, a hospital, laundry facilities, a theater, a library and other recreational facilities, and laboratory and research buildings. Water, sewer, steam, and power utilities, as well as related operating plants, were all in place. Initially, the Mercury Highway was on the western edge of Mercury, but by the end of the decade, the base had expanded to the point that all traffic to the forward areas on the Mercury Highway had to pass directly through the developed part of Mercury.

Architecturally, this was a period with no stylistic pretentions at all. It was dominated by designs perfected during World War II. H&N and Silas Mason Company did the architectural design work at the onset of this period, although other firms may have contributed designs later on.

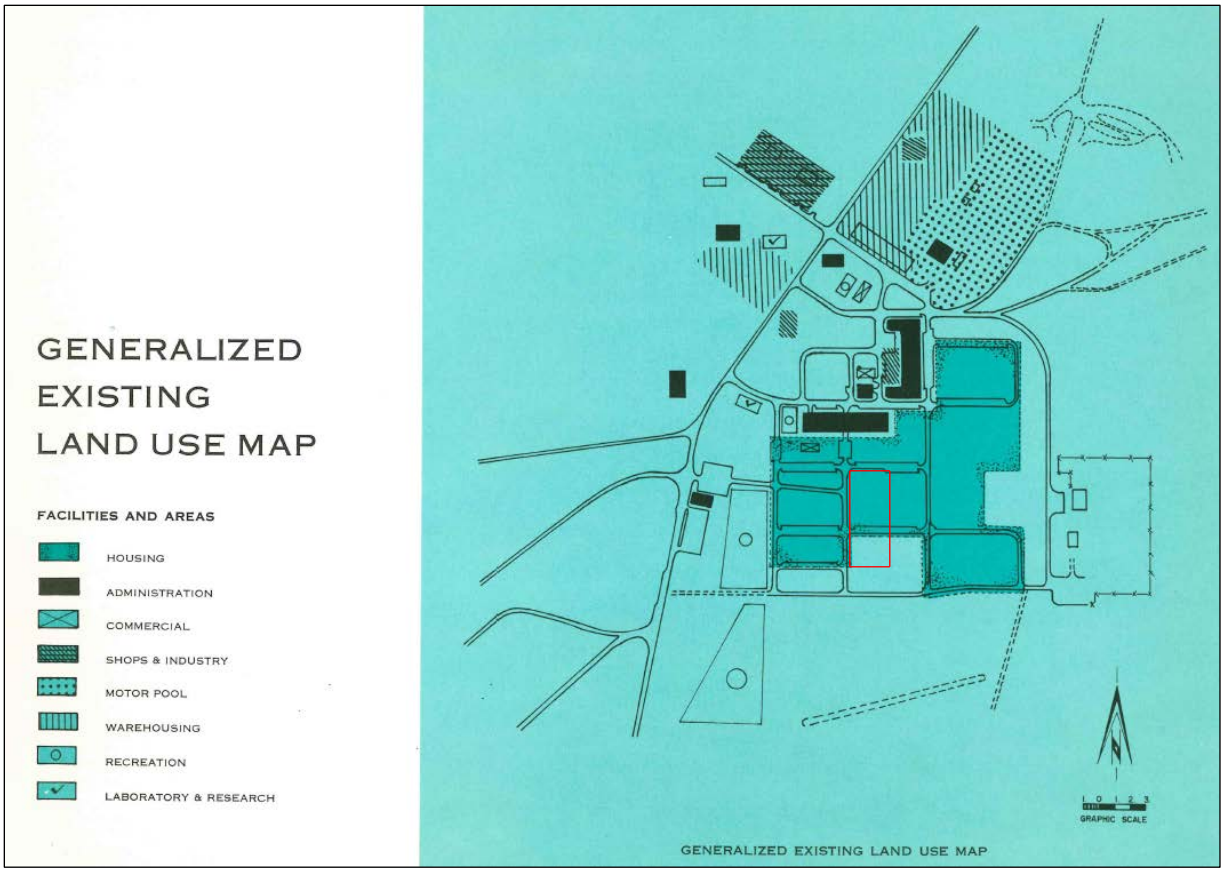


Figure 7. Generalized land use map as of 1962 (ABA 1962:11). General area of the APE shown in red.

### *Mercury Becomes a Permanent Base (1963-1977)*

With the signing of the Limited Test Ban Treaty in August 1963, atmospheric testing ended. Since then, all nuclear tests conducted in the United States have been underground, and the majority of these tests were at the NNSS. Although atmospheric testing was abandoned, underground testing activities at the site steadily expanded, and testing occurred on a year-round basis. In addition, the Plowshare Program and the Nuclear Rocket Development Station brought increased activity to Mercury (Fehner and Gosling 2000:83; NNSA/NFO 2013). This required additional construction to meet demands for a wide range of facilities in Mercury. In 1962, an AEC supplemental appropriations bill provided funds to add to or replace most of the earlier temporary buildings and included a $15 million request for permanent NNSS construction (NNSA/NFO 2013). By June 1962, the AEC requested Arthur Benedict Associates of Los Angeles, California, to develop a long-range comprehensive Master Plan for the coordinated development of Mercury.

The Mercury Master Plan (ABA 1962) proposed an expansion of all facilities for a permanent site, including residential facilities for permanent and transient personnel. Facilities programmed for construction during fiscal years 1963 and 1964 were support facilities (the cafeteria and food handling area, administrative buildings, laboratories, maintenance shops, warehouses, communications, and the Civil Effects Test Organization building), resident-oriented facilities

(additional dormitories; recreation hall; swimming pool; bowling alley; chapel; and health, medical, and safety building), circulation (the Camp Desert Rock airstrip, Highway 95 improvements, the Mercury bypass highway, and primary and secondary streets), and utilities (a new power transmission line, sewage treatment plant, and replacement of the steam heating system with a high temperature/hot water system). It also advocated elimination of the uniformly drab green paint and replacement with variegated colors, which continued into the 1980s when the 23-531 Series Dormitory Complex was constructed. In contrast with so many master planning efforts, this one was largely executed even in its smaller details. Therefore, the early 1960s represented a major building boom in Mercury. By the mid-1960s, Mercury was a developed town and contained facilities essential for supporting the nuclear testing effort (Figure 8).

Mercury is shown as it appeared at the height of this period in 1968 on the map in Figure 9 and the aerial photo in Figure 10. Most of the major new buildings were in existence at this time. It can be seen that several of the larger buildings broke from the original town alignment and were oriented on contour instead, setting the stage for the orientation of the large dormitories that would later be constructed in the APE. The bypass has been constructed and the area between the Mercury Highway and the bypass has been filled. Shops, the motor pool, and major laboratory buildings were shifted to the southwest end of Mercury, and the new Main Gate facility was constructed south of town.

Although the Master Plan envisioned eventual elimination of the 1950s era frame buildings and replacement with more permanent types, no changes occurred in the APE during this period. The immediate vicinity was heavily altered however, particularly by construction of the new Fire Station (23-425) just west of Buster Street.

Figure 8. General location of the APE facing north. REECo Photo 3028-15 (1965). Note the new Cafeteria (23-300) in the upper left half of the photo.

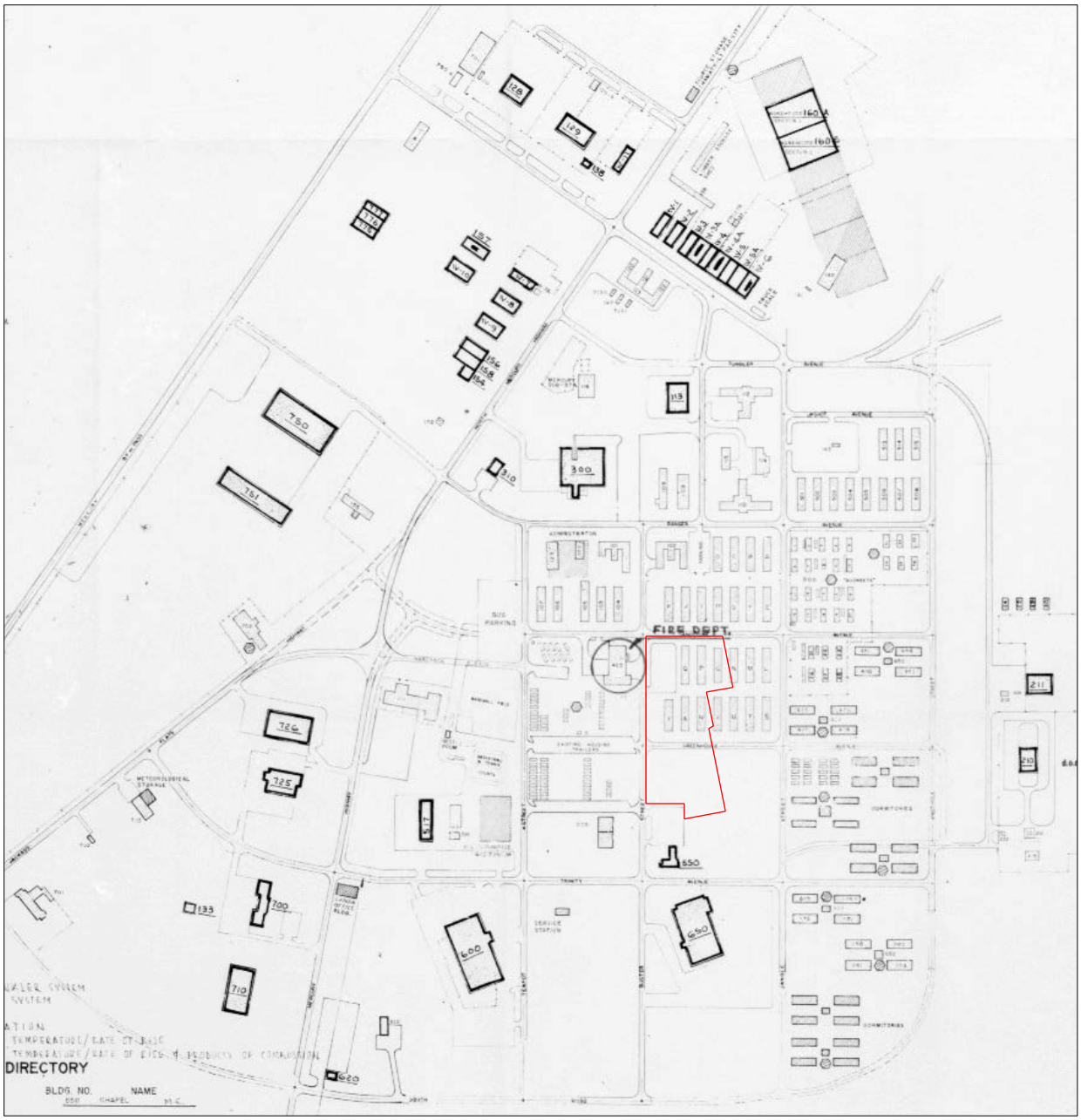


Figure 9. Mercury in 1968 (AEC 1969).

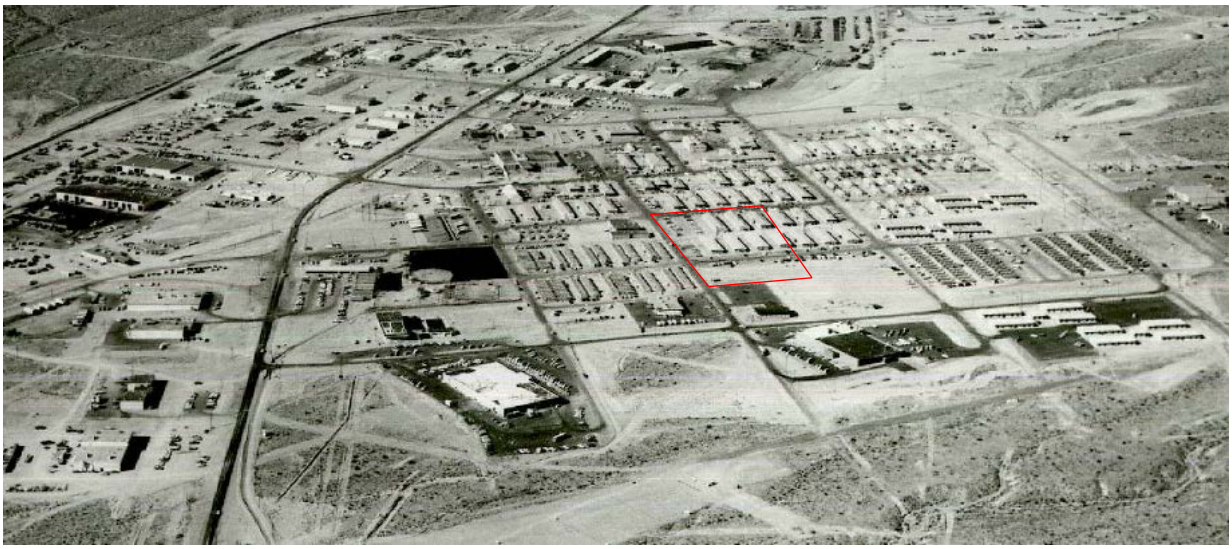

Figure 10. Mercury from the air in 1968 (NNSA/NSO Nuclear Testing Archive, Accession No. NV0174481). North is at top. General area of APE shown in red.

Architecturally, this is the period when various types of Mid-century Modern architecture entirely changed the character of Mercury. The new buildings were designed by a number of architectural firms from around the West, including several firms of national prominence. The use of a variety of firms is reflected by the corresponding variety of the buildings. It does not have the regimented similarity of research campuses designed by a single firm. Although the designs were fairly conservative, they experimented in the use of details and surface treatments that went well beyond mere functionalism. Toward the end of this period and into the early 1980s, the wooden buildings were sheathed with insulated aluminum siding. If they were not yet given the variegated pastel exteriors endorsed by the Master Plan, they received the new colors when the siding was applied.

### *Redevelopment in the Final Cold War Years (1978-1992)*

The Master Plan envisioned Mercury transitioning to a permanent suburban community tied to Las Vegas, which would have a large permanent residential area supporting family housing as well as more transient types of housing. An increase of the kinds of amenities that would make such long-term occupation livable was also envisioned. This vision would ultimately have created a community rather similar to that of Los Alamos, New Mexico. This kind of community development never took place, although living arrangements built in this period did allow for much greater privacy and personal space in new dormitories, including the ones built in the APE.

Continued underground testing in the 1980s, along with the major activities such as MX development and the Nevada Nuclear Waste Storage Investigations at Yucca Mountain created a need for increased infrastructure that initiated the last significant building boom in Mercury. A major result in regard to the present project is that seven of the 1950s dormitories in Block 17 were demolished and their foundations removed for construction of the new two-story 23-531 Series

Dormitory Complex. Many of the other old dormitories were also removed during this period, although their foundations remained to serve for parking or storage platforms.

Mercury at the conclusion of the Cold War is depicted in Figure 11. Architecturally, this period is easy to spot on the landscape of Mercury because it is exemplified by the construction of new and distinctive buildings, including the construction of buildings with two stories for the first time. Although this period began with the construction of three large prefabricated metal dormitories (23-526, -527, -529), it is dominated by buildings incorporating varying amounts of gray or earth-tone split face concrete block such as those in the APE. This architectural phase is so distinctive that it is convenient to regard it as a Late Modern development of the Modernist movement.

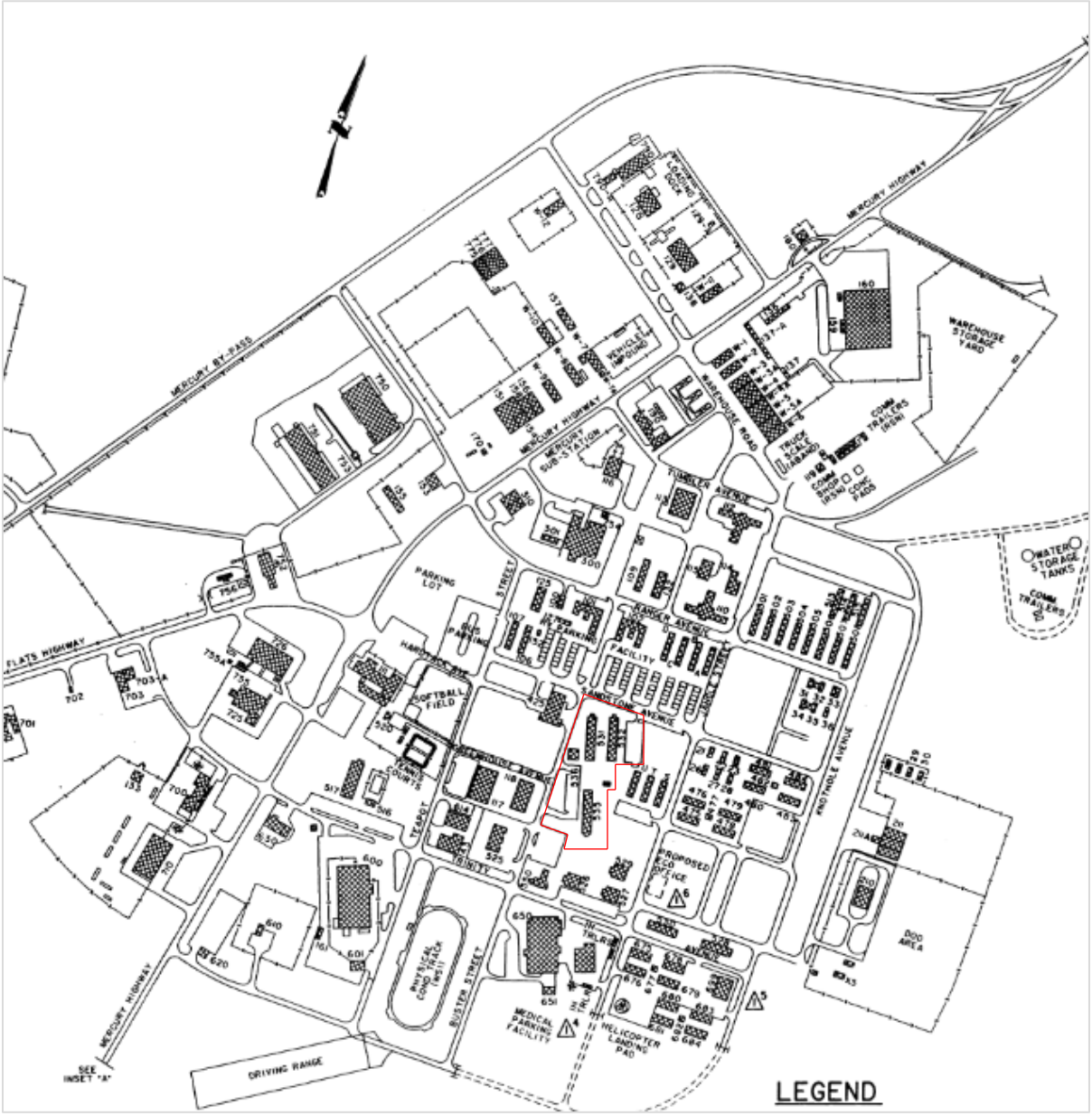


Figure 11. Map of Mercury in 1992.

### *Mercury Since 1992*

With the cessation of nuclear testing and at least a pause in the controversial Nevada Nuclear Waste Storage Investigations at Yucca Mountain, Mercury's vital role as a base rapidly dwindled. This resulted in a great reduction of personnel and downsizing. Most service facilities were shut down, much of the resident population was reduced to security personnel, and the structural footprint was condensed. Mercury as it looks today is shown in Figure 2, but many of the standing buildings have been abandoned.

Much of the testing infrastructure was maintained in a mothballed state by a skeleton crew of site workers because of Presidential Decision Directive 15 (1993), which mandated that the site be prepared to resume nuclear testing within 24-36 months (Hopkins 2016:9). Subcritical nuclear experiments and experiments with large amounts of conventional explosives were continued.

During the mid-1990s, an attempt was made to rebrand the site. For a time a sign over the front guard gate read "Nevada Test Site/An Environmental Research Park" (Center for Land Use Interpretation 1996:12). A number of environmental research projects were initiated, but they had nowhere near the scope and funding of Cold War environmental projects coordinated through the Civil Effects Test Organization. Mercury still retained the aspect of a ghost town.

Under the administration of Bechtel between 1996 and 2006, the labs finally lost their paramount importance on the site. Long-term contractors such as Wackenhut Security, Incorporated; Reynolds Electrical Engineering Company (REECo); Edgerton, Germeshausen, and Grier, Inc.; and H&N finally disappeared from the NNSS.

Almost no new construction appeared in Mercury during these years. The aging buildings continued to be used while facilities maintenance personnel had to make do with fewer and fewer resources to keep the place operating. As buildings were abandoned, money did not exist to pay for routine maintenance, so they decayed at varying rates depending on their construction and the occurrence of accidents, such as roof or plumbing leaks. Many buildings and structures were removed during this period while vehicles, furnishings, and any number of other objects were sold or junked, a process that has continued to the present. Since they were among the most recently-constructed permanent buildings, the 23-531 Series dormitories continue to be utilized to the present day, but with over three decades of use and often with minimal maintenance, they are showing signs of age and in some ways are badly in need of maintenance and upgraded mechanical systems.

This trend appears to be reversing again as challenges to national security once again call upon resources for testing and training, which can be developed at the NNSS.

# IV. ENHANCED RESOURCE DESCRIPTIONS

The series of three dormitories (23-531, -532, and -535) is described as a single unit, and the unique mechanical building (23-536) is described separately. These descriptions are confined to the four buildings directly impacted by this project.

## Mercury Historic District (D230)

Mercury is a planned development with most buildings, streets, and other structures constructed on a grid within an area that is approximately a half-mile square. Most of the grid is oriented on the cardinal directions, but the northern part of town and developments on the west side of the Mercury Highway are oriented to the northeast to conform with the direction of the highway as it heads north into the NNSS where the actual work areas were primarily located. A second principal road, the Jackass Flats Road, heads west from Mercury to access the southwestern portion of the NNSS, including the nuclear ramjet and rocket development facilities at Jackass Flats and the proposed nuclear waste storage facility at Yucca Mountain.

The APE is located near the center of the Mercury Historic District over its oldest built-up zone as shown above in Figures 5 and 10. A total of 154 individual Principal Resources—including landscapes, buildings, and structures—along with 346 Accessory Resources have been recorded in the Mercury Historic District. Of this number, four Principal Resources are within the APE for this project. In addition to the buildings discussed here, the APE is crossed or bordered by above and below-ground utilities along the streets and in spaces between buildings. The arrangement of the 23-531 Series of dormitories and attendant Mechanical Building is a distinctive and coherently planned unit within the larger district. Their careful arrangement is shown on the depiction in Figure 11, as well as in Figure 3.

### *Dormitories 23-531, 23-532, and 23-535 (SHPO #B15264, B15265, and B15266)*

These three dorms were constructed in 1986 as 14,272 square foot two-story rectangular-plan buildings on concrete foundations with concrete ground-floor slabs. They are arranged on a series of large cut and fill terraces, which are covered with gravel, aside from asphalt-paved off-street parking and concrete walkways. They share a mechanical plant in building 23-536, which is described separately below. Similarly, all three dorms share a common landscape garden and pergola in the informal plaza bordered on the north by the row of buildings 23-536, -531, and -532 and on the south by Building 23-535. All of the formal front entrances to the dormitories face this plaza (Figures 11 and 12).

Figure 12. Overview of the northern portion of the 23-531 Series Dormitory Complex. From front to back are Mechanical Building 23-536, Dormitory 23-531, and Dormitory 23-532. View toward the northeast from Greenhouse Avenue. Rendering by Ron Reno, 2018.

The dorms are oriented on contour, unlike the surrounding grid-oriented buildings. Exterior walls are three bands of gray split face concrete block separated by bands of glazed concrete block. The coloring of these glazed bands, which is also used on some other exterior features such as the rear staircases, constitutes the only major difference between the dormitories. Dormitory 23-531 has salmon-colored bands, 23-532 has pale-blue bands, while those of 23-535 are pale green. Aside from this difference, the only distinctions are the building numbers and small panels on the front façades identifying the laboratory which has most often used the building (for example 23-535 is labeled Los Alamos) or an informal building name.

The narrow front façade of each building exhibits a complex array of protruding masses, cantilevers, and voids in the best of the Brutalist tradition, resulting in constantly-changing shadow effects throughout the day (Figure 13). There is a pair of centered flush steel doors with one light each at the main entrance. An aluminum sliding window opens onto a niche in the second floor. The entrance and niche are protected by protruding ribs. The lowest band of fluted split face continues leftward from the end of the rib to form a planter box. Above the band of eight aluminum sliding lobby windows behind the planter is a cantilevered extension of the middle split face band from the rib to a matching extension of the end wall, which also serves as one end of the planter. The two lower split face bands are deleted to the right of the door, leaving a large glazed concrete block panel. Here also, the end wall is extended to match the other ribs, in this case anchoring the end of a large cantilever split face panel which echoes the top split face band. A metal light box with a stained glass laboratory sign is mounted over the planter at two of the dorms. The creation of these handmade signs for the lab dorms was initiated by Los Alamos scientist Robert Brownlee (2016).

The 1x1 sliding aluminum-framed windows are evenly spaced along the glazed concrete block bands on both sides of the buildings (Figures 14 and 15). Downspouts are regularly placed along the walls between sets of four windows. The right wall (Figure 15, east elevation) has a stainless steel entry hatch to the linen dumbwaiter and a flush steel door with louver vent labeled "Riser Room" in place of the first window in the left corner of the façade. There are sweeps and an electrical panel adjacent to the door.

The rear of the building has central flush metal doors at each floor. External stairways have glazed concrete block parapets clad with pipe railings (Figures 14 and 15, south elevation).

The building has a flat roof entirely hidden by a split face parapet which is pierced for downspouts on both sides. An array of 16 solar panels has been installed on the roof. These panels are part of the original design. Due to the parapet surrounding the roof deck, the panels are barely visible from most vantages. The roof deck itself is made of precast hollow concrete planks. The floor of the second story is made of the same material.

The interior is based on a simple central hall plan which extends the entire length of the building (Figure 16). At the front is the entry lobby complex with a small weather vestibule opening onto an entry lobby consisting of a short portion of the central hall which is completely open to the stairway.

Instead of a small confined stairwell, this area is wide and kept open all the way to the ceiling where the upper hallway extends into it as a balcony (Figures 17 and 18). At ground level a continuous band of windows opens onto an integral planter box inset into the front façade (Figure 19).

On the other side of the central hall from this lobby complex is a laundry room open to guests, a linen room with a dumbwaiter (Figure 20), and a custodial room.

Upon entering the main first floor hallway with its seemingly infinite vista of repetitious doorways and lights (see Figure 21 for a view of the second floor hallway) the communal break or recreation room is immediately to the left. This commodious room is equipped with a small kitchen and restroom and has two windows (Figure 22, lower center portion). As can be seen from the plan, this room occupies the full width of the equivalent of two dorm rooms.

Immediately opposite from this room is a niche in the hallway for an ice machine and refrigerator. The remainder of the first module on the opposite side of the corridor is occupied by an electrical room, a mechanical room (with its own outside door), and one bedroom with an enlarged restroom for guests with disabilities. All of the other modules consist of two identical bedrooms on each side of the hallway. Each private bedroom has a window and a private restroom with shower (Figure 23). Supplementary dividing walls are drywall, which also cover most of the interior faces of the concrete block walls.

A doorway without a vestibule is at the extreme end of the central hallway.

The second floor repeats this plan except there is no laundry room or communal break or recreation room since the first module is occupied by the usual set of four bedrooms. The rear hallway door is accessed via a rear staircase having a support structure and parapets that are entirely glazed concrete block matching the decorative bands around the building.

Plans and visual inspection showed that all of the bedrooms are essentially the same, with the exception of the single disability-friendly room on the first floor. Both varieties are depicted in Figure 22.

Figure 13. Principal façade of 23-535 facing southeast in afternoon light (RSL 2018).

Figure 14. Side and rear (south elevation) of 23-535 facing northeast (RSL 2018).

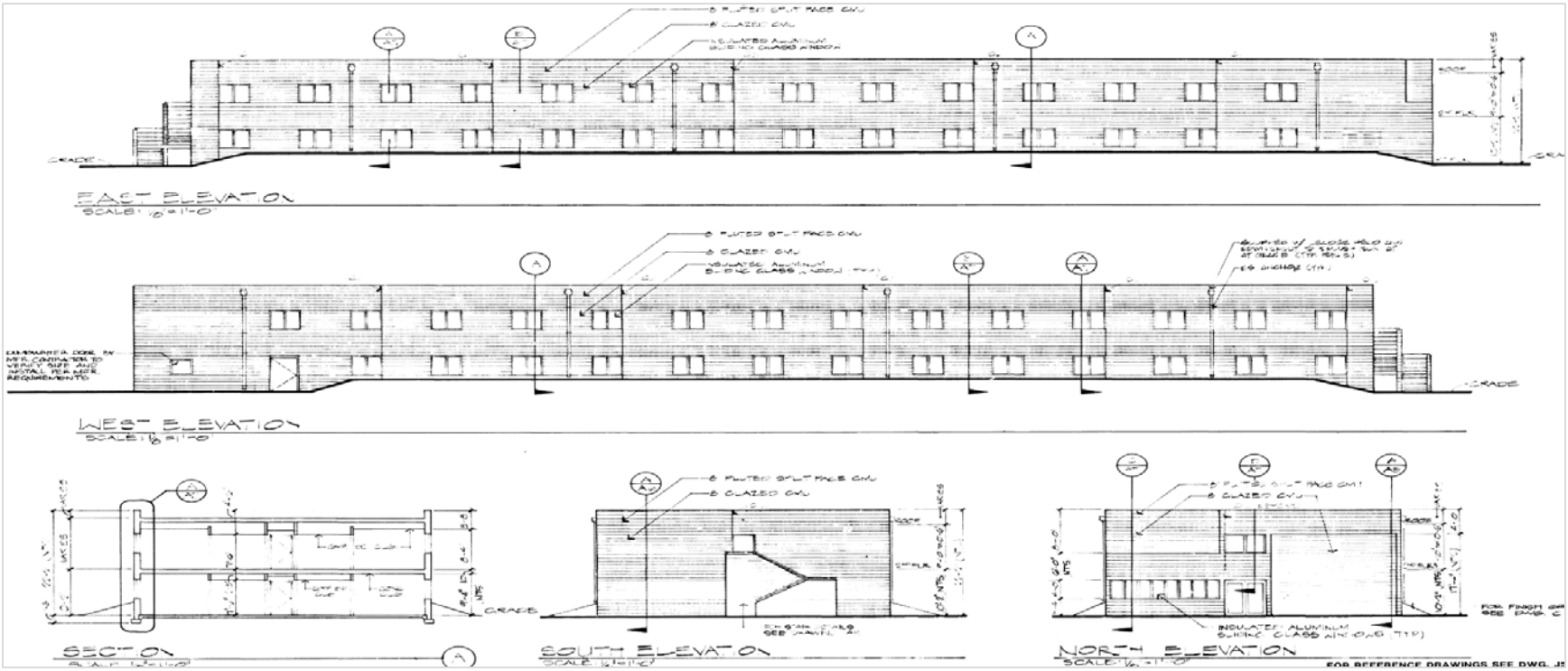


Figure 15. Typical 23-531 Series Dormitory elevations (Holmes and Narver Drawing JS-023-535-A5.1, As-Built, 1986).

