DESERT RESEARCH INSTITUTE
CULTURAL RESOURCES PROJECT NO. 227623

REPORT SERIES: FINDING OF EFFECT AND MITIGATION DOCUMENTATION FOR BUILDING 23-W10, MERCURY, AREA 23, NEVADA NATIONAL SECURITY SITE, NYE COUNTY, NEVADA

This report series includes the following reports and mitigation documentation:

DOE/NV/89233122CNA000255-02-FOE, LR052422-1-FOE

Finding of Adverse Effect and Proposed Mitigation for the Demolition of Building 23-W10, Mercury, Area 23, Nevada National Security Site, Nye County, Nevada

DOE/NV/89233122CNA000255-02-MIT, LR052422-1-MIT

Mitigation for Demolition of Building 23-W10, Mercury, Area 23, Nevada National Security Site, Nye County, Nevada

Mitigation Documentation

ARA Update form for Building 23-W10 (SHPO No. B15228) (original included with update)

High-quality digital images of Building 23-W10 with index and photo key plan (attached to ARA Update form)

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DESERT RESEARCH INSTITUTE
CULTURAL RESOURCES FINDING OF EFFECT
REPORT LR052422-1-FOE
PROJECT NO. 227623

FINDING OF ADVERSE EFFECT AND PROPOSED MITIGATION FOR THE DEMOLITION OF BUILDING 23-W10, MERCURY, AREA 23, NEVADA NATIONAL SECURITY SITE, NYE COUNTY, NEVADA

Prepared by

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Nevada System of Higher Education

Cover Photograph: Building 23-W10 facing west (227623_4038, DRI 2022).

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

Submitted by

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August 2022

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 #89233122CNA000255.

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INTRODUCTION

The U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO) plans to demolish Building 23-W10 in Mercury (Nevada State Historic Preservation Office [SHPO] Resource No. B15228), which is on the Nevada National Security Site (NNSS) in Nye County, Nevada (Figure 1). The purpose of the undertaking is related to the modernization of Mercury for future mission needs.

The 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.

Building 23-W10, a supply warehouse, was installed in Mercury in 1962 (NNSS GIS Database) and served as a support facility for nuclear testing throughout much of the Cold War. It was likely produced during World War II (WWII) and previously installed at Camp Desert Rock. The town of Mercury and the immediate surrounding area have been formally determined eligible for listing in the National Register of Historic Places (National Register, NRHP) as the Mercury Historic District (MHD, SHPO Resource #D230) under Criteria A and C for their importance in supporting nuclear testing and scientific research from 1951 through 1992.

Building 23-W10 was identified as a contributing element to the MHD in a 2018 architectural survey of the district (Reno et al. 2018) and recorded on a Nevada Architectural Resource Assessment (ARA) form (Reno et al. 2017). Building 23-W10 was also identified in Appendix C of the Mercury PA as a Category II contributing element. Category II properties are those that have several representatives in the MHD, such as warehouses, but may possess different engineering or architectural characteristics that distinguish them from other classes of similar elements. Building 23-W10 is a historic property for the purposes of compliance with Section 106 of the National Historic Preservation Act (NHPA) and subject to the stipulations of the Mercury PA.

AREA OF POTENTIAL EFFECT

The Area of Potential Effects (APE) for the undertaking was defined in accordance with Stipulation II of the Mercury PA. In accordance with Stipulation II.A.1, the APE for direct effects includes the footprint of Building 23-W10 and a buffer of 25 feet from the perimeter of the footprint. For indirect effects—such as visual, atmospheric, and audible effects—the APE coincides with the boundary of the MHD per Stipulation II.B. For cumulative effects and new construction (Stipulations II.C and II.D, respectively), the APE boundary is the same as for indirect effects (Figure 2).

ELEMENT CATEGORY IDENTIFICATION

Building 23-W10 was identified in Appendix C of the Mercury PA as a Category II contributing element to the MHD. When an undertaking has the potential to affect Category II elements, Stipulation VIII of the Mercury PA identifies the standard mitigation for these elements and requires that a representative member of each element class found in Appendix C undergo mitigation prior to the initiation of any aspects of the activity that would adversely affect members of the element class.

Figure 1. Area of direct effects.

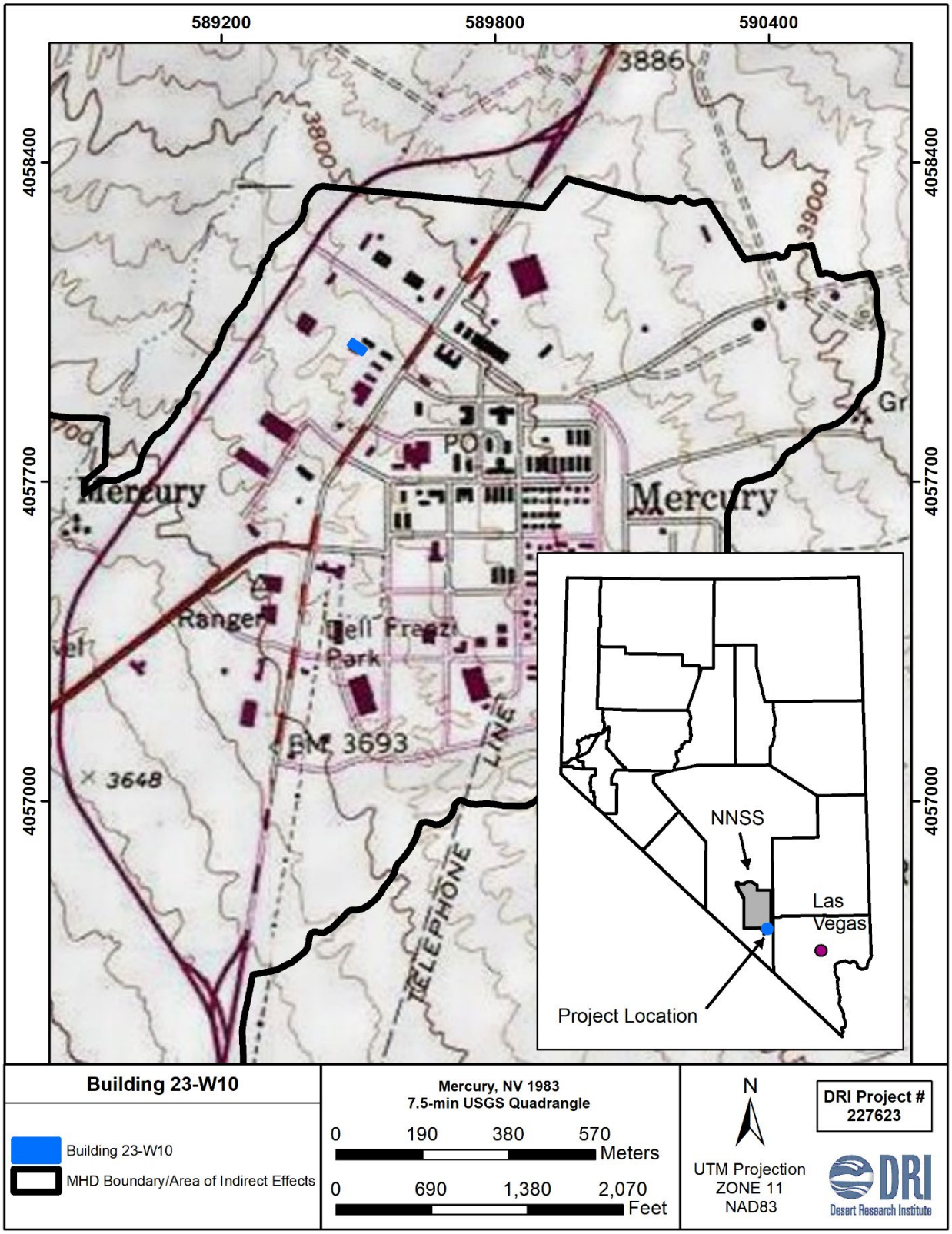

Figure 2. Project location and area of indirect effects.

