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Historical Documentation of Buildings 0460 and 0463 at Technical Area 16

Volume 1

Los Alamos National Laboratory

LANL Fiscal Year 2022 Footprint Reduction

Historic Building Report No. 405

Survey No. 1242

NMCRIS Activity No. 151891

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EXECUTIVE SUMMARY

The U. S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office (Field Office) has prepared the final documentation for the resolution of adverse effects to Buildings 0460 and 0463 in Technical Area (TA) 16 at Los Alamos National Laboratory (LANL or Laboratory). This documentation is being submitted to the New Mexico State Historic Preservation Officer (SHPO). TA-16-0460, a laboratory/processing building, and TA-16-0463, a rest house/support building, were determined eligible for listing in the National Register of Historic Places (Register) in the report *TA-16 Heating System Replacement* (McGehee 1995) *(LA-CP-95-180)*. The eligibility of TA-16-0460 was reaffirmed in 2003 in the *ESA Division's Five-Year Plan: Consolidation and Revitalization at Technical Areas 3, 8, 11, and 16 (LA-UR-02-6841)*.

Buildings TA-16-0460 and TA-16-0463 were deemed Register eligible under Criterion A for their association with high explosives research during the Cold War. Additionally, the buildings were also deemed Register eligible under Criterion C, and Criterion Consideration G. In addition to its register evaluation, the report also identified TA-16-0460 and TA-16-0463 as excess property to be ultimately demolished by the LANL Footprint Reduction Program in Fiscal Year 2022. Determination of these findings, and corresponding adverse effects, were transmitted by the Field Office to the SHPO correspondence April 17, 2019. SHPO concurrence on both determination of adverse effects and the use of the standard mitigation practices was received May 9, 2019.

In the correspondence addressed to the SHPO the Field Office proposed mitigation of these adverse effects in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and with the *Programmatic Agreement among the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office, the New Mexico State Historic Preservation Office, and the Advisory Council on Historic Preservation Concerning Management of Historic Properties of Los Alamos National Laboratory, Los Alamos, New Mexico* (PA), dated December 23, 2015. The PA states in Appendix D.2.A. that adverse effects to Register-eligible buildings and structures will be resolved according to the procedures defined in *A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico* (CRMP) (LA-UR-19-21590, formerly LA-UR-15-26624) and within the PA, itself.

Under the CRMP, development of a formal three-party memorandum of agreement (MOA) is required to resolve adverse effects to exceptionally significant properties. The Advisory Council on Historic Preservation (ACHP) has chosen not to participate in routine MOAs related to the demolition of historic buildings. The PA stipulates in Section 10.D.6 that if adverse effect resolution only includes the Field Office and the New Mexico SHPO, no MOA is required, and the Field Office should consult with the SHPO in writing to resolve the adverse effects. As stated above the standard documentation measures identified in the CRMP were invoked for mitigation of the adverse effects of the demolition of these two register eligible properties, TA-16-0460 and TA-16-463.

This document fulfills the plan for mitigation. Standard reporting measures for TA-16-0460 and TA-16-0463 include archival quality photographs of the interior and exterior of the building and its landscape; the identification and documentation of historically significant equipment and artifacts; a comprehensive listing of LANL architectural drawings; 11 in. × 17 in. copies of key original and as-built drawings; updated LANL historic building survey forms; a series of construction-history maps of the TA, including a map of the eligible and ineligible buildings; and a detailed use history of the building and technical divisions associated with its operation.

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ACHP	Advisory Council on Historic Preservation
ARMCO	American Rolling Mill Company
CMUs	concrete-masonry units
CRMP	A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico
DOE	Department of Energy
DTA	differential thermal analysis
ESCA	electron spectrometry for chemical analysis
Field Office	U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office
GMX	Explosive Systems and Implosion Dynamics (Laboratory Division)
HMX	high-melting (-point) explosive
LANL	Los Alamos National Laboratory
LASL	Los Alamos Scientific Laboratory
MOA	Memorandum of Agreement
NHPA	National Historic Preservation Act
NNSA	National Nuclear Security Administration
NRHP	National Register of Historic Places
NSWC	Naval Surface Warfare Center
PA	Programmatic Agreement among the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office, the New Mexico State Historic Preservation Office, and the Advisory Council on Historic Preservation Concerning Management of Historic Properties of Los Alamos National Laboratory, Los Alamos, New Mexico
PBX	plastic-bonded explosive
RDX	Royal Demolition eXplosive
Register	National Register of Historic Places
SHPO	State Historic Preservation Office
S-Site	Sawmill Site
START	Strategic Arms Reduction Treaty
TA	Technical Area
TNT	trinitrotoluene
WWII	World War II

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1 INTRODUCTION

The U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office (Field Office) submits this supplemental cultural resource documentation to the New Mexico State Historic Preservation Officer (SHPO) to resolve the adverse effects from demolishing Building 0460 in Technical Area (TA) 16 and Building 0463 in TA-16 (Figure 1) at Los Alamos National Laboratory (LANL or the Laboratory). The demolition of these buildings occurred in fiscal year 2022. The construction of these buildings was completed in 1952 and 1966 to support analytical chemistry research at the Laboratory.

In an effort to adhere to the LANL Footprint Reduction Program and to be compliant with the National Historic Preservation Act of 1966, as amended (NHPA), buildings TA-16-0460 and TA-16-0463 were evaluated for listing in the National Register of Historic Places (Register) for their association to exceptional significant Cold War events or scientific developments (McGehee et al. 2003). The eligibility of these buildings was concurred upon by the New Mexico State Historic Preservation Office (SHPO). In addition to the eligibility evaluations, it was determined that permanent retention of the historic buildings was not possible, many of the Complex's buildings contained legacy radioactive and chemical contamination making them inoperable. As a result, the Complex was demolished in fiscal year 2022. (Figures 2, 3, and 4).

This report provides documentation as a standard mitigation measure to the adverse effects that occurred by the demolition of theses historic properties. To mitigate the adverse effects, LANL has followed Section 106 process contained in 36 CFR 800.6, resolution of adverse effects. In addition to these regulations and within this report, LANL has implemented the standards for documenting and reporting in accordance with the *A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico* (CRMP), LA-UR-19-21590, formerly LA-UR-15-27624. These standard reporting measures include archival-quality digital photographs of the building's interior, exterior, outside landscape; updating LANL historic building survey forms including 11 in. x 17 in. copies (in a reduced scale) of key original and as-built drawings; identification and documentation of historically significant equipment and artifacts; a comprehensive list of LANL architectural drawings; construction-history maps of TA-16 including current Register Eligible and Ineligible Buildings; and a detailed use history of the building and technical division associated with its operation.

The set of indexed archival photographs is included in Volume 2. Under the CRMP, development of a formal three-party Memorandum of Agreement (MOA) is required to resolve adverse effects to historic properties (i.e., exceptionally significant properties). The Advisory Council on Historic Preservation (ACHP) has chosen not to participate in routine MOAs related to the demolition of historic buildings. The *Programmatic Agreement among the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office, the New Mexico State Historic Preservation Office, and the Advisory Council on Historic Preservation Concerning Management of Historic Properties of Los Alamos National Laboratory, Los Alamos, New Mexico* Programmatic Agreement (PA) stipulates in Section 10.D.6 that if adverse effect resolution only includes the Field Office and the New Mexico State Preservation Office (SHPO), no MOA is required. However, the Field Office should consult with SHPO in writing to resolve the adverse effects. This report is the result of this resolution to document and record the historic buildings of the Complex.