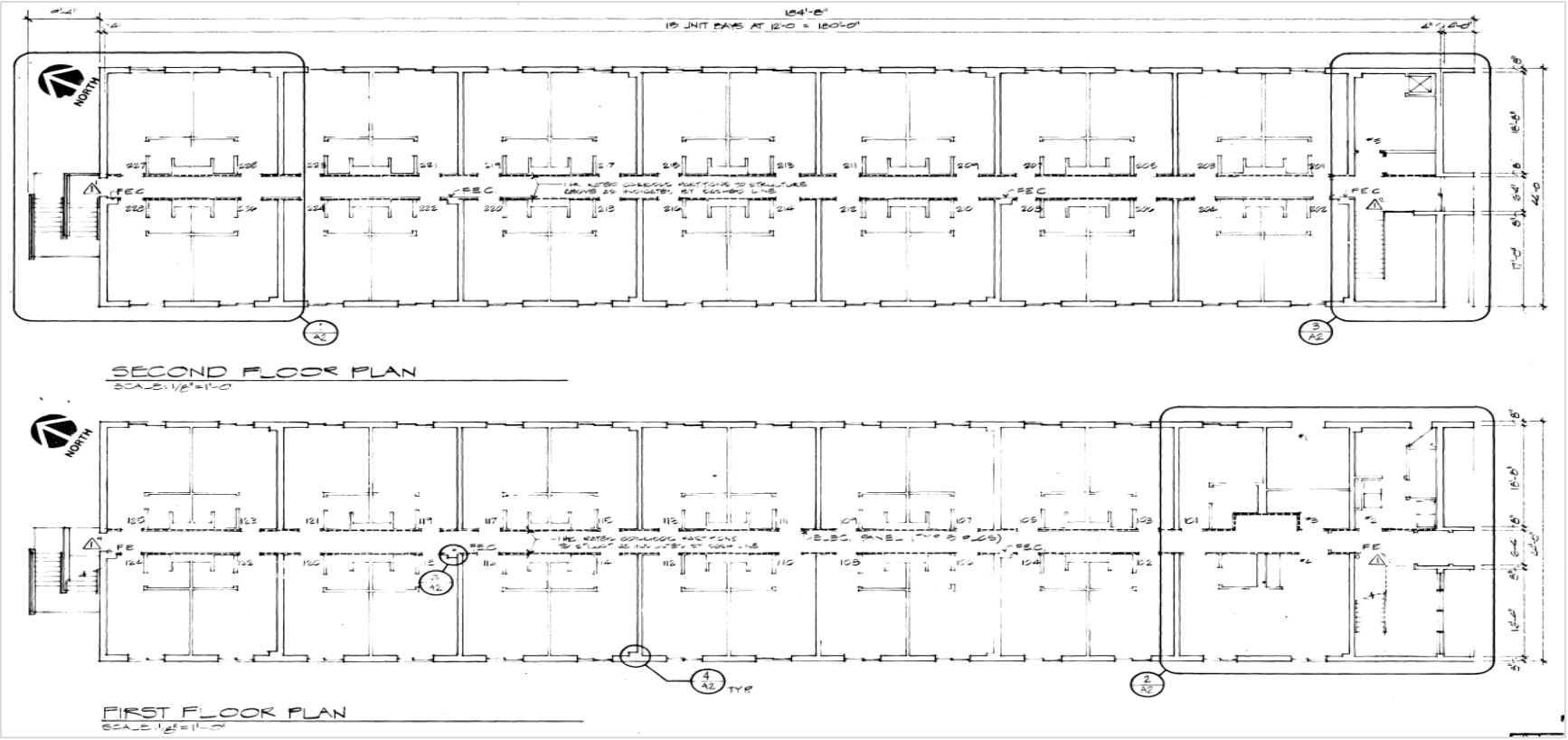


Figure 16. Typical 23-531 Series Dormitory plan. Dorm 23-535 was built in the reverse direction (Holmes and Narver Drawing JS-023-531-A1.2, As-Built, 1986).

Figure 17. Front dormitory lobby and stair looking up to the second-floor balcony (RSL 2018).

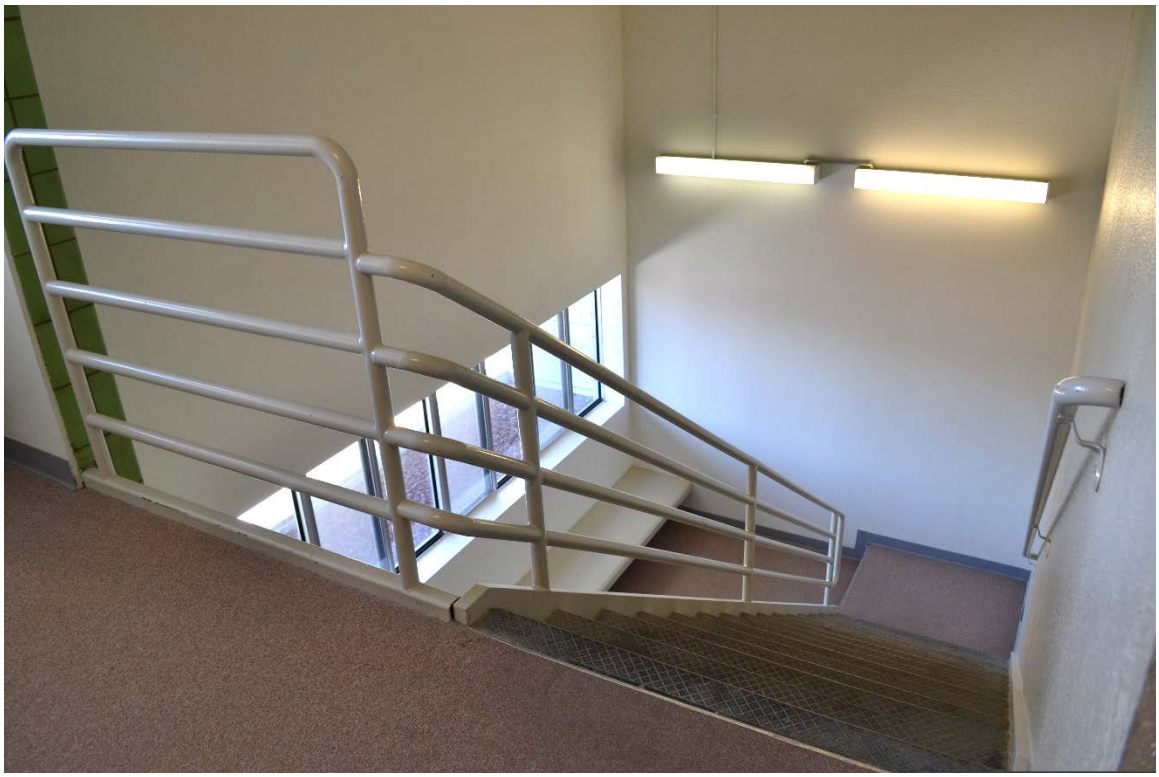

Figure 18. Front dormitory lobby and stair looking down from the second-floor balcony (DRI 2018).

Figure 19. Front dormitory lobby showing windows and bench seat (RSL 2018).

Figure 20. The upstairs linen room is typical of service spaces (RSL 2018).

Figure 21. Upstairs hallway (RSL 2018).

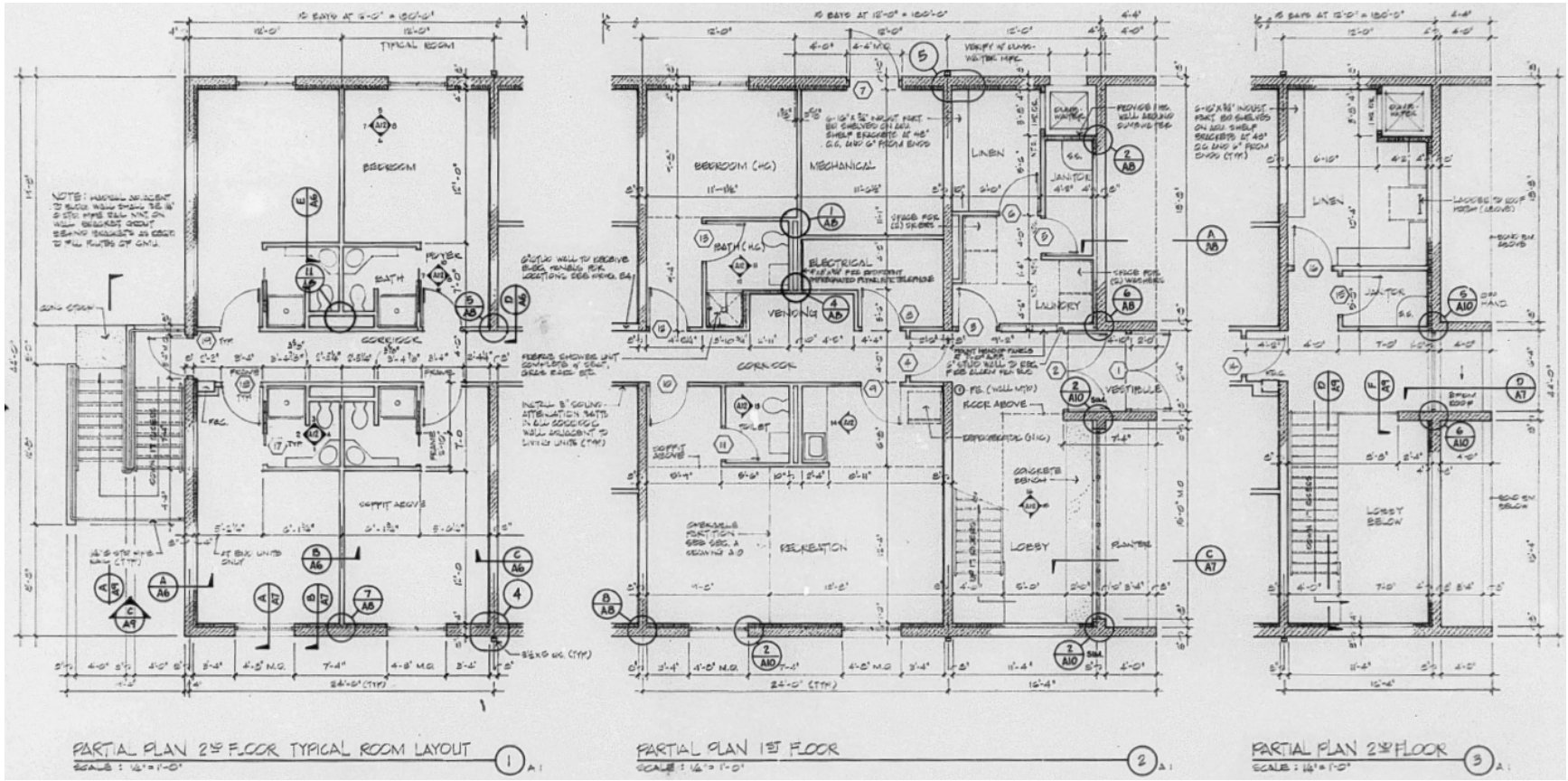


Figure 22. Dormitory room plan (Holmes and Narver Drawing JS-023-531-A2, 1985).

Figure 23. Typical private room window (top) and restroom at bottom (RSL 2018).

### *Mechanical Building 23-536 (SHPO #B15267)*

This is a 1,295 square foot one-story rectangular-plan building on a thickened slab-on-grade concrete foundation. It is on a large cut and fill terrace which is covered with gravel, aside from asphalt-paved off-street parking and concrete walkways. It houses the mechanical plant for buildings 23-531, 23-532 and 23-535. Like the large dormitories, this building is oriented on contour. Walls are two bands of gray split face concrete block separated by a band of salmon-colored glazed concrete block (Figures 24–26), matching the material used on adjacent Building 23-531.

A double steel louvered door is centered in the main façade (Figures 24 and 26). The southeast façade has a flush steel door in the right corner to the electrical room. A weather station is mounted near the top of the wall.

A large louvered steel vent for the cooling tower is inset into much of the left wall (Figures 25 and 26). There are also sweeps. Pipe bollards and a chain protect the two steel underground fuel oil tanks for the boiler. The rear wall has a transformer and electrical boxes.

The building has a flat roof entirely hidden by a split face parapet which is pierced for downspouts on the right side. The roof deck is made up of hollow core precast concrete slabs. It has pipe railings around rooftop mechanical equipment. The metal exhaust stack for the boiler has been removed and the hole covered over.

The building contains only two rooms (Figure 27). Most of the interior is a large room (Figure 28). It is occupied by the cooling tower and related water pumps. The original fuel-oil boiler in the center of the room has been removed and replaced with electrical hot water heaters. A large hot water storage tank occupies the remainder of the main room. The other small room, which is only accessed from the exterior of the building, is an electrical and communications room (Figure 29).

Figure 24. Mechanical Building front corner (RSL 2018).

Figure 25. Mechanical Building rear corner (RSL 2018).

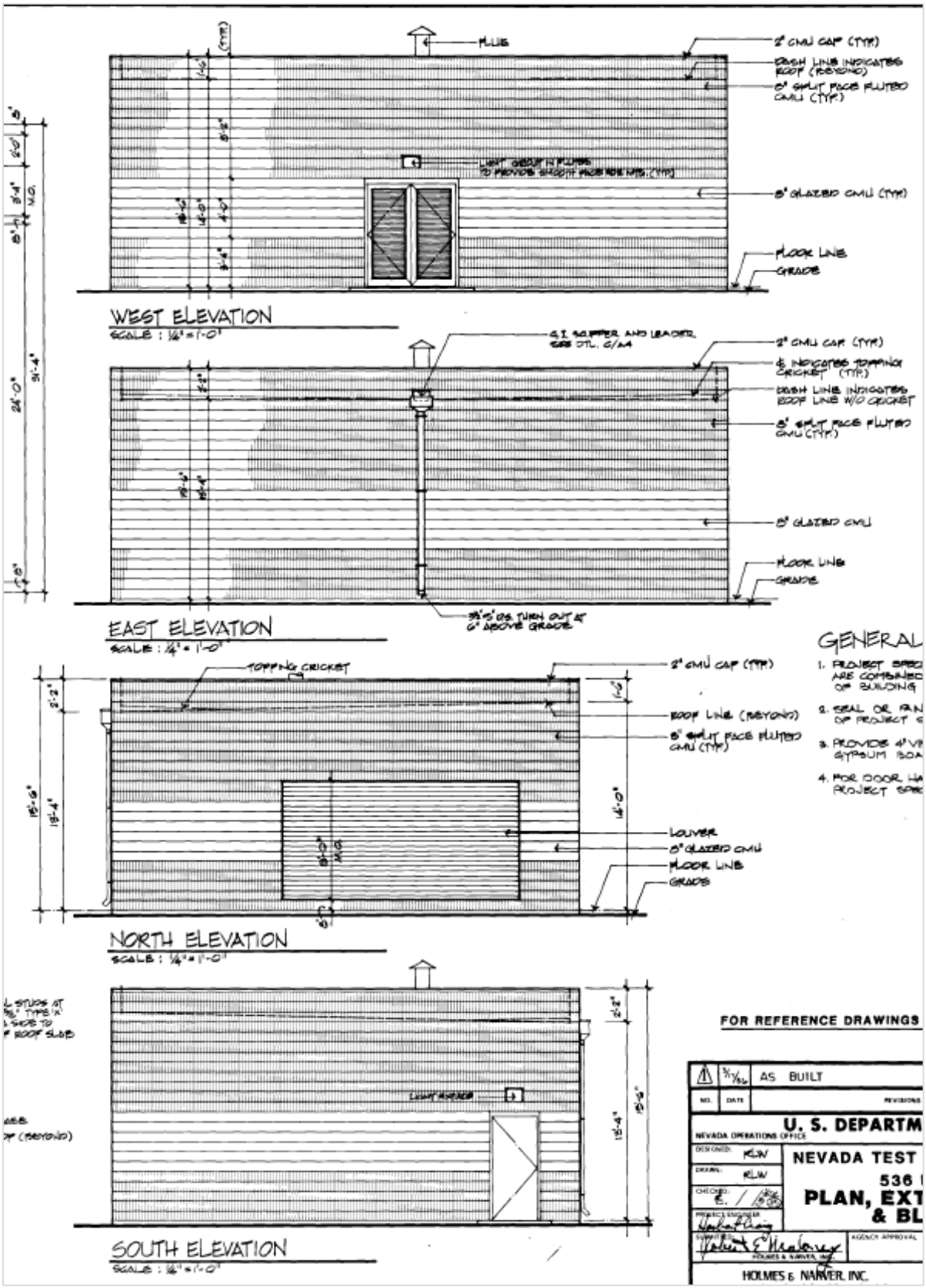


Figure 26. Mechanical Building elevations (Holmes and Narver Drawing JS-023-536-A1.1, 1984).

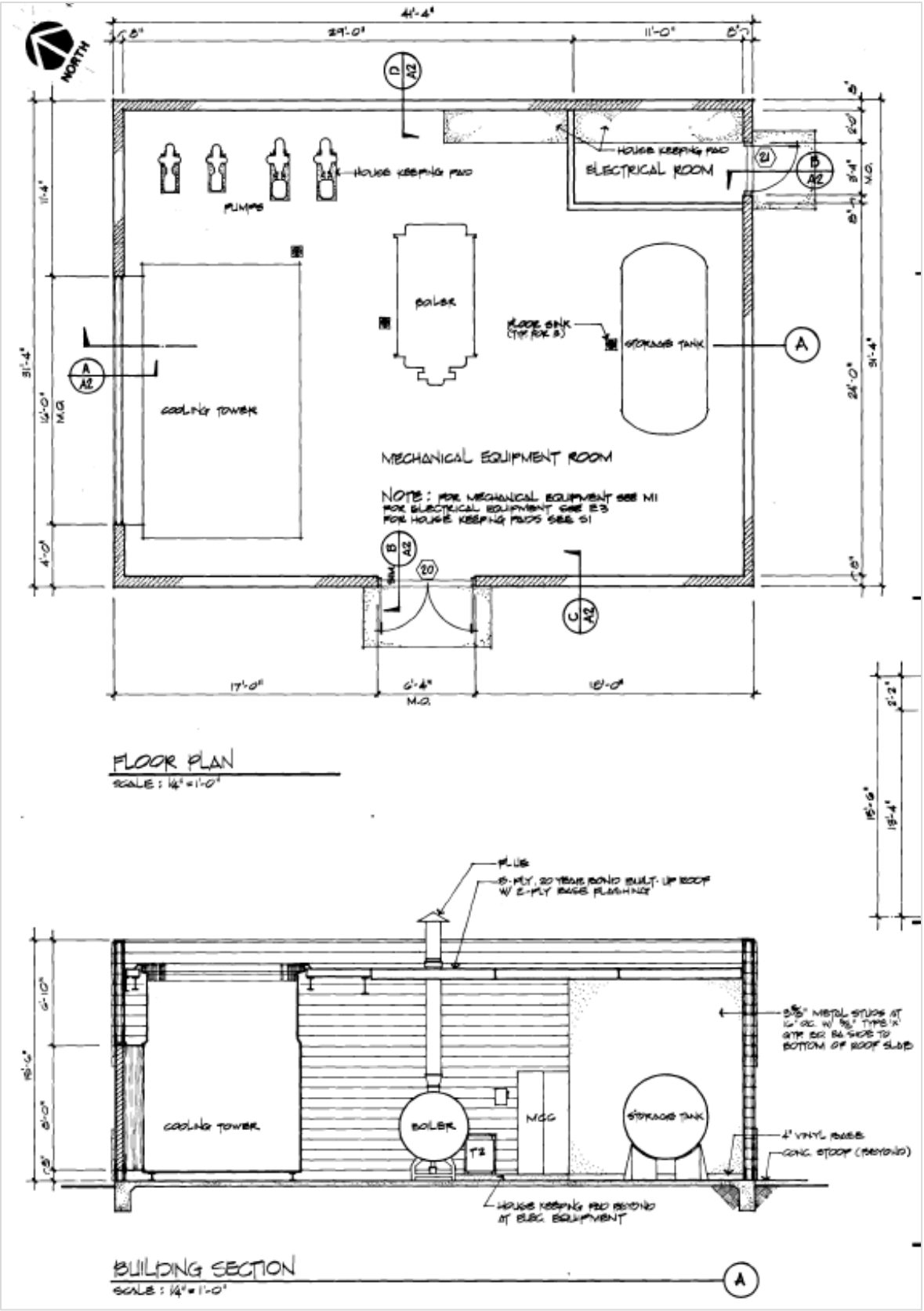


Figure 27. Mechanical Building plan and section (Holmes and Narver Drawing JS-023-536-A1.1, 1984).

Figure 28. Main Room of the Mechanical Building as seen from the entrance. From left to right are cooling tower, pumps, markings on floor from removed boiler, and electrical boxes (in left photo), and new water heaters, and behind them, a large hot water storage tank (in right photo). (RSL 2018).

Figure 29. Electrical Room of the Mechanical Building (RSL 2018).

## The Late Modern Architectural Style

Of the various architectural styles present in Mercury, only one, the Late Modern Style, as applied to the resources of the Mercury Historic District by Reno et al. (2018), is found in the APE. In the late 1970s architectural historian Charles Jencks rejuvenated the terms Late Modernism and Post-Modernism to capture the evolution of Modern architecture in the latter part of the twentieth century:

> Since about 1960, Modern architecture, or the International Style and its related models, has changed dramatically. It has evolved into a new style, a "Late" version of its former self, and at the same time, has undergone a mutation to become a new species—"Post"-Modern….
>
> The differences between Late- and Post-Modernism are simple to define as long as we focus on broad categories. Late-Modern architecture takes the ideas and forms of the Modern Movement to an extreme, exaggerating the nature and technological image of a building in an attempt to provide amusement or aesthetic pleasure. It tries to breathe new life into the Modern language, a language which many people find monotonous and alienating. Post-modernists also react against the visual dullness of Modernism, but their solution involves combining the Modern language with another one. Thus a Post-Modern building is double coded, one-half Modern and one-half something else…. (Jencks 1982:12)

The more adventurous Contemporary Style buildings in Mercury were already on the road to Late Modern. Not surprisingly, Post-Modernism was a road not taken in Mercury. Regardless of personal inclination, it is difficult to imagine a Post-Modern design, with the inherent doubts and confusions deliberately sowed by such a building, ever being accepted at the time by as conservative a client as the federal government. In a period when it became widely acknowledged that much of architecture was about conveying messages, the messages of Post-Modernism were wildly out of place on a government reservation where serious work was being done to save the people of the United States from their Cold War opponents.

The 1980s saw a different look sweep Mercury and military bases in the region, including the Tonopah Test Range, Indian Springs Air Force Base and Nellis Air Force Base. This new look was based on prominent use of a relatively new building material – split face concrete block.

At Mercury, design of all 11 Late Modern Style buildings involved invoking elements of the Modern variants along with a specific form of surface decoration that links them in common. This common element is split face concrete block, nearly always a pale "desert rose" but sometimes light pink, light tan, or gray. This material is normally set off with concrete or stucco pilasters and borders and sometimes includes contrasting panels of flush or patterned concrete block. In Mercury the split face is almost entirely limited to buildings, in contrast to Nellis, where extensive fences and minor structures are made of the same material. This building material became common in the civilian sector as well during this period, but what sets the bases, and to a lesser extent Mercury, apart is the uniformity of the color selection and lack of buildings constructed of any other material. The three Late Modern buildings in the 23-531 Series Dormitory Complex in Block 17 demonstrate the

eclectic collection of Modernist elements that have been brought together to create a composition that well represents the culmination of Modern architectural styles at Mercury (Figure 12).

It is not unprecedented to seize upon a distinctive type of surface treatment to define a style which otherwise is made up of any number of building forms and functions. The Victorian Shingle Style (McAlester 2013; Scully 1978) is comparable in this regard to the Split Face variant of Late Modern architecture which changed the character of the built environment of Mercury and other bases in the region.

Split face block has a dual character when considered against some of the basic tenets of Modern design. These ambiguities add interest to buildings using that material.

The first contradiction is that split face block (and ordinary concrete block as well) looks like an exposed load-bearing wall in the Brutalist tradition. However, in most cases, as the material was used in Mercury, it is actually a non-load-bearing curtain wall with the steel structural framework concealed from view. An analysis of this kind of design at Mercury is in Reno and King (2016:24-26). This puts it more into the direct International Style of design, except for occlusion of the structure that supports the curtain walls.

The second contradiction is that it is fully in the Modernist/Brutalist tradition of exposing an unadorned building material. However, it is nearly Mannerist in the way it emphasizes rusticated texture and often color as well, particularly if fluted split face block is used for additional elements such as pilasters or friezes, as it is in several of the buildings. The most extreme cases of emphasizing wall texturing in this way is at the 23-531 Series Dormitory Complex, in which vast areas of wall are fluted split face while intervening bands are faced with variously-colored glazed concrete block (the only use of this comparatively rare material in Mercury). Despite these innovations, the 1980s buildings manage to blend in remarkably well with their predecessors since they share so many Modern design principles.

Another new characteristic shared by nine of the Late Modern buildings is the first departure from the strict horizontality of Mercury by adding a second story, again most prominently displayed in the 23-531 Series of dormitories.

### *Holmes & Narver (H&N)*

Many architectural firms had a role in designing the built environment of Mercury. The collection of buildings in the APE were all designed by H&N and constitute by far the most distinguished and complex building designs produced by that firm for Mercury.

H&N was active from the initial construction of what is now the NNSS through the end of the Cold War. This work was part of Contract 20, which was the longest running single contract ever administered by the U.S. government. James T. Holmes and D. Lee Narver started the firm in 1933 in Los Angeles to repair earthquake damage to a large number of buildings. The firm entered the realm of government-base design in 1940 with the designs of Camp Roberts and Camp Nacimiento

for the Army, followed by a number of wartime military bases. Design of the nuclear test facility at Enewetak in 1947 foreshadowed its role in designing the new base camp of Mercury in 1951. The firm was extremely active during the Cold War with projects including facilities at Naval Air Weapons Station China Lake, Douglas Aircraft, and overseas military bases.

H&N replaced Silas Mason Company as the principal engineering contractor at the NNSS in 1956 (Johnson 2001). An example of 1960 design is the Records Library (23-310). In 1985, the DOE contract for NNSS facilities reached 400 million dollars. During this period, the firm designed the striking 23-531 Series of dormitories and Photographic Support Building (23-614) at Mercury. Much of the work H&N did at Mercury and at the rest of the NNSS was the unglamorous job of perpetually altering buildings to keep pace with changing mission requirements.

Although the military-related contracts were central to the work performed by H&N, the firm also had significant civilian commissions, such as the 1958 TWA terminal at Los Angeles International Airport. H&N ceased to exist as an independent firm in 2001. It was acquired by Daniel, Mann, Johnson & Mendenhall (DMJM), which was in turn acquired by AECOM (Moore et al. 2010:189-190; *NTS News* August 19, 1983).

# V. RECOMMENDATIONS

## National Register Eligibility Reconsidered

The NNSA/NFO, in consultation with the SHPO, has determined the Mercury Historic District (D230) is eligible to the National Register under Criteria A and C at the national level of significance and importance in supporting nuclear testing and scientific research from 1951 through 1992, inclusive. This period encompasses the entire era of nuclear testing at what is now the NNSS during the Cold War. The district is made up of 154 resources and 346 Accessory Resources.

All of the Principal Resources within the APE contribute to the significance of the district under these two criteria.

For purposes of the district-wide inventory, individual resources were evaluated only as they relate to the Mercury Historic District as contributing versus non-contributing elements. Extensive additional research is required for these resources to enable evaluation at the individual resource level. It was anticipated that with completion of such research that several of the resources in Mercury would be considered significant enough to warrant individual eligibility. It is the nature of most of the individual elements of the district; however, that they will not be individually eligible. Rather, in the aggregate, they combine to create the unique significance of the district as a whole.

Sufficient supplemental research, along with consultations undertaken during the process of writing the Mercury PA, now make it possible to develop informed recommendations related to the significance of the resources in the APE in regard to eligibility to the National Register individually and under Criteria B and D.

### *Criterion A*

The four buildings in the APE comprised a major improvement in Mercury in the 1980s as the base was dedicated to continued nuclear testing and other projects. They are part of a general improvement of base infrastructure during the culminating years of the Cold War, In this regard, it still seems most appropriate to consider them contributing elements of the Mercury Historic District rather than singling them out for individual eligibility to the National Register. The initial evaluation under this criterion is unchanged.

### *Criterion B*

Most of the individuals important at the national level to the nation's nuclear programs or other programs that were tested or developed at what is now the NNSS had far more important ties elsewhere, such as at the Los Alamos or Lawrence Livermore National Laboratories. Although many of these individuals spent time at Mercury, it was often for short visits to monitor test results.

The critical aspect of National Register eligibility under Criterion B is that the resource be directly associated with an important aspect of the career that makes that person's achievements worthy of note. In regard to Mercury, this makes it likely that some of the laboratory-related buildings may

have this level of association. In relation to the support infrastructure buildings (housing, recreation, administration, and general site support), such as are in the APE, this kind of association is generally lacking. No evidence has yet come to light suggesting that any of the buildings in the APE have significant associations with important persons. Therefore, they are recommended as not eligible to the National Register under Criterion B.

### *Criterion C*

All four buildings have already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. Regarding their potential for individual significance either as a construction type or the work of a master, the three dormitories appear to individually qualify for the National Register at the local level. The front façade of each building exhibits a striking interplay of intersecting masses, planes, and voids strongly evoking both the cubist and brutalist aspects of modern design in the sort of restrained eclecticism characteristic of Late Modernism (Figures 12 and 13). Exteriors exhibit a bold combination of alternating ribbons of fluted split face concrete block bands and contrasting bands of colored glazed concrete block which are penetrated by regularly spaced original horizontally-oriented windows. These long unbroken ribbons as viewed from both of the long sides of the building give it much of its character, in this case in the International mode of Modernism moderated by the rich use of surface textures and colors in the tradition of Sullivan and Wright (Figures 12 and 14). The architects have managed to create a striking building considering that the basic plan is a typical two-story central hall dormitory. Its visual impact is heightened by the integrated design of this entire cluster of buildings (Figures 3 and 12). They depart from the arbitrary north-south grid of Mercury's original design to follow the contours of the land, which greatly reduced the amount of cutting and filling that was needed for construction and adds interest by their contrast with the orientations of nearby buildings which are all on grid.

The interiors of the dormitories do not generally rise to the high quality of the exterior design. Most of the interiors are serviceable and the rooms are comfortable, but with no architectural distinction. The open two-story main entry and staircase foyer is the exception to this (Figures 17–19). Here the designers have created a space that interplays with the dramatic front façade by means of large windows and the ability to interact with that space at all levels from ground floor to staircase to upper landing. This entry is the only part of the interior that contributes to the significance of each dormitory. Due to all of these considerations, 23-531, -532, and -535 appear to be individually eligible for the National Register under this criterion. Although these buildings exhibit distinguished design at the local level of significance, they are examples of design and surface treatment widely seen throughout the United States in the 1980s. They are not pioneering examples by any means. Therefore, their significance under this criterion does not appear to rise to that required for eligibility at the national level.

The Mechanical Building 23-536 fits in well with the dormitory series, and its simple cubic mass with the same exterior treatment is a fine counterpoint to the larger and more complex buildings, but it lacks the rich composition that distinguishes the dormitories. Its design reflects well its subsidiary

role in the complex as a contributing element to the district under this criterion. The interior is entirely without architectural or engineering distinction and is not regarded as a character-defining element under Criterion C.

### *Criterion D*

The most important questions regarding the district as a whole relate directly to nuclear testing. Where this subject is reflected in individual resources, it is most likely to be found in laboratory/radiation-related facilities. There is no potential for the resources in the APE to have this kind of research potential. The resources in the APE are recommended as not eligible to the National Register under Criterion D.

## VI. REFERENCES

Engineering drawings are on file at the NNSA/NFO North Las Vegas Facility either in digital format or as aperture cards.

Newspapers consulted included the Reno Evening Gazette (REG), Reno Gazette-Journal (RGJ) and the Nevada State Journal (NSJ). Other newspapers are fully spelled out in text when cited.

References for detailed resource descriptions are with individual ARA forms.

Additional references to larger topics, such as the Mercury Historic District as a whole or architectural types, can be found in Reno et al. (2018).