BUILDING 23-W10

Building 23-W10 was installed in Mercury in 1962 and used as a warehouse. It had likely been brought over from Camp Desert Rock after the camp was no longer in service (Reno et al. 2017). It is 100 feet by 40 feet and is a T-Rib Quonset hut, the first type of Quonset hut designed by the U.S. military in support of WWII (Figure 3). It is a one-story, rectangular-plan structure with a steel frame, corrugated steel semicylindrical roof, and corrugated steel end walls. It has a concrete slab foundation. Each end wall has a central, interior, sliding metal door and a large, louvered, metal vent centered above it. There is a pair of steel-framed, four-over-two awning windows at each side of the door.

Figure 3. Exterior of Building 23-W10 (2276_4039, DRI 2022).

Figure 4. Interior of Building 23-W10 (2276_4055, DRI 2022).

Building 23-W10 is currently empty except for free-standing shelving and is not in use at this time. The interior consists of open space with no interior walls or partitions (Figure 4). The metal ribs of the structure are visible through the length of the building and there appear to be no changes to the structure since its installation. There is one row of pendant lights in the midline of the ceiling that runs the length of the building.

APPLICATION OF THE CRITERIA OF ADVERSE 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 that the planned demolition of Building 23-W10 will result in the physical destruction of the building. This will constitute an **Adverse Effect** to historic properties as defined in Title 36 of the Code of Federal Regulations (36 CFR) Part 800.5(a)(2)(i). The undertaking will directly affect a historic property that is a contributing element of the MHD. It will therefore directly alter the physical characteristics that qualify a contributing element of the MHD for inclusion in the NRHP.

As required by Mercury PA Stipulation VII.C, the NNSA/NFO is submitting this finding of Adverse Effect for the proposed undertaking. The NNSA/NFO is also concurrently submitting mitigation as permitted in Stipulation VII.C.

MITIGATION PLAN FOR BUILDING 23-W10

Building 23-W10 is identified as a Category II element of the MHD. Mercury PA Stipulation VIII.C outlines anticipated mitigation for Category II contributing elements. Such mitigation includes: 1) an ARA form; 2) high-quality digital images; 3) a current annotated sketch plan, which indicates room layout and use with photograph views keyed to the plan; and 4) a brief letter report describing mitigation contents and summarizing the element's historic significance in the context of the MHD.

Building 23-W10 was recorded on an ARA form in 2017 (Reno et al. 2017). Therefore, an ARA Update form will be prepared to satisfy Stipulation VIII.C.1.a. It will provide additional information about the historic property, historic photographs, and historic architectural drawings. Current high-quality digital images keyed to an annotated sketch plan will be added to the ARA Update to satisfy Stipulations VIII.C.1.b and c. The high-quality digital images will include overviews, elevations, unique and significant details, and interiors. A brief letter report describing the element class and its historic significance in the context of the MHD will be prepared to fulfill Stipulation VIII.C.1.d.

REFERENCES

Reno, Ron, Tatianna Menocal, and Carol Shimer
2017 Architectural Resource Assessment form for SHPO Resource No. B15228 (Warehouse) 25 June.

Reno, Ron, Cheryl Collins, and Maureen King
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, DOE/NV/0003590-09, Desert Research Institute, Las Vegas.

PREPARERS' QUALIFICATIONS

Nicole Brannan meets the Secretary of Interior's Professional Qualifications Standards for Architectural History. Ms. Brannan has over 18 years working in the cultural resources field both in archaeology and historic preservation. She holds a Bachelor of Arts Degree in Anthropology/ Archaeology from Mercyhurst College in Erie, PA, and a Master of Arts in Historic Preservation

from Goucher College in Baltimore, MD. Ms. Brannan served as the primary author of this report and conducted all of the research, evaluations, and analyses.

Laura O'Neill meets the Secretary of Interior's Professional Qualifications Standards for Architectural History and Historic Architecture. She has been professionally involved in the field of historic preservation since 2006. She holds a Bachelor of Arts degree in Political Science from Lehigh University in Bethlehem, PA, and a Master of Architecture degree from California State Polytechnic University in Pomona, CA. Ms. O'Neill was responsible for managing the production of this report, including the fieldwork, research, evaluations, and analyses.

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DESERT RESEARCH INSTITUTE
CULTURAL RESOURCES REPORT LR052422-1-MIT
PROJECT NO. 227623

MITIGATION FOR DEMOLITION OF BUILDING 23-W10, MERCURY, AREA 23, NEVADA NATIONAL SECURITY SITE, NYE COUNTY, NEVADA

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Prepared for

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

Submitted by

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August 2022

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 #89233122CNA000255.

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INTRODUCTION

The purpose of this letter report is to support the mitigation of the demolition of Building 23-W10 (Nevada State Historic Preservation Office [SHPO] Resource No. B15228) in the Mercury Historic District (MHD, SHPO Resource #D230) at the Nevada National Security Site (NNSS) in Nye County, Nevada. The warehouse is considered contributing to the significance of the district both for its historic importance in relation to nuclear testing under Criterion A and as a part of the distinctive design and construction of the district under Criterion C. 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.

MITIGATION FOR BUILDING 23-W10

The U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO), in consultation with the SHPO, defined Building 23-W10 as a Category II element in the MHD. Mercury PA Stipulation VIII.C outlines anticipated mitigation for Category II contributing elements. Such mitigation includes: VIII.C.1.a) an ARA form; VIII.C.1.b) high-quality digital images; VIII.C.1.c) a current annotated sketch plan, which indicates room layout and use with photograph views keyed to the plan; and VIII.C.1.d) a brief letter report describing mitigation contents and summarizing the element's historic significance in the context of the MHD.

This report and enclosed documentation demonstrate that mitigation for Building 23-W10 was completed in accordance with Stipulation VIII.C.1.a-d. Because Building 23-W10 was recorded on an Architectural Resource Assessment (ARA) form in 2017, an ARA Update form was prepared to satisfy Stipulation VIII.C.1.a. It provides additional information about the historic property, current and historic photographs, and copies of historic architectural drawings. High-quality digital images (Stipulation VIII.C.1.b) were taken on May 24, 2022, and include overviews, elevation, unique and significant details, and interior views. The photographs are keyed to aerial and plan views of the building to satisfy Stipulation VIII.C.1.c. This letter report fulfills Stipulation VIII.C.1.d.

Review of Standard Mitigation

The size of the files for the ARA Update form and photography are not compatible with an electronic submission per Mercury PA Stipulation VIII.D.1. The documents are therefore being submitted in hard copy.