1 Introduction

Figure 1. TA-16-0460 Complex

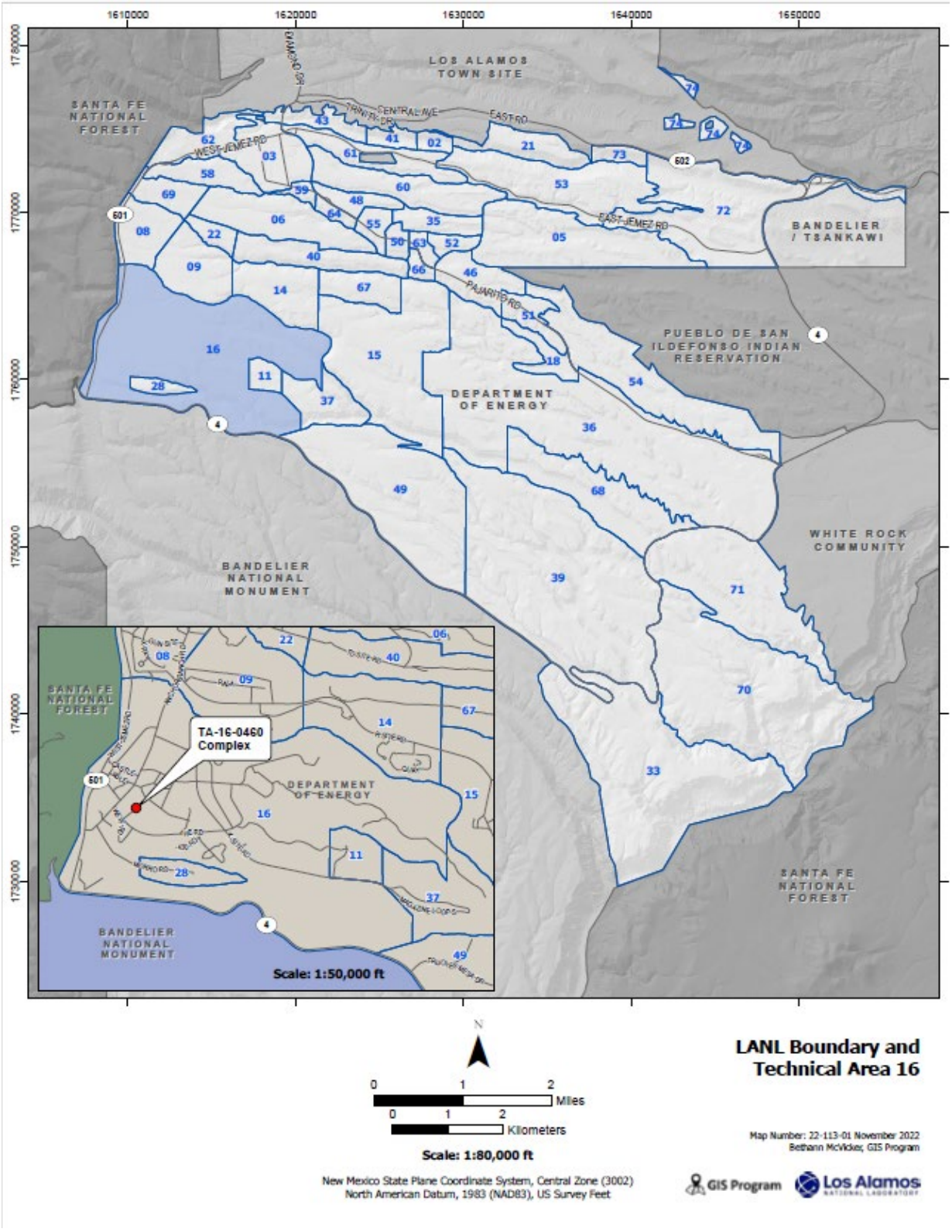


Figure 2. LANL Boundary and Technical Area 16

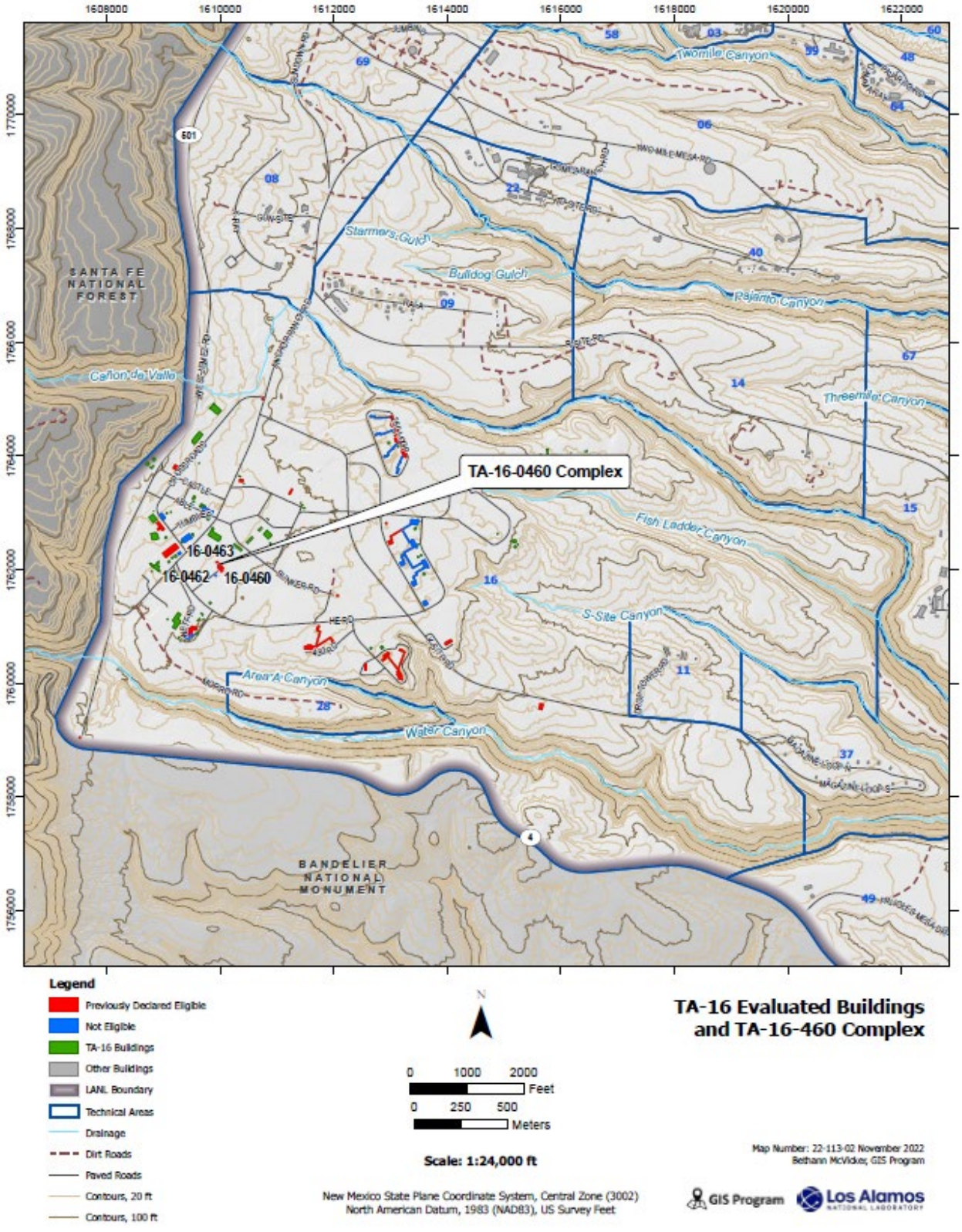


Figure 3. TA-16 Evaluated Buildings and TA-16-460 Complex

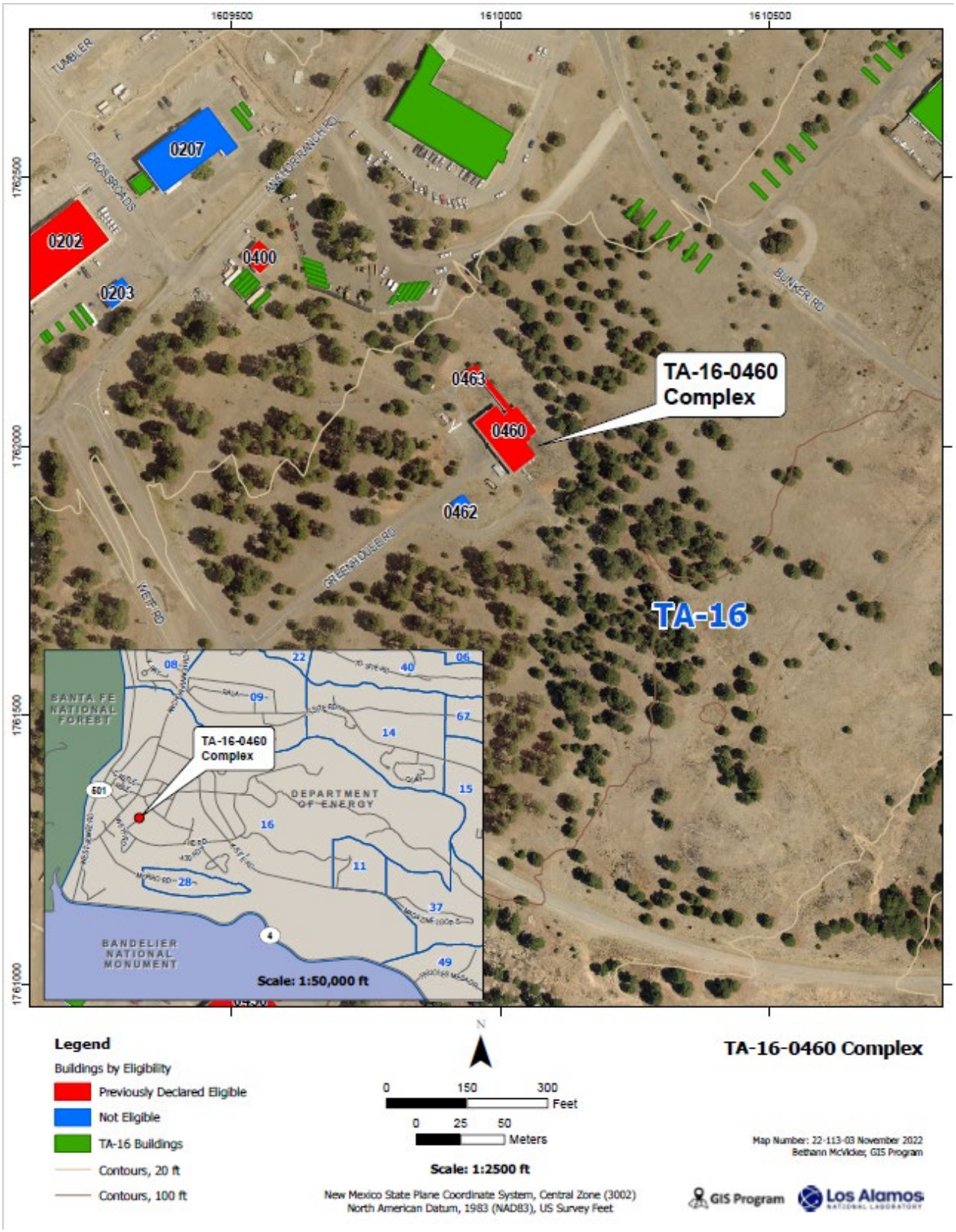


Figure 4. TA-16-460 Complex

Eligibility Determinations

In 1995, the SHPO concurred that Buildings TA-16-0460 and TA-16-0463 were eligible for listing in the Register. This determination was documented in a 1995 report titled *TA-16 Heating System Replacement* (McGehee 1995). Buildings TA-16-0460 and TA-16-0463 were determined eligible for listing in the Register under Criterion A, Criteria Consideration G under Criterion C. Criterion A is defined by properties "…associated with events that have made a significant contribution to the broad patterns of our history" (LANL 2017). Criterion C is defined by properties that "…embody the distinctive characteristics of a type, period, method of construction." (LANL 2017). The eligibility of TA-16-0460 was reaffirmed in 2003 in the *ESA Division's Five-Year Plan: Consolidation and Revitalization at Technical Areas 3, 8, 11, and 16 (LA-UR-02-6841)*. In addition, TA-16-0460 and TA-16-0463 were identified as excess property to be ultimately demolished by the LANL Footprint Reduction Program in fiscal year 2022. Determination of these findings, and corresponding adverse effects, were transmitted by the Field Office to the SHPO in correspondence on April 17, 2019. SHPO's concurrence on both determination of adverse effects and the use of the standard mitigation practices was received May 9, 2019.

Demolition and Adverse Effects

The demolition of these buildings was determined to be an adverse effect under Section 106 of the NHPA.

To mitigate the adverse effects, standard documentation was conducted and includes:

- archival quality digital photographs of the building's interior, exterior, and outside landscape (Volume 2);
- updated LANL historic building survey forms including, in a reduced scale, of 11 in. x 17 in. copies of key original and as-built drawings (Appendix A);
- identification and documentation of historically significant equipment and artifacts (Appendix B);
- a comprehensive list of LANL architectural drawings (Appendix C);
- construction-history maps of TA-16 including current Register Eligible and Ineligible Buildings (Appendix D);
- a detailed use history of the building and technical division associated with its operation and supplemented by oral interviews, when available.

2 HISTORICAL OVERVIEW

Early Cold War Era (1946–1956)

The future of the early Laboratory was in question after the end of World War II (WWII). Many scientists and site workers left Los Alamos and went back to their pre-war lives. Norris Bradbury was appointed director of the Laboratory following J. Robert Oppenheimer's return to his pre-WWII duties. Bradbury felt that the nation needed "a laboratory for research into military applications of nuclear energy" (LANL 1993). In late 1945, General Groves directed Los Alamos personnel to begin stockpiling and developing additional atomic weapons. Post-war weapon assembly work was now tasked to Los Alamos's Z Division, which had been relocated to an air base (now Sandia National Laboratories) in nearby Albuquerque, New Mexico (Gosling 2001).

In 1946, Los Alamos became involved in Operation Crossroads, the first of many atmospheric tests in the Pacific. Later in 1946, the U.S. Atomic Energy Commission was established to act as a civilian steward for the new atomic technology born of WWII. The Commission formally took over the Laboratory in 1947, making a commitment to retain the Laboratory as a permanent weapons facility.

With the beginning of the Cold War in 1947, weapons research once again became a national priority. Weapons research at Los Alamos was spearheaded by Edward Teller and Stanislaw Ulam and focused on the development of the hydrogen bomb, the feasibility of which had been discussed seriously at Los Alamos as early as 1946. The simmering Cold War came to a full boil in late 1949 with the successful test of Joe I, the Soviet Union's first atomic bomb. In January 1950, President Truman approved the development of the hydrogen bomb. Truman's decision led to the remobilization of the country's weapons laboratories and production plants. The year 1950 also marked the initial meeting of Los Alamos's Family Committee, a committee tasked with developing the first two thermonuclear devices (LANL 2001a). In 1951, the Nevada Proving Ground was established and the first Nevada atmospheric test, known as Able, was conducted. In the same year, Laboratory scientists directed Operation Greenhouse in the Pacific and successfully conducted both the first thermonuclear test, known as George, and the first thermonuclear boosted test, Item. In 1952, the first thermonuclear bomb, known as Mike, was detonated at Enewetak Atoll in the Pacific (LANL 1993).[1] The Soviet Union responded with a successful fusion demonstration in August 1953, followed by a test of a hydrogen bomb in 1955. The arms race was on. By 1956, Los Alamos had successfully tested a new generation of high explosives (plastic-bonded explosives) and had begun to make improvements to the primary stage of a nuclear weapon (LANL 2001a).

Although weapons research and development has always played a major role in the history of LANL, between 1942 and 1956 other key research fields were supercomputing advancements, fundamental biomedical and health physics research, high explosives research and development, reactor research and development, pioneering physics research, and the expanding field of high-speed photography (McGehee and Garcia 1999). The Early Cold War era at the Laboratory ended in 1956, a date that marks the completion of all basic nuclear weapons design. Later research at the Laboratory focused on the engineering of nuclear weapons to fit specific delivery systems. The year 1956 was also the last year that Los Alamos was a closed facility—the gates into the Los Alamos townsite came down in 1957.

1 A better understanding of the Marshall Islands language has permitted a more accurate transliteration of Marshall Island names into English. Enewetak is now the preferred spelling (formerly Eniwetok).

Late Cold War Era (1956–1990)

The Late Cold War era saw the Laboratory's continued support of the atmospheric testing programs in the Pacific and at the Nevada Test Site. In 1957, the first of many underground tests in Nevada was conducted, and in 1963, the Limited Test Ban Treaty was signed, which banned nuclear weapons tests in the atmosphere, oceans, and space (US DOE 2000). Defense mission undertakings during this time included treaty and test ban verification programs such as the satellite detection of nuclear explosions, research and development of space-based weapons, and continued involvement with stockpile stewardship issues. Non-weapons undertakings supported nuclear medicine, genetic studies, National Aeronautics and Space Administration collaborations, superconducting research, contained fusion reaction research, and other types of energy research (McGehee and Garcia 1999).

The Cold War Ends

The Cold War ended in the early 1990s. Its demise was marked by START, the Strategic Arms Reduction Treaty, which was signed by President George H. W. Bush and Soviet President Mikhail Gorbachev, and by President Bush's announcement in September 1991 of a unilateral decision to significantly decrease the U.S. nuclear weapon stockpile. That announcement was followed in June 1992 by an agreement between President Bush and Russian President Boris Yeltsin to reduce each country's nuclear arsenal gradually over the next decade. The arms race that had lasted nearly half a century was over.

The last underground nuclear test conducted by the United States occurred in 1992. Because international treaties and presidential moratoriums restricted the testing of nuclear weapons, Laboratory scientists needed to devise new methods of ensuring the safety and reliability of the nation's nuclear stockpile. Since 1992, the Laboratory has developed sophisticated methods of analyzing the viability of weapons in what is now known as the stockpile stewardship program (Machen et al. 2010).

3 TECHNICAL AREA DESCRIPTION

TA-16 Historical Background

The Ramón Vigil Grant

In 1742, the lands that encompass the present-day Sawmill Site (S-Site) were part of a Spanish land grant given to Pedro Sánchez. These lands remained within the Sánchez family for more than one hundred years (Foxx 2002; Machen et al. 2012). In 1860, the U.S. Congress confirmed the title for most of the original Sánchez Grant site to José Ramón Vigil (Hoard 2006). Between 1860 and 1934, the Ramón Vigil Grant would pass through no fewer than five titleholders before the land was sold to the Soil Conservation Service (Machen et al. 2012).

The Buckman's S-Site and Railway Station

In 1897, the owners of the Ramón Vigil Grant sold their timber rights to H. S. Buckman, who removed lumber from the area until 1903. His contract allowed him to cut all trees greater than eight inches in diameter. To transport lumber from the Pajarito Plateau to the railroad line that ran along the Rio Grande, Buckman not only built a road from the sawmill at S-Site to the river but also built the town of Buckman, which served as the railway station (Foxx 2002). S-Site was named for a large pile of sawdust found in the area during the beginning of the Laboratory's use during the Manhattan Project. This sawdust was the only remnant of a nearby sawmill operation from the late 19th century (Figure 5).