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ABA, see Arthur Benedict Associates

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NNSA/NFO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office

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**DOE/NV/0003590-21-FOE**

**DESERT RESEARCH INSTITUTE**
**CULTURAL RESOURCES FINDING OF EFFECT**
**REPORT LR071018-1-FOE**
**PROJECT NO. 1810223**

# Cultural Resources Report on the Finding of Adverse Effect and Proposed Mitigation for the Modification of Buildings in the 23-531 Series Dormitory Complex in Mercury, Nevada National Security Site, Nye County, Nevada

**Prepared by**

**Ron Reno, Cheryl Collins, and Maureen King**
**Division of Earth and Ecosystem Sciences**
**Desert Research Institute, Las Vegas, Nevada**

**Prepared for**

**U.S. Department of Energy**
**National Nuclear Security Administration**
**Nevada Field Office, Las Vegas, Nevada**

**Submitted by**

**Maureen King, Project Director**
**Division of Earth and Ecosystem Sciences**
**Desert Research Institute, Las Vegas, Nevada**

**September 2018**

The work upon which this report is based was supported by the U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office under Contract #DE-NA0003590.

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**DESERT RESEARCH INSTITUTE**
**CULTURAL RESOURCES FINDING OF EFFECT**
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**PROJECT NO. 1810223**

## INTRODUCTION

The U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office (NNSA/NFO) plans to install air conditioning units under the windows of dorm and recreation rooms at three dormitories (23-531, -532, -535), and make interior modifications to the Mechanical Building 23-536 in the town of Mercury at the Nevada National Security Site (NNSS) in Nye County, Nevada.

NNSA/NFO will implement this undertaking in accordance with the *Programmatic Agreement between the National Nuclear Security Administration Nevada Field Office and the Nevada State Historic Preservation Officer Regarding Modernization and Operational Maintenance of the Nevada National Security Site, at Mercury in Nye County, Nevada*, hereafter referred to as the Mercury PA.

The buildings were constructed in 1986 in support of townsite development for nuclear testing activities on the NNSS. The town of Mercury and the immediate surrounding area have been designated the Mercury Historic District (SHPO Resource #D230), a property eligible to the National Register of Historic Places under Criteria A and C for its importance in supporting nuclear testing and scientific research from 1951 through 1992.

The elements listed in Table 1 were identified during the initial architectural survey (Reno et al. 2018) as contributing to the eligibility of the Mercury Historic District. All fall within the Area of Potential Effect (APE) for direct effects from the proposed activity.

Table 1. Buildings within the APE.

| SHPO Resource | Building Designation |
|---|---|
| B15264 | 23-531 |
| B15265 | 23-532 |
| B15266 | 23-535 |
| B15267 | 23-536 |

### Project Description

On February 27, 2018, DRI received request for evaluation of cultural resource compliance for air conditioning unit installation at Buildings 23-535, 23-531, and 23-532. After the proposed replacement, the current boiler and cooling tower located in Mechanical Building 23-536 will be decommissioned and the building repurposed for storage. The project description is summarized as follows:

***23-535/23-531/23-532 HVAC Replacement***

This project provides an alternate air conditioning system to replace the failing, end-of-life HVAC system in all three dormitories. The recommended strategy and approach would be to execute the system installation one dorm at a time, starting in 23-535. A central boiler and cooling tower is housed in Mechanical Building 23-536, providing heating/cooling to each of the three dormitories. Once all three dormitory projects have been completed, the boiler and cooling tower would be removed, and 23-536 would become storage.

Scope calls for the decommissioning of existing heat pumps in each dorm serviced by the 23-536 cooling tower/boiler and the installation of packaged thermal air conditioner (PTAC) systems. The scope of work would require cutting openings in interior and exterior walls below existing windows and placement of new PTAC units in each dorm room and common area (approximately 55 units per dorm).

A detailed analyses of different approaches was taken by Bechtel (Appendix A). The most important results of these analyses are that the present HVAC duct system is not usable for the upgrade, and that of the various exterior wall locations for individual room units, positions under the windows were by far the most viable alternative.

When informed of this project, DRI staff observed that the unbroken long alternating ribbons along the long side walls constituted one of the essential character-defining elements of these buildings. It was noted that while refurbishing the existing system was far preferred from a preservation standpoint, if wall units had to be utilized, they should be flush with the outside wall to minimize their visual impact.

These comments are reflected in the project concept shown in Figures 1 and 2. For comparison, Figure 3 shows a similar wall surface alongside the concept rendering. As noted in the introduction, this project will break up those long ribbons of fluted split face to some extent, having an adverse effect on the design under Criterion C. However, compared to alternative positions in or around the window, or certainly compared to a design with projecting units, this design minimizes the extent of this adverse effect as much as possible.

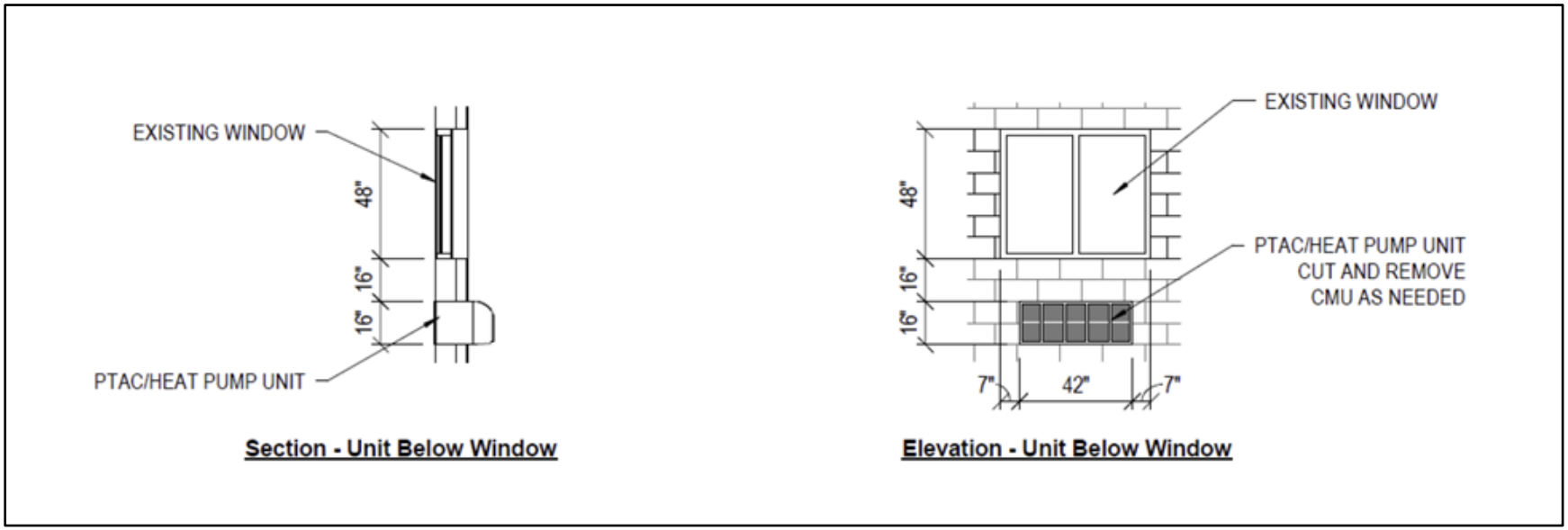


Figure 1. Project concept design showing section and elevation views of PTAC/Heat Pump Unit. In the section view, the right side is the interior of the room.

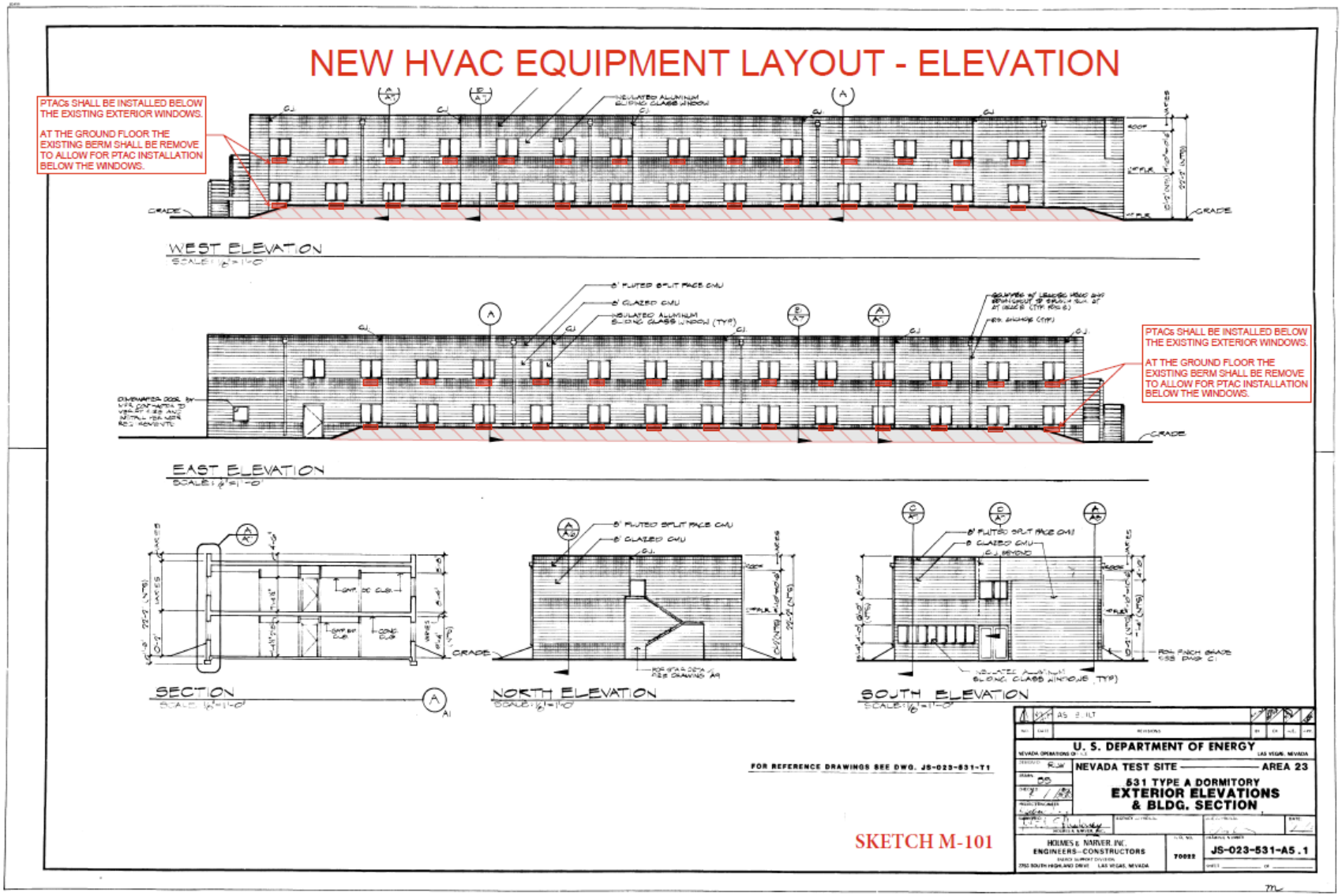


Figure 2. Exterior elevations and building section of 23-531 type dormitory (modified from Holmes and Narver, Inc. Drawing JS-023-531-A5.1)

Figure 3. At left is a conceptual rendering of the air conditioning upgrade on a typical side elevation provided to Jacob Huffines by Michelle Zitello, May 7, 2018. At the right is a similar elevation without the upgrade (RSL 2018).

This particular air conditioner location was commonly incorporated into designs of the period. A good example of a building designed at the outset in this way is Dormitory 23-530 (Figure 4). Along with nearly identical dormitory 23-528, both constructed in 1982, this building illustrates how severely the array of projecting air conditioning units disrupts the wall plane and becomes a dominant visual element. However, in regard to how well the retrofitted buildings will fit into the built landscape of Mercury, they will have wall-mounted air condition systems similar to these buildings, which are the only other two-story concrete block dormitories.

Figure 4. Projecting air conditioning units such as at Dormitory 23-530 strongly compete with other elements in a façade for visual dominance (DRI 2017).

When considering how well this exterior design modification will look and how well it will fit in with Mercury's existing built environment, it is also useful to revisit three additional dormitories, 23-526, -527, and -529, located in the southern portion of the same block as the APE. While made of metal, these 1978-1980 buildings are also two-story and incorporate individual room air conditioners mounted under the windows. As shown in Figure 5, these units, like those proposed, are flush with the wall surface and do not interrupt it nearly as much as in the previous figure. They are expressed as integral parts of window units rather than dominating the composition as happens with projecting units.

Figure 5. Flush air conditioning units such as at Dormitory 23-529 blend with associated window units, lessening their visual impact on the façade as a whole (DRI 2017).

The only interior impacts this project will have on the dormitories are to bedrooms and the recreation room on the ground floor of each dorm. Interior photos of the windows are shown in Figure 6. Wall-mounted air conditioners typically protrude about a foot into the interior. While this will change the appearance of these walls, these particular interior walls are not recommended as contributing elements to the significance of the building. As noted above, the only interior space sufficiently distinctive from ordinary dormitory design to be considered a contributing character-defining element is the design of the multi-story open-plan main entry lobby and staircase of each dorm.

Figure 6. Interior views of bedroom (left) and recreation room windows (right) in Dormitory 23-535 (RSL 2018). Proposed air conditioners will project into the room about a foot below all windows.

As noted above, the cooling tower and pumps will eventually be removed from Mechanical Building 23-536. The boiler was removed some time ago. With removal of the cooling tower, it is likely that the large metal vent which occupies much of the north façade will be covered or replaced (Figure 7).

Figure 7. Cooling tower vent in the north wall of Mechanical Building 23-536 (RSL 2018).

## FINDING OF EFFECT

After informal consultation with the DRI subject matter expert and applying the criteria of adverse effect, the NNSA/NFO Cultural Resource Manager (NFO/CRM) has determined the planned modifications to the buildings within the APE will alter, directly and indirectly, the characteristics that qualify the Mercury Historic District for inclusion in the National Register. Therefore, the proposed HVAC replacement will have an **Adverse Effec**t to historic properties. All of these elements are contributors to the district, and the three dormitories are eligible to the National Register under Criterion C at the local level of significance.

As specified in the Mercury PA under Stipulation VII.C, the NNSA/NFO is submitting the finding of adverse effect from the proposed modifications with documentation, including a description of the proposed mitigation consistent with Stipulation VIII of the Mercury PA. This documentation is being submitted concurrently with the associated National Register evaluation report (SR071018-1).

## ELEMENT CATEGORY IDENTIFICATION

The NNSA/NFO and DRI, in consultation with the SHPO, are in the process of developing categories of elements within the Mercury Historic District for Appendix C of the Mercury PA. In the absence of a category list, DRI is treating all four buildings as Category I properties. Therefore, the properties are subject to evaluation for potential individual eligibility to the National Register of Historic Places under the Secretary of Interior's Significance Criteria. Dormitories 23-531, 23-532, and 23-535 are identical in design and represent an element class. Building 23-536, which houses mechanical facilities in support of the dormitories, is the only representative of its design in the district.

Upon completion of the National Register evaluation of the properties in the APE, it was found that none of the buildings meet the national-level individual eligibility standards under the Secretary of Interior's Significance Criteria. Therefore, they are addressed as Category II resources for the purpose of mitigation.

## MITIGATION PLAN FOR CATEGORY II ELEMENTS

In the Mercury PA, it is anticipated that detailed high-quality digital photography will typically be done of one representative element of a repetitive class such as the three identical dormitories (23-531, -532, -535) found in the APE. Dormitory 23-535 of this group is selected as the representative example for detailed interior description, primarily because it was easy to access and is the first building of the series scheduled for HVAC replacement.

The following steps are proposed to mitigate the Category II elements:

- An updated ARA form will be completed for each of the resources listed above (VIII.C.1.a);
- High-quality digital images will be taken of a representative member of the Category II element classes consistent with the plan for photography found in Appendix D of the Mercury PA (VIII.C.1.b.);

- Current annotated sketch plans, copies of historic architectural drawings, and photo plans will be added to the updated ARA forms (VIII.C.1.c); and
- Descriptions will be completed of the element classes and their significance within the context of the historic district (VIII.C.1.d). For this project, these descriptions will be submitted in report SR071018-1, which, as noted above, also serves as the evaluation report required under Stipulation VI.B.

**REFERENCE**

Reno, R. L., Collins, C. M., King, M. L.
2018 *The Architecture of Mercury – Nevada's Boom Town: An Architectural Survey of Mercury, Area 23, Nevada National Security Site, Nye County, Nevada*, Desert Research Institute Technical Report TR 115 Rev 1, DOE/NV/0003590-09, Desert Research Institute, Las Vegas, Nevada.

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# APPENDIX A

## BECHTEL NEVADA INTEROFFICE MEMORANDUM

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**Bechtel Nevada**

*Interoffice Memorandum*

*To*: Rhyan Andrews

*Date*: October 8, 2001

*From*: K. M. Schechter
Design Engineering, 5-6641

*No.*: 2170-PK-02-0005

*Subject*: **FWR-075-ASSESSMENT OF EXISTING BLDG. 531, AREA 23**
Project No.: 00063.A23
Reference #1: I.O.M. 2170-PK-01-0071 dated March 13, 2001 (copy attached)
Reference #2: I.O.M. 4100-JD-01-0042 dated March 27, 2001(copy attached)
Charge No.: R31A0WB0

Per the request in Reference #2, Engineering was asked to perform a seismic/structural analysis of Existing Building 531. The purpose of this analysis was to check the possibility of adding 60 new openings in the existing walls of Building 531. The purpose of the new openings was to install 60 wall mounted HVAC Units.

Engineering performed a structural analysis/calculation on the existing walls of Building 531, Type A Dormitory per Uniform Building Code 1997 Edition and its findings are summarized below. Because there are four possible locations to add opening on the exterior walls, (left side of window, right side of window, above window and below window) it was necessary to evaluate this problem in two parts.

**Part-1**: What is the feasibility of adding HVAC units on the left or the right side of each window?
Adding openings on any side of the windows impact the existing "shear walls". A "shear wall" is a structural element designed to resist horizontal forces and to transfer these forces down to the foundation. The existing CMU walls, 8" thick, reinforced, grouted solid, located between the windows and running continuously from the foundation to the roof of the building are "shear walls".

It was essential to calculate the existing "shear wall" capacity before determining whether or not new openings were advisable. Structural calculation number CAL-S-245 demonstrates that the existing "shear walls" can adequately handle the imposed seismic zone 3, and wind loads per the UBC 1997 edition. The existing "shear walls" are approximately 231 feet long, their allowable shear stress is 73psi and their calculated shear stress is 65psi. The difference between the allowable shear stress and calculated shear stress is 8psi, which translates to 10% strength reserve on the existing "shear walls".

Now, A 10% reduction in "shear wall" length equals 23 feet and this 23 feet could theoretically be used to allow a maximum of four new openings in the existing "shear walls" but not 60 new openings.
**Answer to Part-1: Based on the above calculation, it is not structurally acceptable to have 60 new openings located in the "shear walls".**

**Part-2:** What is the feasibility of adding HVAC units above or below each window?
Existing Buildings 531 & 532 were inspected to determine all floors and roof dead loads, as well as mechanical and electrical equipment dead loads. Also, Buildings 531 & 532 were reviewed and checked for general space availability around each window for both levels within each building.

The following is a summary of the pertinent data for this project:

1. The wall mounted HVAC units identified for this project are 17" high by 43" wide, Model 52S by Carrier Corporation.
2. Window size is 45" high X 53" wide.
3. Dimension from the top of the "window opening" to bottom of "concrete ceiling" = 25".
4. Dimension from the "floor slab" to bottom of "window opening" = 42".
5. There are electrical receptacles located right below each window opening.

**Answer to Part-2: Based on the above inspection, the only feasible space to add HVAC units in the wall is directly below each existing window.**

## Engineering Recommendation:

Based on the Structural calculation cited above, the HVAC unit identified for this project, and based on the existing field conditions for Buildings 531 & 532, Engineering recommends for all HVAC wall mounted units to be installed directly below each window. Also, Engineering shall design a steel frame around each HVAC unit to account for any reinforcing bars cut during the unit installation process.

Kenneth M. Schechter

SCM:rb
Subject Code: ENG4

cc: M. Blake/Project File, NLV085
D. Burch, NLV063
R. Andrews, NTS207
S. Macias, NLV085
K. Schechter, NLV085
J. Wilhelm, NTS250
Correspondence Control, NLV008
Document Control, NLV049
E&I Correspondence Log, NLV085

**Bechtel Nevada**

(REFERENCE #1)

*Interoffice Memorandum*

*To*: J. Delph, NTS250

*Date*: March 13, 2001

*From*: E. C. Laner, NLV085
Design Engineering, 295-3244

*No.*: 2170-PK-01-0071

*Subject*: FWR075-BUILDING 531 STRUCTURAL ANALYSIS TO INSTALL SIXTY (60) THROUGH-THE-WALL HVAC UNITS
WO No.: 0002260 00021560
Project No.: 00063.A23

Attached is the Design Basis Summary for preparing a structural evaluation including engineering calculations for modifications to Dormitory 531. The engineering estimate is in two parts. Part A is the analysis and Part B is the engineering to develop construction drawings for the structural work only. Additional engineering hours will be required for mechanical (HVAC) and electrical design.

If you have any questions or concerns, please contact me or Dick Greenwold at 5-2148.

E. C. Laner

RCG:rb
Subject Code: FAS 16-5

Enclosure: as stated

cc: M. Blake/Project File, w/enc., NLV085
D. Burch, w/enc., NLV063
R. Greenwold, w/enc., NLV085
E. Laner, w/enc., NLV085
S. Macias, w/enc., NLV085
J. MacMullen, w/o enc., NLV085
K. Schechter, w/enc., NLV085
J. Sorola, w/enc., NLV085
R. White, w/o enc., NLV085
Correspondence Control, w/enc., NLV008
Document Control, w/enc., NLV049
E&I Correspondence File, w/o enc., NLV085

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# BECHTEL NEVADA

## Design Basis Summary

| Prepared by: Sal Macias | Date: 3/07/2001 | Reference EDS number |
|---|---|---|

Project title: Building - 531

Description: Structural Calculation & Modifications required to install 60 HVAC Units on the structural walls

Discipline: Structural

| Reference data attached | Accepted by: | Date: |
|---|---|---|
| [ ] Yes [x] No | | 3/9/01 |

**Project Description:**

Provide Engineering Design to verify the Structural adequacy of Building 531 to sustain approximately 60 openings on the structural walls.

1. Structural Calculation to justify existing building-531 with approx. 60 new openings.
2. Building-531 seismic retrofit details as required by the structural calculations.
3. Building-531 HVAC unit installation & opening reinforcing details.
4. Construction support.

Continued on Page __ of __

**Design Basis:**

1. Minimum Design Loads for Buildings and Other Structures ASCE 7-98.
2. Uniform Building Code 1997 edition.
3. Building Code Requirements for Masonry Structures ( ACI 530-99 / ASCE 5-99 / TMS 402-99 )
4. Welding code latest edition.
5. Building Code and Commentary for Structural Concrete ACI 318-99.

Continued on Page __ of __

**Assumptions:**

1. The existing building was built as shown on the drawings and the materials used in its construction, as concrete, mortar, reinforcing bars, etc. is as stated on the drawings.
2. Structural Inspectors will verify and map the existence of reinforcing bars at each critical connection. This is done by X-rays and the critical connections will be identified by Engineering.
3. Since each building may have different loading characteristics, different building dimensions, built during different timeframes, etc. this estimate **only** covers Building 531.
4. The units are identified as Model 52S with minimum wall opening required 43"x17" and each unit weighs approx. 130 pounds.

Continued on Page __ of __

**Questions**

Q1. What is the probability of these units being accepted on the side of the windows?

A1. My feeling is that there is maybe a 5% chance to none.

Q2. Is there another possibility for installing these units on the wall?.

A2. Enlarge the existing opening in the vertical direction only. Remove the first layer of blocks only and re-frame the new opening thereby combining the window and the smallest HVAC unit possible. (Note: The first layer of blocks underneath the existing windows has horizontal reinforcement that extends 2' beyond the window in each direction).

Continued on Page __ of __

**Structural Estimate: Manhour Budget Summary Dated 3/07/2001**

Project name: Bldg-532 "Dorms" | CH: | Disc: Struct

| Item No. | Item Description | CAD MH | | ENG MH | | | Sub-Tot |
|---|---|---|---|---|---|---|---|
| | | No. Dwg | MH | Calcs | Misc Detail | Sub-Tot | |
| A | **EXISTING BLDG-532 STRUCTURAL EVALUATION** | | | | | | |
| 1 | Site visits to compare building with existing drawings | | | | 18 | 18 | 18 |
| 2 | Assess the existing 1st Floor, 2nd Floor & Roof loading conditions. | | | 20 | | 20 | 20 |
| 3 | Compare Original Code requirements with the latest Code requirements. | | | 30 | | 30 | 30 |
| 4 | Seismic Evaluation/Structural Calculations on the existing Structure | | | 80 | | 80 | 80 |
| 5 | Structural Calculations Checking | | | 20 | | 20 | 20 |
| | Supervision | | | | 12 | 12 | 12 |
| | **PART "A" SUB-TOTAL MAN-HOURS** | 0 | 0 | | | 180 | 180 |
| B | **EXPECTED MODIFICATIONS TO THE EXISTING BUILDING** | | | | | | |
| 6 | Title Sheet | 1 | 20 | 0 | 5 | 5 | 25 |
| 7 | General notes | 1 | 30 | 0 | 10 | 10 | 40 |
| 8 | Plans | 1 | 30 | 0 | 10 | 10 | 40 |
| 9 | Sections ( North, South, East and West Elevations ). | 2 | 80 | 0 | 20 | 20 | 100 |
| 10 | General Details | 2 | 80 | 0 | 20 | 20 | 100 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| 11 | Identify "Hold Points" and review the Structural Inspection Plan. | | | | 10 | 10 | 10 |
| 12 | Drawings Review, Checking & Comments Incorporation | | | | 20 | 20 | 20 |
| | Supervision | | | | 22 | 22 | 22 |
| | | | | | | 0 | 0 |
| | Specifications | | | | | 0 | 0 |
| | Design Summary | | | | | 0 | 0 |
| | | | | | | 0 | 0 |
| | **PART "B" SUB-TOTAL MAN-HOURS** | 7 | 240 | | | 117 | 357 |
| | **SUB-TOTAL FOR TITLE 2 DESIGN** | 7 | 240 | | | 297 | 537 |
| | **Title 3 ( 30 hrs for Construction support activities & 30 hrs for drawings as-builts )** | | | | | | 60 |
| | **GRAND TOTAL STRUCTURAL MANHOURS :** | | | | | | 597 |

**Prepared by:** S. C. Macias **Dated:** 3/7/2001 **Checked by:** V. K. Sahni **Dated:** 3/7/2001

**Bechtel Nevada**

(REFERENCE #2)

*Memorandum*

*To:* K. Schechter

*Date:* March 27, 2001

*From:* J. M. Delph
Facilities Department, 295-6460

*No.:* 4100-JD-01-0042

*Subject:* **FWR-075-ASSESSMENT OF EXISTING BLDG. 531, AREA 23**
Project No. N/A

Please proceed with the seismic/structural analysis, FWR-075-Assessment of Existing Bldg. 531, Area 23.

Please do not exceed the 180-hour estimate provided without my written approval.

J. M. Delph

JD:as
Subject Code: FAS-4

cc: Correspondence Control, M/S NLV008
M. Blake/Project File, NLV085
D. Burch, NLV063
B. S. Deck, NTS225
J. Finney, NTS225
R. Greenwold, NLV085
D. M. Jones, NLV079
S. Macias, NLV085
J. W. Wilhelm, NTS250

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**DOE/NV/0003590-21-MIT**

**DESERT RESEARCH INSTITUTE**
**CULTURAL RESOURCES MITIGATION SUBMISSION**
**REPORT LR071018-1-MIT**
**PROJECT NO. 1810223**

# Cultural Resources Report for the Submission of Mitigation Documentation Related to the Modification of Buildings in the 23-531 Series Dormitory Complex in Mercury, Nevada National Security Site, Nye County, Nevada

**Prepared by**

**Ron Reno, Cheryl Collins, and Maureen King**
**Division of Earth and Ecosystem Sciences**
**Desert Research Institute, Las Vegas, Nevada**

**Prepared for**

**U.S. Department of Energy**
**National Nuclear Security Administration**
**Nevada Field Office, Las Vegas, Nevada**

**Submitted by**

**Maureen King, Project Director**
**Division of Earth and Ecosystem Sciences**
**Desert Research Institute, Las Vegas, Nevada**

**September 2018**

The work upon which this report is based was supported by the U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office under Contract #DE-NA0003590.

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The work upon which this report is based was supported by the U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office under Contract #DE-NA0003590.

**DESERT RESEARCH INSTITUTE**
**CULTURAL RESOURCES MITIGATION SUBMISSION**
**REPORT LR071018-1-MIT**
**PROJECT NO. 1810223**

## INTRODUCTION

The purpose of this letter report is to submit documentation related to the mitigation of the four buildings in the 23-531 Series Dormitory Complex area in the Mercury Historic District (SHPO Resource #D230). This submission is intended to comply with the stipulations in the *Programmatic Agreement between the National Nuclear Security Administration Nevada Field Office and the Nevada State Historic Preservation Officer Regarding Modernization and Operational Maintenance of the Nevada National Security Site, at Mercury in Nye County, Nevada*, hereafter referred to as the Mercury PA. Table 1 provides a list of the properties addressed by this letter report.

Table 1. Buildings within the APE.

| SHPO Resource | Building Designation |
|---|---|
| B15264 | 23-531 |
| B15265 | 23-532 |
| B15266 | 23-535 |
| B15267 | 23-536 |

In accordance with the Mercury PA, treatment of adverse effects to these properties was completed. These treatment measures included supplemental historical research, enhanced significance discussions, and digital photographic documentation.

## MITIGATION FOR CATEGORY II ELEMENTS

In the Mercury PA, it is anticipated that detailed high-quality digital photography will typically be done of one representative element of a repetitive class such as the three dormitories (23-531, -532, -535) found in the APE. One dormitory (23-535) of this group was selected as the representative example. The Mechanical Building (23-536) is unique in its design and treated separately as its own class of element.

Upon completion of the National Register evaluation of the properties in the APE, it was found that none of the buildings meet the national-level individual eligibility standards under the Secretary of Interior's Significance Criteria. DRI recommends the three dormitories as eligible to the National Register under Criterion C at the local level of significance. Therefore, they are addressed as Category II resources for the purpose of mitigation. The 23-536 mechanical building is not recommended individually eligible under any of the significance criteria, but contributes to the eligibility of the Mercury Historic District.

The following steps were undertaken to mitigate the Category II elements:

- An updated ARA form was completed for each of the resources listed above (VIII.C.1.a);
- High-quality digital images were taken of the 23-536 mechanical building and of a representative member (23-535) of the Category II dormitories consistent with the plan for photography found in Appendix D of the Mercury PA (VIII.C.1.b.);

- Current annotated sketch plans, copies of historic architectural drawings, and photo plans have been added to the updated ARA forms (VIII.C.1.c); and
- Descriptions have been completed of the element classes and their significance within the context of the historic district (VIII.C.1.d). For this project, these descriptions are submitted in a separate report (SR071018-1), which also serves as the evaluation report required under Stipulation VI.B.

**REVIEW OF STANDARD MITIGATION FOR CATEGORY II AND III ELEMENTS**

The size of the files for these ARA form updates and digital photography are not compatible with an electronic submission per Stipulation VIII.D.1. Therefore, documents including updated ARA forms with digital images of the element classes prepared in accord with Stipulation VIII.C are being submitted in hard copy.

**ENCLOSED DOCUMENTATION**

The following documentation is attached for SHPO review and comment to meet standard mitigation requirements for Category II elements (VIII.D.)

- An updated ARA form for each of the resources listed in Table 1 (VIII.C.1.a).
- Current annotated sketch plans, copies of historic architectural drawings, digital images and photo plans have been added to the updated ARA forms (VIII.C.1.c).
    - For the 23-531, -533, and -535 dorm series, 23-535 was selected as a representative of the type. Therefore, although the narrative eligibility justification and architectural descriptions have been updated for all three dorms, a sketch plan, architectural drawings, detailed interior description and digital photographic documentation are only included with 23-535.
    - The Mechanical Building (23-536) has been updated to include a detailed interior description, architectural drawings and digital photographic documentation. Note that the room design and use for the interior of the building has not changed. The original engineering drawings continue to represent the current sketch plan for the building.