Enclosed Documentation

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

- An updated ARA form for Building 23-W10 (VIII.D.1)
    - Updated descriptive and historical information
    - Historic architectural drawings
    - Historic photographs
    - Current digital images with index and image key plan maps

ELEMENT CLASS DESCRIPTION

Building 23-W10 is a Quonset hut that was historically used as a warehouse. The following section provides additional historical information on the development of the Quonset Hut property type as part of fulfilling Mercury PA Stipulation VIII.C.1.d.

Quonset Huts

The U.S. military developed Quonset huts in response to a need for quick and easy structures in support of the World War II (WWII) effort. Based on the British Nissen hut, the federal government contracted with Fuller and Company, one of the largest contractors in the United States to design and build a metal, prefabricated building. The buildings were to be designed to be easily shipped, easy to erect, and in a half-moon shape to better avoid shrapnel during an attack.

The first design of the Quonset hut, named after the Rhode Island military installation, was named the T-Rib hut. The T-Rib utilized a T-shaped steel and iron arch (Figure 1). The hut had corrugated steel sheets laid across arched steel and iron frames that were spaced four feet apart and affixed with nuts and bolts (Survey LA 2015). This design had the steel sheets laid in a continuous design so that the walls and roof of the hut became a single structural member. There were two main designs of the T-Rib based on size: the 20 and the 40. The 20 measured 20 feet by 48 feet long, and the 40 measured 40 feet by 100 feet long. From this, the T-Rib hut was subsequently adapted to specialized functions and each plan indicated the modifications needed to make the conversion and the location of the equipment necessary for each design (Decker and Chiel 2005). The huts did not require a foundation, although a foundation was sometimes added depending on the condition of the site. The earliest versions were unpainted, but later versions were painted with an olive-drab paint. Most of these huts were repainted to match the local landscape.

Figure 1. T-Rib Quonset hut (National Steel, August 1950).

Although the T-Rib hut was quickly produced and shipped to military installations, Fuller and Company also began a new design. Users of the T-Rib noted that because of its continuous arch, features such as beds, sinks, and washing machines had to be moved inward until they abutted the curve at the top edge of the unit. This resulted in a loss of usable floor space (Survey LA 2015). The T-Ribs were also awkward to crate and

Figure 2. Quonset Redesign hut model (National Archives, Washington, RG 342-FH-3b47102).

heavy to ship. The new design was dubbed the Quonset Redesign and was available in two sizes (Figure 2). This hut had a segmental arch and four-foot-high vertical sidewalls. The new arch design meant that the hut could be erected in two sections instead of three and the framing was changed to a lighter-weight material made by Stran-Steel, which made it easier to ship. It is not clear when the T-Rib design was phased out in favor of the Quonset Redesign hut, but the new design was approved in late 1941.

In 1942, Stran-Steel took over production and designed a third Quonset hut called the New Arch Rib Stran-Steel (SSAR) (Figure 3). The new design created an expanded footprint and reverted back to the full arched rib present in the original T-Rib hut. Although this design resulted in the loss of some floor space, the new modifications allowed easier fabrication and erection, and the huts could be made larger to compensate for the loss of size. As with the T-Rib design, the SSAR hut was clad with curved, corrugated metal applied vertically to the arch. A new cladding system was introduced with the SSAR that used the factory-curved panel at the ridge but applied the corrugated metal sheets horizontally.

It was estimated that between 150,000 to 170,000 Quonset huts were produced by the U.S. military during WWII (Survey LA 2015). Private companies also began to develop their own versions of the Quonset hut for both military and civilian uses. However, the military had a surplus of Quonset huts after WWII, and therefore began selling them to the public. These huts were adapted for a variety of uses, including housing, churches, supermarkets, barns, garages, industrial uses, and other commercial and community needs (Survey LA 2015). Over time, the Quonset hut fell out of favor, partly due to the deterioration and rusting of the metal and the shift toward a more efficient design that gave more floor space. Today, Quonset huts produced during WWII can still be found in use. They are often found in industrial areas and are usually used for light industry and storage. New versions of the Quonset hut are still being built for all types of uses.

Figure 3. Stran-Steel Quonset hut (National Archives, Washington, D.C., RG 80-G 347017).

SIGNIFICANCE WITHIN THE MHD

Building 23-W10 was installed in Mercury in 1962 and used as a warehouse (Figure 4) to support Cold War efforts. It had likely been brought over from Camp Desert Rock after the camp was no longer in service (Reno et al. 2017). It is 100 feet by 40 feet and is a T-Rib Quonset hut. By the 1950s, Quonset huts and other prefabricated buildings made up a majority of the structures in Mercury. Quonset huts housed a variety of facilities, such as dormitories, a movie theater, a gym, science and research areas, and storage (Figures 5-6). Based on historic photos of Mercury, some of the Quonset huts were the smaller version of the T-Rib, which were used as dormitories. Others appear to have been either a modified version of the Redesign model with straight sidewalls or possibly a model that was built by a private company not intended for the federal government. Although there is not a total count of how many Quonset huts were in Mercury during its height of use, at least 30 Quonset huts appear to have been used as dormitories based on Reno et al. (2017). In addition to the dormitories, there were at least six other Quonset huts that were likely used as warehouses. These were scattered throughout Mercury.

Currently, only four Quonset huts remain in Mercury, including Building 23-W10. All four were recorded in 2017 as contributing to the MHD (Reno et al. 2018). These four remaining Quonset huts were installed in 1968 and have been historically used as warehouses. Building 23-W10 is considered contributing to the significance of the district both for its historic importance in relation to nuclear testing under Criterion A and as a part of the distinctive design and construction of the district under Criterion C. This building served as a support facility in Mercury for nuclear testing throughout much of the Cold War. It is a well-preserved example of what is now a rare property type on the NNSS. It is almost unchanged and retains all seven aspects of integrity at a high level.

Figure 4. Building 23-W10, facing west (227623_4038, DRI 2022).