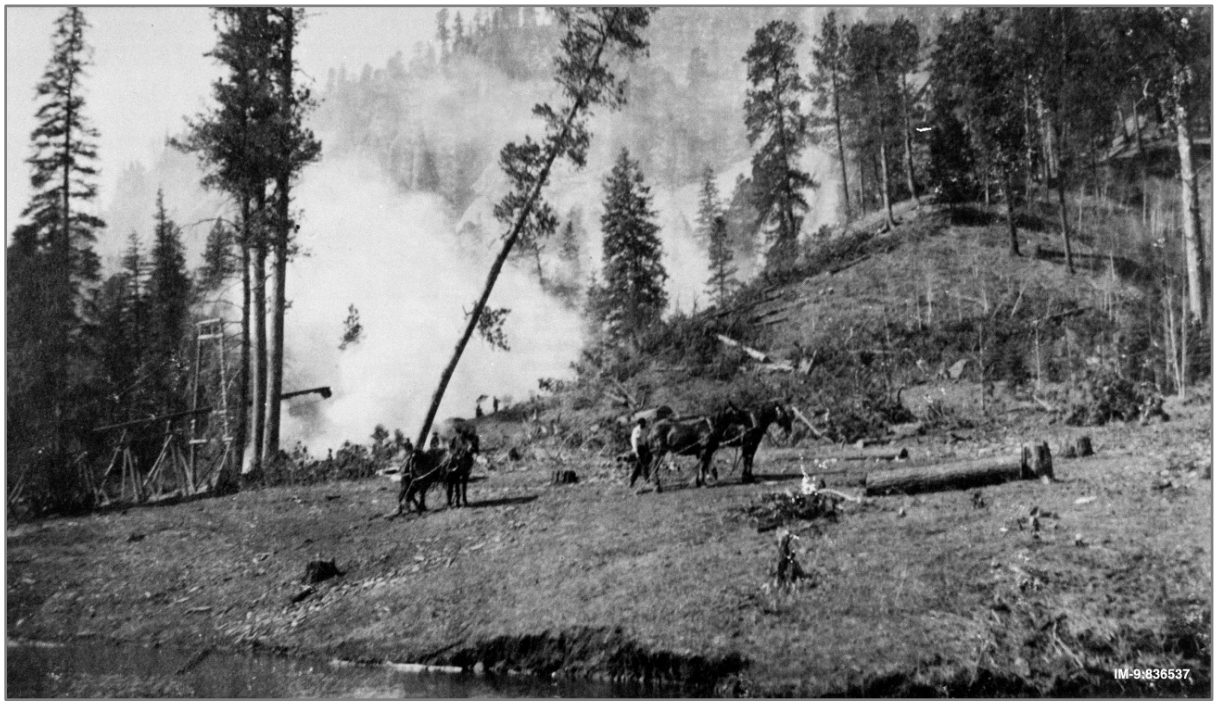


Figure 5. Logging activities directly west of S-Site

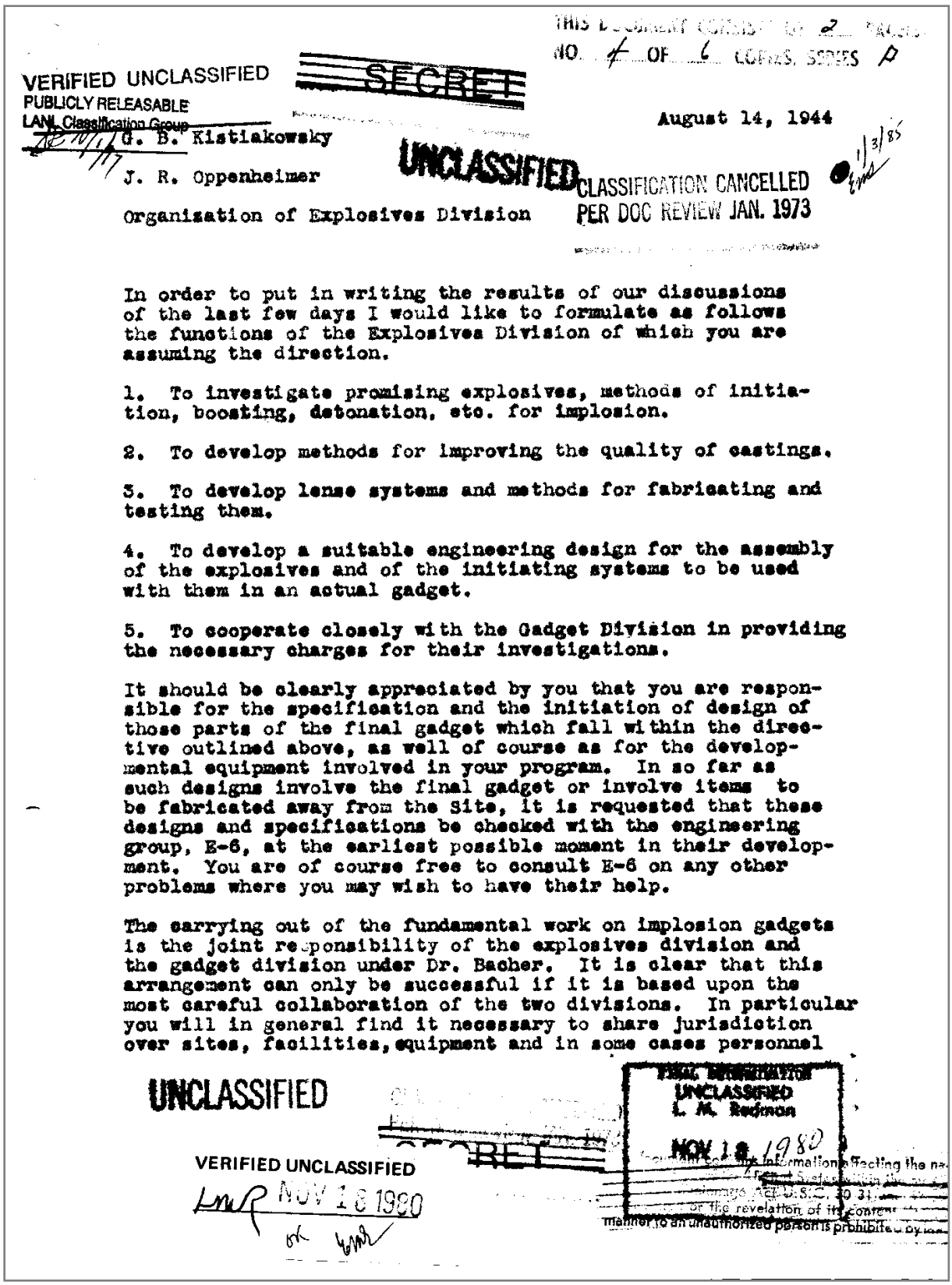
World War II and the Los Alamos Laboratory "Project Y"

During World War II (WWII), the Laboratory was also known as "Project Y." This secret laboratory was established by the Manhattan Project and was operated by University of California. At the height of the Manhattan Project, scientists at the Laboratory realized that plutonium was not suitable for assembly in a gun-type weapon, forcing the development of the implosion detonation concept. With the implosion method eventually used in the "Fat Man" weapon, high explosives were detonated to compress a plutonium "pit." Though theoretically feasible, the complexities of implosion demanded extensive testing and experimentation in diverse technical fields. Solving the implosion problem not only involved understanding the properties of plutonium but also required solving problems regarding the formulation and casting of high explosives (Hurd and Schaefer 2006).

The Sawmill Site (S-Site) at TA-16 is located along the southwestern corner of Los Alamos National Laboratory. Between December 1943 and May 1944, explosives systems for the implosion bomb were developed and tested there. This technical area, established during the Second World War, supported explosive research and development activities for the "Trinity" device and the "Fat Man" plutonium implosion weapons (Machen et al. 2020; McGehee et al. 2003). S-Site would be the principal location for the manufacture of high explosive castings and lenses necessary to produce a spherical implosion (McGehee et al. 2003). In a letter dated Aug. 14, 1944, the Explosive Division was formally organized and documented. (Figure 6) (LANL 1993). It was at S-Site that many challenging scientific and engineering problems in high explosives were tackled. From laboratories and processing facilities scattered throughout the landscape of S-Site, high explosive components of the implosion design were developed, manufactured, and tested. The fundamental problem was how to achieve a perfectly symmetrical implosion; the shock wave created by detonating high explosives had to compress a sphere of plutonium uniformly. The solution was to use explosives cast in a series of geometric shapes, called lenses, to focus the shock wave uniformly. These lenses would be ignited by a series of detonators fired simultaneously around the entire sphere of high explosives (McGehee et al. 2003).

Another major problem facing the scientists working with high explosives was the lack of existing methods for casting high explosives. The military's standards for explosives performance were well below what was needed to develop a symmetrical implosion, prompting the scientists of Project Y to develop new high explosive formulations and processing techniques. Thus, the development of high explosives at S-Site became one of Project Y's most important wartime tasks. Because of the need for hundreds of lenses, both for proof testing and for any combat units, a multi-building casting facility was built at S-Site to produce lenses from a molten slurry of high explosives into precise shapes. Other early S-Site facilities included an office building, a steam plant, storage magazines, and high explosives preparation buildings. Because of construction delays and difficulty procuring equipment, TA-16 operations in May 1944 were limited, and steady operations didn't start until August of the same year (McGehee et al. 2003).

The development of diverse and complex engineering methods relating to detonator, initiator, and high explosives research was a major accomplishment for the wartime Laboratory. Numerous technical problems experienced during early processing operations were eventually overcome, with facilities at S-Site (Figure 7) producing about 20,000 usable castings over an eighteen-month period. By its wartime peak, S-Site would use over 100,000 pounds of high explosives per month. Several types of explosive materials were used in the casting process, such as Composition B (TNT combined with British-invented Royal Demolition eXplosive [RDX]), torpex, pentolite, baronal, and baratol (LANL 2000; McGehee et al. 2003).



THIS DOCUMENT CONSISTS OF 2 PAGES
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PUBLICLY RELEASABLE
LANL Classification Group

SECRET

August 14, 1944

G. B. Kistiakowsky

J. R. Oppenheimer

UNCLASSIFIED

CLASSIFICATION CANCELLED
PER DOC REVIEW JAN. 1973

Organization of Explosives Division

In order to put in writing the results of our discussions of the last few days I would like to formulate as follows the functions of the Explosives Division of which you are assuming the direction.

1. To investigate promising explosives, methods of initiation, boosting, detonation, etc. for implosion.

2. To develop methods for improving the quality of castings.

3. To develop lense systems and methods for fabricating and testing them.

4. To develop a suitable engineering design for the assembly of the explosives and of the initiating systems to be used with them in an actual gadget.

5. To cooperate closely with the Gadget Division in providing the necessary charges for their investigations.

It should be clearly appreciated by you that you are responsible for the specification and the initiation of design of those parts of the final gadget which fall within the directive outlined above, as well of course as for the developmental equipment involved in your program. In so far as such designs involve the final gadget or involve items to be fabricated away from the Site, it is requested that these designs and specifications be checked with the engineering group, E-6, at the earliest possible moment in their development. You are of course free to consult E-6 on any other problems where you may wish to have their help.

The carrying out of the fundamental work on implosion gadgets is the joint responsibility of the explosives division and the gadget division under Dr. Bacher. It is clear that this arrangement can only be successful if it is based upon the most careful collaboration of the two divisions. In particular you will in general find it necessary to share jurisdiction over sites, facilities, equipment and in some cases personnel

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Figure 6. 1944 document (page 1) establishing the new explosives division

Figure 7. Project Y high explosives facilities at S-Site

Cold War Laboratory Expansion

During the Cold War, the Laboratory scientists designed new weapons that were smaller, lighter, and more efficient than the original Fat Man implosion bomb. Between 1945 and 1956, the diameter of a nuclear weapon's primary stage decreased by more than a factor of three and weight decreased by more than a factor of thirty (Machen et al. 2010). The savings in weight and volume in early Cold War nuclear weapons were the result of a remarkable set of improvements that occurred in the physics, design, and engineering of the primary stage. These new weapons were adapted to meet the requirements of new delivery vehicles, such as missiles. Laboratory scientists provided both the theory and the applied science behind the development of explosives for these new designs. To test new high explosives and detonation systems, S-Site greatly increased its staff, capabilities, and capacity (LANL 2006; Mitchell 2003).

The bulk of the postwar U.S. Nuclear Weapon Complex was constructed during the administration of President Harry Truman, with three notable expansions between 1949 and 1952, in response to the growing Cold War arms race between the USSR and the U.S. During this early competition with the USSR, Truman directed the Nuclear Weapon Complexes to pursue the development of a thermonuclear bomb. In response, the largest construction project in peacetime history ensued as wartime national laboratories in Hanford, Oak Ridge, and Los Alamos were expanded to produce special nuclear materials and new nuclear weapons.

During the Cold War era, the task of laboratory scientists and S-Site personnel was to research and develop new weapons designs. To accomplish this task, S-Site employees worked around the clock under a rigorous schedule of three shifts a day, seven days a week. Though operations were carried out under strict postwar safety standards, S-Site suffered its only fatal high explosive accidents during this period. In February 1959, two machinists were killed while machining explosives. Seven months later, in

September, four men died while disposing of high explosives that unexpectedly detonated. As a result of the two accidents in 1959, all operations involving explosives at the Laboratory were shut down for several months until new health and safety regulations could be implemented (Machen 2008a, 2008b; Machen et al. n.d.).

To keep up with the demands of explosives research, the Laboratory continually upgraded its high explosive processing capabilities throughout TA-16. Ultimately, the facilities at TA-16 totaled seventy-eight buildings with over 280,000 square feet of space (Figure 8). With its around-the-clock operations, S-Site supported large-scale formulations of high explosives and their casting, pressing, machining, and assembly; mechanical and safety testing; and an extensive range of quality assurance operations. S-Site also received, stored, packaged, and transported high explosives for the entire laboratory (LANL 2001b).

TA-16 Historical Themes

Reduction, Consolidation, and Stockpile Stewardship at the Laboratory

The rapid expansion by the entire Nuclear Weapon Complex in 1946 began a slow and steady decrease by the 1960s. By 1965, President Johnson had decided to reduce production of plutonium and highly enriched uranium. In 1992, during the waning days of the Cold War, the United States declared a moratorium on further nuclear weapons tests. In response to the unilateral test moratorium, Laboratory scientists turn to alternative methods of assuring that the nation's nuclear weapons will work as designed as they continue to age. Scientists use a blend of physics, chemistry, metallurgy, hydrodynamics, and computer science to simulate the reliability of the weapons. These methods are collectively known as stockpile stewardship (Machen 2008b; Mitchell 2003).

Figure 8. Cold War Era S-Site at TA-16, 1991

While experimentalists and defense customers still need high explosive components for experimental applications and military needs, the end of the Cold War meant that the dispersal of large manufacturing facilities at S-Site were no longer cost effective. Many 1950s-vintage buildings used in high explosive operations have high maintenance costs and were nearing the end of their useful lives. Some facilities have been decommissioned, and major operations have been reconsolidated. Capabilities have been modernized by the integration of new technologies, while floor space has been significantly reduced (LANL 2003). Yet S-Site's role remains unchanged. Its staff continues to support national security by manufacturing high explosives for continuing research into energetic materials and for the Laboratory's stockpile stewardship mission.

Following the end of the Second World War, and throughout the Cold War era, this technical area has supported a wide variety of high explosives operations including casting, pressing, machining, assembly, safety testing, and quality assurance. TA-16 also supports tritium handling, packaging, research, and analysis activities (MacRoberts n.d. and LANL 1993).

Processing and Testing High Explosives

Historically, the Laboratory's high explosives processing operations were conducted in buildings that were physically separated and divided by their functions (Figure 9). Processing activities of high explosive components for nuclear weapons research consists primarily of manufacturing and assembly operations, as well as science-based Stockpile Stewardship Program tests and experiments.

Capabilities at TA-16 include various highly specialized assembly, machining, inspection, and transportation activities. High explosives casting, inert-materials processing, and plastics operations at S-Site are used to produce explosive components for a variety of display and testing purposes. At S-Site inspection facilities, explosives obtained from commercial vendors are examined upon arrival. In preparation facilities, high explosives are readied for various uses including the coating of high explosive granules with plastics. In the plastics areas, components made of energetic and inert materials are fabricated to simulate nuclear weapons assemblies. Metal forming, a historical operation of S-Site that is now performed infrequently, takes place in a separate facility (Machen 2007).

For safety reasons, high explosives pressing operations at S-Site are conducted in locations that are physically isolated from other processing facilities. Explosives are delivered to these facilities for processing into shapes that can be precisely machined as necessary. During pressing operations, high explosive material in plastic-coated granular form is placed into molds and subjected to very high pressures. This process produces solid pieces of high explosives in various dimensions.

In machining facilities, rough pressings or castings of high explosives are machined into hemispherical shapes or test charges using a combination of computer-controlled mills and lathes. High explosives machining is conducted using water as a coolant, and each machine is provided with a re-circulating water treatment and cooling system. In inspection facilities, radiography by X-rays is used as part of the inspection process to determine the presence of flaws in cast, pressed, and machined high explosives.

Figure 9. S-Site (TA-16), TA-16-0460 Complex (foreground), 1991

Once a high explosive is no longer useful at S-Site, the materials are demilitarized—disposed by a number of methods onsite. Some high explosives are disposed by detonation, while others are burned. Most importantly, each process is conducted under strict safety regulations.

Strategic and Supporting Research

Throughout the Cold War, the Laboratory's strategic and supporting research provided critical capabilities to support the Laboratory's core responsibilities to the nation's nuclear weapons complex. Besides augmenting the areas of weapon physics, weapon engineering, and threat reduction, this type of scientific work has contributed a broad spectrum of high quality, basic research that added to the national and international scientific knowledge base (Machen et al. 2010).

Earth and Environmental Sciences

Scientists from Los Alamos have contributed towards a fundamental understanding of the geological processes that have shaped our planet. The Laboratory has been a key contributor to basic research on the surface and interiors of the earth (and other planets as well). During the Cold War era, Los Alamos

scientists studied plate tectonics, the composition and state of the earth's deep interior, geomagnetism and electromagnetics, and heat convection through the earth's interior (Machen et al. 2010).

At Los Alamos between 1956 and 2006, geophysical methods and tools were applied to societal issues as well; these have ranged from oil exploration to earthquake hazards to national defense.