NEVADA STATE HISTORIC PRESERVATION OFFICE

**Architectural Resource Assessment (ARA) Form**

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 21, 2017; **July 10, 2018** | Recorded By | Reno, Menocal, Shimer; **Reno, King** | Agency Report # | DOE/NV/0003590-21; **SR071018-1** |

This resource was revisited by DRI on July 10, 2018. The building appears to be unchanged from the time of initial recording in June 2017.

This update amends one detail in the original form as revealed by supplementary documentary research conducted as part of the current phase of the Mercury Redevelopment Project (see Section 7 below). It also completes the significance evaluation in regard to Criteria B and D and discusses the individual eligibility of the resource rather than only addressing it in the context of being a contributing element to the Mercury Historic District.

The level of supplemental recording was aimed at providing sufficient information both to help evaluate and to mitigate adverse effects to this building resulting from an air-conditioning upgrade. Interior recording was not done at this building since it is essentially identical to Dormitory 23-535 (Resource B15266), which was selected as the representative example of this dormitory series for internal recording and high-resolution photography. The ARA form for 23-535 has been updated with additional drawings, photographs, and room descriptions.

## 5. NRHP Evaluation

*If not already listed, complete the information below:*

| Eligible Under: | Criterion A ☐ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
|---|---|---|---|---|
| | Not Eligible ☐ | Unevaluated ☐ | | |

Contributes to the district under Criteria A and C; individually eligible to the National Register at the local level under Criterion C.

## 6. Narrative Eligibility Justification

*Criterion A*

This resource has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. It, and the three related buildings (23-532, -535, -536), comprised a major improvement in Mercury in the 1980s as the base was dedicated to continuing nuclear testing and other projects. In this sense, it is best regarded as a contributing element to the Mercury Historic District rather than singling it out for individual eligibility to the National Register.

*Criterion B*

Most of the individuals important at the national level to the nation's nuclear programs or other programs that were tested or developed at what is now the NNSS had far more important ties elsewhere. Eligibility under this criterion normally requires that the resource be directly associated with an important aspect of the career that makes that person's achievements noteworthy. Since this is only a dormitory, there is no potential for significance under this criterion.

*Criterion C*

This building has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. Although it is not the work of a master, regarding its potential for individual significance as a type of construction, it appears to individually qualify for the National Register at the local level. The front façade of the building exhibits a striking interplay of intersecting masses, planes, and voids, strongly evoking both the cubist and brutalist aspects of modern design. The entire exterior exhibits a bold combination of alternating ribbons of fluted splitface concrete block bands with contrasting bands of colored glazed concrete block, which are penetrated by regularly-spaced and horizontally-oriented windows. These long unbroken ribbons, as viewed from both of the long sides of the building, give it much of its character in the International mode of Modernism, moderated by the rich use of surface textures and

colors. The architects managed to create a striking building considering that the basic plan is a typical two-story central hall dormitory. Its visual impact is heightened by the integrated design of this entire cluster of buildings. Building placement deviates from the north-south grid of Mercury's original layout to follow the contours of the land, which greatly reduced the amount of cutting and filling needed for construction and adds interest by their contrast with the orientations of nearby buildings.

The interior of the building does not rise to the uniformly high quality of the exterior design. Most of the interior is serviceable, and the rooms are comfortable, but with no architectural distinction. The open two-story main entry and staircase foyer is the exception to this. Here the designers have created a space that interplays with the dramatic front façade by means of large windows and the ability to interact with that space at all levels from ground floor to staircase to upper landing. This entry is the only part of the interior that contributes to the significance of the building.

Due to all of these considerations, this building is recommended as individually eligible for the National Register under Criterion C at the local level of significance. It is not a pioneering example by any means, as the design and surface treatment were widely used throughout the United States in the 1980s. Therefore, its significance does not rise to that required for eligibility at the national level.

*Criterion D*

Research potential regarding architecture in Mercury is likely to be confined to developments in architectural adaptations to the requirements of nuclear testing. Such innovations are likely to be found in relation to laboratory or other directly mission-related buildings rather than support structures such as this one. The mechanical devices in this building are not innovative for the time. It is recommended not eligible to the National Register under this criterion.

In summary it is recommended that the initial evaluation of this building as contributing to the Mercury Historic District under Criteria A and C at the local level of significance be enhanced to also regard it as individually eligible to the National Register at the local level of significance under Criterion C.

## 7. Narrative Architectural Description

The exterior description is unchanged except that the colored bands are made of glazed 8 inch concrete block rather than tile veneer over concrete block as originally thought. See Dormitory 23-535 (Resource B15266) for a more detailed description of this group of identical dormitories.

NEVADA STATE HISTORIC PRESERVATION OFFICE

# Architectural Resource Assessment (ARA) Form

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 21, 2017 | Recorded By | Reno, Menocal, Shimer | Agency Report # | DOE/NV/0003590-09 |

## 1. Property Type

| Building ☒ | Structure ☐ | Object ☐ | Landscape (non-archaeological site) ☐ |
|---|---|---|---|

## 2. Property Overview and Location

| | | | |
|---|---|---|---|
| Street Address | NNSS Area 23, Block 17, Trinity – Buster | | |
| City, Zip | Mercury, 89023 | | |
| County | Nye | | |
| Assessor's Parcel # | N/A | Subdivision Name | N/A |
| UTM Location (NAD 83, UTM Zone 11 North) | Easting: 589723 | Northing: 4057536 | |

| | | | | | |
|---|---|---|---|---|---|
| USGS Info | Township: 15S | Range: 53E | Section: 11 | USGS 7.5' Quad & Date: Mercury, Nev. 1983 | |
| Ownership | Private ☐ | Public-Local ☐ | Public-State ☐ | Restricted-Federal ☒ | Multiple ☐ |
| Should the property's location be kept confidential? | | Yes ☐ | | No ☒ | |

## 3. Architectural Information

*(Insert primary photograph below.)*

| | |
|---|---|
| Construction Date | 1986 |
| Architectural Style | Late Modern |
| Architectural Type | Splitface Masonry |
| Roof Form | Flat |
| Roof Materials | Built-up |
| Exterior Wall Materials | Splitface Masonry |
| Foundation Materials | Concrete |
| Window Materials | Aluminum |
| Window Type | 1x1 Sliding |
| Accessory Resources? | Yes ☐ No ☒ |
| | Number?: |

| | | |
|---|---|---|
| Condition of Resource(s)? | | |
| Good ☒ | Fair ☐ | Poor ☐ |
| Explanation: Maintained, in current use. | | |

South Elevation, facing northwest. 6/21/2017

## 4. Existing Listing & Potential District

| | | | | |
|---|---|---|---|---|
| Is the property listed in the National Register? | Yes ☐ | No ☒ | If yes, provide: | Date Listed:<br>NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| Contributing to a listed historic district? | Yes ☐ | No ☒ | If yes, provide: | Name:<br>Date listed: | NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| If no, is there a potential district? | Yes ☒ | No ☐ | If so, is this resource contributing? | Yes ☒ | No ☐ |
| District Name: Mercury Historic District | | | | SHPO #: D230 | |

### 6. NRHP Evaluation

*If not already listed, complete the information below:*

| | | | | |
|---|---|---|---|---|
| Eligible Under: | Criterion A ☐ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
| | Not Eligible ☐ | Unevaluated ☐ | | |
| Area(s) of Significance | Nuclear Testing, Townsite Development | | | |
| Period of Significance | 1986-1992 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Integrity – Does the resource possess integrity in all or some of the 7 aspects? | | | | | | |
| Location ☒ | Design ☒ | Materials ☒ | Workmanship ☒ | Setting ☒ | Feeling ☒ | Association ☒ |

| | | | | |
|---|---|---|---|---|
| General Integrity: | Intact ☒ | Altered ☐ | Moved ☐ | Date(s): |

| | |
|---|---|
| Threats to Resource: | Redevelopment |
| Historic Name | Type A Dormitory |
| Current/Common Name | Sandia Dormitory |
| Historic/Original Owner | U.S. Department of Energy Nevada National Security Administration Nevada Field Office |
| Current Owner | U.S. Department of Energy Nevada National Security Administration Nevada Field Office |
| Current Owner Address | Nevada National Security Site |
| Historic Building Use | Dormitory |
| Current Building Use | Dormitory |
| Architect/Engineer/Designer | Holmes & Narver, Inc. |
| Builder/Contractor | Holmes & Narver, Inc. |

### 7. Narrative Eligibility Justification

*Provide a detailed explanation of the resource's eligibility for the National Register, including supporting historic information, methods for evaluation under the four criteria, discussion of the seven aspects of integrity, and conclusions about eligibility.*

For purposes of the present survey, the resources in Mercury were evaluated only as they relate to the Historic District as a contributing versus non-contributing element. It is the nature of most of the individual elements of the district that they would not be individually eligible, but rather that, in the aggregate, they combine to create the unique significance of the district as a whole, which is presently recommended eligible to the National Register under Criteria A and C and unevaluated under Criteria B and D as detailed in the District form.

Due to the extensive resource-level of research beyond the capabilities of the present survey, including recording and evaluations of building interiors, required to make justifiable recommendations regarding eligibility related to association with significant persons under Criterion B or potential research potential under Criterion D, this resource remains unevaluated under these criteria at this time. It is anticipated that such enhanced recording and evaluation will occur in the future as redevelopment plans mature.

This building served as a support facility in Mercury for nuclear testing at the Nevada Test Site during the last decade of the Cold War. It represents a major improvement of the quality of housing for site workers associated with a specific laboratory. The building is a contributing element to the Mercury Historic District. It is an excellent example of Late Modern architecture in Mercury with abundant use of tinted splitface concrete masonry which typifies that style here. It is in excellent condition and retains fully all aspects of integrity. Integrity of setting is further enhanced by proximity to two other buildings (23-532 and 23-535) of nearly identical design on the same block at the corner of Sandstone Avenue and Buster Street.

## 8. Narrative Architectural Description

*Provide a detailed description of the resource, including all character defining features, potential construction methods, potential alterations (both historic and non-historic), and any accessory resources.*

This is a 14,272 square foot two-story, rectangular-plan building on a concrete foundation. It is on a large cut and fill terrace which is covered with gravel aside from asphalt-paved, off-street parking and concrete walkways. It shares a mechanical plant in building 23-536 with the other two dorms. Similarly, all three dorms share a common landscape and pergola, which for convenience is recorded with 23-535. These large buildings are oriented on contour, unlike the surrounding grid-oriented buildings. Walls are three bands of gray splitface concrete masonry separated by bands clad with faux red sandstone tiles. The contractor ran out of red tiles and somehow was allowed to use tan ones is some very obvious places.

The main (southeast) façade exhibits a complex array of protruding masses, cantilevers, and voids in the best of the Brutalist tradition. There is a pair of centered flush steel doors with one light each at the main entrance. An aluminum sliding window or possibly a door opens onto the second floor balcony. The entrance and balcony are protected by protruding ribs. The lowest band of splitface continues leftward from the end of the rib to form a planter box. Shade for the band of eight aluminum sliding lobby windows is provided by a cantilevered extension of the middle splitface band from the rib to a matching extension of the end wall which also serves as one end of the planter. The two lower splitface bands are deleted to the right of the door, leaving a large sandstone panel. Here also the end wall is extended to match the other ribs, in this case anchoring the end of a large cantilever splitface panel which echoes the top splitface band. A metal light box with a stained glass “SANDIA” sign is mounted over the planter. The sign panel has been changed since 1999.

1x1 sliding aluminum-framed windows are evenly spaced along the sandstone bands on both sides of the building. Downspouts are regularly placed along the walls between sets of four windows. The left corner of the right (northeast) wall has a stainless steel entry hatch and flush steel door with a louver vent labeled “Riser Room” in place of the first window in the left corner of the façade. There are sweeps and an electrical panel adjacent to the door.

The rear of the building has central flush metal doors at each floor. External stairways have concrete masonry parapets clad with faux sandstone and pipe railings.

The building has a flat roof entirely hidden by a splitface parapet which is pierced for downspouts on both sides. An array of solar panels has been installed on the roof.

There are no Accessory Resources.

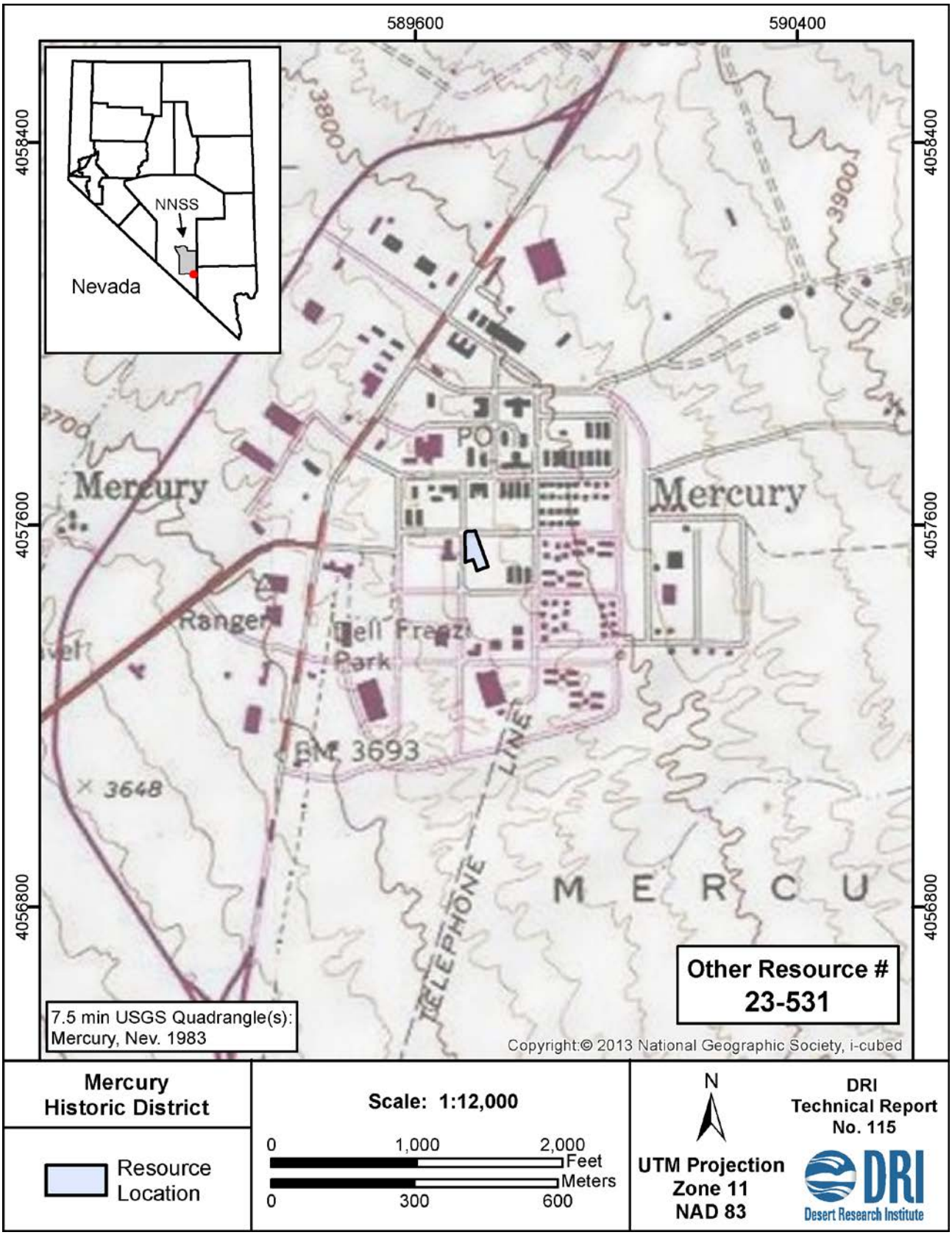
## 9. References

*List references used to research and evaluate the individual property.*

NNSS GIS Integrated Planning Database.

**10. Area Location Map**

*Use a USGS quadrangle map at large extent to show general area of resource.*



**11. Site Plan Map**

*Use aerial imagery, drafting software, or a hand-drawn sketch (to scale) showing, at minimum, building/structure footprints and relationship to associated features. Attach extra maps if needed.*

**12. Photographs**

*Include as many photographs as needed to accurately depict the resource.*

Elevation: Northeast Direction facing: Southwest Photographer: Menocal Date: 6/21/2017

Elevation: North Direction facing: South Photographer: Menocal Date: 6/21/2017

NEVADA STATE HISTORIC PRESERVATION OFFICE

# Architectural Resource Assessment (ARA) Form

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 21, 2017; **July 10, 2018** | Recorded By | Reno, Menocal, Shimer; **Reno, King** | Agency Report # | DOE/NV/0003590-21; **SR071018-1** |

This resource was revisited by DRI on July 10, 2018. The building appears to be unchanged from the time of initial recording in June 2017 except that it is temporarily closed and undergoing maintenance.

This update amends one detail in the original form as revealed by supplementary documentary research conducted as part of the current phase of the Mercury Redevelopment Project (see Section 7 below). It also completes the significance evaluation in regard to Criteria B and D and discusses the individual eligibility of the resource rather than only addressing it in the context of being a contributing element to the Mercury Historic District.

The level of supplemental recording was aimed at providing sufficient information both to help evaluate and to mitigate adverse effects to this building resulting from an air-conditioning upgrade. Interior recording was not done at this building since it is essentially identical to Dormitory 23-535 (Resource B15266), which was selected as the representative example of this dormitory series for internal recording and high-resolution photography. The ARA form for 23-535 has been updated with additional drawings, photographs, and room descriptions.

## 5. NRHP Evaluation

*If not already listed, complete the information below:*

| Eligible Under: | Criterion A ☐ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
|---|---|---|---|---|
| | Not Eligible ☐ | Unevaluated ☐ | | |

Contributes to the district under Criteria A and C; individually eligible to the National Register at the local level under Criterion C.

## 6. Narrative Eligibility Justification

*Criterion A*

This resource has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. It, and the three related buildings (23-531, -535, -536), comprised a major improvement in Mercury in the 1980s as the base was dedicated to continuing nuclear testing and other projects. In this sense, it is best regarded as a contributing element to the Mercury Historic District rather than singling it out for individual eligibility to the National Register.

*Criterion B*

Most of the individuals important at the national level to the nation's nuclear programs or other programs that were tested or developed at what is now the NNSS had far more important ties elsewhere. Eligibility under this criterion normally requires that the resource be directly associated with an important aspect of the career that makes that person's achievements noteworthy. Since this is only a dormitory, there is no potential for significance under this criterion.

*Criterion C*

This building has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. Although it is not the work of a master, regarding its potential for individual significance as a type of construction, it appears to individually qualify for the National Register at the local level. The front façade of the building exhibits a striking interplay of intersecting masses, planes, and voids, strongly evoking both the cubist and brutalist aspects of modern design. The entire exterior exhibits a bold combination of alternating ribbons of fluted splitface concrete block bands with contrasting bands of colored glazed concrete block, which are penetrated by regularly-spaced and horizontally-oriented windows. These long unbroken ribbons, as viewed from both of the long sides of the building, give it much of its character in the International mode of Modernism, moderated by the rich use of surface textures and

colors. The architects managed to create a striking building considering that the basic plan is a typical two-story central hall dormitory. Its visual impact is heightened by the integrated design of this entire cluster of buildings. Building placement deviates from the north-south grid of Mercury's original layout to follow the contours of the land, which greatly reduced the amount of cutting and filling needed for construction and adds interest by their contrast with the orientations of nearby buildings.

The interior of the building does not rise to the uniformly high quality of the exterior design. Most of the interior is serviceable, and the rooms are comfortable, but with no architectural distinction. The open two-story main entry and staircase foyer is the exception to this. Here the designers have created a space that interplays with the dramatic front façade by means of large windows and the ability to interact with that space at all levels from ground floor to staircase to upper landing. This entry is the only part of the interior that contributes to the significance of the building.

Due to all of these considerations, this building is recommended as individually eligible for the National Register under Criterion C at the local level of significance. It is not a pioneering example by any means, as the design and surface treatment were widely used throughout the United States in the 1980s. Therefore, its significance does not rise to that required for eligibility at the national level.

*Criterion D*

Research potential regarding architecture in Mercury is likely to be confined to developments in architectural adaptations to the requirements of nuclear testing. Such innovations are likely to be found in relation to laboratory or other directly mission-related buildings rather than support structures such as this one. The mechanical devices in this building are not innovative for the time. It is recommended not eligible to the National Register under this criterion.

In summary it is recommended that the initial evaluation of this building as contributing to the Mercury Historic District under Criteria A and C at the local level of significance be enhanced to also regard it as individually eligible to the National Register at the local level of significance under Criterion C.

## 7. Narrative Architectural Description

The exterior description is unchanged except that the colored bands are made of glazed 8 inch concrete block rather than tile veneer over concrete block as originally thought. See Dormitory 23-535 (Resource B15266) for a more detailed description of this group of identical dormitories.

NEVADA STATE HISTORIC PRESERVATION OFFICE

# Architectural Resource Assessment (ARA) Form

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 19, 2017 | Recorded By | Reno, Menocal, Shimer | Agency Report # | DOE/NV/0003590-09 |

## 1. Property Type

| | | | |
|---|---|---|---|
| Building ☒ | Structure ☐ | Object ☐ | Landscape (non-archaeological site) ☐ |

## 2. Property Overview and Location

| | | | | | |
|---|---|---|---|---|---|
| Street Address | NNSS Area 23, Block 17, Trinity – Buster | | | | |
| City, Zip | Mercury, 89023 | | | | |
| County | Nye | | | | |
| Assessor's Parcel # | N/A | | Subdivision Name | N/A | |
| UTM Location (NAD 83, UTM Zone 11 North) | Easting: 589751 | | Northing: 4057549 | | |
| USGS Info | Township: 15S | Range: 53E | Section: 11 | USGS 7.5' Quad & Date: Mercury, Nev. 1983 | |
| Ownership | Private ☐ | Public-Local ☐ | Public-State ☐ | Restricted-Federal ☒ | Multiple ☐ |
| Should the property's location be kept confidential? | Yes ☐ | | No ☒ | | |

## 3. Architectural Information

*(Insert primary photograph below.)*

| | | |
|---|---|---|
| Construction Date | 1986 | |
| Architectural Style | Late Modern | |
| Architectural Type | Splitface Masonry | |
| Roof Form | Flat | |
| Roof Materials | Built-up | |
| Exterior Wall Materials | Split-face Masonry | |
| Foundation Materials | Concrete | |
| Window Materials | Aluminum | |
| Window Type | 1x1 Sliding | |
| Accessory Resources? | Yes ☐ | No ☒ |
| | Number?: | |

| | | |
|---|---|---|
| Condition of Resource(s)? | | |
| Good ☒ | Fair ☐ | Poor ☐ |
| Explanation: Exterior is in good condition. Building is temporarily vacant while extensive interior repairs are underway. | | |

Building 23-532, view north (2017).

## 4. Existing Listing & Potential District

| | | | | |
|---|---|---|---|---|
| Is the property listed in the National Register? | Yes ☐ | No ☒ | If yes, provide: | Date Listed:<br>NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| Contributing to a listed historic district? | Yes ☐ | No ☒ | If yes, provide: | Name:<br>Date listed: | NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| If no, is there a potential district? | Yes ☒ | No ☐ | If so, is this resource contributing? | Yes ☒ | No ☐ |
| District Name: Mercury Historic District | | | | SHPO #: D230 | |

### 6. NRHP Evaluation

*If not already listed, complete the information below:*

| | | | | |
|---|---|---|---|---|
| Eligible Under: | Criterion A ☒ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
| | Not Eligible ☐ | Unevaluated ☐ | | |
| Area(s) of Significance | Nuclear Testing, Townsite Development | | | |
| Period of Significance | 1986-1992 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Integrity – Does the resource possess integrity in all or some of the 7 aspects? | | | | | | |
| Location ☒ | Design ☒ | Materials ☒ | Workmanship ☒ | Setting ☒ | Feeling ☒ | Association ☒ |

| | | | | |
|---|---|---|---|---|
| General Integrity: | Intact ☒ | Altered ☐ | Moved ☐ | Date(s): |

| | |
|---|---|
| Threats to Resource: | Redevelopment |
| Historic Name | Type A Dormitory (1980s) |
| Current/Common Name | Guido Hall |
| Historic/Original Owner | U.S. Atomic Energy Commission |
| Current Owner | U.S. Department of Energy Nevada National Security Administration Nevada Field Office |
| Current Owner Address | Nevada National Security Site |
| Historic Building Use | Dormitory |
| Current Building Use | Dormitory |
| Architect/Engineer/Designer | Holmes & Narver, Inc. |
| Builder/Contractor | Unknown |

---

### 7. Narrative Eligibility Justification

*Provide a detailed explanation of the resource's eligibility for the National Register, including supporting historic information, methods for evaluation under the four criteria, discussion of the seven aspects of integrity, and conclusions about eligibility.*

For purposes of the present survey, the resources in Mercury were evaluated only as they relate to the Historic District as a contributing versus non-contributing element. It is the nature of most of the individual elements of the district that they would not be individually eligible, but rather that, in the aggregate, they combine to create the unique significance of the district as a whole, which is presently recommended eligible to the National Register under Criteria A and C and unevaluated under Criteria B and D as detailed in the District form.

Due to the extensive resource-level of research beyond the capabilities of the present survey, including recording and evaluations of building interiors, required to make justifiable recommendations regarding eligibility related to association with significant persons under Criterion B or potential research potential under Criterion D, this resource remains unevaluated under these criteria at this time. It is anticipated that such enhanced recording and evaluation will occur in the future as redevelopment plans mature.

This building served as a support facility in Mercury for nuclear testing at the Nevada Test Site during the last decade of the Cold War. It represents a major improvement of the quality of housing for site workers associated with a specific laboratory. The building is a contributing element to the Mercury Historic District. It is an excellent example of Late Modern architecture in Mercury with abundant use of tinted splitface concrete masonry which typifies that style here. It is in excellent condition and retains fully all aspects of integrity. Integrity of setting is further enhanced by proximity to two other buildings (23-531 and 23-535) of nearly identical design on the same block at the corner of Sandstone Avenue and Buster Street.

## 8. Narrative Architectural Description

*Provide a detailed description of the resource, including all character defining features, potential construction methods, potential alterations (both historic and non-historic), and any accessory resources.*

This is a 14,272 square foot two-story, rectangular-plan building on a concrete foundation. It is on a large cut and fill terrace which is covered with gravel aside from asphalt-paved off-street parking and concrete walkways. It shares a mechanical plant in building 23-536 with the other two dorms. Similarly, all three dorms share a common landscape and pergola which for convenience is recorded with 23-535. These large buildings are oriented on contour unlike the surrounding grid-oriented buildings. Walls are three bands of gray splitface concrete masonry separated by bands clad with faux pale grayish blue sandstone tiles.

The main (southeast) façade exhibits a complex array of protruding masses, cantilevers, and voids in the best of the Brutalist tradition. There is a pair of centered flush steel doors with one light each at the main entrance. An aluminum sliding window or possibly a door opens onto the second floor balcony. The entrance and balcony are protected by protruding ribs. The lowest band of splitface continues leftward from the end of the rib to form a planter box. Shade for the band of eight aluminum sliding lobby windows is provided by a cantilevered extension of the middle splitface band from the rib to a matching extension of the end wall which also serves as one end of the planter. The two lower splitface bands are deleted to the right of the door, leaving a large sandstone panel. Here also the end wall is extended to match the other ribs, in this case anchoring the end of a large cantilever splitface panel which echoes the top splitface band. A metal light box with a stained glass “GUIDO HALL” sign is mounted over the planter.

1x1 sliding aluminum-framed windows are evenly spaced along the sandstone bands on both sides of the building. Downspouts are regularly placed along the walls between sets of four windows. The left corner of the right (northeast) wall has a stainless steel entry hatch and flush steel door with louver vent labeled “Riser Room” in place of the first window in the left corner of the façade. There are sweeps and an electrical panel adjacent to the door.

The rear of the building has central flush metal doors at each floor. External stairways have concrete masonry parapets clad with faux sandstone and pipe railings.

The building has a flat roof entirely hidden by a splitface parapet which is pierced for downspouts on both sides. An array of solar panels has been installed on the roof.

There are no Accessory Resources.

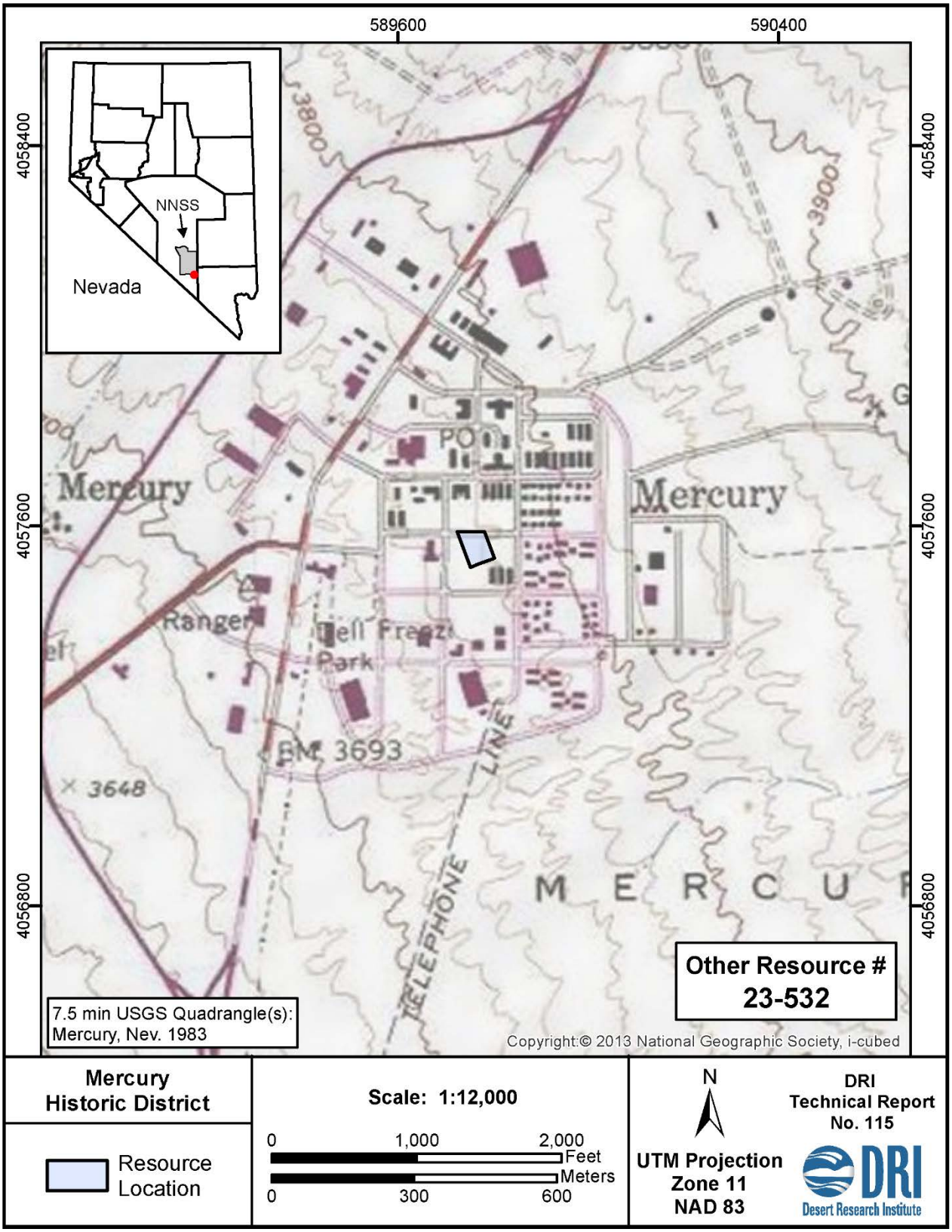
## 9. References

*List references used to research and evaluate the individual property.*

NNSS GIS Integrated Planning Database

**10. Area Location Map**

*Use a USGS quadrangle map at large extent to show general area of resource.*



**11. Site Plan Map**

*Use aerial imagery, drafting software, or a hand-drawn sketch (to scale) showing, at minimum, building/structure footprints and relationship to associated features. Attach extra maps if needed.*

Principal Resource
Resource Boundary

**Other Resource # 23-532**

**Scale 1:700** **NAD 83 UTM Z11**

0 40 80 Feet
0 10 20 Meters

**DRI Technical Report TR 115**

N

DRI Desert Research Institute

**12. Photographs**

*Include as many photographs as needed to accurately depict the resource.*

The northwest corner of Guido Hall (Building 23-532).
Elevation: N/A Direction facing: Southeast Photographer: Menocal Date: 06/17/2017

The front of Guido Hall (Building 23-352).
Elevation: East Direction facing: West Photographer: Menocal Date: 06/19/2017

NEVADA STATE HISTORIC PRESERVATION OFFICE

**Architectural Resource Assessment (ARA) Form**

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 21, 2017; **July 10, 2018** | Recorded By | Reno, Menocal, Shimer; **Reno, King** | Agency Report # | DOE/NV/0003590-21; **SR071018-1** |

This resource was revisited by Ron Reno, DRI on July 10, 2018 for interior recording. The building appears to be unchanged from the time of initial recording in June 2017.