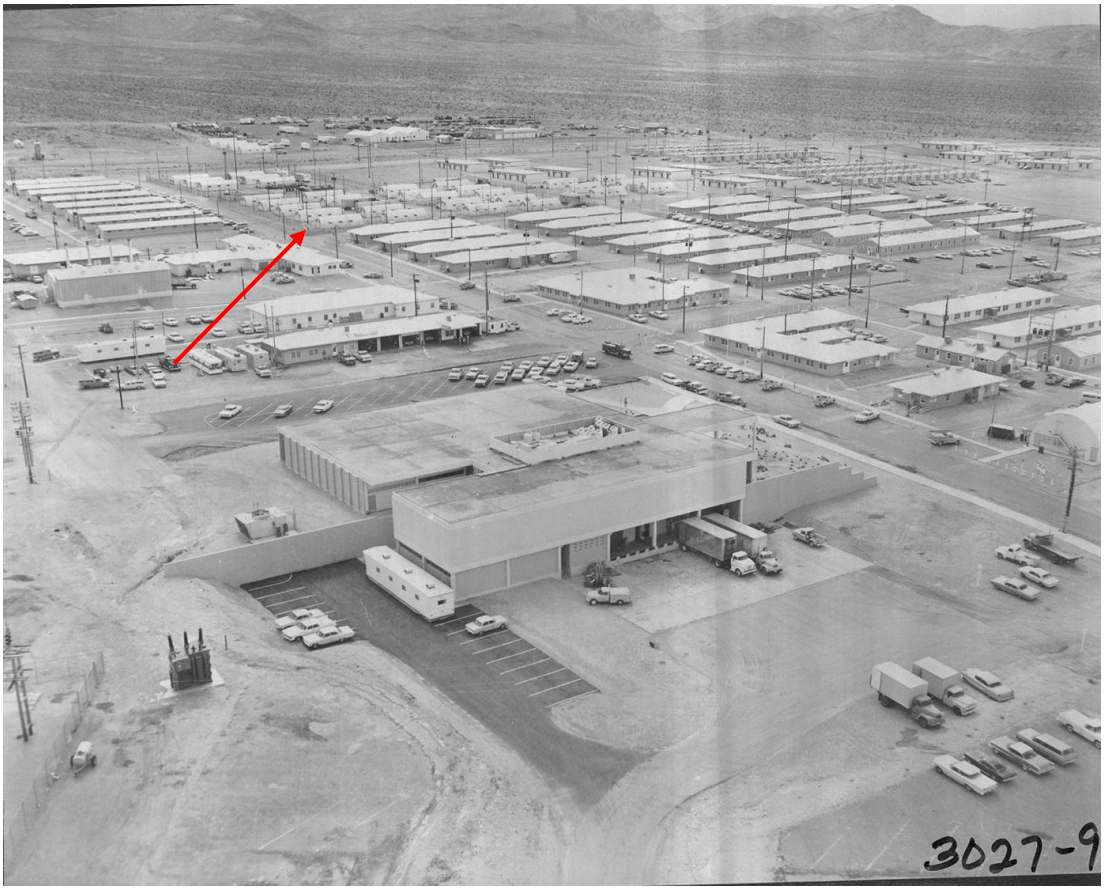

Figure 5. Red arrow indicates location of the Quonset hut dormitory complex, facing east (REECo 3027-9, 1965).

Figure 6. Interior of Quonset hut movie theater in Mercury (REECo1382-1, 1962).

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Decker, Julie, and Chris Chiel
2005 *Quonset Hut, Metal Living for a Modern Age.* Princeton Architectural Press, New York.

National Steel Corporation
1950 *Erection Instructions for the U.S. Navy, Quonset 40*. Great Lakes Steel Corporation, Detroit.

Reno, Ron, Tatianna Menocal, and Carol Shimer
2017 Architectural Resource Assessment form for SHPO Resource No. B15228 (Warehouse) 25 June.

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Survey LA
2015 *Los Angeles Citywide Historic Context Statement, Sub-theme: The Quonset Hut, 1941-1965.* Electronic document, https://planning.lacity.org/odocument/ecc893e4-f5dd-4d7d-8034-1132c7d4aed8/The%20Quonset%20Hut%2C%201920-1965.pdf, accessed May 2022.

PREPARERS' QUALIFICATIONS

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Laura O'Neill meets the Secretary of Interior's Professional Qualifications Standards for Architectural History and Historic Architecture. She has been professionally involved in the field of historic preservation since 2006. She holds a Bachelor of Arts degree in Political Science from Lehigh University in Bethlehem, PA, and a Master of Architecture degree from California State Polytechnic University in Pomona, CA. Ms. O'Neill was responsible for managing the production of this report.

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Architectural Resource Assessment (ARA) Form (Update)

For SHPO Use Only	SHPO Concurrence?: Y / N		Date:		
Survey Date	May 24, 2022	Recorded By	Brannan and Menocal	Agency Report #	LR052422-1

The purpose of this update is to document completion of mitigation stipulations regarding the demolition of Building 23-W10 (State Historic Preservation Officer [SHPO] Resource No. B15228) in Mercury on the Nevada National Security Site (NNSS). These stipulations and documentation are in accordance with the 2018 *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). As part of the Mercury PA, the U.S. Department of Energy (DOE), in consultation with the SHPO, developed standard mitigation measures for resolving adverse effects to contributing buildings and structures within the Mercury Historic District (MHD). The MHD is eligible for listing in the National Register of Historic Places (NRHP) under the Secretary of the Interior's Significance Criteria A and C, as defined in 36 CFR Part 60.4, as a significant concentration of buildings and structures with a direct, important association with Cold War-era nuclear testing from 1951 through 1992. Building 23-W10 is a contributing element of the MHD per the architectural survey of the district completed in 2018 (Reno et al. 2018). The building was identified as a Category II element in Appendix C of the Mercury PA.

In accordance with the standard mitigation for Category II elements (Stipulation VIII.C.1) in the Mercury PA, this updated ARA form includes:

- Updated descriptive and historical information
- Current digital images with an index and keyed to a current annotated sketch plan
- Historic photographs
- Historic architectural drawings

5. 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.

Previously, Reno et al (2018) evaluated Building 23-W10 as a contributing element of the Mercury Historic District. As part of preparing the Mercury PA, the building was identified as a Category II contributing element. Category II properties are those that have several representatives in the MHD, such as warehouses, but may possess different engineering or architectural characteristics that distinguish them from other classes of similar elements. They are generally not considered to be individually eligible for the NRHP, and individual eligibility evaluations are not required as part of the standard mitigation of Category II elements under the Mercury PA, unlike Category I elements for which individual NRHP eligibility evaluations are required. As a result, the following paragraphs are provided to add to the historical record of Building 23-W10 as a contributing element to the MHD.

Building 23-W10 served as a support facility in Mercury for nuclear testing throughout much of the Cold War. It is a well-preserved example of a Quonset Hut on the NNSS. It is almost unchanged and retains all seven aspects of integrity. It was likely produced during World War II and later installed at Camp Desert Rock ca. 1951. It was installed in Mercury in 1962 (NNSS GIS Database) which has been confirmed with historic photos. Considering the date of installation in Mercury, it is likely that this building was moved to its present location from Camp Desert Rock.

Quonset Huts

The U.S. military developed Quonset huts in response to a need for quick and easy structures in support of the World War II (WWII) effort. Based on the British Nissen hut, the federal government contracted with Fuller and Company, one of the largest contractors in the United States to design and build a metal, prefabricated building. The buildings were to be designed to be easily shipped, easy to erect, and in a half-moon shape to better avoid shrapnel during an attack.

The first design of the Quonset hut, named after the Rhode Island military installation, was named the T-Rib hut. The T-Rib utilized a T-shaped steel and iron arch (Figure 1). The hut had corrugated steel sheets laid across arched steel and iron frames that were spaced four feet apart and affixed with nuts and bolts (Survey LA 2015). This design had the steel sheets laid in a continuous design so that the walls and roof of the hut became a single structural member. There were two main designs of the T-Rib based on size: the 20 and the 40. The 20 measured 20 feet by 48 feet long, and the 40 measured 40 feet by 100 feet long. From this, the T-Rib hut was subsequently adapted to specialized functions and each plan indicated the modifications needed to make the conversion and the location of the equipment necessary for each design (Decker and Chiel 2005). The huts did not require a foundation, although a foundation was sometimes added depending on the condition of the site. The earliest versions were unpainted, but later versions were painted with an olive-drab paint. Most of these huts were repainted to match the local landscape.