For example, as global oil exploration began to take place in regions in which resources were difficult to locate and characterize because of the complexity of the geology overlying the resource, geologists needed better methods to characterize earth structures, as well as less invasive and more cost-effective drilling methods (Machen et al. 2010).

Materials Science

Materials science covers an extraordinarily wide variety of work, all based on developing an understanding of, and controlling, the complexity of materials. From the beginning years of the Laboratory, scientists were in the business of processing new materials for technological needs because the very nature of building an atomic weapon required new materials and new technologies. A nuclear weapon releases so much energy so rapidly that materials act more like fluids rather than solids. To deal with the unique materials used in nuclear weapons, such as actinides, special ceramics, polymers, and so forth, Los Alamos scientists not only had to develop significant expertise in materials research but also needed to develop expertise on how materials behave (Machen et al. 2010).

Analytical Chemistry at TA-16-0460

Although the origin of the art and science of explosives has a very old history, approximately 95% of the science of explosives and propellants was accomplished after 1943 (Smith 1979). This is because the science of military high explosives did not begin until the late nineteenth and early twentieth centuries. (Smith 1979). During this time, numerous explosive compounds were discovered, and the basic understanding of detonation was developed (Smith 1979). These advancements were the result of the concurrent development of instrumentation with sub-microsecond time resolution, including high-speed cameras and electronic recording equipment at Los Alamos (Smith 1979).

The 1940s and early 1950s also witnessed great strides in the development of new explosive formulations and tailoring these formulations to specific applications (Smith 1979). This included the introduction of the explosive compounds of Royal Demolition eXplosive (RDX) and high-melting (-point) explosive (HMX); the use of powdered aluminum in underwater explosives; and the development of plastic-bonded explosives (PBX) at Los Alamos (Smith 1979). Notably, nearly all high-explosive formulations used during the Manhattan Project were replaced with newer, safer, and more effective compositions (Smith 1979).

Variations in the composition of chemicals affect their stability, sensitivity ignitability and efficiency of performance (Yinon & Hoffsommer 2008). The analytical chemistry laboratory at TA-16-0460 was used to conduct research into the purity, quality, and stability of high explosive compounds that were used for laboratory testing (Yinon & Hoffsommer 2008). This research was conducted using diverse methods such as chemistry and mass spectroscopy, mechanical shock loading, and exposure to thermal stress (Yinon & Hoffsommer 2008).

Chemical testing and mass spectroscopy were used to examine variations in chemical compositions that could affect the stability, sensitivity, ignitability, and efficiency of performance of high explosives (Yinon & Hoffsommer 2008). Mechanical testing and shock loading involved physically manipulating high explosives in a nonideal manner, such as subjecting components to blunt-force impacts (Yinon &

Hoffsommer 2008). And thermal testing uses measures of heat and time to examine the performance of high explosives under extreme heat regimes (Yinon & Hoffsommer 2008).

In the late 1950s, William Rogers, with the assistance of Los Alamos Scientific Laboratory (LASL)—the previous name of LANL—personnel in the GMX Division, investigated the thermal stability of insensitive high explosive molding powder at 100 and 120 degrees Celsius to understand its behavior under various conditions of storage and use (Rogers & Smith 1972). Many high explosives often had to be stored in units that saw a drastic fluctuation in temperatures from extreme heat to cold, which made it crucial to understand how they would respond. The study found that the density and compressive strength decreased, and the impact sensitivity and vacuum thermal stability remained unchanged (Rogers & Smith 1972).

In the early 1960s, a GMX research group affiliated with the Naval Surface Warfare Center (NSWC) started a program on thermally stable explosives (Smith 1979). This program led to the discovery/development of various plastic bonded and insensitive high explosives. Despite initial promising results, the program experienced issues with funding, and the research program ceased operations by the end of the decade (Smith 1979).

In the late Cold War era, the state of high explosive analytical chemistry progressed rapidly. By the 1970s, computational models for simulating shockwaves began to match experimental results, representing a significant advancement in high explosive research. While computational models improved rapidly, a great deal of research concerning high explosive mechanical properties was still needed. Although many problems relating to mechanical and chemical stability remained doggedly challenging to the scientists of Los Alamos, the research program of the analytical chemistry laboratory had made revolutionary strides in developing instrumentation to tackle these problems (Smith 1979).

One of the most crucial research programs facing the analytical chemistry laboratory centered on understanding the fundamentals of high explosive sensitivity. The ability to determine the amount of time and the temperatures that will inadvertently ignite high explosive compounds was of particular interest. Since high explosives are a fundamental component of nuclear weapon systems, it was vital for the laboratory to establish consistent temperature boundaries during all phases of high explosive handling from manufacture and storage to delivery (Popolato et al. 1979). Additionally, after Los Alamos experienced a series of high-explosive fatalities in the late 1950s, understanding the thermal stability of new high explosive compounds was also fundamentally important from the standpoint of occupational safety (Popolato et al. 1979).

Differential thermal analysis (DTA) was one of a series of fundamental improvements in understanding the properties of high explosives. An analytical tool used to determine thermal transitions in a wide variety of high explosive compositions, the analytical chemistry laboratory produced a series of thermograms (physical records of tracking the thermal change) of small samples of high explosives. These DTA thermograms would be used to establish new safety thresholds for high explosive compounds used in the nuclear weapons complex (Dubiel & Bayton 1963).

By 1979, researchers from GMX division were able to determine reproducible ignition times and temperatures for nearly all of the explosives used by the laboratory (Popolato et al. 1979). While a few plastic-bonded explosive compounds eluded the researchers at the time, their work in thermal analysis helped to establish more accurate computer simulations of high-explosive performance. The result would be a new reactive heat-transfer computer program, EXPLO, written to calculate the temperature and ignition as a result of this research. (Popolato et al. 1979).

Outside of the realm of thermal research, the study of insults (mechanical damage) to high explosive compounds was a major component of the research program at TA-16-0460. To paraphrase from GMX division's research staff, investigating the impact of mechanical damage on a high explosive compound is exceedingly complex because the sensitivity is not simply constrained to an explosive's chemical composition (Smith 1977). The sensitivity is also affected by physical and mechanical details, such as the size and shape of high explosive crystals. Because physical and mechanical features can vary between batches of high explosive compounds, measurements of sensitivity are irreproducible (Smith 1977). However, despite these challenges, the scientists of GMX did attempt to develop a mechanical explosives hazard scale, albeit with largely unsuccessful results (Smith 1977).

Despite the unsuccessful attempts to construct a hazard scale, scientists from GMX division sought to explore new and innovative methods of high explosive forensics. In 1980, a research group sought to determine whether explosives could be identified by sampling gases and residues left behind after a detonation in a highly confined area (Stine et al. 1981). After the detonation, the residues were analyzed by electron spectrometry for chemical analysis (ESCA) while the gases were analyzed using mass spectrometry. (Stine et al. 1981). The study found that because of the oxidizing/reducing effects from mixing with surrounding materials and air, neither gases nor residues could indicate the type of explosive that had survived the explosion. (Stine et al. 1981).

4 DESCRIPTION OF BUILDINGS TA-16-0460 AND TA-16-0463

Early Laboratory Architecture Style

During the Cold War era, architectural designs began emerging to meet the technical and scientific requirements of the Laboratory. Highly technical and scientific facilities commonly housed specific machines and equipment resulting in a one-of-a-kind or first-of-a-kind facilities. Such facilities were associated with man's first ventures into space, the discovery of nuclear fission, the development of computers and artificial intelligence, and genetic engineering. America's scientific and technical facilities stand as monuments to the Nation's ability to invent and exploit new technology, as well as advancing scientific and engineering knowledge (ACHP 2017; Brown et al. 2019).

Historically, significant scientific and technological facilities and structures are those that meet the criteria for inclusion in the National Register of Historic Places (NRHP) or that qualify for designation as National Historic Landmarks for the contributions they made, the role they played, or breakthroughs they were associated with in American science, technology, and industry. Significant scientific and technological structures could include the equipment itself or the facility where it was used and/or built.

Laboratory facilities were typically designed from the inside out to support the specific shape and size of the equipment that would be housed and operated within them. Characteristics of these historic facilities are defined by equipment, programs, or processes, and not by codified characteristics of a formal architecture style. While the TA-16-0460 Complex does not fit into any specific modern style, it does adhere to one of the primary attributes of 20th century modern architecture—form follows function. The high explosive manufacturing process dictated the style and materials for the utilitarian designed structures within TA-16. Heavily reinforced concrete was the primary construction material used because of its inherent security, durability, and ability to be cleaned (McGehee et al. 2003). Likewise, the interior materials for facilities in TA-16 were often chosen to address specific industrial processes or hazards; interior walls were often constructed with structural glazed tile as it is easily washable, and floors were covered with non-spark conductive material (McGehee et al. 2003).

Another characteristic of 20th century modern architecture that finds expression in the TA-16-0460 Complex and similar facilities is the concept that materials used in construction are meant to be seen and appreciated for what they are without being deliberately obscured. The construction of the buildings within the Complex, and its layout within TA-16, is directly related to its operational use. To facilitate the safe transport of materials to TA-16-0460, corridors were designed with multiple turns to reduce the direct blast path if the explosives stored in the rest houses exploded (Machen et al. n.d.). In addition, the spacing of the buildings within the Complex would, in the event of an explosion, direct blast energy away from surrounding buildings (McGehee et al. 2003).

Laboratory-processing buildings, such as the TA-16-0460 Complex, are representative of the "industrial vernacular" architectural style prevalent at all TAs in Los Alamos (McGehee et al. 2003). Although the industrial architecture style, known as industrial vernacular, does not completely capture the essence of these facilities, it has proven adequate in its description of the general characteristics of Cold War era construction throughout Los Alamos. It has been suggested that the industrial architecture movement with its systematic study of material evidence associated with the industrial past, including sites and structures of immense scale and unique structural expression from our technological past, could include these types of highly scientific facilities (Miller 2016). However, until a new architectural style has been defined to capture the highly technical and scientific facilities of the late 20th and early 21st century, facilities within

the Laboratory—such as the TA-16-0460 Complex—will continue to be described under the industrial vernacular nomenclature (Brown et al. 2019).

Building TA-16-0460

Figure 10. TA-16-0460, facing northeast.

Building TA-16-0460, a laboratory and high explosive processing building, was constructed during the Cold War in 1952 to support analytical high explosive chemistry. The building's construction began on June 19, 1951, and was completed on December 29, 1952, for a total cost of $448,146.85. (ERID-252858).

Contractor: Vinson Construction Company

Architect: Black & Veatch: Kansas City, Missouri

After graduating from the University of Kansas, Ernest Bateman (E. B.) Black and Nathan Thomas (N. T.) Veatch founded Black & Veatch in 1915. The company eventually grew to become one of the world's most successful engineering, procurement, consulting, and construction companies. Surviving the Great Depression, the company started to thrive beginning in 1935. This growth continued between 1945 and 1955, and the "incoming tidal wave of business" initially proved challenging after the death of E. B. Black in 1949. The Manhattan Project's demand for engineering and construction services was a major contributor to this new business as the firm's "history of reliable service encompasses the Federal government's most significant programs" (Black & Veatch Consulting Engineers n.d.). This includes the

construction of multiple buildings within the Laboratory, including TA-16-0460 and TA-16-0463, with the intent to support specific operations of the early Cold War era.

Architectural Description

TA-16-0460 was a one-story, high-bay building with a mezzanine and a partial basement located at the end of Greenhouse Road in the southwest portion of the Laboratory. T-shaped in plan, it measured approximately 116 by 77 feet, encompassed approximately 11,294 square feet, and was oriented northwest by southeast. The facility was constructed into a small rise in the landscape. Built on a hardened concrete foundation, the building was constructed of poured-in-place reinforced concrete and concrete-masonry units (CMUs). Exterior wall materials included unpainted smooth-finished concrete with expansion joints and insulated aluminum panels. The southern end of the building featured a poured concrete retaining wall that safeguarded ground-level access to the basement. Several pieces of mechanical equipment were located on the exterior of the building at ground level and penetrated the walls connecting to their interior elements. This included an air intake unit on the northeast façade that was housed in corrugated metal-panels with a shed roof and a metal-framed louvered vent, and another piece of mechanical equipment housed in a poured-concrete-panel box. The exterior also featured a few small and large metal-framed louvered vents, exterior lights, alarms, conduit lines, and signs. Interior walls were constructed of poured-in-place concrete, CMUs, metal partitions, and aluminum panels.

The roof was constructed of poured concrete and clad in a built-up material. Nearly flat, the roof had numerous low-pitched, hipped areas to promote water runoff. The building featured a wide, overhanging closed concrete eave on all façades. Three large exhaust vents penetrated the eave and extended above the roofline. The roof also exhibited additional smaller vents and a lightening protection system.

The main entrance was located on the southwest façade through paired, metal-panel personnel doors accessed by concrete stairs with pipe-metal railings. On the southeast elevation, the first floor had a wide single, metal-panel personnel door accessed by concrete stairs that sat atop the retaining wall and a floating concrete walkway with pipe-metal railings. Below the walkway were a set of wide paired, metal-panel doors with louvered vents that provided access to the basement. The northwest elevation had a single, metal-panel personnel door accessed by concrete stairs with metal-pipe railings. The building's fenestration consisted of a single set and numerous bands of glass-block windows interspersed with concrete panels. Twenty-one of the windows were made up of 24 glass blocks (6 by 4) and 2 windows were made up of 16 glass blocks (4 by 4). Fifteen of these 21 windows were located on the main façade above the main entrance.

Black & Veatch completed drawings for TA-16-0460 in March 1951. Vinson Construction Company completed the building by 1953, and it served as an analytical high-explosives chemistry facility. Since the building's original construction, the Laboratory added mechanical equipment on the exterior of the building; changed out flat metal-framed louvered vents for those that extend above the roofline; constructed two mechanical equipment enclosures on the northeast elevation; replaced the roofing material; and built a connecting and enclosed walkway (TA-16-0461) to TA-16-0463 on the northwest elevation. TA-16-0460 had structural integrity, and the exterior was in good condition. Its architectural design was influenced by the International Modernist architectural style, and character-defining features included geometrical massing, lack of ornamentation, flat roof, continuous surface planes, bands of windows, and unornamented doors and windows.

Building TA-16-0463

Figure 11. TA-16-0463, facing northeast.

Building TA-16-0463, a laboratory high explosive rest house, was constructed in 1966, during the Cold War, to support analytical high explosive chemistry.

Contractor: The Zia Co.

Architect*:* Los Alamos Scientific Laboratory Engineering Department

Architectural Description

TA-16-0463 was a one-story building located at the end of Greenhouse Road in the southwest portion of the Laboratory. Rectangular-in-plan, it measured 14 feet 8 inches by 24 feet 8 inches, encompassed approximately 169 square feet, and was oriented northeast by southwest. Built on a 3-foot-high poured-in-place reinforced concrete foundation, the walls were constructed of CMUs. The nearly flat roof was constructed of steel joists atop a bond beam and was clad in fiber-strand boards. The southwest façade featured a deeply inset dock accessed by concrete stairs with metal-pipe railings. Adjacent to the stairs in the exterior of the foundation were dock bumpers. Access into the building from the dock was provided by paired, metal-panel personnel doors. The northwest façade featured a single, metal-panel personnel door. On its northeast end, the facility was connected to facility TA-16-0461, a covered passageway. The southeast side of the building features an adjacent and earthen-filled ARMCO metal bin.