Steve Carragher, Mission Support and Test Services, LLC, conducted high-resolution digital photography of both the exterior and interior on July 11-12, 2018. He was assisted in the photography by Maureen King and James "JT" Treppicione.

This update documents this initial work and amends several details in the original form as revealed by supplementary documentary research conducted as part of the current phase of the Mercury Redevelopment Project. It also completes the significance evaluation in relation to Criteria B and D and discusses the individual eligibility of the resource rather than only addressing it in the context of being a contributing element to the Mercury Historic District (D230).

The level of supplemental recording was aimed at providing sufficient information both to help evaluate and to mitigate adverse effects to this building resulting from an air-conditioning upgrade.

## 5. NRHP Evaluation

| Eligible Under: | Criterion A ☐ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
|---|---|---|---|---|
| | Not Eligible ☐ | Unevaluated ☐ | | |

Contributes to the district under Criteria A and C; individually eligible to the National Register at the local level under Criterion C.

## 6. Narrative Eligibility Justification

*Criterion A*

This resource has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. It, and the three related buildings (23-531, -532, -536), comprised a major improvement in Mercury in the 1980s as the base was dedicated to continuing nuclear testing and other projects. In this sense, it is best regarded as a contributing element to the Mercury Historic District rather than singling it out for individual eligibility to the National Register.

*Criterion B*

Most of the individuals important at the national level to the nation's nuclear programs or other programs that were tested or developed at what is now the NNSS had far more important ties elsewhere. Eligibility under this criterion normally requires that the resource be directly associated with an important aspect of the career that makes that person's achievements noteworthy. Since this is only a dormitory, there is no potential for significance under this criterion.

*Criterion C*

This building has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. Although it is not the work of a master, regarding its potential for individual significance as a type of construction, it appears to individually qualify for the National Register at the local level. The front façade of the building exhibits a striking interplay of intersecting masses, planes, and voids, strongly evoking both the cubist and brutalist aspects of modern design. The entire exterior exhibits a bold combination of alternating ribbons of fluted splitface concrete block bands and contrasting bands of colored glazed concrete block, which are penetrated by regularly-spaced and horizontally-oriented windows. These long unbroken ribbons, as viewed from both of the long sides of the building, give it much of its character in the International mode of Modernism, moderated by the rich use of surface textures and colors in the tradition of Sullivan and Wright. The architects have managed to create a striking building considering that

the basic plan is a typical two-story central hall dormitory. Its visual impact is heightened by the integrated design of this entire cluster of buildings. Building placement deviates from the north-south grid of Mercury's original layout to follow the contours of the land, which greatly reduced the amount of cutting and filling needed for construction and adds interest by their contrast with the orientations of nearby buildings.

The interior of the building does not rise to the uniformly high quality of the exterior design. Most of the interior is serviceable, and the rooms are comfortable, but with no architectural distinction. The open two-story main entry and staircase foyer is the exception to this. Here the designers have created a space that interplays with the dramatic front façade by means of large windows and the ability to interact with that space at all levels from ground floor to staircase to upper landing. This entry is the only part of the interior that contributes to the significance of the building.

Due to all of these considerations, this building is recommended as individually eligible for the National Register under Criterion C at the local level of significance. It is not a pioneering example by any means, as the design and surface treatment were widely used throughout the United States in the 1980s. Therefore, its significance does not rise to that required for eligibility at the national level.

*Criterion D*

Research potential regarding architecture in Mercury is likely to be confined to developments in architectural adaptations to the requirements of nuclear testing. Such innovations are likely to be found in relation to laboratory or other directly mission-related buildings rather than support structures such as this one. The mechanical devices in this building are not innovative for the time. It is recommended not eligible to the National Register under this criterion.

In summary it is recommended that the initial evaluation of this building as contributing to the Mercury Historic District under Criteria A and C at the local level of significance be enhanced to also regard it as individually eligible to the National Register at the local level of significance under Criterion C.

**7. Narrative Architectural Description**

The exterior description is unchanged except that the colored bands are made of glazed 8 inch concrete block rather than tile veneer over concrete block as originally thought. Also, the sixteen solar panels on the roof are part of the original design. Due to the parapet surrounding the roof deck, these panels are barely visible from most vantages. The roof deck itself is made of precast hollow concrete. It has a concrete foundation and separate concrete floor slab.

The interior is based on a simple central hall plan, which extends the entire length of the building. At the front is the entry lobby complex with a small weather vestibule opening onto an entry lobby consisting of a short portion of the central hall, which is completely open to the stairway. Instead of a small confined stairwell, this area is wide and kept open all the way to the ceiling where the upper hallway extends into it as a balcony. At ground level, a continuous band of windows opens onto an integral planter box inset into the front façade.

On the other side of the central hall from this lobby complex is a laundry room open to guests, a linen room with a dumbwaiter, and a custodial room.

Upon entering the main hallway with its seemingly infinite vista of repetitious doorways and lights, the communal break or recreation room is immediately to the left. This commodious room is equipped with a small kitchen and restroom and has two windows. As can be seen from the plan, this room occupies the full width of the first of seven modules defined by concrete block cross-walls

Immediately opposite from this room is a niche in the hallway for an ice machine and refrigerator. The remainder of the first module is occupied by an electrical room, a mechanical room (with its own outside door), and one bedroom with an enlarged restroom for guests with disabilities. All of the other modules consist of two identical bedrooms on each side of the hallway. Each private bedroom has a window and a private restroom with shower. Supplementary dividing walls are drywall, which also covers most of the interior faces of the concrete block walls.

A doorway without a vestibule is at the extreme end of the central hallway.

The second floor repeats this plan except there is no laundry room and the first module is occupied by the usual set of four bedrooms. The rear hallway door is accessed via a rear staircase whose support structure and parapets are entirely glazed concrete block matching the decorative bands around the building.

The following sections are descriptions of individual rooms. Plans and visual inspection showed that all of the bedrooms are essentially the same, with the exception of the single disability-friendly room on the first floor with its larger restroom. Both varieties are depicted in the attached plan sheet. Room 220 with its associated restroom, 220A, are described here as representative of all of the bedrooms. The only room or room type not described is the ground floor Equipment Room 127, which has its own entrance from outside the building.

| BLDG #: 23-535 | ROOM #: 126 | LEVEL: 1 | 401 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Break or Recreation Room | | | | |
| PHOTO(S): Photos #7-8. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Textured light olive green drywall. | | | |
| N. Wall | - | | | |
| S. Wall | - | | | |
| E. Wall | Two windows | | | |
| W. Wall | Cooking alcove with typical entry door. Tan Formica counter, stainless steel sink, brown Formica cabinet. Restroom inside south entrance (see 126A). | | | |
| Ceiling | Sprayed-on acoustic in main area. Both entries have drop ceiling with inset lights above the doorways. | | | |
| Floor | Blue/purple carpet with 4” vinyl base. | | | |
| Doors | Flush light tan steel with pale olive green steel surrounds (typical throughout building). | | | |
| Windows | 1x1 aluminum sliders with oak sills and narrow surrounds. | | | |
| Lighting | Surface mounted square florescent with diffusers in main room. | | | |
| Built-ins | See W. wall. | | | |

| BLDG #: 23-535 | ROOM #: 126A | LEVEL: 1 | 34 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Break Room Restroom | | | | |
| PHOTO(S): None. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Textured white drywall. | | | |
| N. Wall | White melamine wainscot for toilet and sink. Dispensers and mirror above wainscot. | | | |
| S. Wall | Doorway. | | | |
| E. Wall | - | | | |
| W. Wall | - | | | |
| Ceiling | Textured white drywall. | | | |
| Floor | Random gray to tan small tesserae-pattern linoleum (typical throughout building). | | | |
| Doors | Typical. | | | |
| Windows | None. | | | |
| Lighting | Inset florescent with diffusers. | | | |

| BLDG #: 23-535 | ROOM #: 128 | LEVEL: 1 | 75 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Electrical | | | | |
| PHOTO(S): None. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Smooth white drywall. | | | |
| N. Wall | Concrete block with three electrical boxes. | | | |
| S. Wall | Plywood facing on drywall for communications wiring. | | | |
| E. Wall | Drywall. | | | |
| W. Wall | Drywall with plywood facing on south end for communications equipment and electrical box. | | | |
| Ceiling | Drywall. | | | |
| Floor | Unpainted concrete with many electrical sweeps. | | | |
| Doors | Typical. | | | |
| Windows | None. | | | |
| Lighting | 2-tube florescent. | | | |
| Built-ins | Electrical box, 480 v transformer. | | | |

| BLDG #: 23-535 | ROOM #: 129 | LEVEL: 1 | 87 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Laundry | | | | |
| PHOTO(S): None. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Textured off-white drywall. | | | |
| N. Wall | Wall-mounted 1-tube florescent with diffuser and Formica shelf above two washers. Plumbing for washers inset in wall. | | | |
| S. Wall | Two dryers with wall-mounted exhaust vents. T-tube florescent with diffusers above dryers. | | | |
| E. Wall | Door. | | | |
| W. Wall | Custodian and Linen Closets. | | | |
| Ceiling | Drop 2x4 ft acoustic panel with vents but no lights. | | | |
| Floor | Typical linoleum. | | | |
| Doors | Typical with louver vent. | | | |
| Windows | None. | | | |
| Lighting | See above. | | | |
| Built-ins | See above. | | | |

| BLDG #: 23-535 | ROOM #: 129A | LEVEL: 1 | 36 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Custodian | | | | |
| PHOTO(S): None (see Photo #1 for similar room). | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Textured white drywall. | | | |
| N. Wall | Half-height flush gray plastic wainscot; faucet. | | | |
| S. Wall | Door. | | | |
| E. Wall | - | | | |
| W. Wall | Half-height flush gray plastic wainscot | | | |
| Ceiling | Drywall with attached pipes. | | | |
| Floor | Unpainted concrete with 4” dark gray vinyl base. | | | |
| Doors | Typical. | | | |
| Windows | - | | | |
| Lighting | 1-tube without diffuser. | | | |
| Built-ins | Floor-height sink in NW corner. | | | |

| BLDG #: 23-535 | ROOM #: 129B | LEVEL: 1 | 83 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Linen | | | | |
| PHOTO(S): None. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | White. | | | |
| N. Wall | Drywall. | | | |
| S. Wall | Concrete block. | | | |
| E. Wall | Drywall, doorway. | | | |
| W. Wall | Drywall (as with most interiors, the concrete block here is hidden behind drywall facing). | | | |
| Ceiling | Drywall. | | | |
| Floor | Typical linoleum, gray 4” base. | | | |
| Doors | Typical. | | | |
| Windows | None. | | | |
| Lighting | Suspended florescent with diffuser. | | | |
| Built-ins | Stainless-steel dumbwaiter in north wall (ground floor access to linen dumbwaiter from outside of building). | | | |

| BLDG #: 23-535 | ROOM #: 130; 231 | LEVELS: 1 and 2 | 753 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Central Hallways | | | | |
| PHOTO(S): Upstairs hallway Room 231 – Photo #3. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Off-white drywall. | | | |
| N. Wall | Main entrance from entry foyer. | | | |
| S. Wall | Rear entrance directly from outside stair landing. | | | |
| E. Wall | Row of room doors. | | | |
| W. Wall | Row of room doors. | | | |
| Ceiling | White blown-in acoustic with some water damage. | | | |
| Floor | Tan carpet with 4” vinyl base. | | | |
| Doors | Typical. North door has narrow wire safety glass light. | | | |
| Windows | None. | | | |
| Lighting | Surface-mount square 3-tube florescent with diffusers. | | | |
| Built-ins | Recessed fire extinguisher boxes, electrical box. | | | |
| Other | Downstairs only: Ice and refrigerator in alcove near north end of west wall with typical linoleum. | | | |

| BLDG #: 23-535 | ROOM #: 130A/231B | LEVELS: 1 and 2 | 194 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Stairway Lobby | | | | |
| PHOTO(S): Photos #9-11. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Textured off-white drywall except as noted. | | | |
| N. Wall | 2nd floor blank. Full width ribbon of four aluminum sliders above alcove with full-length integral concrete bench. | | | |
| S. Wall | Supports stairway and railing. | | | |
| E. Wall | Lights. | | | |
| W. Wall | Narrow continuation of outside wall plane into this room made of green-glazed CMU matching outside walls. Most of wall is open to the entry vestibule. | | | |
| Ceiling | Open to 2nd floor ceiling, which is sprayed-on acoustic material with vents. | | | |
| Floor | Tan carpet with 4” vinyl base. | | | |
| Doors | None. | | | |
| Windows | See above. Windows open to planter box now filled with red scoria only. | | | |
| Lighting | Original surface-mounted light fixture removed with visible repairs. Presently two 1-tube florescent lights with diffusers mounted horizontally mid-height on east wall. Surface electrical conduit to these lights. | | | |
| Built-ins | Stair is metal with cast-aluminum treads with non-skid diamond pattern. Pipe railings. | | | |

| BLDG #: 23-535 | ROOM #: 130B | LEVEL: 1 | 107 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Circulation: Entrance Lobby | | | | |
| PHOTO(S): Visible through stairs in background of Photo #10. | | | | |

| **ELEMENT** | **DESCRIPTION** |
|---|---|
| All Walls | Textured off-white drywall. |
| N. Wall | Double door. |
| S. Wall | Door to main hallway and laundry supply dispenser. |
| E. Wall | None – open to stairway lobby. |
| W. Wall | Door to laundry and recessed alarm control boxes. |
| Ceiling | Drop panel. |
| Floor | Tan carpet with 4” vinyl base – merges with hallway and stair lobby floors without a break. |
| Doors | Typical but double with large lights. |
| Windows | None |
| Lighting | Recessed florescent light with diffuser. |
| Built-ins | See above. |

| BLDG #: 23-535 | ROOM #: 130C | LEVEL: 1 | 24 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Circulation: Entrance Vestibule | | | | |
| PHOTO(S): None. | | | | |

| **ELEMENT** | **DESCRIPTION** |
|---|---|
| All Walls | Off-white textured drywall. |
| N. Wall | Doors to outside. |
| S. Wall | Doors to entry lobby. |
| E. Wall | - |
| W. Wall | - |
| Ceiling | Off-white textured drywall. |
| Floor | Tan vinyl tiles. |
| Doors | Typical but double with large lights. |
| Windows | None. |
| Lighting | Surface-mounted square florescent with diffuser. |
| Built-ins | None. |
| Other | Room number assigned by field crew and added to photo plan. |

| BLDG #: 23-535 | ROOM #: 220 | LEVEL: 2 | 184 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Typical Sleeping Room | | | | |
| PHOTO(S): Photo #5. | | | | |

| **ELEMENT** | **DESCRIPTION** |
|---|---|
| All Walls | Off-white textured drywall. |
| N. Wall | - |
| S. Wall | - |
| E. Wall | Window. |
| W. Wall | Doorway and restroom. |
| Ceiling | Sprayed on acoustic in main area. Drop with ceiling air vent over entry vestibule. |
| Floor | Tan carpet with 4” vinyl base. Carpet colors in other rooms vary due to replacement. |
| Doors | Typical. |
| Windows | Aluminum sliders without surrounds. |
| Lighting | Small bulb and globe on wall in vestibule. |
| Built-ins | Shelf and clothes hanger mounted on south wall. |
| Other | Several other rooms were inspected to confirm that they are all similar to this one. |

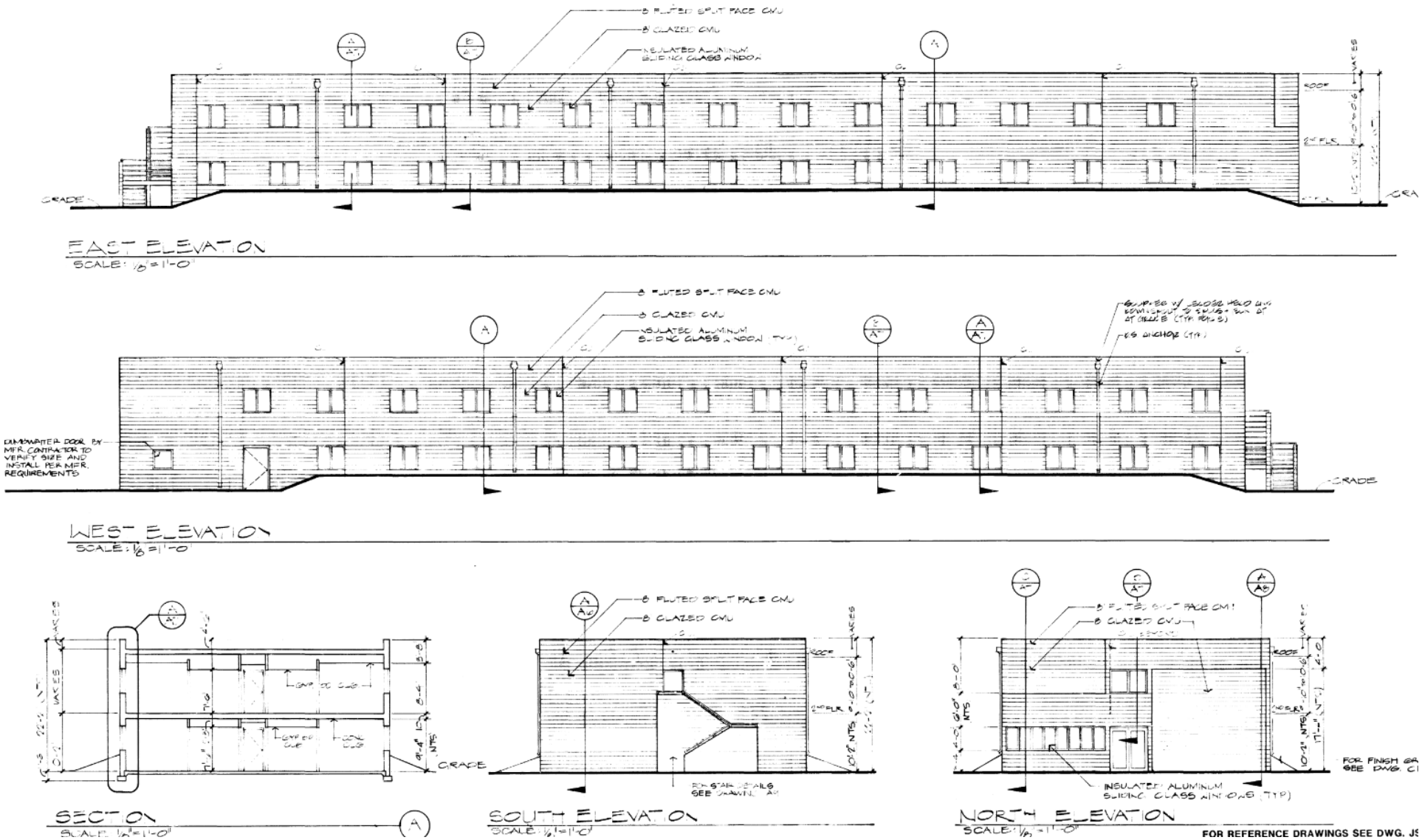
| BLDG #: 23-535 | ROOM #: 220A | LEVEL: 2 | 36 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Private Restroom | | | | |
| PHOTO(S): Photo #6. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Off-white textured drywall. | | | |
| N. Wall | White melamine smooth panel wainscot. | | | |
| S. Wall | Door, shower. | | | |
| E. Wall | Gray Formica counter with sink; mirror over. Also recessed medicine with mirror and stainless steel hoop towel rack. | | | |
| W. Wall | Shower, toilet. | | | |
| Ceiling | Textured drywall. | | | |
| Floor | Typical linoleum with 4” gray vinyl base. | | | |
| Doors | Sliding steel pocket, typical colors. | | | |
| Windows | None. | | | |
| Lighting | Recessed 1-tube florescent with diffuser. | | | |
| Built-ins | White plastic shower enclosure with a full-height drywall partition. | | | |

| BLDG #: 23-535 | ROOM #: 229 | LEVEL: 2 | 161 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Linen | | | | |
| PHOTO(S): Photo #2. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | White. | | | |
| N. Wall | Drywall with steel ladder to roof and shelving. | | | |
| S. Wall | CMU with shelving and two exposed dryer vent ducts from the ground floor dryers. | | | |
| E. Wall | Drywall, door, shelves. | | | |
| W. Wall | Drywall. | | | |
| Ceiling | Drop panel with attic access. Blown in acoustic in area of roof access hatch. | | | |
| Floor | Typical linoleum with light brown 4” vinyl base. | | | |
| Doors | Typical. | | | |
| Windows | None. | | | |
| Lighting | Surface-mounted 2-tube florescent without diffusers. | | | |
| Built-ins | See above. | | | |

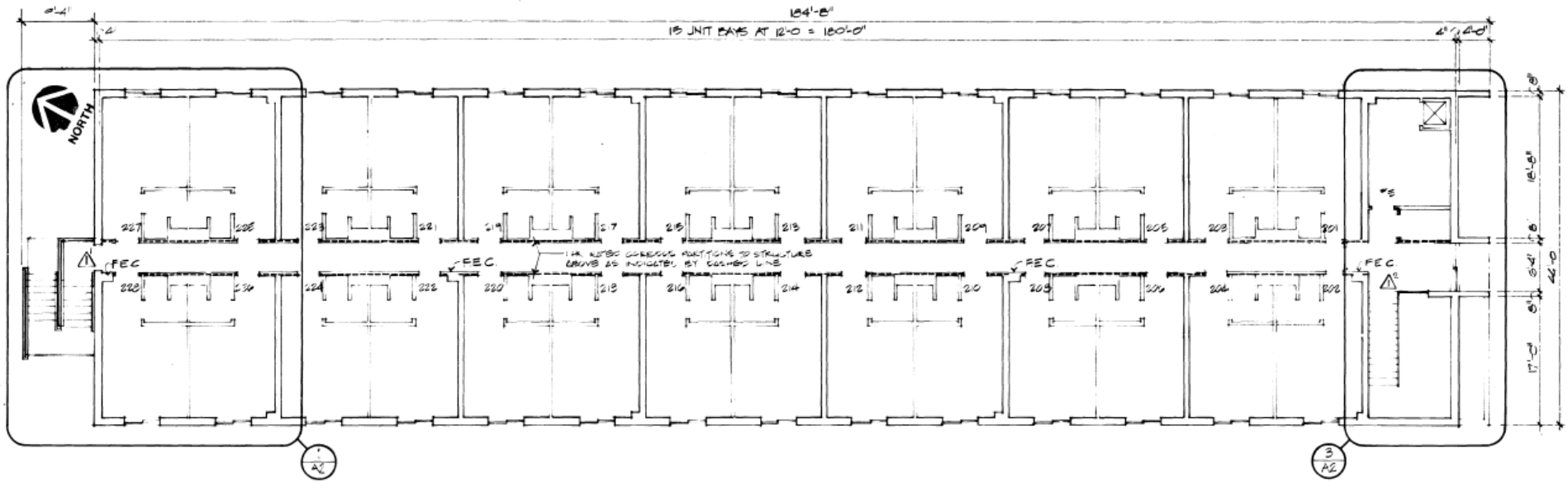
| BLDG #: 23-535 | ROOM #: 230 | LEVEL: 2 | 31 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Custodian | | | | |
| PHOTO(S): Photo #1. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| | Nearly the same as Room 129A except orientation – see plan. | | | |

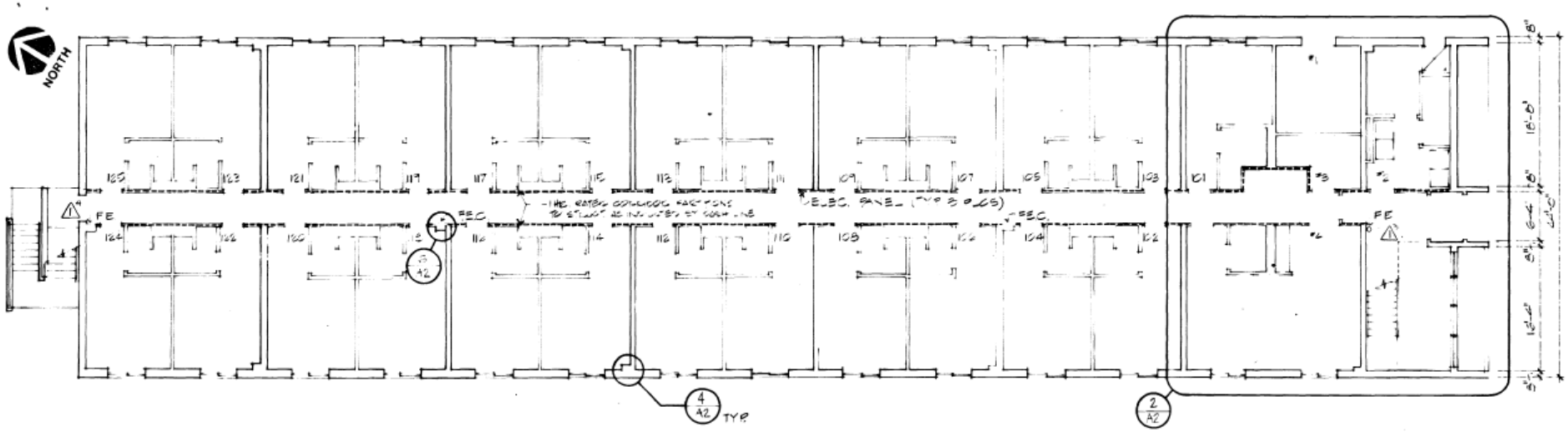
| BLDG #: 23-535 | ROOM #: 231A | LEVEL: 2 | 107 FT² | July 12, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Circulation | | | | |
| PHOTO(S): Photo #4. | | | | |

| **ELEMENT** | **DESCRIPTION** |
|---|---|
| All Walls | Off-white textured drywall which is slightly darker than the main hallway or stairwell. |
| N. Wall | Window. |
| S. Wall | Doorway to main hallway. |
| E. Wall | Open with pipe railings and top of stairs. |
| W. Wall | Doorway to linen and custodial rooms. |
| Ceiling | Blown-in acoustical with drop panel ceiling above window with air vent. |
| Floor | Same as central halls. |
| Doors | See central halls. |
| Windows | Aluminum slider opens to recess with typical glazed concrete block sides and concrete block shade structure (which is purely decorative since this façade receives almost no direct light). The floor of the recessed area outside the window has been waterproofed with extremely ugly white plastic with a drain. |
| Lighting | Same as central halls. |
| Built-ins | - |
| Other | Due to the open plan of the entry foyer area, the entry lobby, stairway lobby, and this landing all participate in the same complex space. |

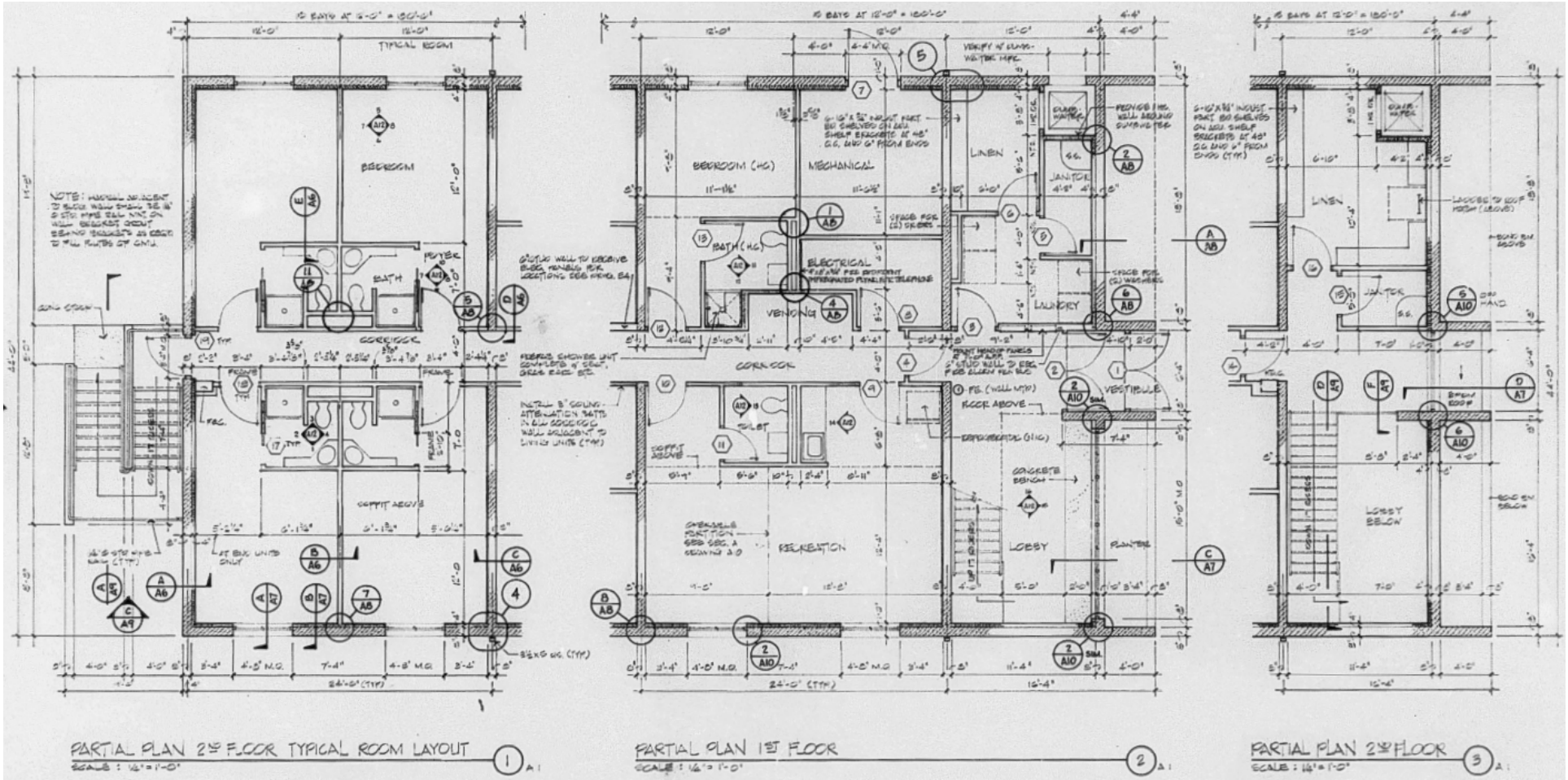



Exterior elevations and building sections (Holmes and Narver Drawing JS-023-535-A5.1, As-Built, 1986).