Although the T-Rib hut was quickly produced and shipped to military installations, Fuller and Company also began a new design. Users of the T-Rib noted that because of its continuous arch, features such as beds, sinks, and washing machines had to be moved inward until they abutted the curve at the top edge of the unit. This resulted in a loss of usable floor space (Survey LA 2015). The T-Ribs were also awkward to crate and heavy to ship. The new design was dubbed the Quonset Redesign and was available in two sizes (Figure 2). This hut had a segmental arch and four-foot-high vertical sidewalls. The new arch design meant that the hut could be erected in two sections instead of three and the framing was changed to a lighter-weight material made by Stran-Steel, which made it easier to ship. It is not clear when the T-Rib design was phased out in favor of the Quonset Redesign hut, but the new design was approved in late 1941.

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Significance within the MHD

Building 23-W10 was installed in Mercury in 1962 and used as a warehouse (Figure 4) to support Cold War efforts. It had likely been brought over from Camp Desert Rock after the camp was no longer in service (Reno et al. 2017). It is 100 feet by 40 feet and is a T-Rib Quonset hut. By the 1950s, Quonset huts and other prefabricated buildings made up a majority of the structures in Mercury. Quonset huts housed a variety of facilities, such as dormitories, a movie theater, a gym, science and research areas, and storage (Figures 5-6). Based on historic photos of Mercury, some of the Quonset huts were the smaller version of the T-Rib, which were used as dormitories. Others appear to have been either a modified version of the Redesign model with straight sidewalls or possibly a model that was built by a private company not intended for the federal government. Although there is not a total count of how many Quonset huts were in Mercury during its height of use, at least 30 Quonset huts appear to have been used as dormitories based on Reno et al. (2017). In addition to the dormitories, there were at least six other Quonset huts that were likely used as warehouses. These were scattered throughout Mercury.

Currently, only four Quonset huts remain in Mercury, including Building 23-W10. All four were recorded in 2017 as contributing to the MHD (Reno et al. 2018). These four remaining Quonset huts were installed in 1968 and have been historically used as warehouses. Building 23-W10 is considered contributing to the significance of the district both for its historic importance in relation to nuclear testing under Criterion A and as a part of the distinctive design and construction of the district under Criterion C. This building served as a support facility in Mercury for nuclear testing throughout much of the Cold War. It is a well-preserved example of what is now a rare property type on the NNSS. It is almost unchanged and retains all seven aspects of integrity at a high level.

6. 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.

Building 23-W10 was installed in Mercury in 1962 and used as a warehouse. It had likely been brought over from Camp Desert Rock after the camp was no longer in service (Reno et al. 2017). It is 100 feet by 40 feet and is a T-Rib Quonset hut, the first type of Quonset hut designed by the U.S. military in support of WWII. It is a one-story, rectangular-plan structure with a steel frame, corrugated steel semicylindrical roof, and corrugated steel end walls. It has a concrete slab foundation. Each end wall has a central, interior, sliding metal door and a large, louvered, metal vent centered above it. There is a pair of steel-framed, four-over-two awning windows at each side of the door.

Building 23-W10 is currently empty except for free-standing shelving and is not in use at this time. The interior consists of open space with no interior walls or partitions. The metal ribs of the structure are visible through the length of the building and there appear to be no changes to the structure since its installation. In the mid-line of the ceiling is one row of pendant lights that run the length of the building. The southeast-facing façade has a fire alarm, call box, and fire connections along with electrical sweep and boxes.

A concrete slab is on the northeast side of the building. It is surrounded by remains of a wood and chicken wire/barbed wire fence.

There are no Accessory Resources.

7. References

List references used to research and evaluate the individual property.

Decker, Julie and Chris Chiel
2005 *Quonset Hut, Metal Living for a Modern Age.* Princeton Architectural Press, New York.

National Steel Corporation
1950 *Erection Instructions for the U.S. Navy, Quonset 40.* Great Lakes Steel Corporation, Detroit.

NNSS GIS Integrated Planning Database.

Reno, Ron, Tatianna Menocal, and Carol Shimer
2017 Architectural Resource Assessment form for SHPO Resource No. B15228 (Warehouse) 25 June.

Reno, R. L., C. M. Collins, and M. L. King
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, DOE/NV/0003590-09, Desert Research Institute, Las Vegas.

Survey LA
2015 *Los Angeles Citywide Historic Context Statement, Sub-theme: The Quonset Hut, 1941-1965.* Electronic document, https://planning.lacity.org/odocument/ecc893e4-f5dd-4d7d-8034-1132c7d4aed8/The%20Quonset%20Hut%2C%201920-1965.pdf, accessed May 2022

11. Photographs

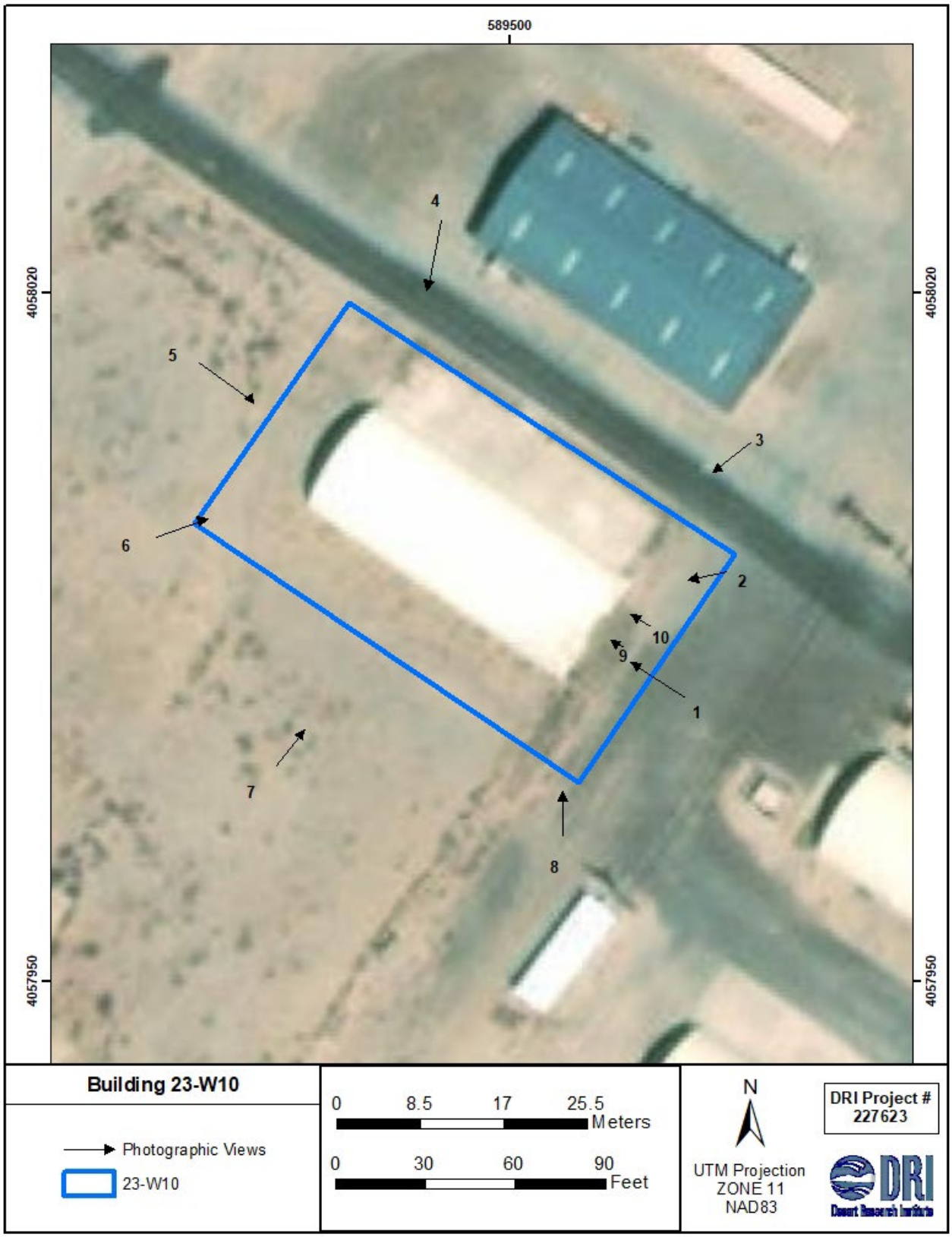
Include as many photographs as needed to accurately depict the resource.