The Laboratory completed drawings for TA-16-0463, a high-explosives storage facility, in June 1966. TA-16-0463 had structural integrity, and the exterior was in fair condition. Its architectural design was influenced by the International Modernist architectural style, and character-defining features included geometrical massing, lack of ornamentation, flat roof, continuous surface planes, and unornamented doors.

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5 CONCLUSION

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, this report fulfills the reporting requirements to resolve adverse effects associated with demolition activities that are identified in Appendix D.2 (B): *Demolition and Major Remodeling Requirements* from the PA among the DOE, NNSA, Los Alamos Field Office, the New Mexico SHPO, and the Advisory Council on Historic Preservation Concerning Management of the Properties at Los Alamos National Laboratory, Los Alamos, New Mexico, August 2, 2017.

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Appendix A: LANL Historic Building Survey Forms including Key Original Drawings and As-Builts

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LANL TA- Building # 16-0460

Camera 984242

Frame #s DCP_0352 through DCP_0355

Surveyor(s) S. McCarthy, B. McCormick, E. McGehee, K. Garcia; C. Townsend, K. Garcia

Date 7/22/2002; 2/4/2020

Los Alamos National Laboratory
Historic Building Survey Form

Building Name Laboratory Building UTMs easting 377847 northing 3967343 zone 13

Legal Description: Map Friioles Ouad tnsp 19N range 6E sec 30

Current Use/ Function Vacant Original Use/ Function Analytical HE Chemistry

Date (estimated) Date (actual) 1952/1953 Property Type Laboratory/Processing

Type of Construction

Pre-Engineered ☐ Steel Frame ☐ Wood Frame ☐ CMU ☐ Reinforced Concrete ☑

Other Type of Construction # of Stories 2

Foundation Reinforced Concrete

Exterior CMU-Exterior ☐ Reinforced Concrete-Exterior ☑ Steel (galvanized) ☐ Steel (corrugated) ☐

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☐ Other-Exterior

Exterior Treatment (painted, stuccoed, etc) Unpainted

Exterior Features (docks, speakers, lights, signs, etc) Signage, lights, alarms, and conduit

Addition CMU-Addition ☐ Reinforced Concrete-Addition ☐ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition

Exterior Treatment-Addition

Exterior Features-Addition

Roof Form Slanted/Shed ☐ Gable ☐ Other Roof Type Flat

Degree of Pitch/ Slope Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☑

Other Roof Materials

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☑

Other Window Type Glass Block

# of Each Window Type/ Comments 20 glass block windows

Glass Type Clear ☐ Wire Glass ☐ Opaque ☐ Painted Glass ☐ Glass Block ☑

Light Pattern Seventeen windows of 6 over 4 glass blocks and three windows of 4 over 4 glass blocks

Door Type Personnel Door Types Exterior Fire Door ☐ Single ☑ Double ☑ Roll-up ☐ Sliding ☐
Hollow Metal ☐ Solid Wood ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

Interior Fire Door ☐ Single ☑ Double ☑ Roll-up ☐ Sliding ☐
Hollow Metal ☐ Solid Wood ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

Equipment Door Types Exterior Fire Door ☐ Single ☐ Double ☑ Roll-up ☐ Sliding ☐
Hollow Metal ☐ Solid Wood ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

Interior Fire Door ☐ Single ☐ Double ☐ Roll-up ☐ Sliding ☐
Hollow Metal ☐ Solid Metal ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

# of Each Door Type/Comments: 2 pair of steel doors, 3 single steel doors.

Interior Wall Gypsum Board ☑ Reinforced Concrete- Interior ☑

CMU- Interior ☐ Plywood ☐ Other- Interior Removable metal partition walls.

In-Wall Electrical Wiring ☐ On-Wall Electrical Wiring ☐

Ceiling Drop Ceiling ☑

Interior Comments (Equipment, etc)

Degree of Remodeling Minor

Condition Excellent ☐ Good ☑ Fair ☐ Deteriorating ☐ Contaminated ☐ Burned ☐

Associated Buildings ☑

If yes, list building names and #s TA-16-463, TA-16-462

Integrity Good

Significance Eligible

Eligible Under Criterion A ☑ B ☐ C ☑ D ☐ Not Eligible ☐

DOE Themes

Nuclear Weapon Components and Assembly ☐
Nuclear Weapon Design and Testing ☑
Nuclear Propulsion ☐
Peaceful Uses: Plowshare, Nuclear Medicine, Nuclear Energy, Nuclear Science ☐
Energy and Environment: Research and Design Projects ☐

LANL Themes

Weapons Research and Design, Testing, and Stockpile Support ☑ Super Computing ☐

Reactor Technology ☐ Biomedical/Health Physics ☐ Strategic and Supporting Research ☐

Environment/Waste Management ☐ Administration and Social History ☐ Architectural History ☐

Recommendations/ Additional Comments

Architectural Features (elevations)

TA-16-0460 was a one-story, high-bay building with a mezzanine and a partial basement. T-shaped in plan, it measured approximately 116 by 77 feet, encompassed approximately 11,294 square feet, and was oriented northwest by southeast. The facility was constructed into a small rise in the landscape. Built on a hardened concrete foundation, the building was constructed of poured-in-place reinforced concrete and concrete-masonry units (CMUs). Exterior wall materials included unpainted smooth-finished concrete with expansion joints and insulated aluminum panels. The southern end of the building featured a poured concrete retaining wall that safeguarded ground-level access to the basement. Several pieces of mechanical equipment were located on the exterior of the building at ground level and penetrated the walls connecting to their interior elements. This included an air intake unit on the northeast façade that was housed in corrugated metal-panels with a shed roof and a metal-framed louvered vent and another piece of mechanical equipment housed in a poured-concrete-panel box. The exterior also featured a few small and large metal-framed louvered vents, exterior lights, alarms, conduit lines, and signs. Interior walls were constructed of poured-in-place concrete, CMUs, metal partitions, and aluminum panels.

The roof was constructed of poured concrete and clad in a built-up material. Nearly flat, the roof had numerous low-pitched hipped areas to promote water runoff. The building featured a wide, overhanging closed concrete eave on all façades. Three large exhaust vents penetrated the eave and extended above the roofline. The roof also exhibited additional smaller vents and a lightening protection system.

The main entrance was located on the southwest façade through paired, metal-panel personnel doors accessed by concrete stairs with pipe-metal railings. On the southeast elevation, the first floor had a wide single, metal-panel personnel door accessed by concrete stairs that sat atop the retaining wall and a floating concrete walkway with pipe-metal railings. Below the walkway were a set of wide paired, metal-panel doors with louvered vents that provided access to the basement. The northwest elevation had a single, metal-panel personnel door accessed by concrete stairs with metal-pipe railings. The building's fenestration consisted of a single set and numerous bands of glass-block windows interspersed with concrete panels. Twenty-one of the windows comprised 24 glass blocks (6 by 4) and 2 windows comprised 16 glass blocks (4 by 4). Fifteen of these 21 windows were located on the main façade above the main entrance.

Black and Veatch completed drawings for TA-16-0460 in March 1951. Vinson Construction Company completed the building by 1953, and it served as an analytical high-explosives chemistry facility. Since its original construction, the Laboratory added mechanical equipment on the exterior of the building; changed out flat metal-framed louvered vents for those that extend above the roofline; constructed two mechanical equipment enclosures on the northeast elevation; replaced the roofing material, and built a connecting and enclosed walkway (TA-16-0461) to TA-16-0463 on the northwest elevation. TA-16-0460 had structural integrity, and the exterior was in good condition. Its architectural design was influenced by the International Modernist architectural style, and character-defining features included geometrical massing, lack of ornament, flat roof, continuous surface planes, bands of windows, and unornamented doors and windows.

Total sq ft 11,572 net

Architect/ Builder Black & Veatch Consulting Engineers / Vinson Construction Company

Alterations

List of Selected Drawings (Cntrl + Enter for paragraph break)

ENG-C 16274
Sheet 5 of 86
TA-16, Building (141-1) (TA-16-460)
Architectural: Basement Floor Plan and Schedule
March 12, 1951

ENG-C 16275
Sheet 6 of 86
TA-16, Building (141-1) (TA-16-460)
Architectural: First Floor Plan and Schedules
March 12, 1951

ENG-C 16276
Sheet 7 of 86
TA-16, Building (141-1) (TA-16-460)
Architectural: Ceiling Plan and Details
March 12, 1951

ENG-C 16277
Sheet 8 of 86
TA-16, Building (141-1) TA-16-460)
Architectural: Roof Plan and Details
March 12, 1951

ENG-C 16279
Sheet 10 of 86
TA-16, Building (141-1) (TA-16-460)
Architectural: Elevations
March 12, 1951

ENG-C 16280
Sheet 11 of 86
TA-16, Building (141-1) (TA-16-460)
Architectural: Sections
March 12, 1951

ENG-R 2880
Sheet 1 of 1
TA-16, Building 460 (TA-16-460)
Laboratory Building
Bsm't & First Floor Plan
November 15, 1983

ENG-C AB603
Sheet 1 of 2
TA-16, Building 460 (TA-16-460)
aboratory Building
As-built Record Floor Plan
Arch: Basement Floor Plan
January 22, 1996

ENG-C AB603
Sheet 2 of 2
TA-16, Building 460 (TA-16-460)
aboratory Building
As-built Record Floor Plan
Arch: First Floor Plan
January 22, 1996

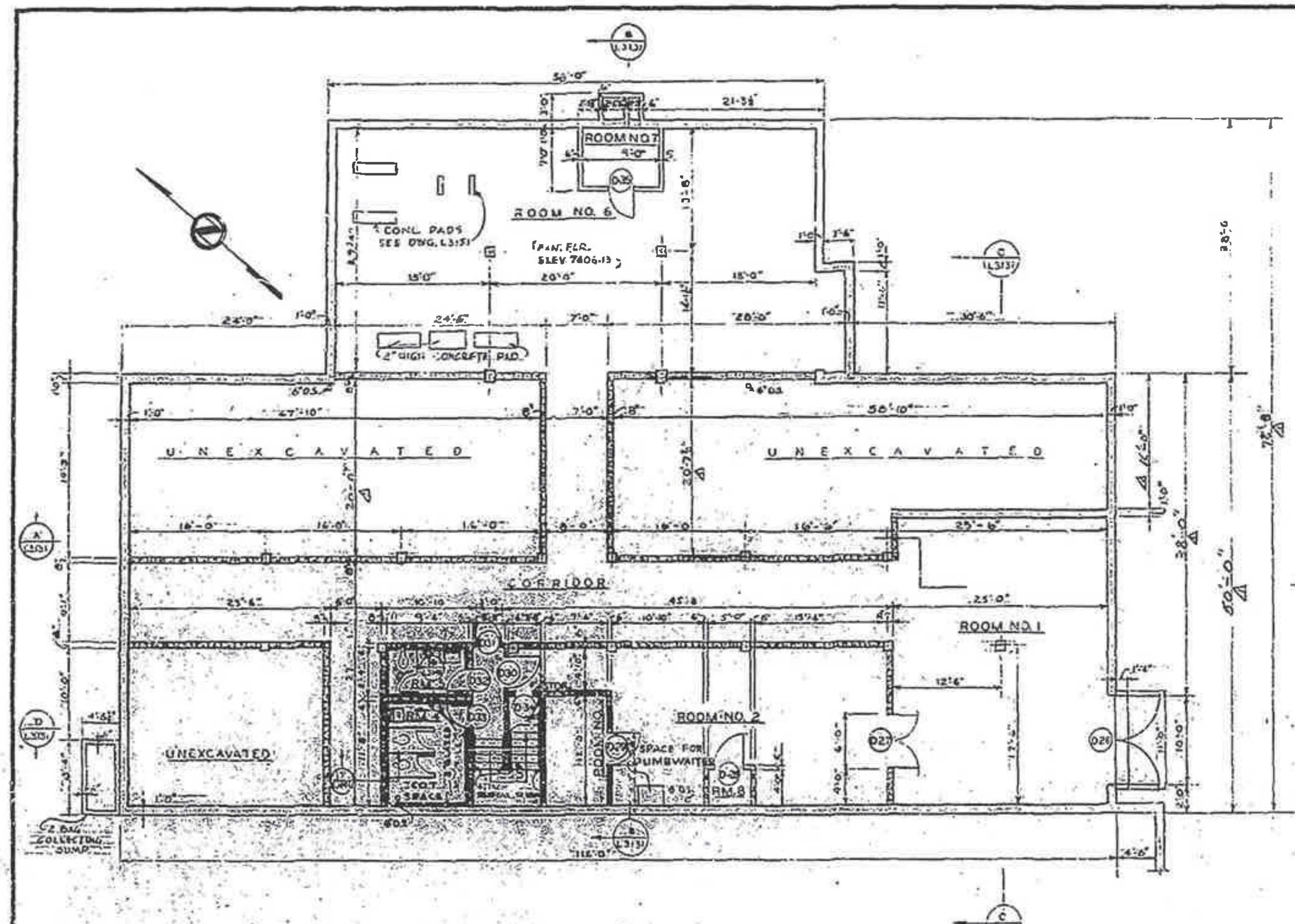
ENG-C 16279
Sheet 10 of 86
TA-16, Building (141-1) (TA-16-460)
Architectural: Elevations
March 12, 1951
Revised to status February 4, 2020

TA-16-460 Southwest elevation

TA-16-460 Northwest elevation

TA-16-460 Northeast elevation

TA-16-460 Southeast elevation



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

BASEMENT ROOM FINISH SCHEDULE							
ROOM NO.	FLOOR: HARDENED CONCRETE	FLOOR: QUARRY TILE	WALLS: PAINTED CONCRETE	WALLS: PAINTED CONC. BLOCK	CEILING: PAINTED CONCRETE	WAINSCOT: GLAZED TILE	REMARKS
1	X		X	X	X		
2	X		X	X	X		
3	X		X	X	X		
4		X	X	X	X	X	
5		X	X	X	X	X	
6	X		X	X	X		
7	X		X	X	X		
CORRIDOR	X		X	X	X		
8	X		X	X	X		PAINT INTERIOR WITH ACID-RESISTING PAINT

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1) 1207
SUBMITTED K.O. [signature]
RECOMMENDED [signature]
APPROVED [signature]

NO.	DATE	REVISIONS		
2	1-1-54	REVISED TITLE: Building Numbers Added	JF	JJS
1	6-3-52	Change made in the field	KOT	

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

ARCHITECTURAL BUILDING (16-460) (141-1)
BASEMENT FLOOR PLAN
AND SCHEDULE
TA-16 PROJECT "I"