Overall floor plan for dormitories. Dorm 23-535 was built in the reverse direction (Holmes and Narver Drawing JS-023-531-A1.2, As-Built, 1986).




Dormitory Plans (Holmes and Narver Drawing JS-023-531-A2, 1985).

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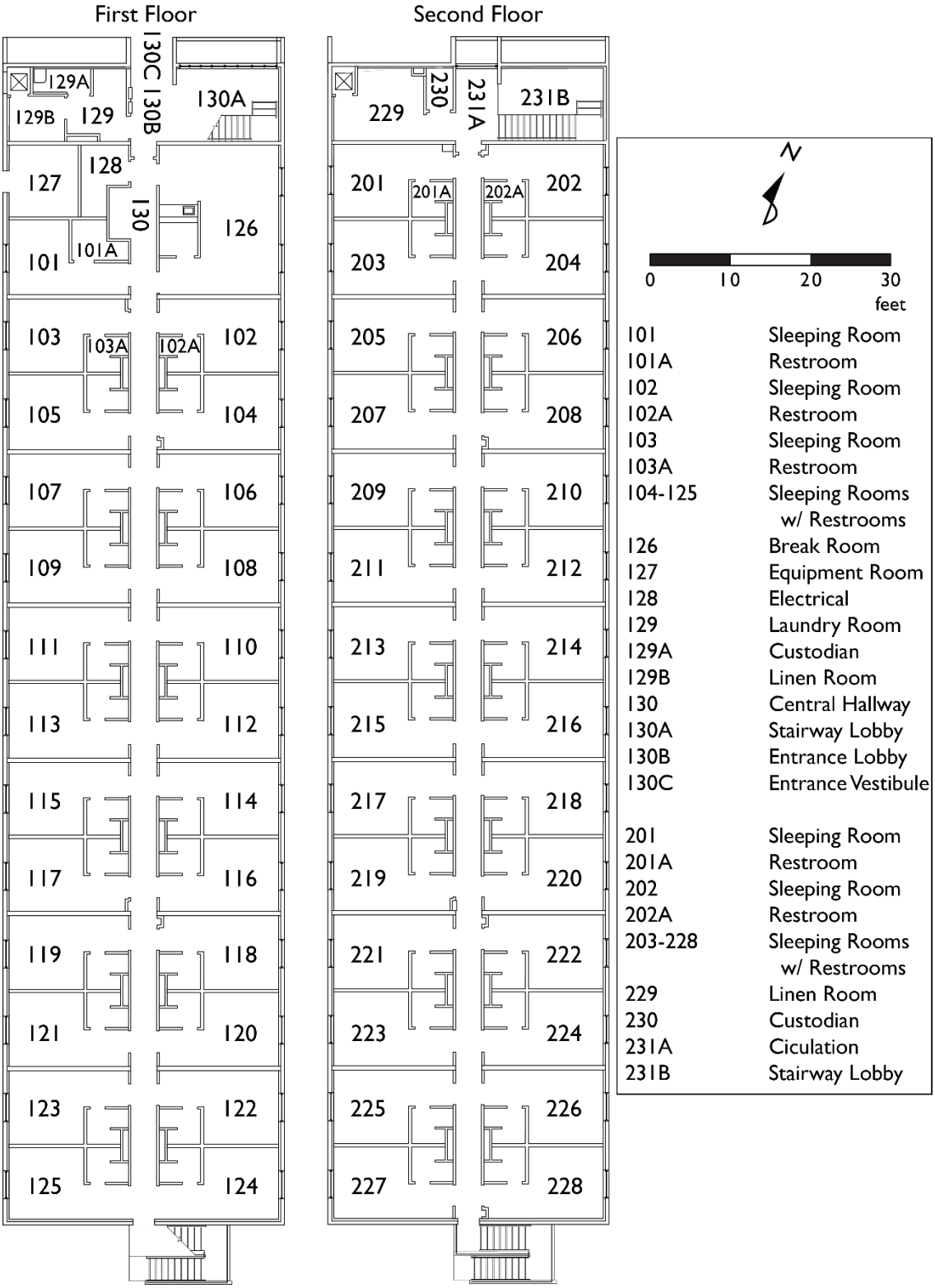



Sketch Map of Interior for 23-535 (Digital Reconstruction by JD Lancaster, DRI, 2018)

**ATTACHMENT A**

**INDEX TO PHOTOGRAPHS**

1986 DORMITORIES
Mercury Historic District
Mercury
Nye County
Nevada

Update to SHPO Resources
# B15264, # B15265, and # B15266

INDEX TO HIGH-QUALITY DIGITAL PHOTOGRAPHS

Steve Carragher (Mission Support and Test Services), Photographer, July 2018

1 VIEW OF ROOM 229A, SECOND FLOOR CUSTODIAN ROOM FACING THE NORTH

2 VIEW OF ROOM 229, SECOND FLOOR LINEN ROOM FACING THE WEST-NORTHWEST

3 VIEW OF THE SECOND FLOOR HALLWAY, 231, CIRCULATION FACING THE SOUTH

4 VIEW OF THE SECOND FLOOR FOYER, 231A, CIRCULATION FACING THE NORTH

5 VIEW OF ROOM 220, TYPICAL DORM ROOM, FACING THE WINDOW

6 VIEW OF TYPICAL BATHROOM, ROOM 220

7 OVERVIEW OF ROOM 126, A DORMITORY BREAK ROOM FACING THE SOUTHEAST

8 VIEW OF WINDOW ON EAST WALL, SOUTH END OF ROOM 126

9 VIEW OF ENTRANCE LOBBY FACING THE EAST

10 VIEW OF ENTRANCE LOBBY AND STAIRCASE FROM BOTTOM OF STAIRS

11 VIEW OF ENTRANCE LOBBY FROM SECOND FLOOR LANDING FACING THE NORTHEAST (PHOTOGRAPHER: DRI)

12 OVERVIEW OF DORMITORY COMPLEX FACING THE NORTH-NORTHEAST

13 GENERAL VIEW OF FRONT FAÇADE (NORTHWEST ELEVATION) FACING THE SOUTHEAST

14 PERSPECTIVE OF NORTHEAST AND NORTHWEST ELEVATIONS FACING THE SOUTHWEST

15 GENERAL VIEW OF THE NORTHEAST ELEVATION FACING THE SOUTHWEST

16 PERSPECTIVE OF SOUTHEAST AND NORTHEAST ELEVATIONS FACING THE NORTHWEST

17 GENERAL VIEW OF THE REAR FAÇADE (SOUTHEAST ELEVATION) FACING THE NORTHWEST

18 PERSPECTIVE OF SOUTHWEST AND SOUTHEAST ELEVATIONS FACING THE NORTHEAST

19 GENERAL VIEW OF THE SOUTHWEST ELEVATION FACING THE NORTHEAST

20 PERSPECTIVE OF NORTHWEST AND SOUTHWEST ELEVATIONS FACING THE SOUTHEAST

Photo Key for interior digital photographs of 23-535, representing all three dormitories in the complex.

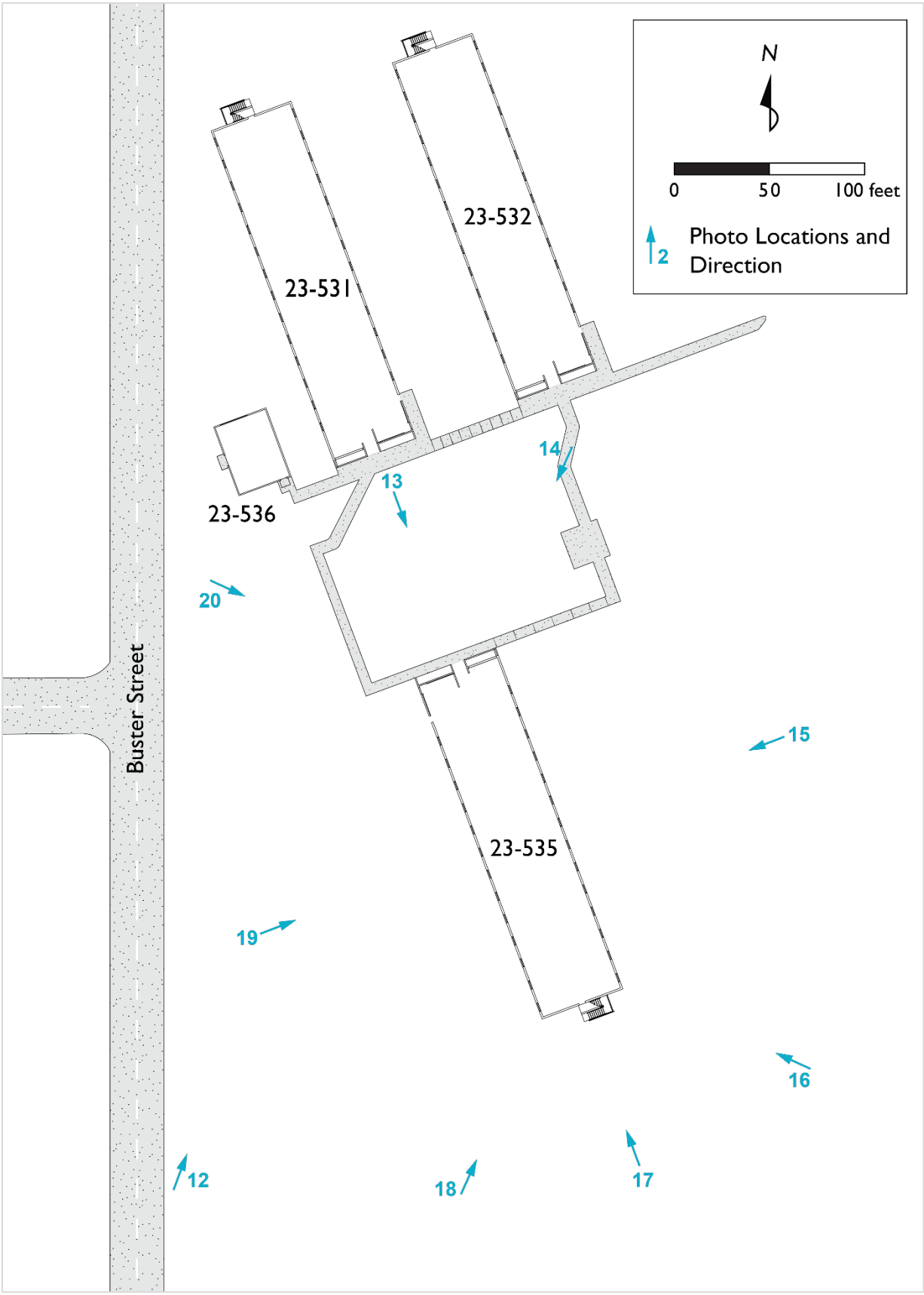



Photo Key for exterior digital photographs of 23-535.

PHOTO #1: VIEW OF ROOM 229A, SECOND FLOOR CUSTODIAN ROOM FACING THE NORTH.

PHOTO #2: VIEW OF ROOM 229, SECOND FLOOR LINEN ROOM FACING THE WEST-NORTHWEST.

PHOTO #3: VIEW OF THE SECOND FLOOR HALLWAY, 231, CIRCULATION FACING THE SOUTH.

PHOTO #4: VIEW OF THE SECOND FLOOR FOYER, 231A, CIRCULATION FACING THE NORTH.

PHOTO #5: VIEW OF ROOM 220, TYPICAL DORM ROOM, FACING THE WINDOW.

PHOTO #6: VIEW OF TYPICAL BATHROOM, ROOM 220.

PHOTO #7: OVERVIEW OF ROOM 126, A DORMITORY BREAK ROOM FACING THE SOUTHEAST.

PHOTO #8: VIEW OF WINDOW ON EAST WALL, SOUTH END OF ROOM 126.

PHOTO #9: VIEW OF ENTRANCE LOBBY FACING THE EAST.

PHOTO #10: VIEW OF ENTRANCE LOBBY AND STAIRCASE FROM BOTTOM OF STAIRS.

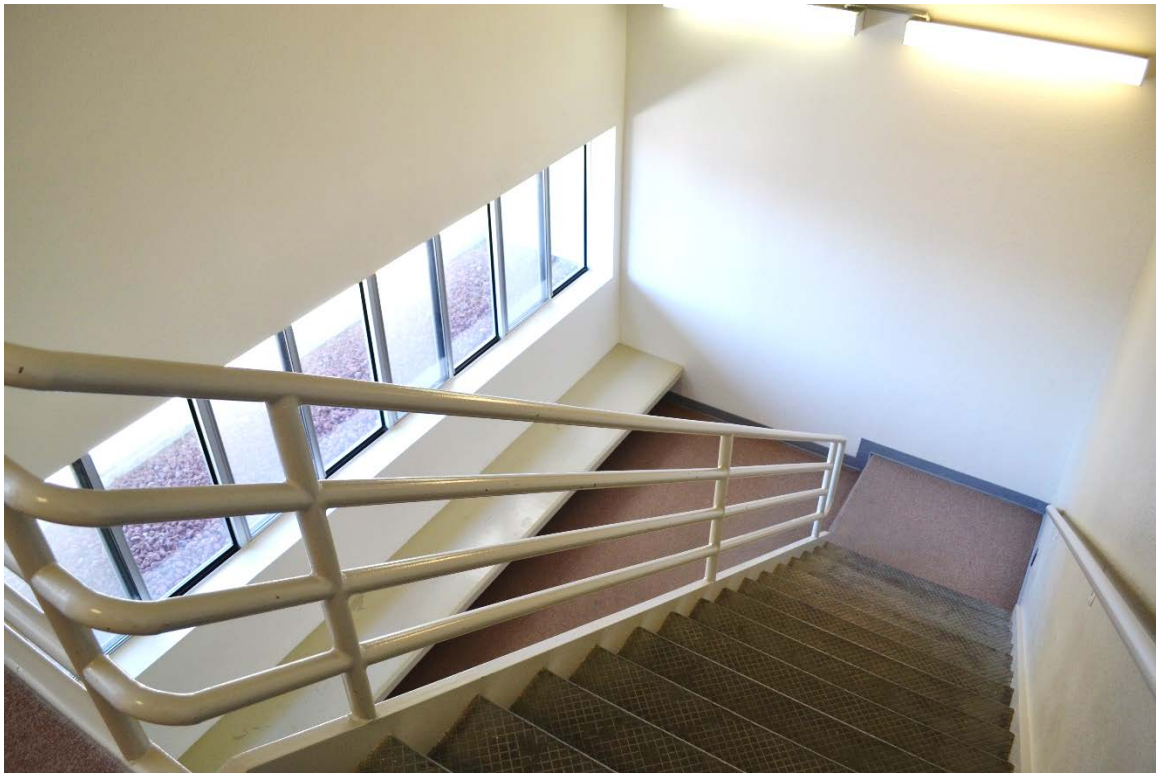


PHOTO #11: VIEW OF ENTRANCE LOBBY FROM SECOND FLOOR LANDING FACING THE NORTHEAST (PHOTOGRAPHER: DRI).

PHOTO #12: OVERVIEW OF DORMITORY COMPLEX FACING THE NORTH-NORTHEAST.

PHOTO #13: GENERAL VIEW OF FRONT FAÇADE (NORTHWEST ELEVATION) FACING THE SOUTHEAST.

PHOTO #14: PERSPECTIVE OF NORTHEAST AND NORTHWEST ELEVATIONS FACING THE SOUTHWEST.

PHOTO #15: GENERAL VIEW OF THE NORTHEAST ELEVATION FACING THE SOUTHWEST.

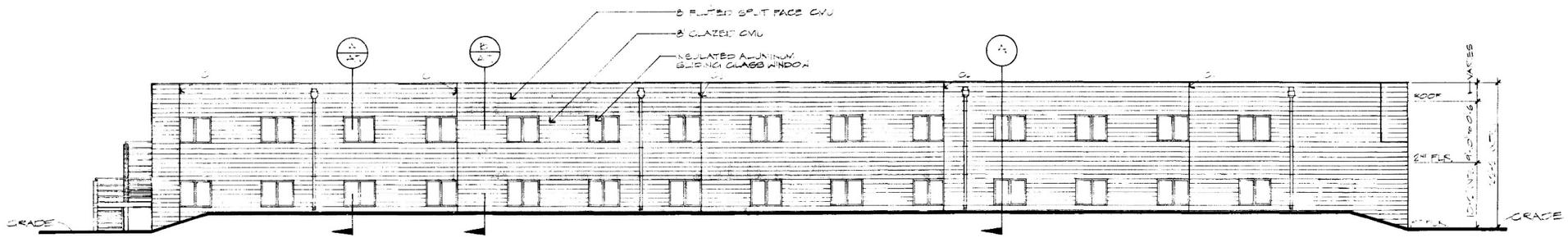
PHOTO #16: PERSPECTIVE OF SOUTHEAST AND NORTHEAST ELEVATIONS FACING THE NORTHWEST.

PHOTO #17: GENERAL VIEW OF THE REAR FAÇADE (SOUTHEAST ELEVATION) FACING THE NORTHWEST.

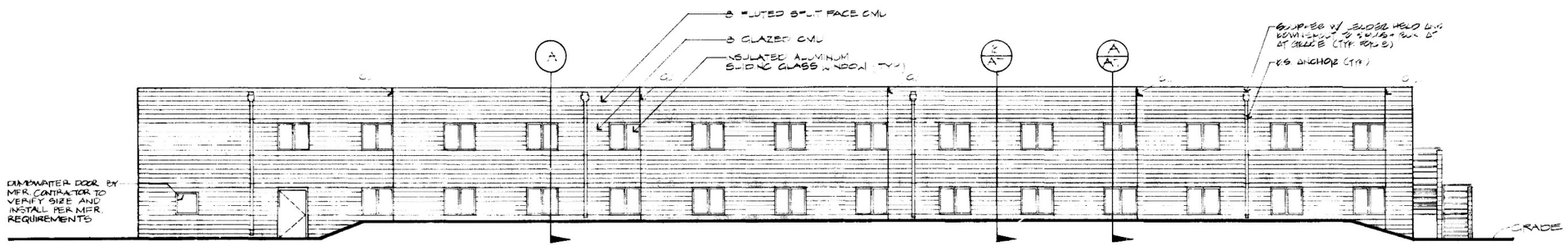
PHOTO #18: PERSPECTIVE OF SOUTHWEST AND SOUTHEAST ELEVATIONS FACING THE NORTHEAST.

PHOTO #19: GENERAL VIEW OF THE SOUTHWEST ELEVATION FACING THE NORTHEAST.

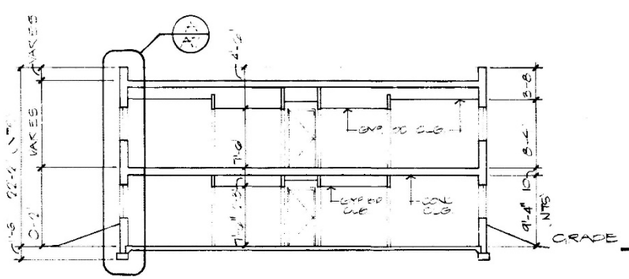
PHOTO #20: PERSPECTIVE OF NORTHWEST AND SOUTHWEST ELEVATIONS FACING THE SOUTHEAST.



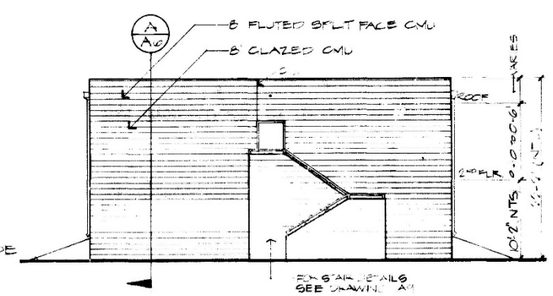

EAST ELEVATION
SCALE: 1/8"=1'-0"



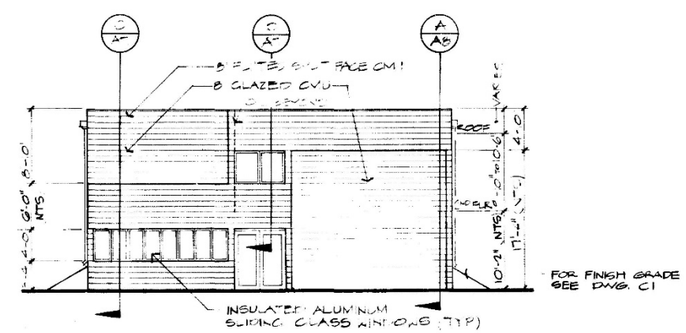

WEST ELEVATION
SCALE: 1/8"=1'-0"




SECTION
SCALE: 1/8"=1'-0"




SOUTH ELEVATION
SCALE: 1/8"=1'-0"




NORTH ELEVATION
SCALE: 1/8"=1'-0"

FOR REFERENCE DRAWINGS SEE DWG. JS-023-535-T1

| | | |
|---|---|---|
| 1 3/1/86 AS BUILT | | |
| U. S. DEPARTMENT OF ENERGY<br>NEVADA OPERATIONS OFFICE — LAS VEGAS, NEVADA | | |
| DESIGNED KLW<br>DRAWN BG<br>CHECKED 7 | NEVADA TEST SITE — AREA 23<br>535 TYPE A DORMITORY<br>**EXTERIOR ELEVATIONS & BLDG. SECTION** | |
| HOLMES & NARVER INC<br>ENGINEERS CONSTRUCTORS<br>LAS VEGAS, NEVADA | 70022B | JS-023-535-A5.1 |

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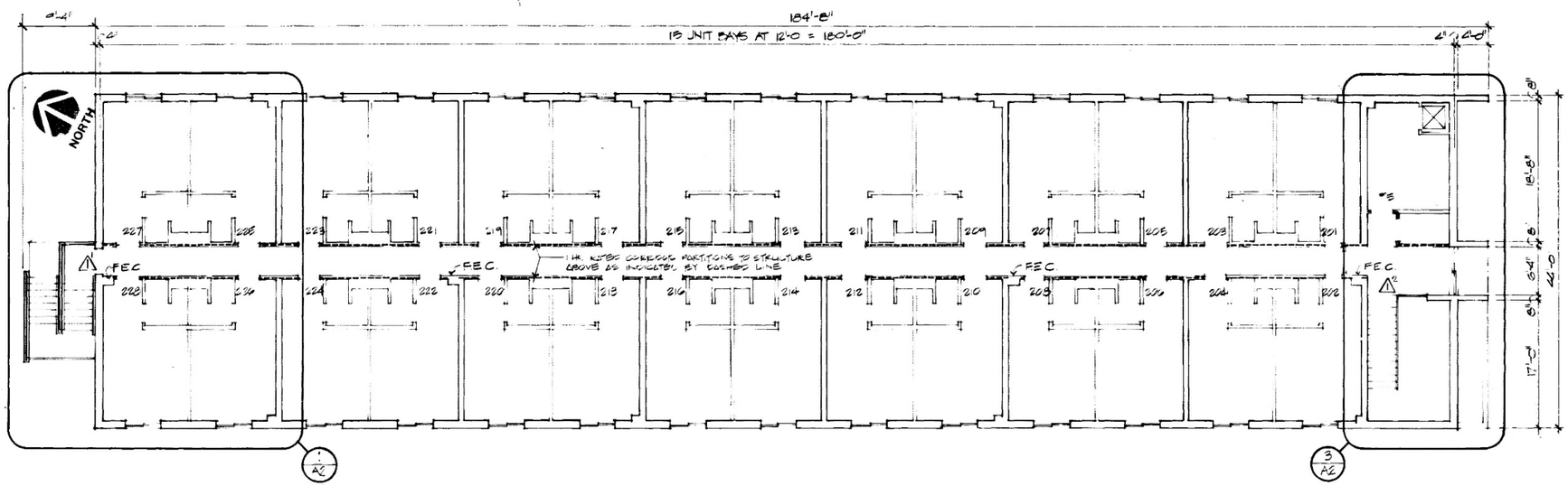
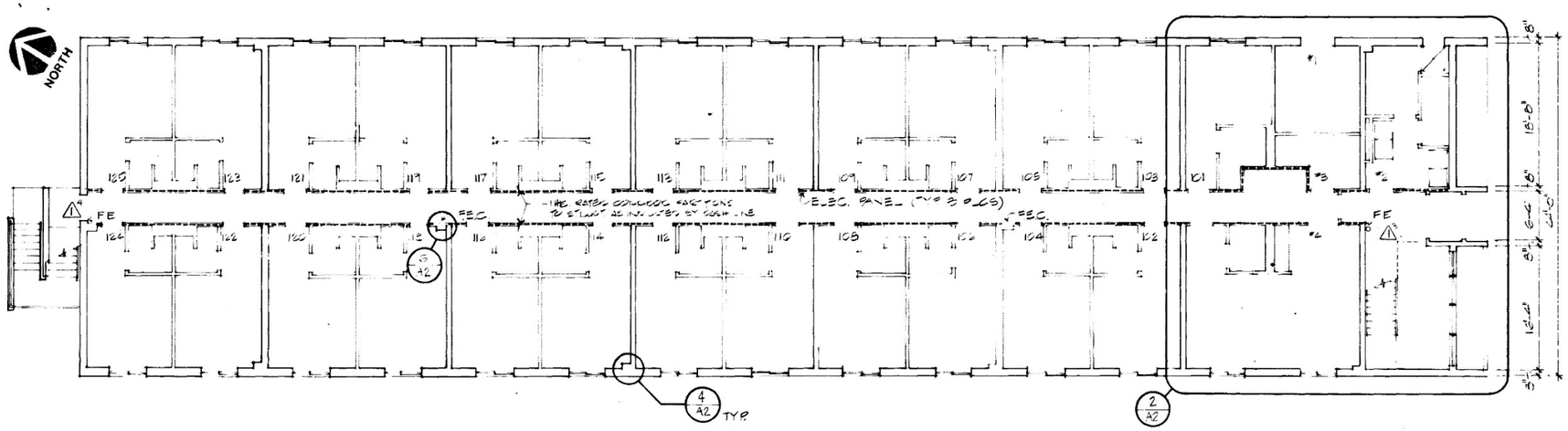



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0




FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

FOR REFERENCE DRAWINGS SEE DWG. JS-023-531-T1

| | | |
|---|---|---|
| 2 | | AS BUILT |
| 1 | 7/24/89 | F.E.C. & FIRE ALARM — 7-17-84 |

**U. S. DEPARTMENT OF ENERGY**
NEVADA OPERATIONS OFFICE — LAS VEGAS, NEVADA

DESIGNED: R.J.W.
DRAWN: EE/R.J.W.
DETAILED: R
REVIEWED: 3/20/84

**NEVADA TEST SITE — AREA 23**

**531 TYPE A DORMITORY**
**OVERALL FLOOR PLANS**

HOLMES & NARVER, INC.
ENGINEERS–CONSTRUCTORS
ENERGY SUPPORT DIVISION
2753 SOUTH HIGHLAND DRIVE — LAS VEGAS, NEVADA

JOB NO. 70022

DRAWING NUMBER: JS-023-531-A1.2

SHEET ___ OF ___

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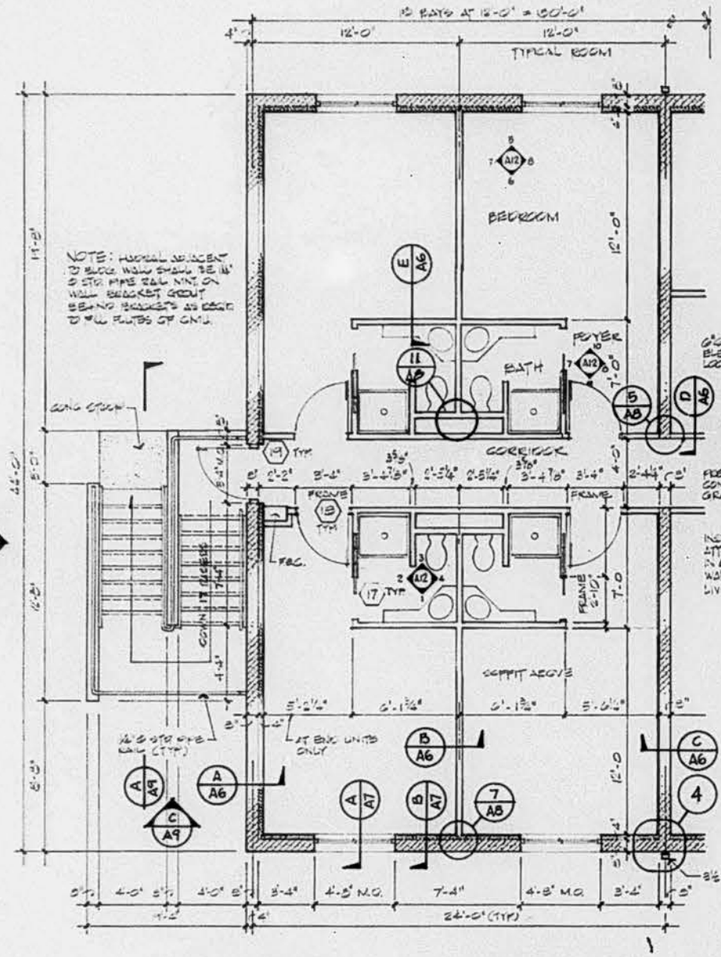
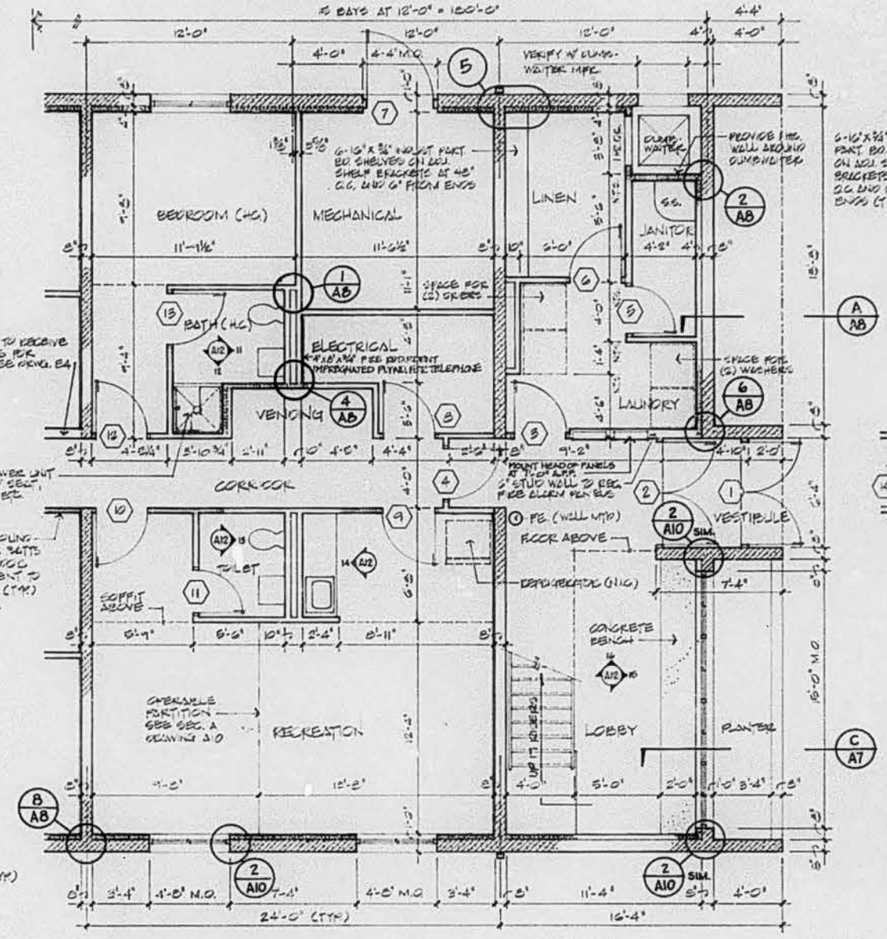
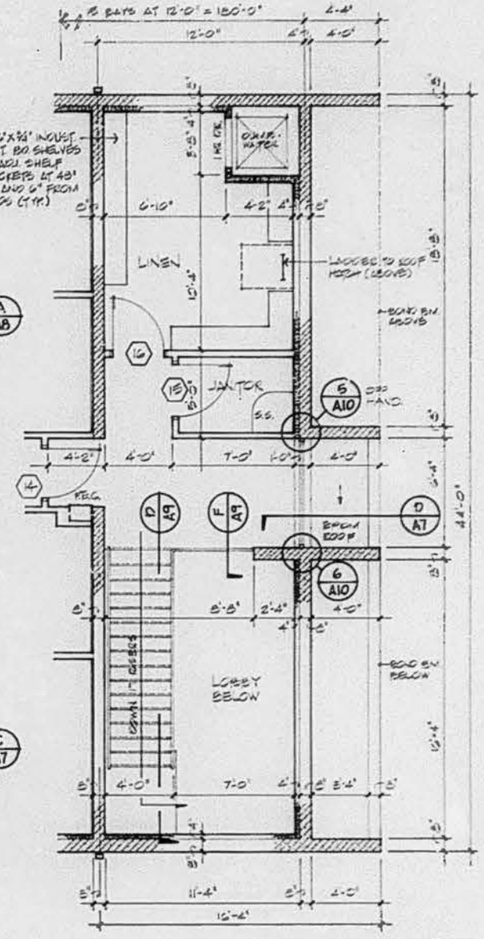