INDEX TO DIGITAL IMAGES

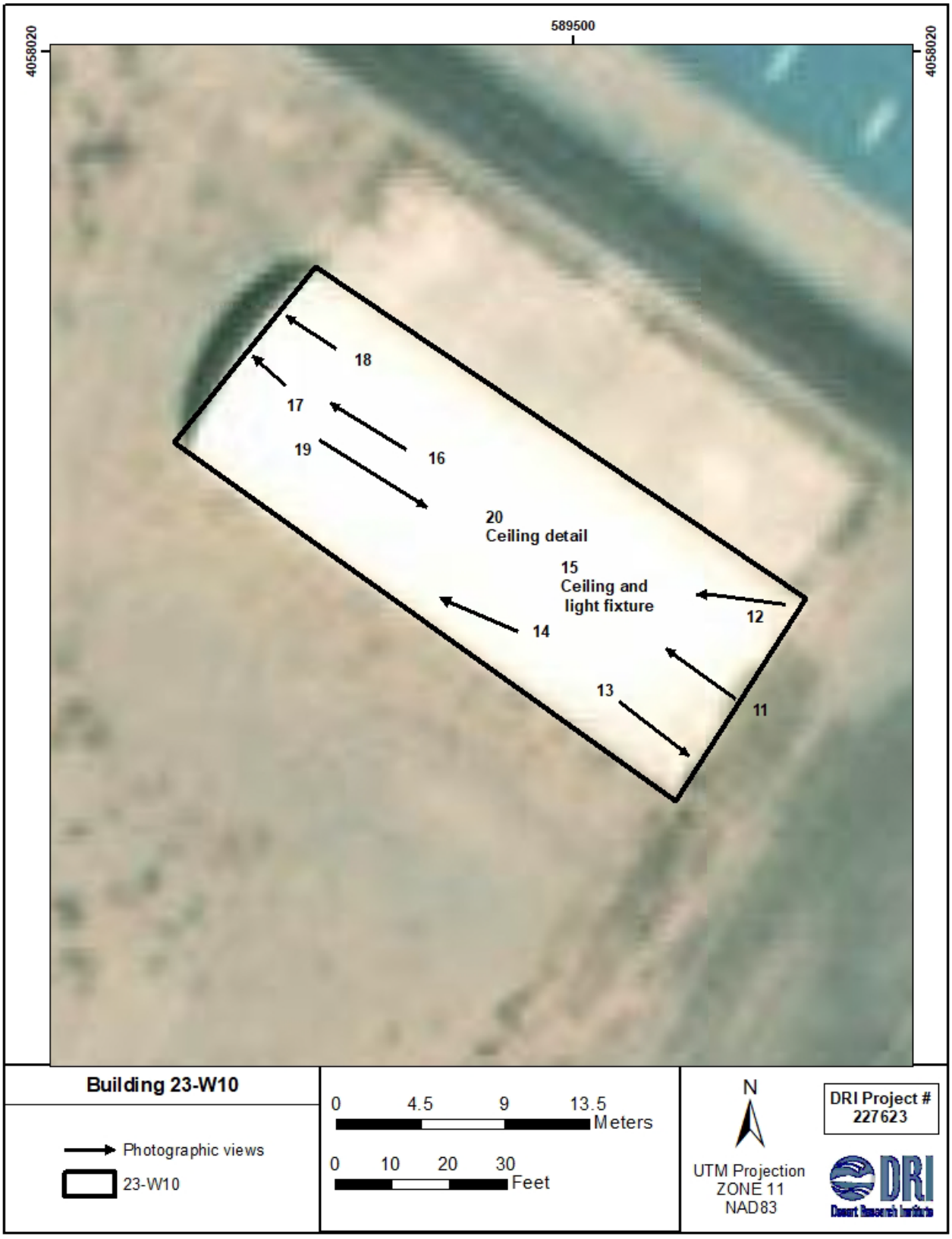
BUILDING 23-W10 DRI PROJECT NO. 227623
Nevada State Historic Preservation Officer Resources No. B15228
Mercury Historic District (D230)
Mercury, Area 23
Nevada National Security Site
Nye County, Nevada

Nicole Brannan (Desert Research Institute), Photographer, May 24, 2022

DIGITAL IMAGE KEY PLAN (EXTERIOR).



DIGITAL IMAGE KEY PLAN (INTERIOR).



Photograph 1. East elevation, facing west/northwest (2276_4043, DRI 2022).

Photograph 2. Oblique view of east and north elevations, facing west (2276_4039, DRI 2022).

Photograph 3. North elevation, facing south/southwest (2276_4040, DRI 2022).

Photograph 4. Oblique view of north and west elevations, facing south (2276_4042, DRI 2022).

Photograph 5. West elevation, view to the east/southeast (2276_4043, DRI 2022).

Photograph 6. Oblique view of east and south elevations, view to the northeast (2276_4044, DRI 2022).

Photograph 7. South elevation, view to the north/northeast (2276_4045. DRI 2022).

Photograph 8. Oblique view of the south and east elevations, view to the northwest (2276_4046, DRI 2022).

Photograph 9. Entry doors on east elevation (2276_4047, DRI 2022).

Photograph 10. Windows located on the north side of doors, east elevation (2276_4049, DRI 2022).

Photograph 11. Interior of 23-W10 from east entry, view to the west/northwest (2276_4056, DRI 2022).

Photograph 12. Northeast corner of 23-W10, view to the southwest (2276_4058, DRI 2022).

Photograph 13. Southeast corner of 23-W10, facing southeast, window on south of entry door (2276_4061, DRI 2022).

Photograph 14. Southern wall detail, facing west (2276_4062, DRI 2022).

Photograph 15. Ceiling detail and light fixture, eastern end of 23-W10 (2276_4064. DRI 2022).

Photograph 16. Western entry door and windows, facing west (2276_4068, DRI 2022).

Photograph 17. Western entry doors, facing west (2276_4069, DRI 2022).