CONTRACT NO. 470
DRAWN: [illegible]
CHECKED: W.B.C.
SCALE: AS NOTED
FILE NO. 2828

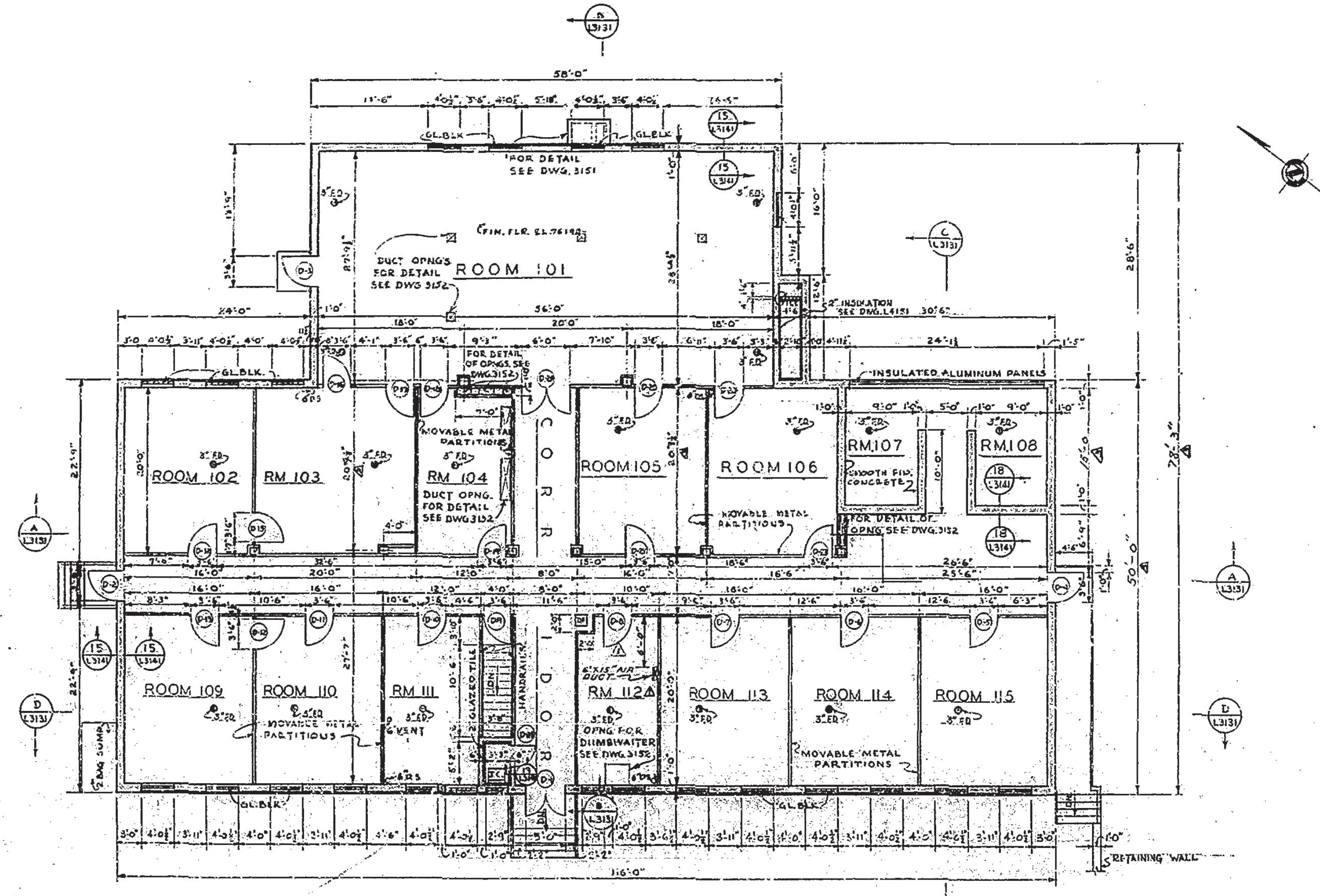
BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. SFA-KG-L3111.1 SHEET 5 OF 86

David Charles Keller
Digitally signed by David Charles Keller
Date: 2023.01.29 10:46:04 -07'00'

Verified Unclassified, EPC-ES

LAB JOB 672 L.A.S.L. DWG. NO. ENG-C16274



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

FIRST FLOOR PLAN ROOM FINISH SCHEDULL

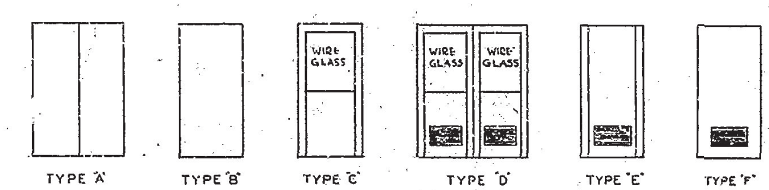
ROOM NO.	FLOOR: NON SPARKING CONDUCTIVE	FLOOR: HARDENED CONCRETE	FLOOR: QUARRY TILE	WALLS: PAINTED CONCRETE	WALLS: REMOVABLE MET. PARTITIONS	WALLS: ALUMINUM PANEL	WALLS	CEILING: PAINTED CONCRETE	CEILING: PERFORATED METAL PANS	CEILING: PLEXIGLASS	CEILING	BASE: NON SPARKING CONDUCTIVE	BASE: GLAZED TILE	BASE	REMARKS
101,102&106	X			X	X				X			X			
103	X			X	X					X		X			
104 & 105	X				X				X						
107 & 108	X			X		X		X				X			
109 THRU 115	X			X	X				X			X			
JAN. CLO.			X	X				X					X		2" GLAZED TILE WAINSCOT 4'-6" HIGH
CORRIDOR	X				X				X			X			

NOTE: SEE DWG. NO. L3111 FOR BASEMENT ROOM FINISH SCHEDULE

DOOR SCHEDULE

MARK	TYPE	MATL	SIZE W	SIZE H	SIZE T	GLASS	DETAILS H	DETAILS J	DETAILS S	REMARKS
D-1	A	STL.	2-2-6	7'-0	1 3/4	NONE	3	4	11	
D-2, D-3, D-4	B	"	3'-6	7'-0	"	"	3	4	11	
D-5 THRU D-23	C	"	3'-6	6-9½	"	1/4" WIRE GLASS	–	–	–	BY SAME MFGR. AS METAL PARTITIONS · DOORS D-9, D-16, D-17, D-18, D-20, D-23 NOT LOUVERED
D-24	D	"	2-3-0	6-9½	"	"	–	–	–	BY SAME MFGR. AS METAL PARTITION
D-25	B	"	2'-6	7-0	"	NONE	5	5	12	
D-26	A	"	2-5-0	8-0	"	"	4	4	10	
D-27	A	"	2-3-0	7-0	"	"	21	6	9	
D-28, D-29, D-30	F	"	3-6	7-0	"	"	20	7	14	D-28 NOT LOUVERED (TYPE "B")
D-31	E	"	3'-0	7-0	"	"	20	7	14	LOUVERED
D-32, D-33	E	"	2-6	7-0	"	"	20	3	13	LOUVERED
D-34	B	"	2-0	7-0	"	"	20	7	14	
D-35	B	"	3-0	6-4	1 11/16	"	22	22	23	SEE DETAIL 24 DWG NO L3141

NOTE: FOR DETAILS LISTED ABOVE SEE DWG. NO. L3141



NOTES:
- TACK WELD 6" O.C. ALL ASTRAGALS ON DOUBLE DOORS.
- ALL EXTERIOR DOORS TO HAVE SECURITY EYELETS, 3/16" DIA. SHANK & 1/2" DIA. EYE, TO BOLT THRU DOOR. UPSET ENDS OF BOLTS. PROVIDE TWO ON EACH SIDE OF DOOR.

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1) 1207
SUBMITTED K.O. Jaffray
RECOMMENDED
APPROVED

David Charles Keller
Digitally signed by David Charles Keller Date: 2023.01.09 10:49:38 -07'00'
Verified Unclassified, EPC-ES

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.
4	9/1/54	Revised Title - Building Number Added	JF	US		
3	4/3/54	Change Made In Field	XOT			
2	3/29/54	Add Notes. Mod. No. 16	ELB			
1	5/13/54	Relocate Duct Opening Mod. No. 5	ELB			

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

ARCHITECTURAL BUILDING (141-1) 6-460
FIRST FLOOR PLAN
AND SCHEDULES
T.A.-16 PROJECT "I"

CONTRACT NO. (A-E): 470
A.E.C. ACCT. NO.:
DRAWN: W.H.M.
CHECKED: W.E.C.
A-E APPROVED
DESIGN: W.E.C.
PROJ. ENGR.:
CHIEF ENGR.:
SCALE: AS NOTED
DATE: 3-12-51

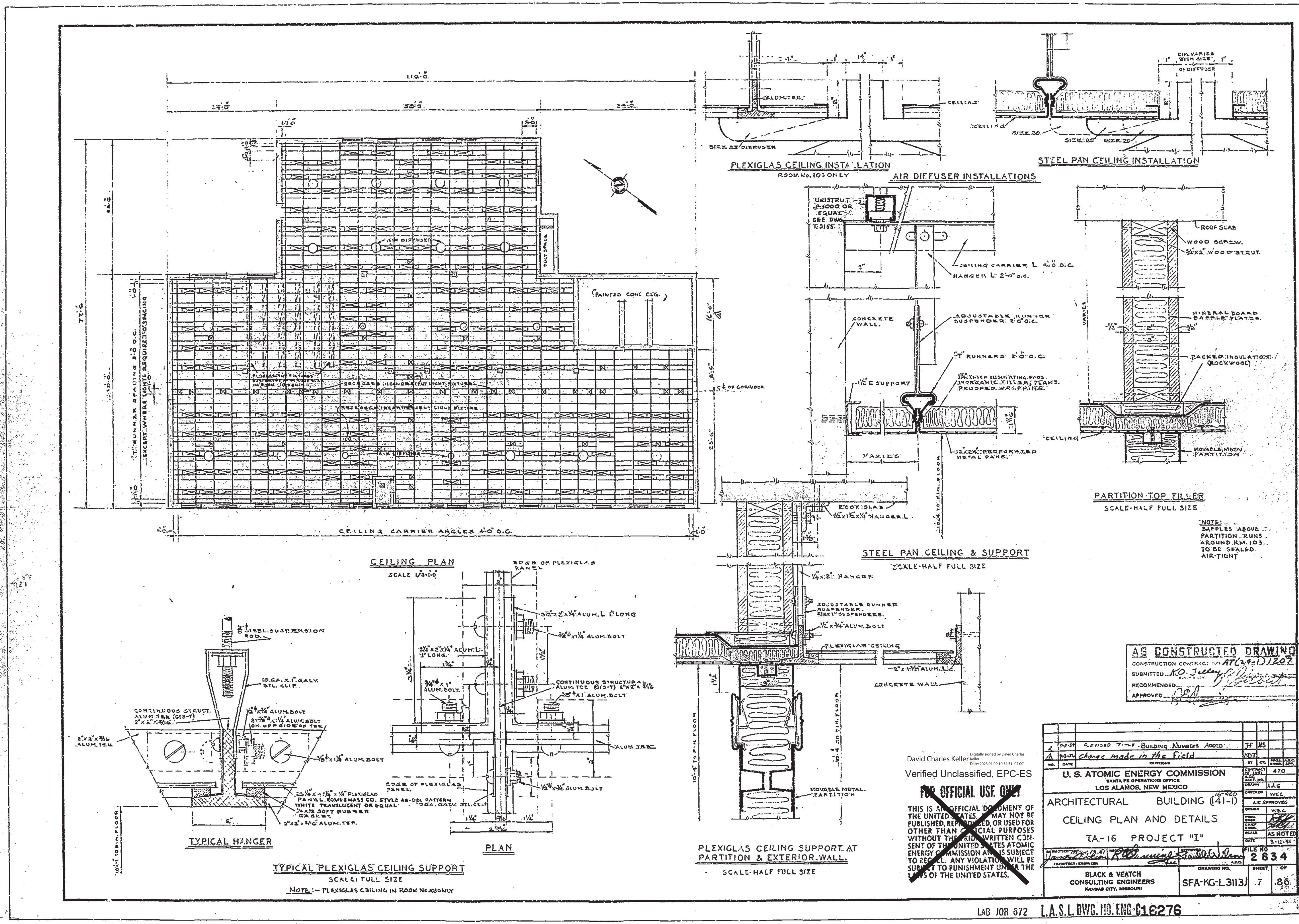
SUBMITTED: ARCHITECT - ENGINEER
RECOMMENDED: A.E.C.
APPROVED: A.E.C.

FILE NO 2829

BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. SFA-KG-L 31123 | SHEET 5 | OF 86

LAB JOB 672 L.A.S.L. DWG. NO. ENG-C16275


CEILING PLAN
SCALE 1/8"=1'-0"
CEILING CARRIER ANGLES 4'-0" O.C.
(PAINTED CONC CLG.)
DUCT SPACE
AIR DIFFUSER
RECESSED INCANDESCENT LIGHT FIXTURE
PLEXIGLAS CEILING INSTALLATION
ROOM No. 103 ONLY
AIR DIFFUSER INSTALLATIONS
STEEL PAN CEILING INSTALLATION
CEILING CARRIER L 4'-0" O.C.
HANGER L 2'-0" O.C.
CONCRETE WALL
ADJUSTABLE RUNNER SUSPENDER 2'-0" O.C.
"T" RUNNERS 2'-0" O.C.
STEEL PAN CEILING & SUPPORT
SCALE-HALF FULL SIZE
ROOF SLAB
WOOD SCREW
MINERAL BOARD BAFFLE PLATES
PACKED INSULATION (ROCKWOOL)
CEILING
MOVABLE METAL PARTITION
PARTITION TOP FILLER
SCALE-HALF FULL SIZE
NOTE: BAFFLES ABOVE PARTITION RUNS AROUND RM. 103 TO BE SEALED AIR-TIGHT
TYPICAL HANGER
PLAN
TYPICAL PLEXIGLAS CEILING SUPPORT
SCALE: FULL SIZE
NOTE:- PLEXIGLAS CEILING IN ROOM No.103 ONLY
PLEXIGLAS CEILING SUPPORT AT PARTITION & EXTERIOR WALL.
SCALE-HALF FULL SIZE
PLEXIGLAS CEILING
CONCRETE WALL
AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1)1207
SUBMITTED
RECOMMENDED
APPROVED
REVISED TITLE - BUILDING NUMBERS ADDED
change made in the field
U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO
ARCHITECTURAL
BUILDING 16-460 (41-1)
CEILING PLAN AND DETAILS
TA-16 PROJECT "I"
BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI
FILE NO 2834
DRAWING NO. SFA-KG-L3113J
SHEET 7 OF 86
SCALE AS NOTED
DATE 3-12-51
David Charles Keller
Verified Unclassified, EPC-ES
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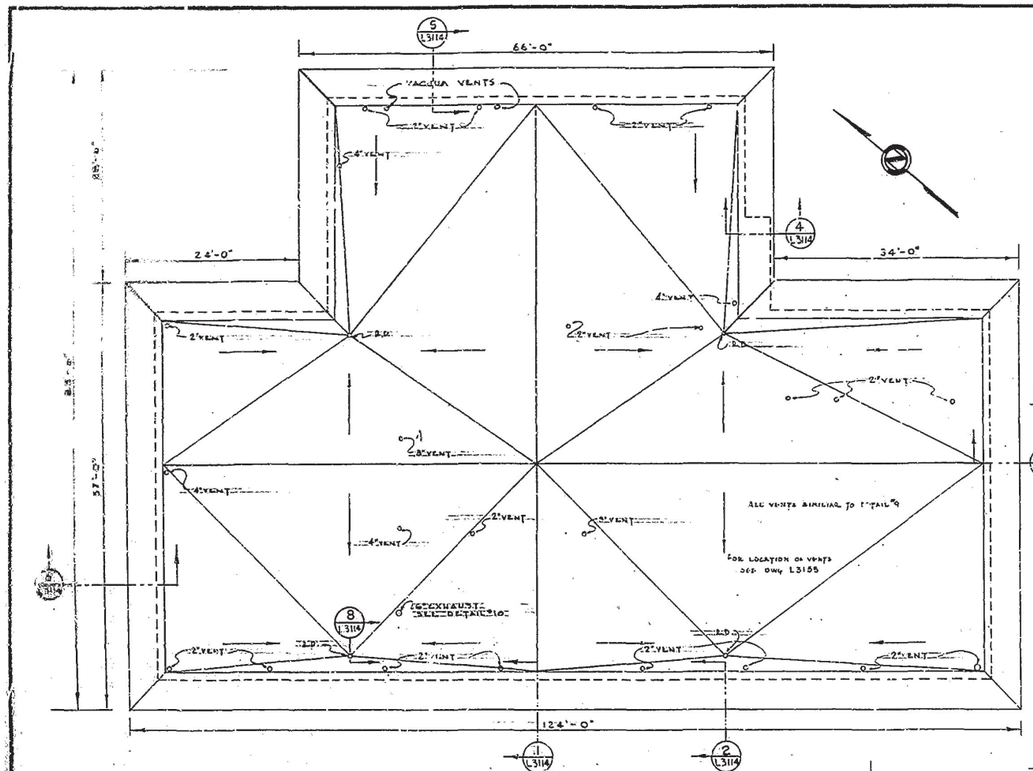
LAB JOB 672
L.A.S.L. DWG. NO. ENG-C16276