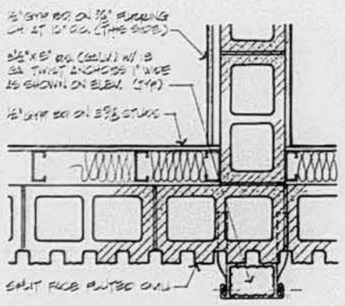

PARTIAL PLAN 2ND FLOOR TYPICAL ROOM LAYOUT (1) A1
SCALE : 1/4" = 1'-0"



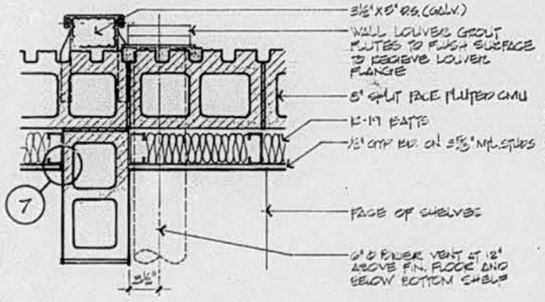

PARTIAL PLAN 1ST FLOOR (2) A1
SCALE : 1/4" = 1'-0"



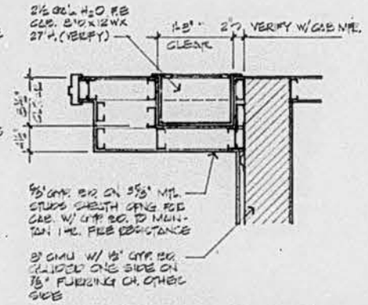

PARTIAL PLAN 2ND FLOOR (3) A1
SCALE : 1/4" = 1'-0"



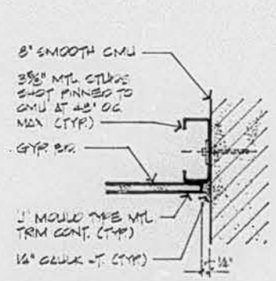
TYP. DOWNSPOUT DETAIL (4) A3
SCALE : 1 1/2" = 1'-0"




DOWNSPOUT / VENT DETAIL AT LINEN (5)
SCALE : 1 1/2" = 1'-0"




FIRE EXTINGUISHER CAB. DETAIL (6) A1
SCALE : 1" = 1'-0"




GYP. BD. AT CMU DETAIL (7)
SCALE : 3" = 1'-0"

FOR REFERENCE DRAWINGS SEE DWG. JS-023-531-T1

| NO. | DATE | REVISIONS | BY | CK | A.E. | S.M. |
|---|---|---|---|---|---|---|

U. S. DEPARTMENT OF ENERGY
NEVADA OPERATIONS OFFICE — LAS VEGAS, NEVADA

DESIGNED: ELW
DRAWN: ELW
CHECKED: E. / 8-31
PROJECT ENGINEER: 8-31-78
SUPERVISOR: HOLMES & NARVER

NEVADA TEST SITE — AREA 23

531 TYPE A DORMITORY

ENLARGED PLANS & DETAILS

AGENCY APPROVAL:
DOE APPROVAL: DATE:

HOLMES & NARVER, INC.
ENGINEERS–CONSTRUCTORS
ENERGY SUPPORT DIVISION
2753 SOUTH HIGHLAND DRIVE · LAS VEGAS, NEVADA

I.D. NO. 70022

DRAWING NUMBER: JS-023-531-A2
SHEET ___ OF ___

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NEVADA STATE HISTORIC PRESERVATION OFFICE

# Architectural Resource Assessment (ARA) Form

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 19, 2017 | Recorded By | Reno, Menocal, Shimer | Agency Report # | DOE/NV/0003590-09 |

## 1. Property Type

| | | | |
|---|---|---|---|
| Building ☒ | Structure ☐ | Object ☐ | Landscape (non-archaeological site) ☐ |

## 2. Property Overview and Location

| | | | | | |
|---|---|---|---|---|---|
| Street Address | NNSS Area 23, Block 17, Trinity – Buster | | | | |
| City, Zip | Mercury, 89023 | | | | |
| County | Nye | | | | |
| Assessor's Parcel # | N/A | | Subdivision Name | N/A | |
| UTM Location (NAD 83, UTM Zone 11 North) | Easting: 589756 | | | Northing: 4057447 | |
| USGS Info | Township: 15S | Range: 53E | Section: 11 | USGS 7.5' Quad & Date: Mercury, Nev. 1983 | |
| Ownership | Private ☐ | Public-Local ☐ | Public-State ☐ | Restricted-Federal ☒ | Multiple ☐ |
| Should the property's location be kept confidential? | | Yes ☐ | | No ☒ | |

## 3. Architectural Information

*(Insert primary photograph below.)*

| | | |
|---|---|---|
| Construction Date | 1986 | |
| Architectural Style | Late Modern | |
| Architectural Type | Splitface Masonry | |
| Roof Form | Flat | |
| Roof Materials | Built-up | |
| Exterior Wall Materials | Split-face Masonry | |
| Foundation Materials | Concrete | |
| Window Materials | Aluminum | |
| Window Type | 1x1 Sliding | |
| Accessory Resources? | Yes ☒ | No ☐ |
| | Number?: 1 | |

| | | |
|---|---|---|
| Condition of Resource(s)? | | |
| Good ☒ | Fair ☐ | Poor ☐ |
| Explanation: Building is maintained and in use. | | |

Building 23-535, view southwest (2017).

## 4. Existing Listing & Potential District

| | | | | |
|---|---|---|---|---|
| Is the property listed in the National Register? | Yes ☐ | No ☒ | If yes, provide: | Date Listed:<br>NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| Contributing to a listed historic district? | Yes ☐ | No ☒ | If yes, provide: | Name:<br>Date listed: | NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| If no, is there a potential district? | Yes ☒ | No ☐ | If so, is this resource contributing? | Yes ☒ | No ☐ |
| District Name: Mercury Historic District | | | | SHPO #: D230 | |

### 6. NRHP Evaluation

*If not already listed, complete the information below:*

| | | | | |
|---|---|---|---|---|
| Eligible Under: | Criterion A ☒ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
| | Not Eligible ☐ | Unevaluated ☐ | | |
| Area(s) of Significance | Nuclear Testing, Townsite Development | | | |
| Period of Significance | 1986-1992 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Integrity – Does the resource possess integrity in all or some of the 7 aspects? | | | | | | |
| Location ☒ | Design ☒ | Materials ☒ | Workmanship ☒ | Setting ☒ | Feeling ☒ | Association ☒ |

| | | | | |
|---|---|---|---|---|
| General Integrity: | Intact ☒ | Altered ☐ | Moved ☐ | Date(s): |

| | |
|---|---|
| Threats to Resource: | Redevelopment |
| Historic Name | Type A Dormitory (1980s) |
| Current/Common Name | Los Alamos Dormitory |
| Historic/Original Owner | U.S. Atomic Energy Commission |
| Current Owner | U.S. Department of Energy Nevada National Security Administration Nevada Field Office |
| Current Owner Address | Nevada National Security Site |
| Historic Building Use | Dormitory |
| Current Building Use | Dormitory |
| Architect/Engineer/Designer | Holmes & Narver, Inc. |
| Builder/Contractor | Unknown |

---

### 7. Narrative Eligibility Justification

*Provide a detailed explanation of the resource's eligibility for the National Register, including supporting historic information, methods for evaluation under the four criteria, discussion of the seven aspects of integrity, and conclusions about eligibility.*

For purposes of the present survey, the resources in Mercury were evaluated only as they relate to the Historic District as a contributing versus non-contributing element. It is the nature of most of the individual elements of the district that they would not be individually eligible, but rather that, in the aggregate, they combine to create the unique significance of the district as a whole, which is presently recommended eligible to the National Register under Criteria A and C and unevaluated under Criteria B and D as detailed in the District form.

Due to the extensive resource-level of research beyond the capabilities of the present survey, including recording and evaluations of building interiors, required to make justifiable recommendations regarding eligibility related to association with significant persons under Criterion B or potential research potential under Criterion D, this resource remains unevaluated under these criteria at this time. It is anticipated that such enhanced recording and evaluation will occur in the future as redevelopment plans mature.

This building served as a support facility in Mercury for nuclear testing at the Nevada Test Site during the last decade of the Cold War. It represents a major improvement of the quality of housing for site workers associated with a specific laboratory. The building is a contributing element to the Mercury Historic District. It is an excellent example of Late Modern architecture in Mercury with abundant use of tinted splitface concrete masonry which typifies that style here. It is in excellent condition and retains fully all aspects of integrity. Integrity of setting is further enhanced by proximity to two other buildings (23-531 and 23-532) of nearly identical design on the same block at the corner of Sandstone Avenue and Buster Street.

## 8. Narrative Architectural Description

*Provide a detailed description of the resource, including all character defining features, potential construction methods, potential alterations (both historic and non-historic), and any accessory resources.*

This is a 14,272 square foot two-story rectangular-plan building on a concrete foundation. It is on a large cut and fill terrace which is covered with gravel aside from asphalt-paved, off-street parking and concrete walkways. It shares a mechanical plant in building 23-536 with the other two dorms. Similarly, all three dorms share a common landscape and pergola which for convenience is recorded with this resource. These large buildings are oriented on contour unlike the surrounding grid-oriented buildings. Walls are three bands of gray splitface concrete masonry separated by bands clad with faux pale green sandstone tiles.

The main (northwest) façade exhibits a complex array of protruding masses, cantilevers, and voids in the best of the Brutalist tradition. There is a pair of centered flush steel doors with one light each at the main entrance. An aluminum sliding window or possibly a door opens onto the second floor balcony. The entrance and balcony are protected by protruding ribs. The lowest band of splitface continues leftward from the end of the rib to form a planter box. Above the band of eight aluminum sliding lobby windows is a cantilevered extension of the middle splitface band from the rib to a matching extension of the end wall which also serves as one end of the planter. The two lower splitface bands are deleted to the right of the door, leaving a large sandstone panel. Here also the end wall is extended to match the other ribs, in this case anchoring the end of a large cantilever splitface panel which echoes the top splitface band. A metal light box with a stained glass “LOS ALAMOS” sign is mounted over the planter.

1x1 sliding aluminum-framed windows are evenly spaced along the sandstone bands on both sides of the building. Downspouts are regularly placed along the walls between sets of four windows. The left corner of the right (northeast) wall has a stainless steel entry hatch and flush steel door with louver vent labeled “Riser Room” in place of the first window in the left corner of the façade. There are sweeps and an electrical panel adjacent to the door.

The rear of the building has central flush metal doors at each floor. External stairways have concrete masonry parapets clad with faux sandstone and pipe railings.

The building has a flat roof entirely hidden by a splitface parapet which is pierced for downspouts on both sides. An array of solar panels has been installed on the roof.

There is one Accessory Resource.

**AR1: Pergola**
AR1 is a pergola on a concrete slab. It has wood-clad steel posts supporting wood roof beams and slats. A concrete patio is adjacent. Other landscaping in this area is a triangular rock gardens with yucca.

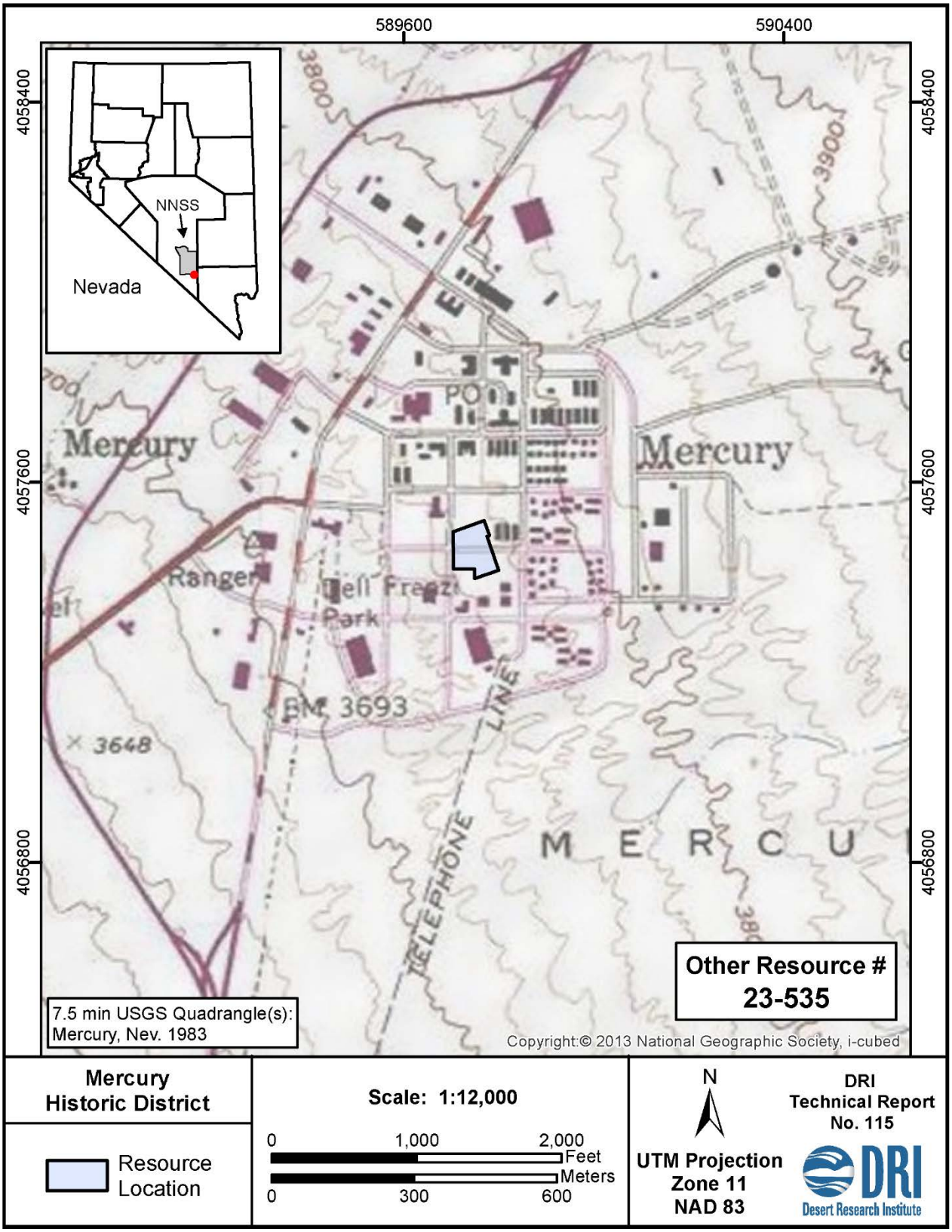
## 9. References

*List references used to research and evaluate the individual property.*

NNSS GIS Integrated Planning Database

**10. Area Location Map**

*Use a USGS quadrangle map at large extent to show general area of resource.*



**11. Site Plan Map**

*Use aerial imagery, drafting software, or a hand-drawn sketch (to scale) showing, at minimum, building/structure footprints and relationship to associated features. Attach extra maps if needed.*

**12. Photographs**

*Include as many photographs as needed to accurately depict the resource.*

The corner of Los Alamos Dormitory (Building 23-535).
Elevation: N/A Direction facing: North Photographer: Menocal Date: 06/19/2017

The front of Los Alamos Dormitory (Building 23-535).
Elevation: West Direction facing: East Photographer: Menocal Date: 06/19/2017

The Los Alamos Dormitory, Building 23-535. Modified from photograph D13_08031 on file at the Remote Sensing Laboratory (RSL), Nellis Air Force Base, Las Vegas.

Elevation: N/A Direction facing: Southeast Photographer: RSL Date: 2013

**13. Accessory Resources**

*Complete only if Accessory Resources are present. Include as many extra entries as necessary.*

**Accessory Property Type**

| | | | |
|---|---|---|---|
| Building ☐ | Structure ☒ | Object ☐ | Landscape (non-archaeological site) ☐ |

**Accessory Resource Overview**

| | | | | |
|---|---|---|---|---|
| Accessory Resource Name | AR1 Pergola | | | |
| Construction Date | 1986 | Contributing? | Yes ☒ | No ☐ |
| UTM (NAD 83, UTM Zone 11 North) | Easting: 589770 | | Northing: 4057497 | |

Accessory Resource 1, a Pergola, in far right of photograph.
Elevation: N/A Direction facing: East-northeast Photographer: Menocal Date: 06/26/2017

NEVADA STATE HISTORIC PRESERVATION OFFICE

**Architectural Resource Assessment (ARA) Form**

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 21, 2017; **July 10, 2018** | Recorded By | Reno, Menocal, Shimer; **Reno, King** | Agency Report # | DOE/NV/0003590-21; **SR071018-1** |

This resource was revisited by Ron Reno, DRI on July 10, 2018 for interior recording. The building appears to be unchanged from the time of initial recording in June 2017.

Steve Carragher, Mission Support and Test Services, LLC, conducted high-resolution digital photography of both the exterior and interior on July 11-12, 2018. He was assisted in the photography by Maureen King and James "JT" Treppicione.

This update documents this initial work and amends several details in the original form as revealed by supplementary documentary research conducted as part of the current phase of the Mercury Redevelopment Project. It also completes the significance evaluation in relation to Criteria B and D and discusses the individual eligibility of the resource rather than only addressing it in the context of being a contributing element to the Mercury Historic District (D230).

The level of supplemental recording was aimed at providing sufficient information both to help evaluate and to mitigate adverse effects to this building resulting from an air-conditioning upgrade to the three dormitories served by this building. This may result in equipment changes or removal or unused equipment from this building.

## 5. NRHP Evaluation

| Eligible Under: | Criterion A ☐ | Criterion B ☐ | Criterion C ☐ | Criterion D ☐ |
|---|---|---|---|---|
| | Not Eligible ☒ | Unevaluated ☐ | | |

Contributes to the district under Criteria A and C; not individually eligible to the National Register.

## 6. Narrative Eligibility Justification

*Criterion A*

This resource has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. It, and the three related buildings (23-531, -532, -535), comprised a major improvement in Mercury in the 1980s as the base was dedicated to continuing nuclear testing and other projects. In this sense, it is best regarded as a contributing element to the Mercury Historic District rather than singling it out for individual eligibility to the National Register.

*Criterion B*

Most of the individuals important at the national level to the nation's nuclear programs or other programs that were tested or developed at what is now the NNSS had far more important ties elsewhere. Eligibility under this criterion normally requires that the resource be directly associated with an important aspect of the career that makes that person's achievements noteworthy. Since this is only a mechanical facility serving as an adjunct to a dormitory complex, there is no potential for significance under this criterion.

*Criterion C*

This building has already been identified as contributing to the significance of the Mercury Historic District under this criterion at the local level. Regarding its potential for individual significance either as a type of construction or the work of a master, it is entirely undistinguished, being a simple cubic structure with awkward utilitarian entrances. It is recommended not eligible individually under this criterion, although it is an essential part of the collection of dormitory buildings noted above. It is much more important in regard to its role in the layout, massing, and setting of that complex as a whole than it is by itself.

*Criterion D*

Research potential regarding architecture in Mercury is likely to be confined to developments in architectural adaptations related to the requirements of nuclear testing. Such innovations are likely to be found in relation to laboratory or other directly mission-related buildings rather than support structures such as this one. The mechanical devices in this building are not innovative for the time. It is recommended not eligible to the National Register under this criterion.

In summary, the initial evaluation of this building as contributing to the Mercury Historic District under Criteria A and C at the local level of significance appears to require no amendment. It is recommended not eligible individually for inclusion in the National Register under any criteria.

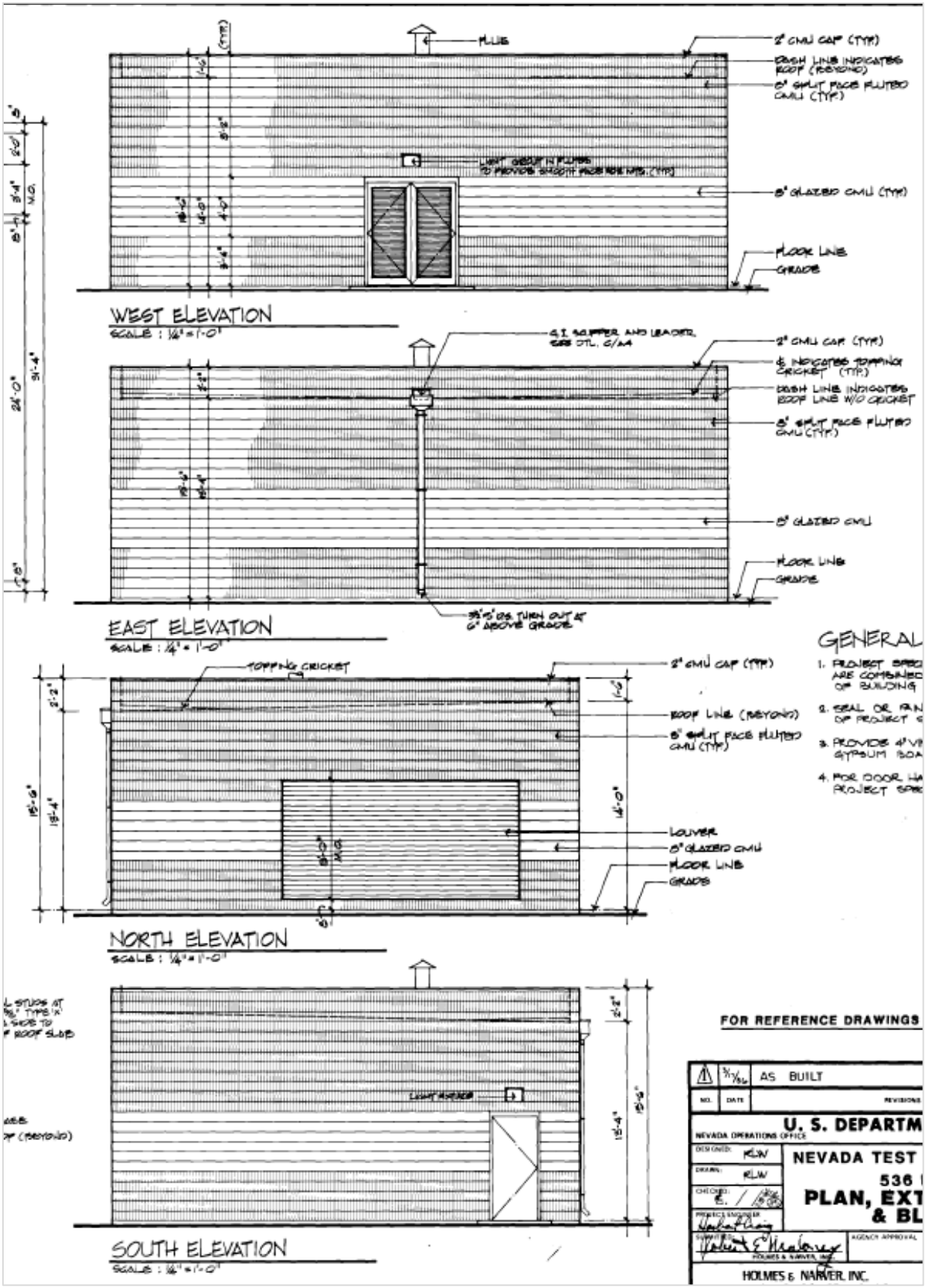
**7. Narrative Architectural Description**

The exterior description is unchanged except that the colored bands are made of glazed concrete block rather than tile veneer over concrete block as originally thought. The roof deck is made up of hollow core precast concrete slabs. The building has a thickened slab-on-grade concrete foundation. The two steel underground fuel oil tanks for the boiler are located immediately north of the building.

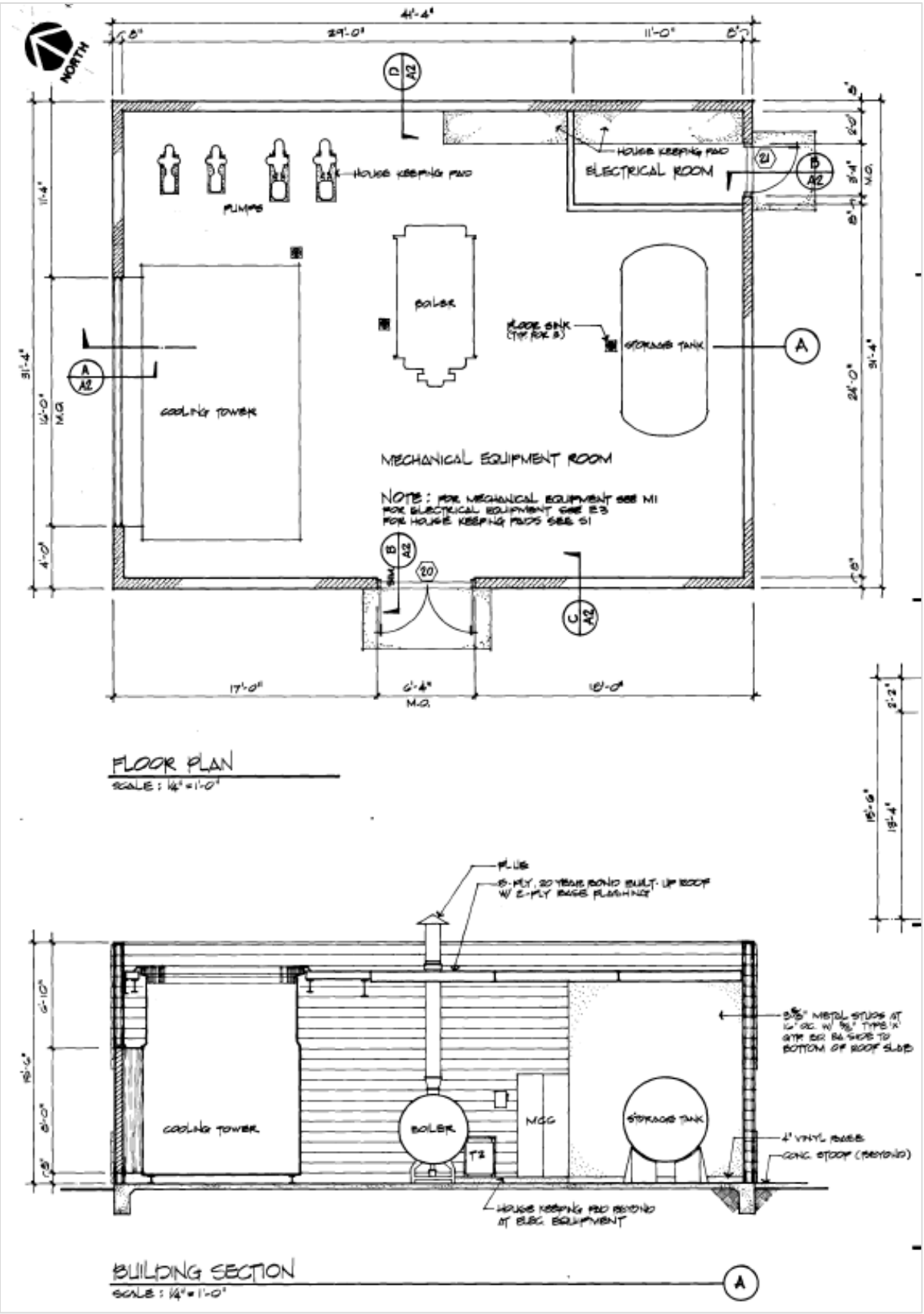
The building contains only two rooms, both of which are described below. For descriptive purposes the north-northwest orientation of the building is ignored. Although actually facing west-southwest, its entry façade is considered to face west in the descriptions.

| BLDG #: 23-536 | ROOM #: Mechanical Room | LEVEL: 1 | 1,205 FT² | July 10, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Mechanical Support for Dorms 23-531, 532, and 535 including air conditioning, hot water, and electrical panels | | | | |
| PHOTO(S): Attached. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | Unpainted smooth concrete block. Many electrical boxes, plumbing hangers, pipes, conduit, and other fixtures. Electrical Room walls are white painted drywall with 4” vinyl base. | | | |
| N. Wall | Mostly occupied by cooling tower outlet. | | | |
| S. Wall | | | | |
| E. Wall | | | | |
| W. Wall | Centered entry. | | | |
| Ceiling | Unpainted precast concrete with numerous equipment hangers. Former roof opening in center for boiler flue is covered with a galvanized patch. | | | |
| Floor | Unpainted concrete. Cracked with several large patches and other repairs. No base. Some machinery is mounted on low concrete housekeeping pads. | | | |
| Doors | Double light gray (white on exterior) steel louvered. Louvered vents covered on interior by galvanized panel. | | | |
| Windows | None. | | | |
| Lighting | 1 tube without diffusers. | | | |
| Built-ins | See attached plan. The boiler that formerly occupied the center of the room has been removed and the floor area beneath it patched. It has been replaced by three A. O. Smith Water Heaters, all installed in 2013, adjacent to the large hot water storage tank near the south wall. This tank was manufactured in 1985.<br><br>A large galvanized steel water cooling tower for the air conditioning system occupies most of the north third of the building. The tower was made by EVAPCO WEST, Madera, California, Model LSWA 174A2. The four pumps for the air conditioning water circulation system are in the northeast corner of the building on concrete housekeeping pads. The two hot water pumps are 90 gallons per minute PACO pumps driven by Baldor Standard E 480 v model M3558T 2 hp motors. The two PACO P004 chill water pumps have a 600 gallon per minute capacity and are driven by 480 v US Electrical Motors. | | | |

| BLDG #: 23-536 | ROOM #: Electrical Room | LEVEL: 1 | 66 FT² | July 10, 2018 |
|---|---|---|---|---|
| FUNCTION(S): Secure location for electrical panels. | | | | |
| PHOTO(S): Attached. | | | | |
| **ELEMENT** | **DESCRIPTION** | | | |
| All Walls | White | | | |
| N. Wall | Drywall on steel studs. Electrical panel and conduit. | | | |
| S. Wall | Concrete block, door. | | | |
| E. Wall | Concrete block, occupied full-length by electrical boxes on concrete housekeeping pad. | | | |
| W. Wall | Drywall on steel studs. Plywood sheet used to mount communications wiring. | | | |
| Ceiling | Unpainted drywall. | | | |
| Floor | Unpainted concrete. | | | |
| Doors | Flush steel. | | | |
| Windows | None. | | | |
| Lighting | 1-tube no diffusers. | | | |




Building 23-536 Elevations (Holmes and Narver Drawing JS-023-536-A1.1, 1984).




Building 23-536 Plan and Section (Holmes and Narver Drawing JS-023-536-A1.1, 1984).