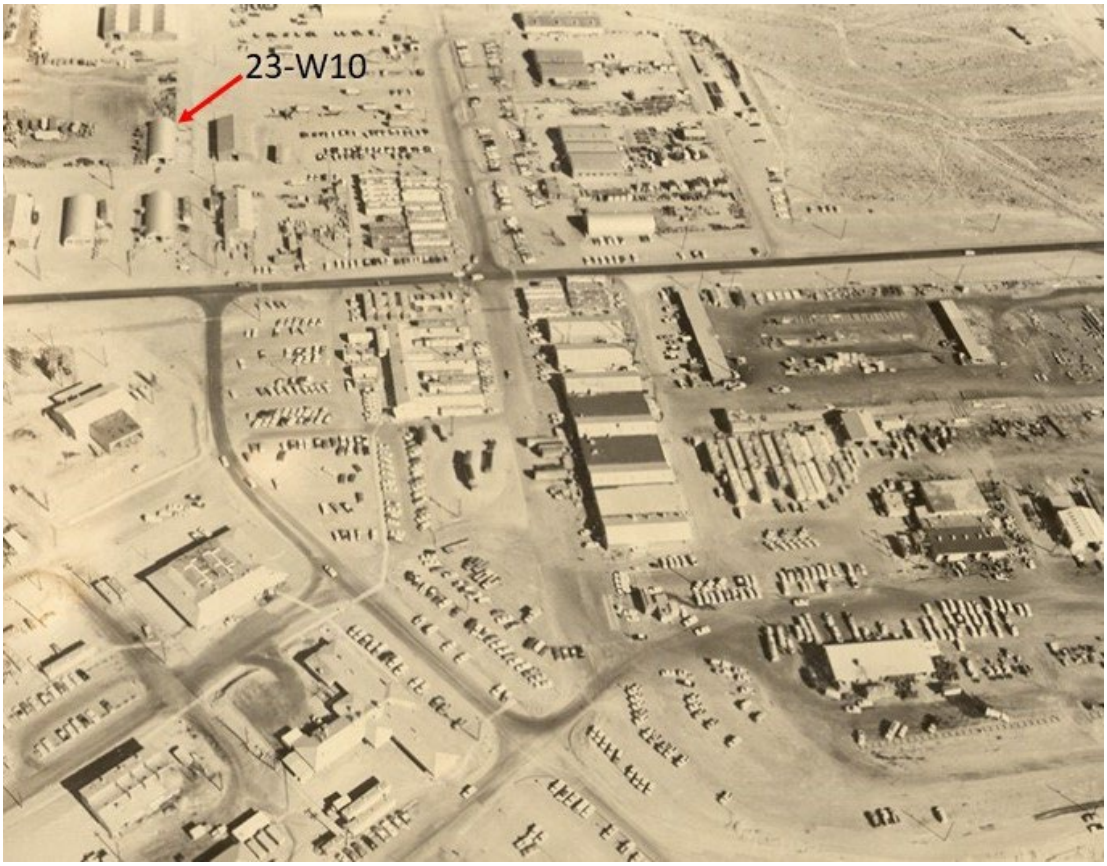
Photograph 18. Sign on both entry doors (2276_4065, DRI 2022).

Photograph 19. Southeastern entry doors, view to the southeast (2276_4071, DRI 2022).

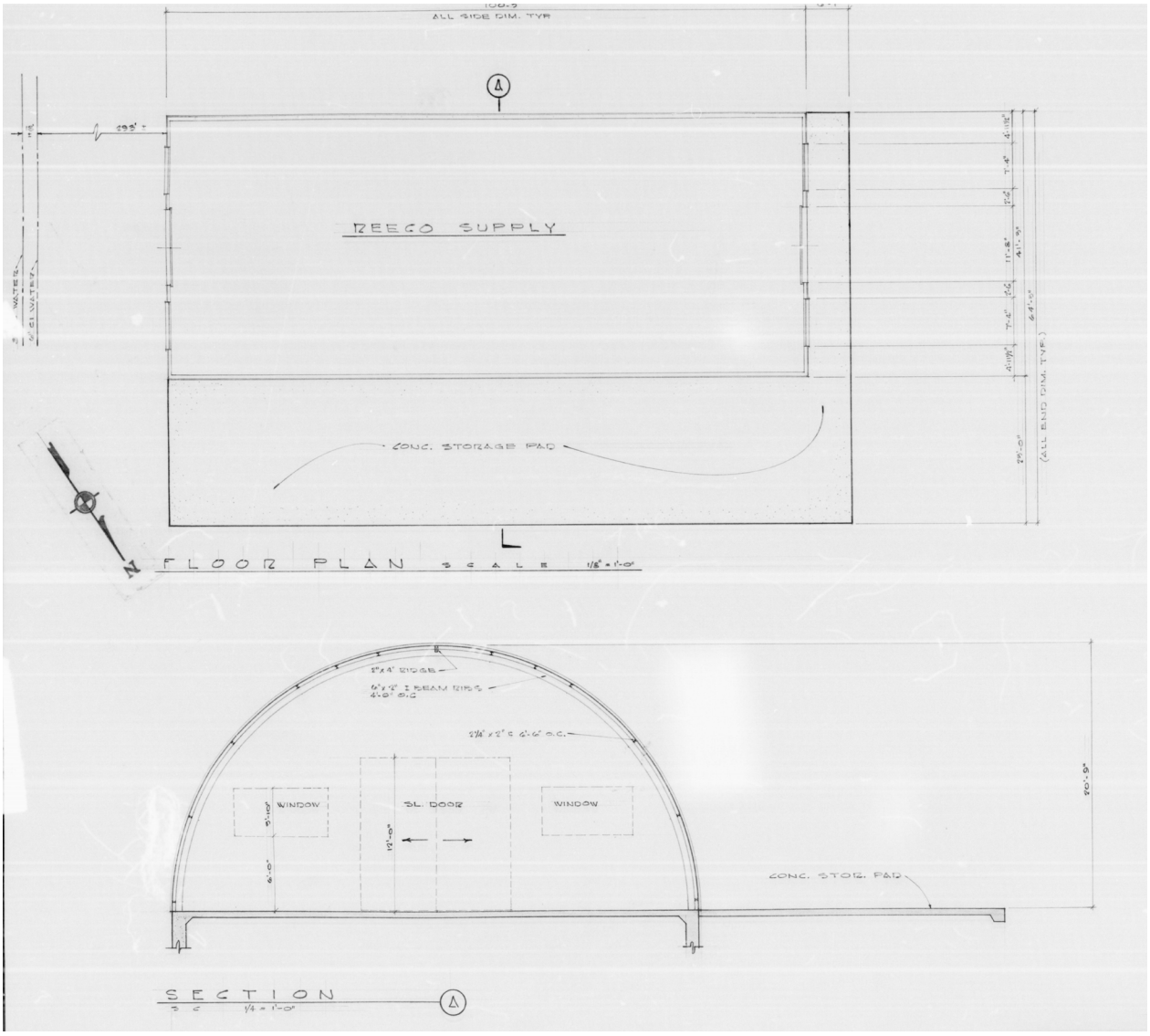
Photograph 20. Ceiling detail, south-central area of 23-W10 (2276_4073, DRI 2022).

HISTORIC PHOTOGRAPHS

Building 23-W10, cafeteria in the foreground (REECo 65-076, 1965).



Building 23-W10 in Mercury (REECo 1850-5, 1964).



Building 23-W10 plan section, (Holmes & Narver, unknown date).