ROOF PLAN
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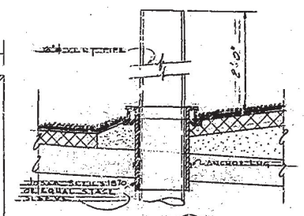

DETAIL 10 / L3114
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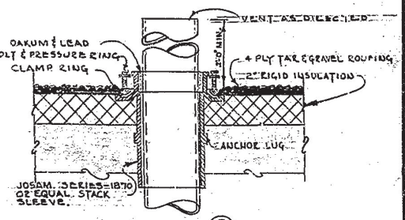

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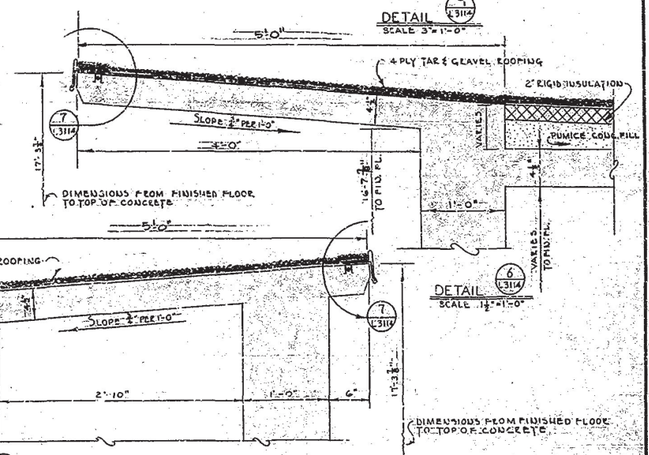
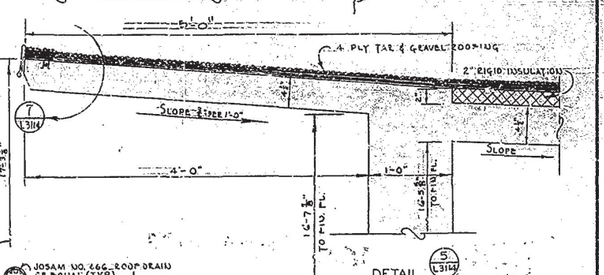


DETAIL 6 / L3114
SCALE 1½"=1'-0"

DETAIL 4 / L3114
SCALE 1½"=1'-0"



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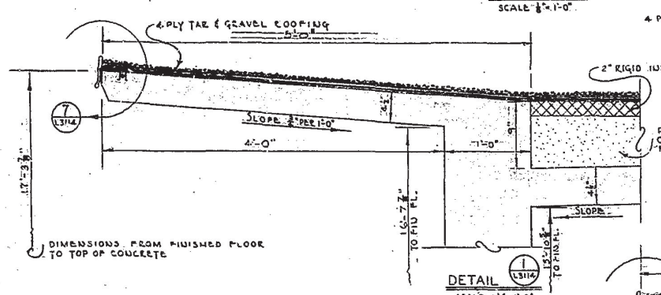
SCALE 1½"=1'-0"



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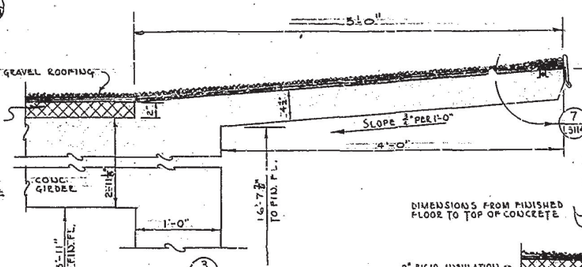
SCALE 1½"=1'-0"



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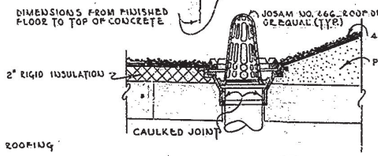

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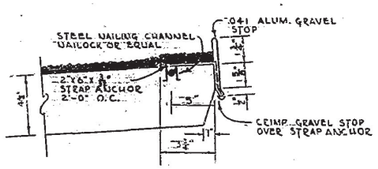

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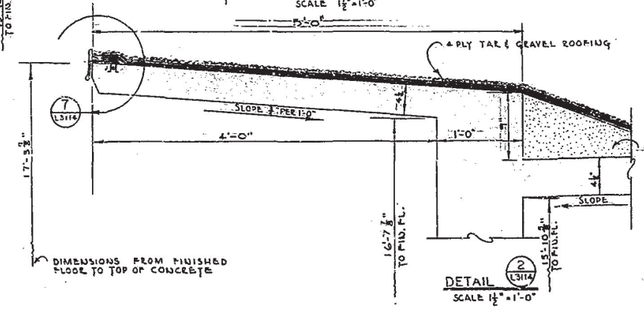
SCALE 3"=1'-0"



DETAIL 2 / L3114
SCALE 1½"=1'-0"

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A&C SUPV.
1	9-2-59	REVISED TITLE=BUILDING NUMBERS ADDED	JH	WAS		

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

ARCHITECTURAL BUILDING (141-1) 16-460
ROOF PLAN AND DETAILS
T.A-16 PROJECT "I"

CONTRACT NO. (AEC)	470
ACCT. NO.	
DRAWN	J.O.M.
CHECKED	W.B.G.
A-E APPROVED	
DESIGN	W.E.C.
PROJ. ENGR.	
CHIEF DES.	
SCALE	AS NOTED
DATE	3-12-57
FILE NO.	2965

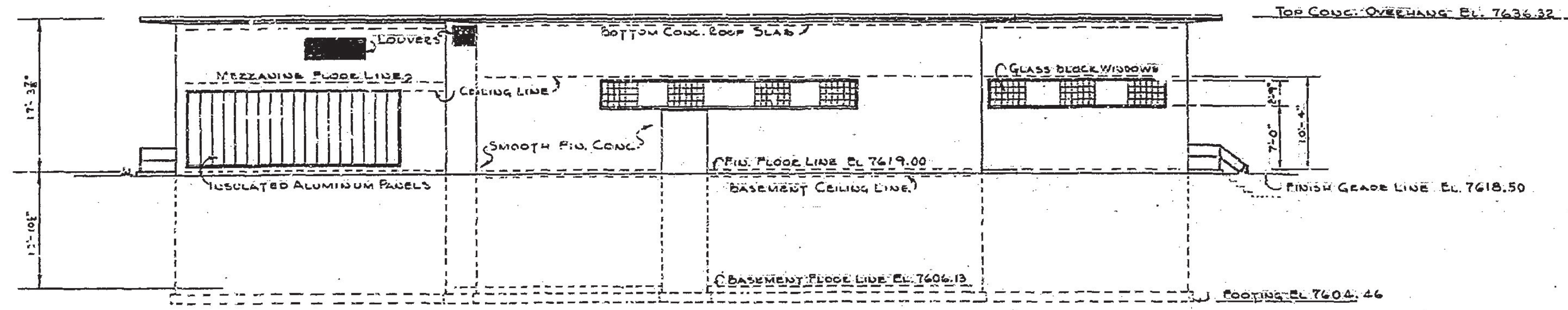
SUBMITTED Mar 12 57 — RECOMMENDED — APPROVED

BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

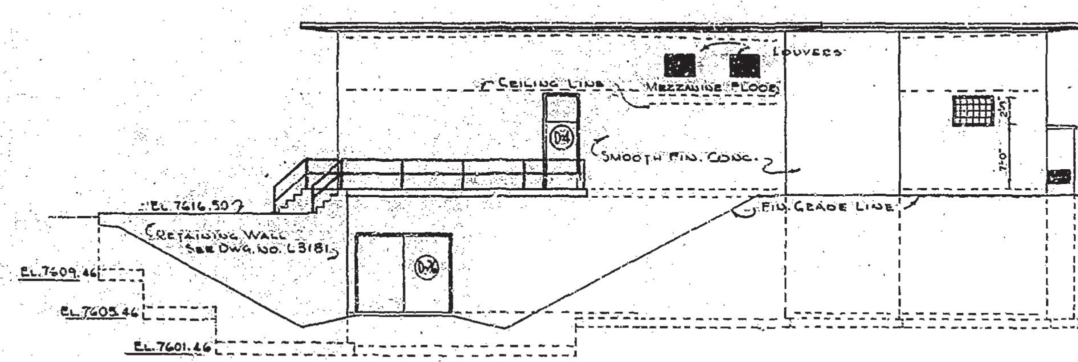
DRAWING NO. SFA-KG-L3114

SHEET 8 OF 86

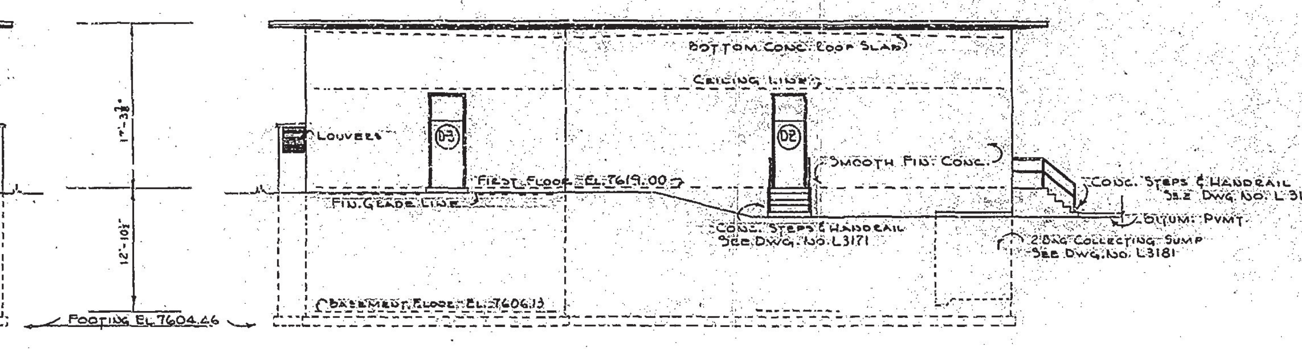
LAB JOB 672 L.A.S.L. DWG. NO. ENG-C16277



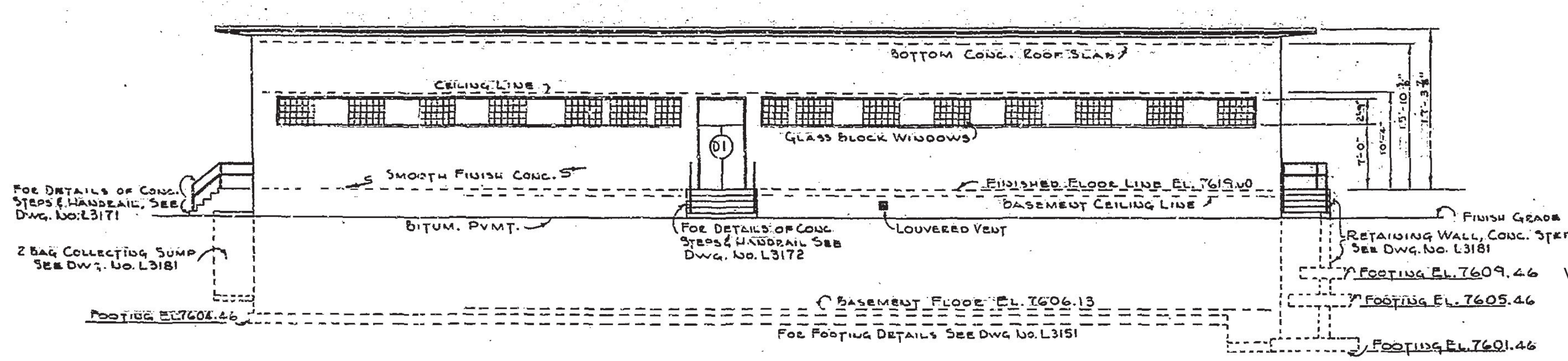
NORTHEAST ELEVATION
SCALE 1/8"=1'-0"



SOUTHEAST ELEVATION
SCALE 1/8"=1'-0"



NORTHWEST ELEVATION
SCALE 1/8"=1'-0"



SOUTHWEST ELEVATION
SCALE 1/8"=1'-0"

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1)1207
SUBMITTED K.O. Talley
RECOMMENDED
APPROVED

David Charles Keller
Digitally signed by David Charles Keller
Date: 2023.01.09 10:59:44 -07'00'

Verified Unclassified, EPC-ES

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NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.
1	1-2-59	REVISED TITLE - Building Numbers Added	JH	JAS		

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

ARCHITECTURAL BUILDING (141-1) 16-460
ELEVATIONS
T.A.-16 PROJECT "I"

CONTRACT NO. (A-E)	470
A.E.C. ACCT. NO.	
DRAWN	J.O.M.
CHECKED	W.E.C.
A-E APPROVED	
DESIGN	W.E.C.
PROJ. ENGR.	
CHIEF ENGR.	
SCALE	1/8"=1'-0"
DATE	3-12-51

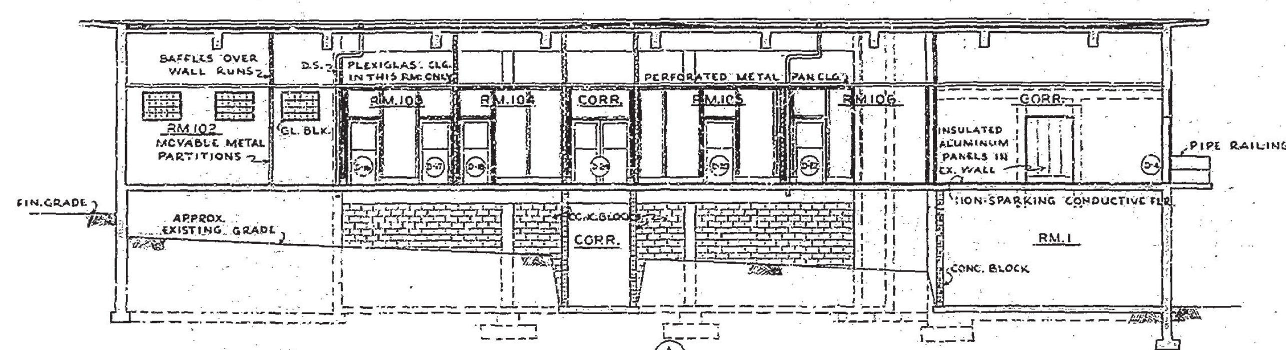
SUBMITTED May 13, 51 — ARCHITECT-ENGINEER
RECOMMENDED — A.E.C.
APPROVED — A.E.C.