## ATTACHMENT A

## INDEX TO PHOTOGRAPHS

1986 DORMITORY COMPLEX MECHANICAL BUILDING Update to SHPO Resource # B15267
Mercury Historic District
Mercury
Nye County
Nevada

INDEX TO HIGH-QUALITY DIGITAL PHOTOGRAPHS

Steve Carragher (Mission Support and Test Services), Photographer, July 2018

1 VIEW OF ELECTRICAL ROOM FACING THE NORTH

2 VIEW TOWARD PUMPS FROM ENTRANCE WITH COOLING TOWER ON LEFT FACING NORTH-NORTHWEST

3 VIEW OF PUMPS ON HOUSEKEEPING PADS FACING THE NORTHEAST

4 CLOSER VIEW OF PUMPS ON PADS

5 VIEW OF WATER HEATERS IN FOREGROUND AND STORAGE TANK IN BACKGROUND FACING THE SOUTHEAST

6 VIEW OF COOLING TOWER FACING THE NORTHWEST

7 OVERVIEW OF DORMITORY COMPLEX WITH MECHANICAL BUILDING ON FAR LEFT FACING THE NORTH-NORTHEAST

8 VIEW OF FRONT FAÇADE (WEST ELEVATION) FACING THE EAST

9 PERSPECTIVE OF WEST AND SOUTH ELEVATIONS FACING THE NORTHEAST

10 PERSPECTIVE OF SOUTH AND EAST ELEVATIONS FACING THE NORTHWEST

11 PERSPECTIVE OF EAST (REAR FAÇADE) AND NORTH ELEVATIONS FACING THE SOUTHWEST

12 GENERAL VIEW OF NORTH ELEVATION FACING THE SOUTH

13 PERSPECTIVE OF NORTH AND WEST ELEVATIONS FACING THE SOUTHEAST

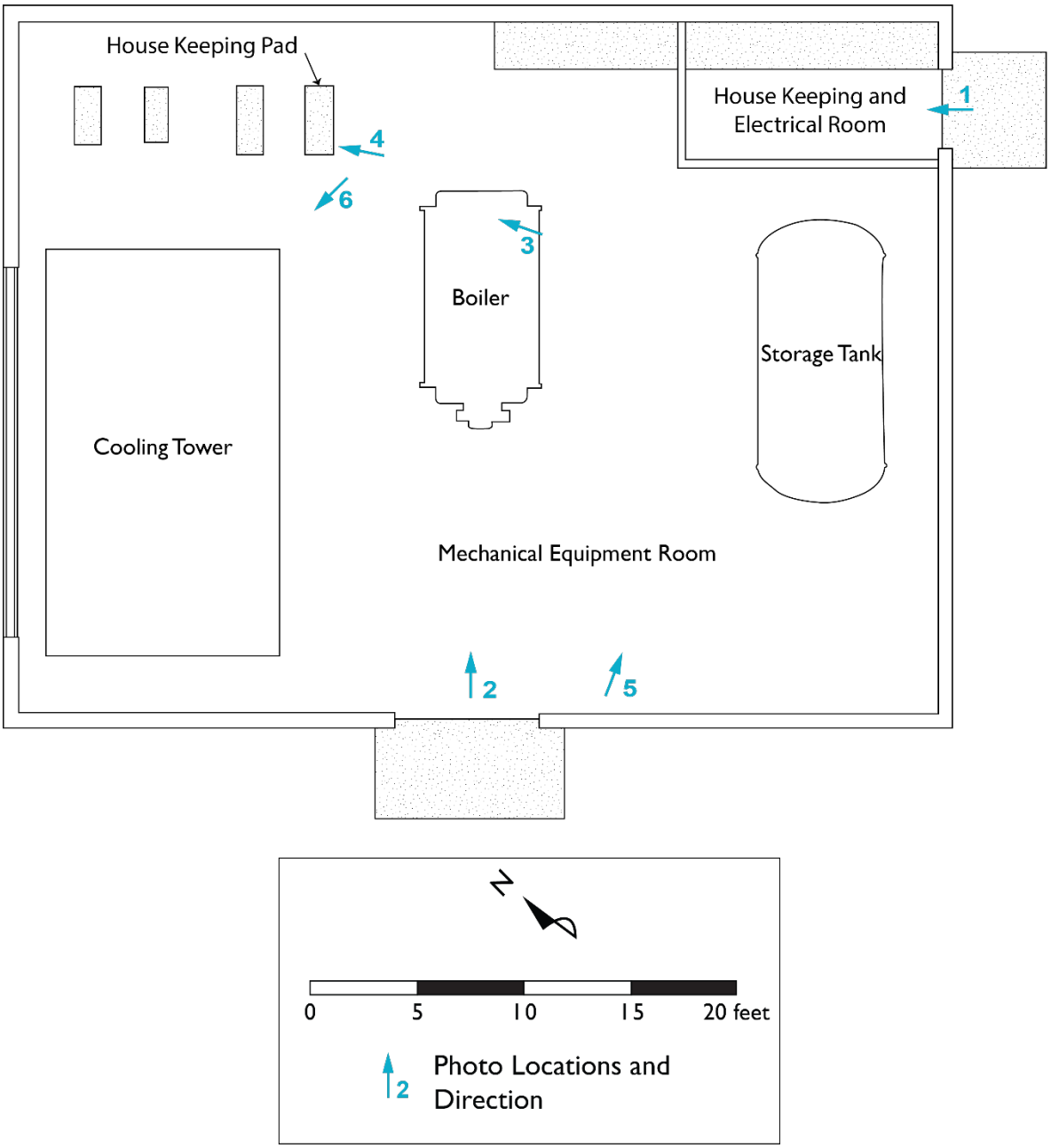



Photo Key for interior digital photographs of 23-536.

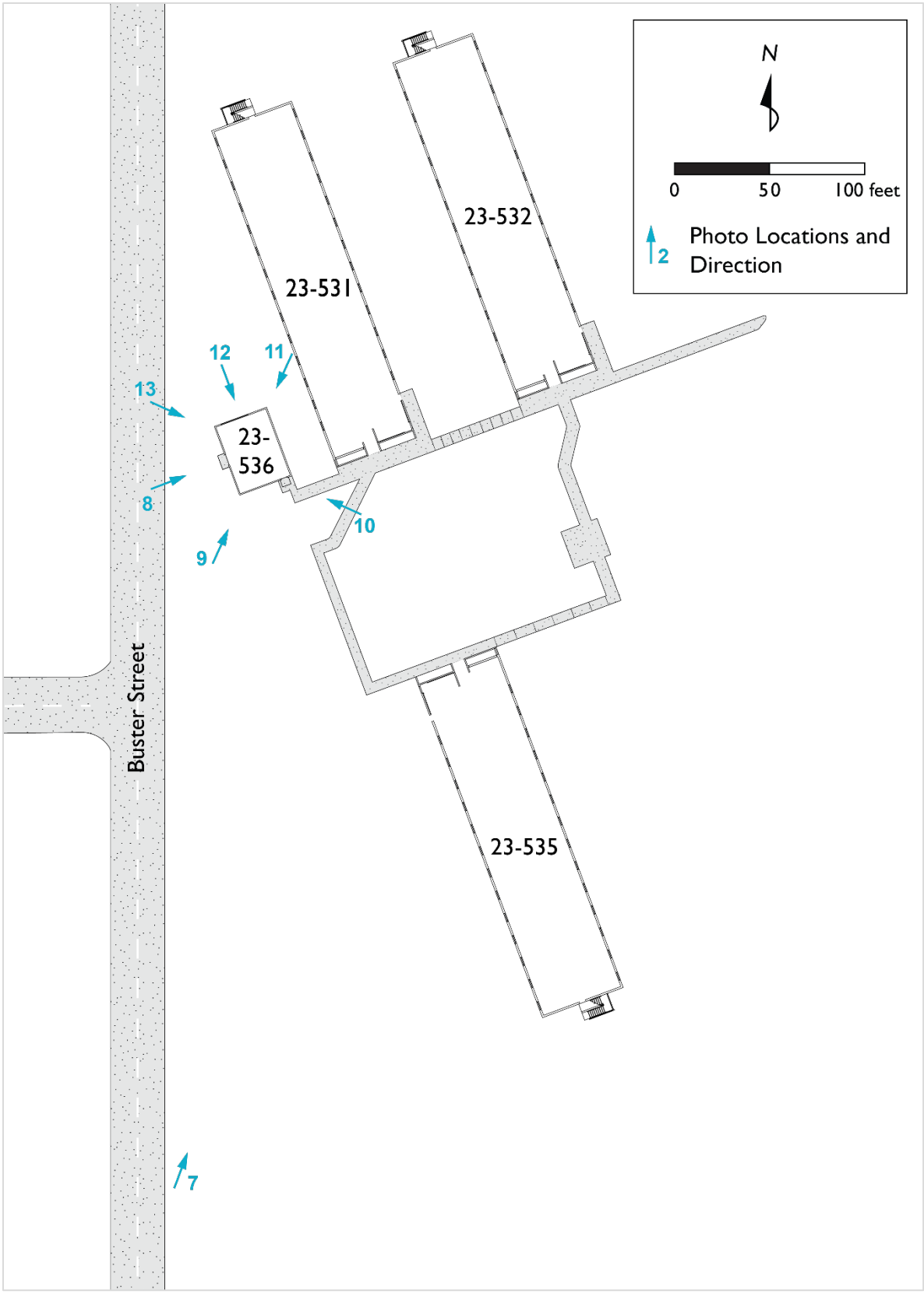



Photo Key for exterior digital photographs of 23-536.

PHOTO #1: VIEW OF ELECTRICAL ROOM FACING THE NORTH.

PHOTO #2: VIEW TOWARD PUMPS FROM ENTRANCE WITH COOLING TOWER ON LEFT FACING NORTH-NORTHWEST.

PHOTO #3: VIEW OF PUMPS ON HOUSEKEEPING PADS FACING THE NORTHEAST.

PHOTO #4: CLOSER VIEW OF PUMPS ON PADS.

PHOTO #5: VIEW OF WATER HEATERS IN FOREGROUND AND STORAGE TANK IN BACKGROUND FACING THE SOUTHEAST.

PHOTO #6: VIEW OF COOLING TOWER FACING THE NORTHWEST.

PHOTO #7: OVERVIEW OF DORMITORY COMPLEX WITH MECHANICAL BUILDING ON FAR LEFT FACING THE NORTH-NORTHEAST.

PHOTO #8: VIEW OF FRONT FAÇADE (WEST ELEVATION) FACING THE EAST.

PHOTO #9: PERSPECTIVE OF WEST AND SOUTH ELEVATIONS FACING THE NORTHEAST.

PHOTO #10: PERSPECTIVE OF SOUTH AND EAST ELEVATIONS FACING THE NORTHWEST.

PHOTO #11: PERSPECTIVE OF EAST (REAR FAÇADE) AND NORTH ELEVATIONS FACING THE SOUTHWEST.

PHOTO #12: GENERAL VIEW OF NORTH ELEVATION FACING THE SOUTH.

PHOTO #13: PERSPECTIVE OF NORTH AND WEST ELEVATIONS FACING THE SOUTHEAST.

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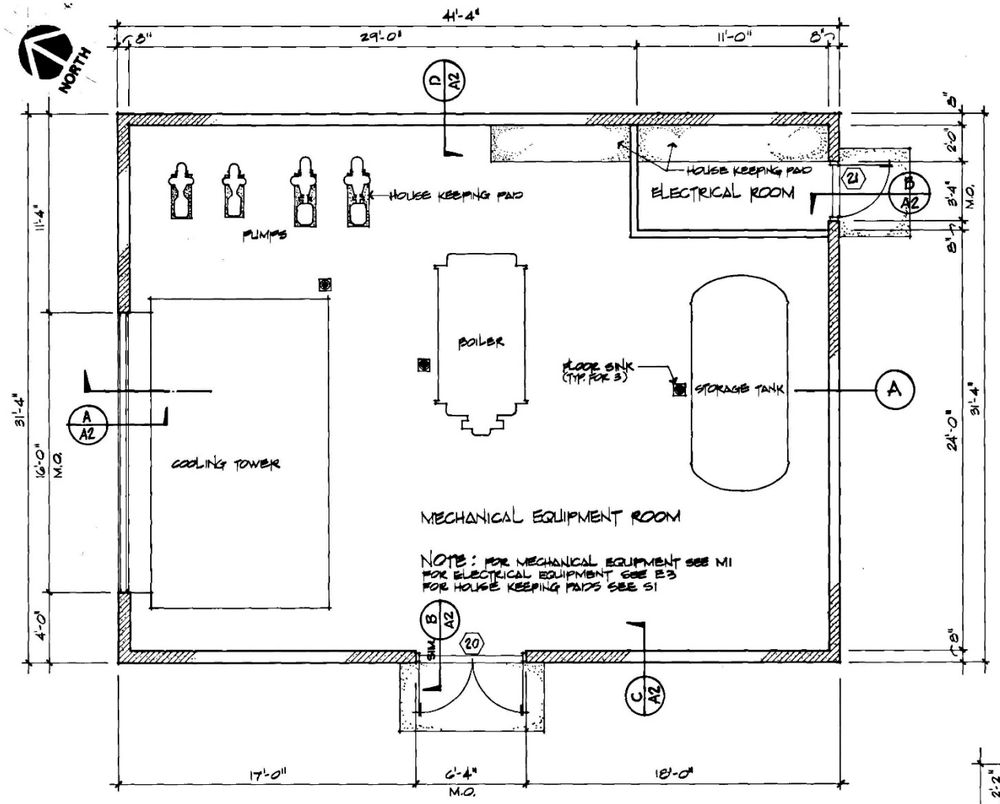
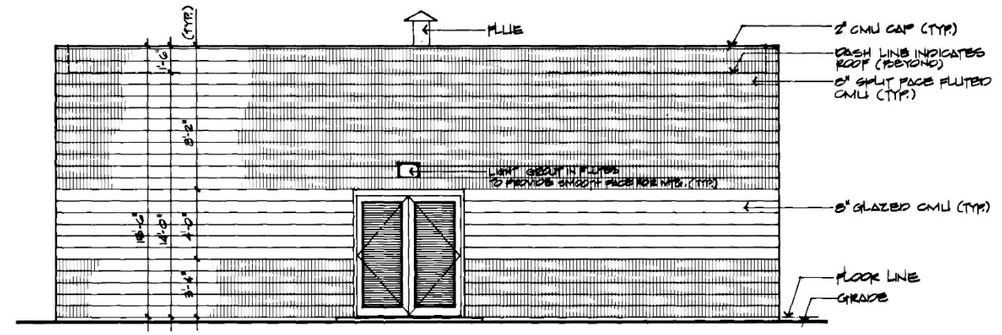
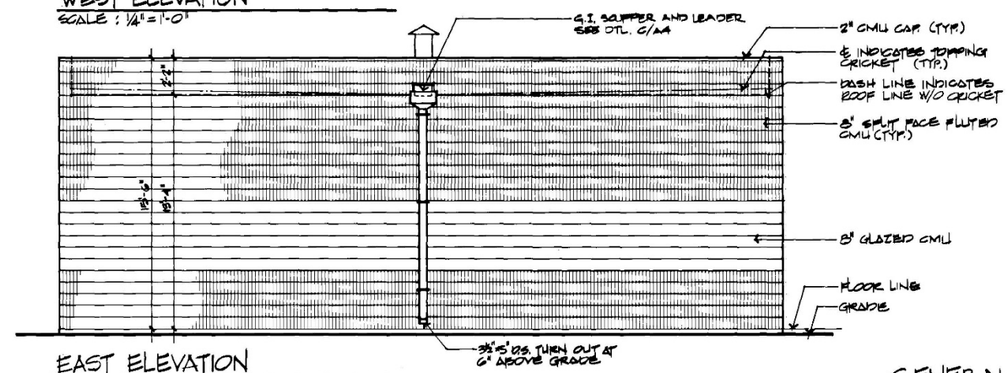


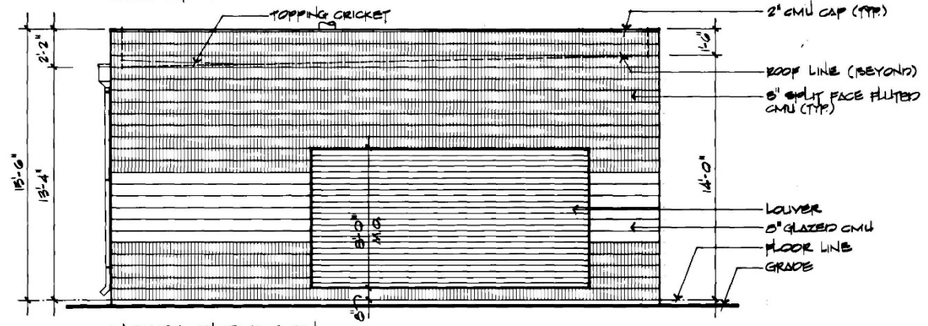

FLOOR PLAN
SCALE: 1/4" = 1'-0"



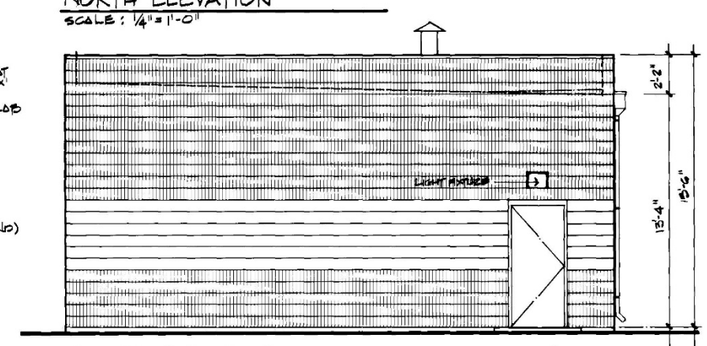

WEST ELEVATION
SCALE: 1/4" = 1'-0"



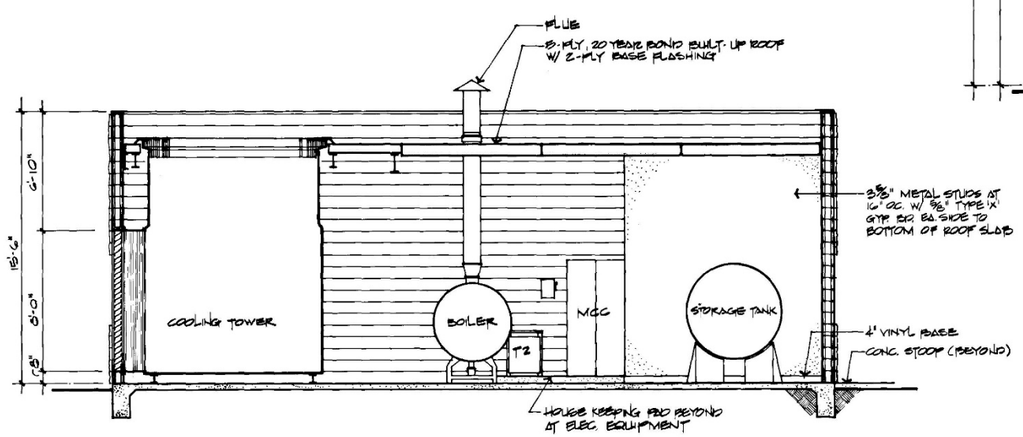

EAST ELEVATION
SCALE: 1/4" = 1'-0"




NORTH ELEVATION
SCALE: 1/4" = 1'-0"




SOUTH ELEVATION
SCALE: 1/4" = 1'-0"




BUILDING SECTION
SCALE: 1/4" = 1'-0"

A

## GENERAL NOTES:

1. PROJECT SPECIFICATIONS FOR THIS BUILDING ARE COMBINED WITH THE PROJECT SPECIFICATIONS OF BUILDING 531 TYPE 'A' DORMITORY.
2. SEAL OR PAINT SURFACES AS PER SECTION 12 OF PROJECT SPECIFICATIONS.
3. PROVIDE 4" VINYL BASE AT FLOOR OF ALL GYPSUM BOARD WALLS.
4. FOR DOOR HARDWARE SEE SECTION 24 OF PROJECT SPECIFICATIONS.

**FOR REFERENCE DRAWINGS SEE DWG. JS-023-531-T1**

| NO. | DATE | REVISIONS | BY | CK | A.E. | APP. |
|---|---|---|---|---|---|---|
| 1 | 3/17/86 | AS BUILT | | | | |

**U. S. DEPARTMENT OF ENERGY**
NEVADA OPERATIONS OFFICE — LAS VEGAS, NEVADA

DESIGNED: RLW
DRAWN: RLW
CHECKED:
PROJECT ENGINEER:

**NEVADA TEST SITE — AREA 23**
**536 UTILITY BUILDING**
**PLAN, EXTERIOR ELEVATIONS & BLDG. SECTION**

SUBMITTED: HOLMES & NARVER, INC.
AGENCY APPROVAL
DOE APPROVAL
DATE: 5/18/86

HOLMES & NARVER, INC.
ENGINEERS—CONSTRUCTORS
ENERGY SUPPORT DIVISION
2753 SOUTH HIGHLAND DRIVE LAS VEGAS, NEVADA

I. D. NO. 70022

DRAWING NUMBER: JS-023-536-A1.1

SHEET ____ OF ____

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NEVADA STATE HISTORIC PRESERVATION OFFICE

# Architectural Resource Assessment (ARA) Form

| For SHPO Use Only | SHPO Concurrence?: Y / N | | Date: | | |
|---|---|---|---|---|---|
| Survey Date | June 19, 2017 | Recorded By | Reno, Menocal, Shimer | Agency Report # | DOE/NV/0003590-09 |

## 1. Property Type

| Building ☒ | Structure ☐ | Object ☐ | Landscape (non-archaeological site) ☐ |
|---|---|---|---|

## 2. Property Overview and Location

| | | | | | |
|---|---|---|---|---|---|
| Street Address | NNSS Area 23, Block 17, Trinity – Buster | | | | |
| City, Zip | Mercury, 89023 | | | | |
| County | Nye | | | | |
| Assessor's Parcel # | N/A | Subdivision Name | N/A | | |
| UTM Location (NAD 83, UTM Zone 11 North) | Easting: 589715 | Northing: 4057509 | | | |
| USGS Info | Township: 15S | Range: 53E | Section: 11 | USGS 7.5' Quad & Date: Mercury, Nev. 1983 | |
| Ownership | Private ☐ | Public-Local ☐ | Public-State ☐ | Public-Federal ☒ | Multiple ☐ |
| Should the property's location be kept confidential? | Yes ☐ | No ☒ | | | |

## 3. Architectural Information

*(Insert primary photograph below.)*

| | |
|---|---|
| Construction Date | 1986 |
| Architectural Style | Late Modern |
| Architectural Type | Splitface Masonry |
| Roof Form | Flat |
| Roof Materials | Built-up |
| Exterior Wall Materials | Splitface Masonry |
| Foundation Materials | Concrete |
| Window Materials | None |
| Window Type | None |
| Accessory Resources? | Yes ☐ No ☒ |
| | Number?: |

| Condition of Resource(s)? | | |
|---|---|---|
| Good ☒ | Fair ☐ | Poor ☐ |
| Explanation: Building is maintained and in use. | | |

Building 23-536, view north (2017).

## 4. Existing Listing & Potential District

| | | | | |
|---|---|---|---|---|
| Is the property listed in the National Register? | Yes ☐ | No ☒ | If yes, provide: | Date Listed: |
| | | | | NRIS #: |

| | | | | | |
|---|---|---|---|---|---|
| Contributing to a listed historic district? | Yes ☐ | No ☒ | If yes, provide: | Name: | NRIS #: |
| | | | | Date listed: | |

| | | | | | |
|---|---|---|---|---|---|
| If no, is there a potential district? | Yes ☒ | No ☐ | If so, is this resource contributing? | Yes ☒ | No ☐ |
| District Name: Mercury Historic District | | | | SHPO #: D230 | |

### 6. NRHP Evaluation

*If not already listed, complete the information below:*

| | | | | |
|---|---|---|---|---|
| Eligible Under: | Criterion A ☒ | Criterion B ☐ | Criterion C ☒ | Criterion D ☐ |
| | Not Eligible ☐ | Unevaluated ☐ | | |
| Area(s) of Significance | Nuclear Testing, Townsite Development | | | |
| Period of Significance | 1986-1992 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Integrity – Does the resource possess integrity in all or some of the 7 aspects? | | | | | | |
| Location ☒ | Design ☒ | Materials ☒ | Workmanship ☒ | Setting ☒ | Feeling ☒ | Association ☒ |

| | | | | |
|---|---|---|---|---|
| General Integrity: | Intact ☒ | Altered ☐ | Moved ☐ | Date(s): |

| | |
|---|---|
| Threats to Resource: | Redevelopment |
| Historic Name | Dormitory Utility Building |
| Current/Common Name | Dormitory Utility Building |
| Historic/Original Owner | U.S. Atomic Energy Commission |
| Current Owner | U.S. Department of Energy Nevada National Security Administration Nevada Field Office |
| Current Owner Address | Nevada National Security Site |
| Historic Building Use | Utility |
| Current Building Use | Utility |
| Architect/Engineer/Designer | Holmes & Narver, Inc. |
| Builder/Contractor | Unknown |

---

### 7. Narrative Eligibility Justification

*Provide a detailed explanation of the resource's eligibility for the National Register, including supporting historic information, methods for evaluation under the four criteria, discussion of the seven aspects of integrity, and conclusions about eligibility.*

For purposes of the present survey, the resources in Mercury were evaluated only as they relate to the Historic District as a contributing versus non-contributing element. It is the nature of most of the individual elements of the district that they would not be individually eligible, but rather that, in the aggregate, they combine to create the unique significance of the district as a whole, which is presently recommended eligible to the National Register under Criteria A and C and unevaluated under Criteria B and D as detailed in the District form.

Due to the extensive resource-level of research beyond the capabilities of the present survey, including recording and evaluations of building interiors, required to make justifiable recommendations regarding eligibility related to association with significant persons under Criterion B or potential research potential under Criterion D, this resource remains unevaluated under these criteria at this time. It is anticipated that such enhanced recording and evaluation will occur in the future as redevelopment plans mature.

This building served as a support facility in Mercury for nuclear testing at the Nevada Test Site during the last decade of the Cold War. It is a component of the major improvement in the quality of housing for site workers associated with a specific laboratory. The building is a contributing element to the Mercury Historic District. It is an excellent example of Late Modern architecture in Mercury with abundant use of tinted splitface concrete masonry which typifies that style here. It is in excellent condition and retains fully all aspects of integrity. Integrity of setting is further enhanced by proximity to the three dormitories served by this building (23-531, 23-532 and 23-535) of compatible design and materials on the same block at the corner of Sandstone Avenue and Buster Street.

## 8. Narrative Architectural Description

*Provide a detailed description of the resource, including all character defining features, potential construction methods, potential alterations (both historic and non-historic), and any accessory resources.*

This is a 1,295 square foot one-story, rectangular-plan building on a concrete foundation. It is on a large cut and fill terrace which is covered with gravel aside from asphalt-paved, off-street parking and concrete walkways. It houses the mechanical plant for buildings 23-531, 23-532 and 23-5. Like the large dormitories, this building is oriented on contour unlike the surrounding grid-oriented buildings. Walls are two bands of gray splitface concrete masonry separated by a band clad with faux red sandstone tiles matching those used on adjacent Building 23-531.

The main (southeast) façade has a flush steel door in the right corner. A weather station is mounted near the top of the wall.

A double steel louvered door is centered in the left wall.

The right wall has a transformer and electrical boxes.

A large louvered steel vent pierces the rear wall. There are also sweeps. Pipe bollards and a chain protect underground utilities at the rear of the building.

The building has a flat roof entirely hidden by a splitface parapet which is pierced for downspouts on the right side. It has pipe railings around rooftop mechanical equipment.

There are no Accessory Resources.

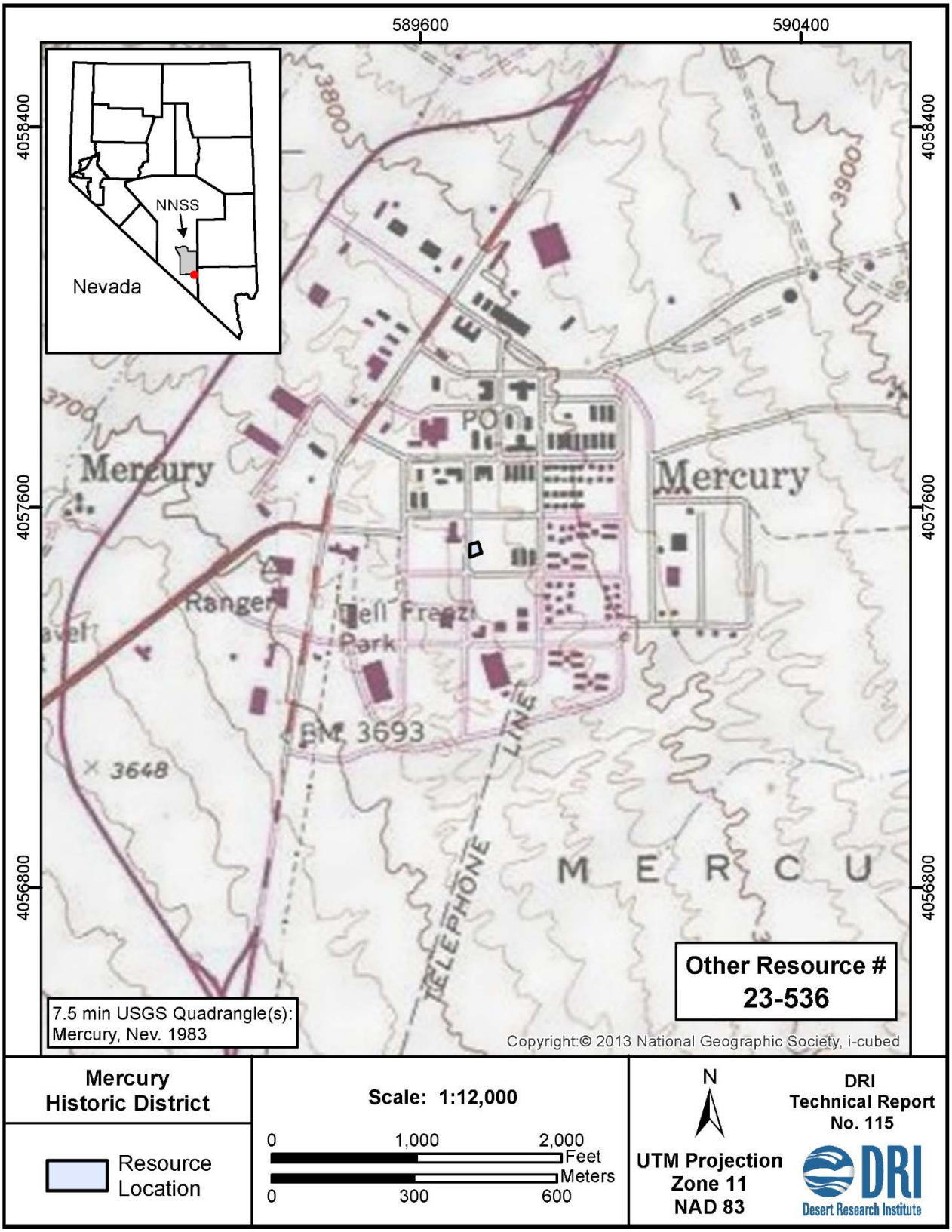
## 9. References

*List references used to research and evaluate the individual property.*

NNSS GIS Integrated Planning Database

**10. Area Location Map**

*Use a USGS quadrangle map at large extent to show general area of resource.*



**11. Site Plan Map**

*Use aerial imagery, drafting software, or a hand-drawn sketch (to scale) showing, at minimum, building/structure footprints and relationship to associated features. Attach extra maps if needed.*

**12. Photographs**

*Include as many photographs as needed to accurately depict the resource.*

The front of the Mechanical Building (23-536).
Elevation: West Direction facing: East Photographer: Menocal Date: 06/19/2017

Overview of the Mechanical Building (23-536).
Elevation: N/A Direction facing: East-Northeast Photographer: Menocal Date: 06/26/2017