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SHPO Resource #: B15228 Rev. 2017
Other Resource #: 23-W10 Warehouse

NEVADA STATE HISTORIC PRESERVATION OFFICE

Architectural Resource Assessment (ARA) Form

For SHPO Use Only	SHPO Concurrence?: Y / N		Date:		
Survey Date	June 25, 2017	Recorded By	Reno, Menocal, Shimer	Agency Report #	TR 115

1. Property Type

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

2. Property Overview and Location

Street Address	NNSS Area 23, Block 3, Ranger – Mercury Bypass			
City, Zip	Mercury, 89023			
County	Nye			
Assessor's Parcel #	N/A	Subdivision Name	N/A	
UTM Location (NAD 83, UTM Zone 11 North)	Easting: 589491	Northing: 4057996		
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	1962
Architectural Style	Prefabricated
Architectural Type	Quonset
Roof Form	Semi-cylindrical
Roof Materials	Corrugated Steel
Exterior Wall Materials	Corrugated Steel
Foundation Materials	Concrete
Window Materials	Steel
Window Type	4/2 Awning in pairs
Accessory Resources?	Yes ☐ No ☒
	Number?:

Warehouse 23-W10, view east-southeast (2017).

Condition of Resource(s)?		
Good ☒	Fair ☐	Poor ☐
Explanation: Exterior is completely unmodified except for minor details. Walls and roof are deteriorated. Electrical systems and HVAC need upgrades.		

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: / 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	

5. 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	1962-1992			
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): 1962
Threats to Resource:	Redevelopment			
Historic Name	Warehouse			
Current/Common Name	Warehouse			
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	Storage			
Current Building Use	Storage			
Architect/Engineer/Designer	Unknown			
Builder/Contractor	Unknown			

6. 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.

Since so many elements of the district have already been lost, those remaining elements from the period of significance have more comparative importance than they would have had otherwise. They are now in many cases rare survivors of what were formerly fairly common property types at Mercury. With this in mind, the requirements for being considered contributing elements to the district are fairly low. If a resource still retains visible elements which date to the period of significance, it is considered contributing to the significance of the district both for its historic importance in relation to nuclear testing under Criterion A and as a part of the distinctive design and construction of the district under Criterion C. The companion question asked was if that resource was to be removed would the district lose some of its overall significance. In nearly all cases there is sufficient integrity to answer this question in the affirmative.

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 throughout much of the Cold War. It is a well-preserved example of what is now a rare property type on the NNSS. It is almost unchanged and retains all seven aspects of integrity at a high level. It was likely produced during World War II and later installed at Camp Desert Rock ca. 1951. It was installed in Mercury in 1962 (NNSS GIS Dbase). Considering the date of installation in Mercury, it is likely that this building was moved to its present location from Camp Desert Rock.

7. 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 building is a rectangular-plan one-story 4,259 sq. ft. Quonset Hut. It has a steel frame, corrugated steel semi-cylindrical roof, and corrugated steel end walls and is installed on a concrete slab foundation. Both end walls have a central internal double sliding overhead metal door with a large louvered metal vent in the gable end. A pair of windows is at each side of the door. All windows are steel-framed 4/2 awning.

The southeast-facing façade has fire alarm, call box, and fire connections along with electrical sweep and boxes.

A concrete slab is on the northeast side of the building. It is surrounded by remains of a wood and chicken wire/barbed wire fence.

The building is now vacant.

There no Accessory Resources.

8. References

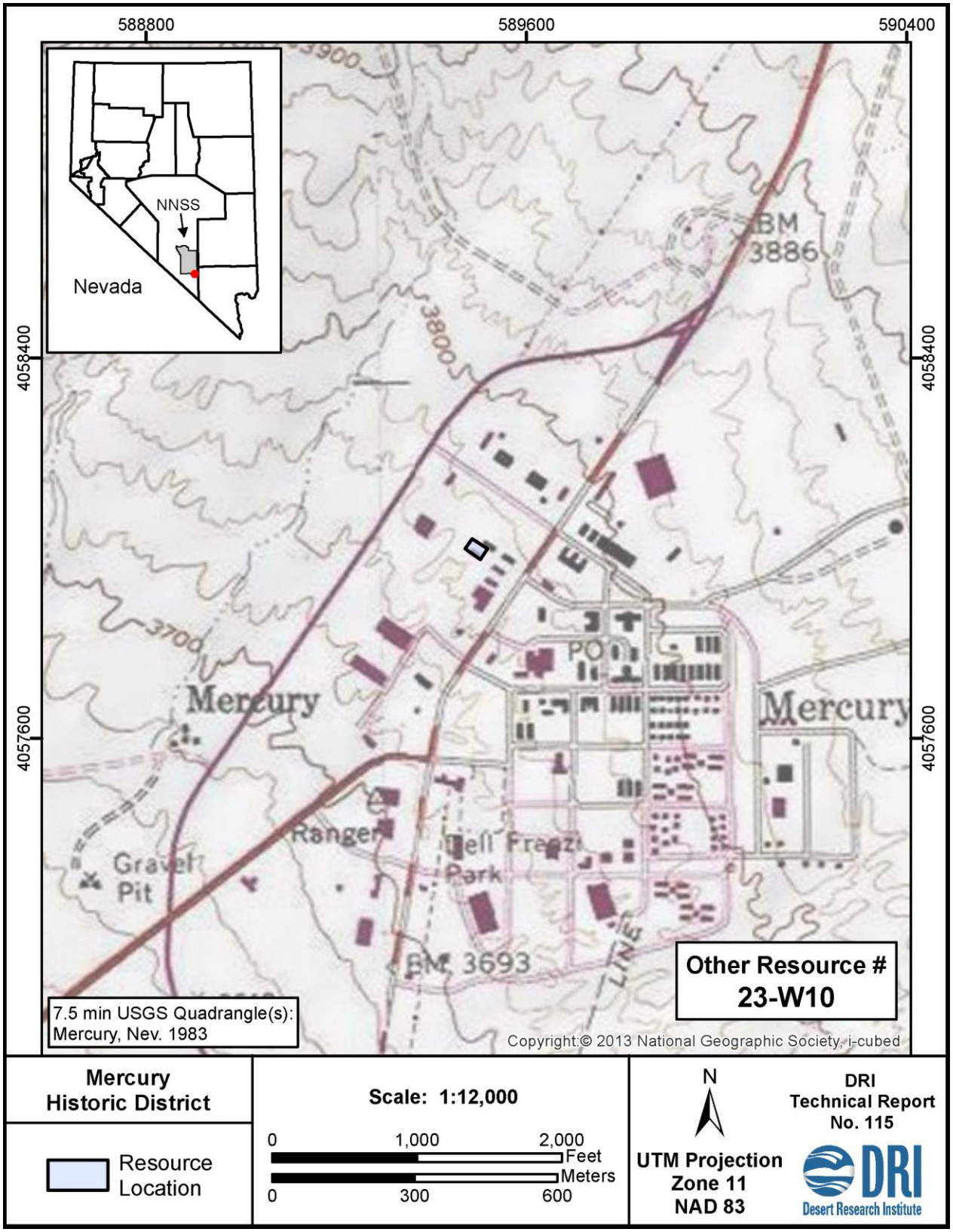
List references used to research and evaluate the individual property.

Desert Research Institute
2017 Mercury Photos.

NNSS GIS Integrated Planning Database.

9. Area Location Map

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



10. 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.

11. Photographs

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

Elevation: Southeast Direction facing: Northwest Photographer: Menocal Date: 06/26/2017

Elevation: Southwest Direction facing: Northeast Photographer: Menocal Date: 06/26/2017