FILE NO. 2984

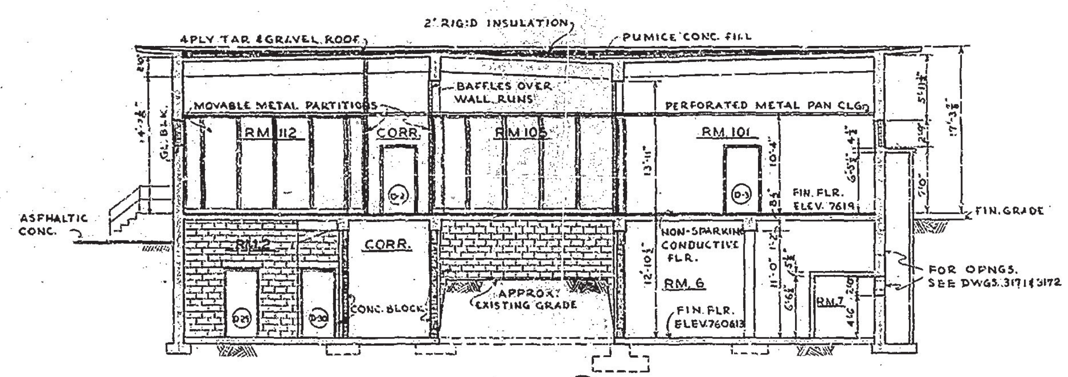
BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. SFA-KG-L3121 SHEET 10 OF 86

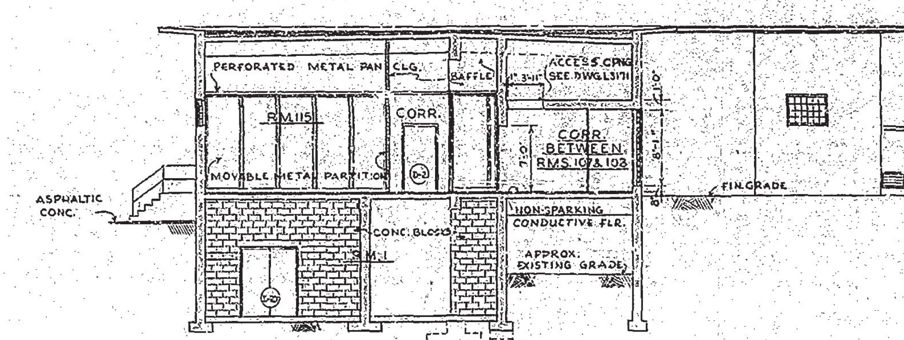
LAB JOB 672 L.A.S.L. DWG. NO. ENG-C16279



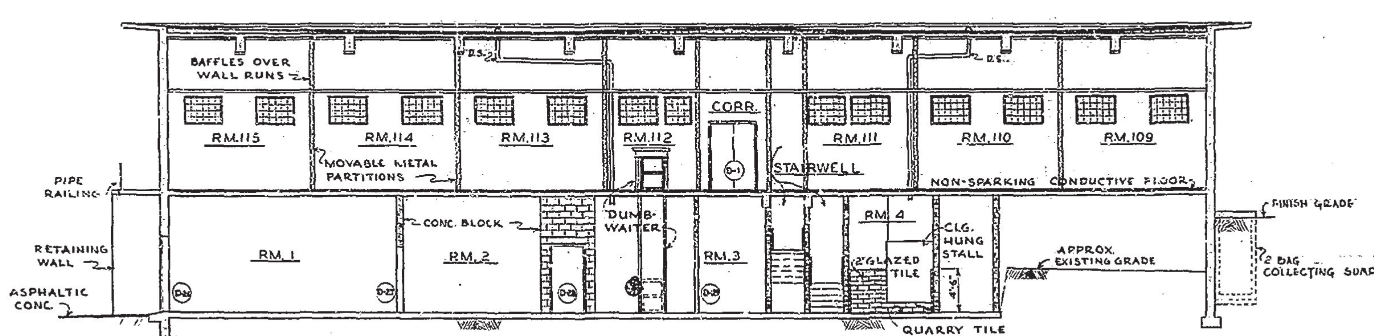
SECTION A/L3112



SECTION B/L3112



SECTION C/L3112



SECTION D/L3112

AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1)1287
SUBMITTED K.O. Jalley
RECOMMENDED
APPROVED

David Charles Keller
Digitally signed by David Charles Keller
Date: 2023.01.09 11:01:54 -07'00'
Verified Unclassified, EPC-ES

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NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.
1	9-2-54	REVISED TITLE - Building Numbers Added		MS		

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

ARCHITECTURAL BUILDING (141-1) 16-460
SECTIONS
TA-16 PROJECT "I"

CONTRACT NO. (A-E)	470
A.E.C. ACCT. NO.	
DRAWN	W.H.M.
CHECKED	W.E.C.
A-E APPROVED	
DESIGN	W.E.C.
SCALE	1/8"=1'-0"
DATE	3-12-51

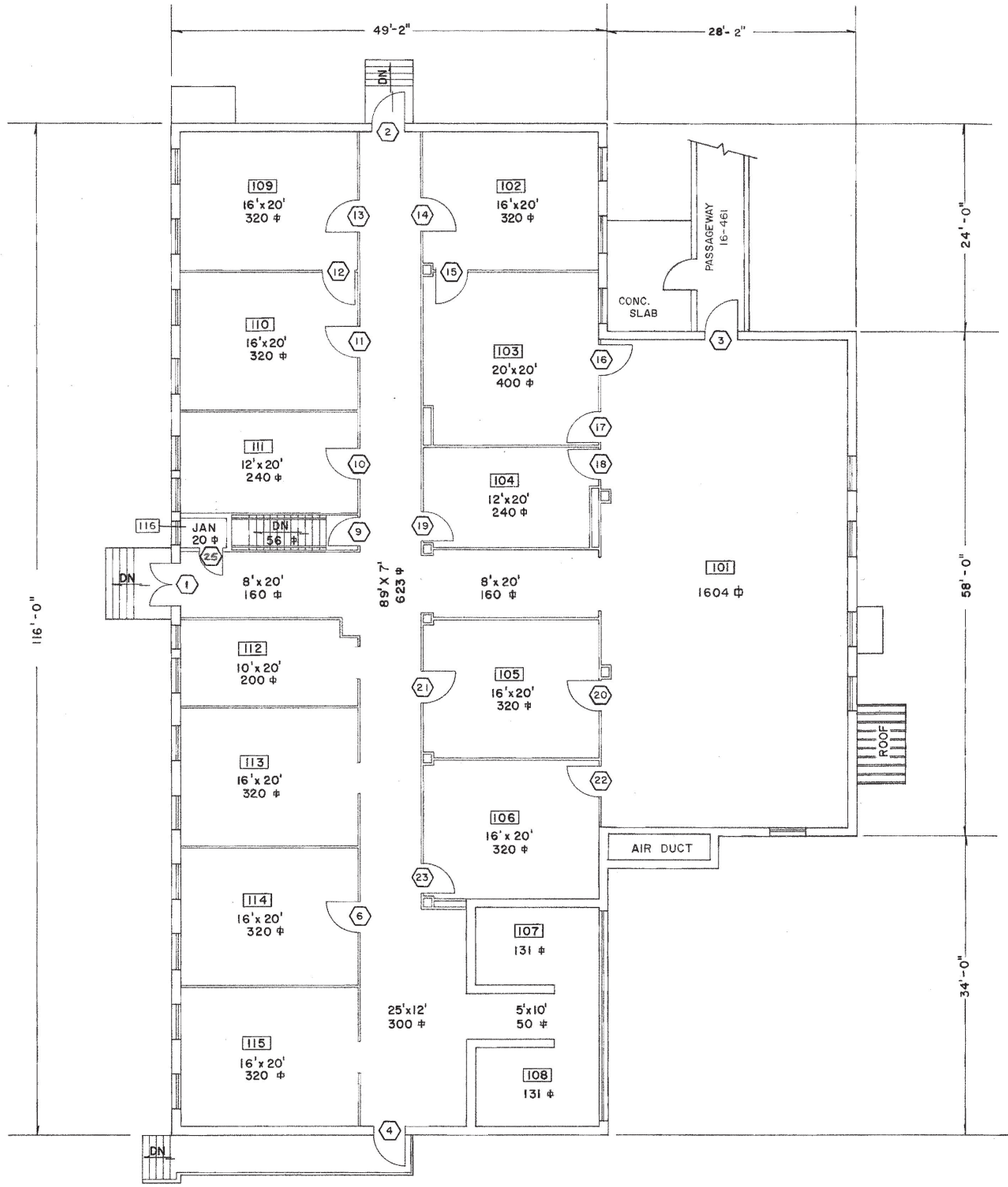
SUBMITTED Mar. 13, 51 — ARCHITECT-ENGINEER; RECOMMENDED — A.E.C.; APPROVED — A.E.C.

FILE NO. 3006

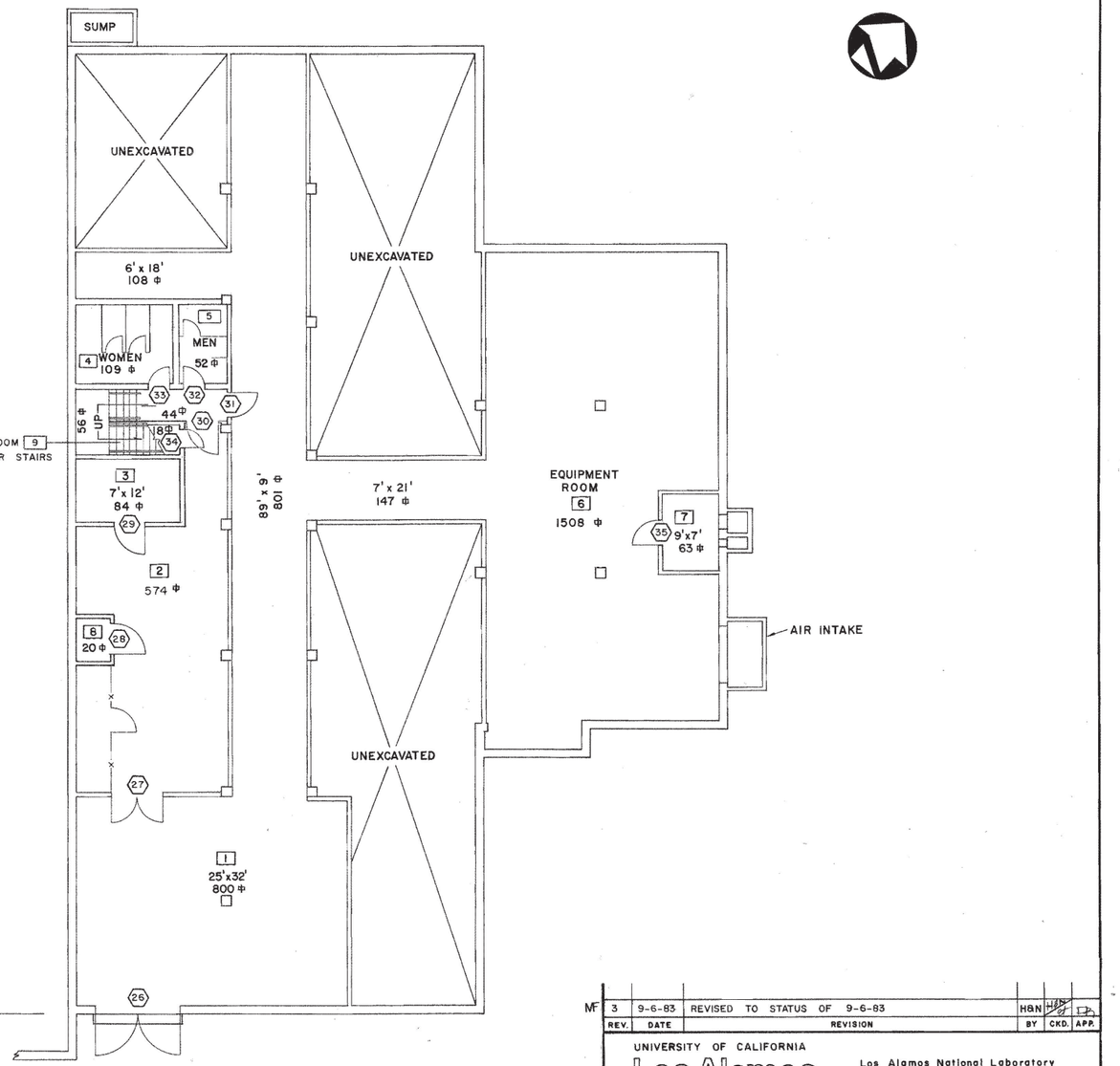
BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. SFA-KG-L-3131 SHEET 11 OF 86

LAB JOB 672 L.A.S.L. DWG. NO. ENG-C16280



FIRST FLOOR



BASEMENT FLOOR

(1/8"=1'-0") 0 2 4 6 8 10 12 14 16 18 20

GRAPHIC SCALE

ROOM NO. SYMBOL

DOOR NO. SYMBOL

BASEMENT FLOOR TOTAL SQ FT 4419
FIRST FLOOR TOTAL SQ FT 6875
TOTAL SQ FT 11294

REV.	DATE	REVISION	BY	CKD.	APP.
3	9-6-83	REVISED TO STATUS OF 9-6-83	H&N	H&N	

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

LABORATORY BLDG.
BSM'T., & FIRST FLOOR PLAN

BLDG. 460 TA-16

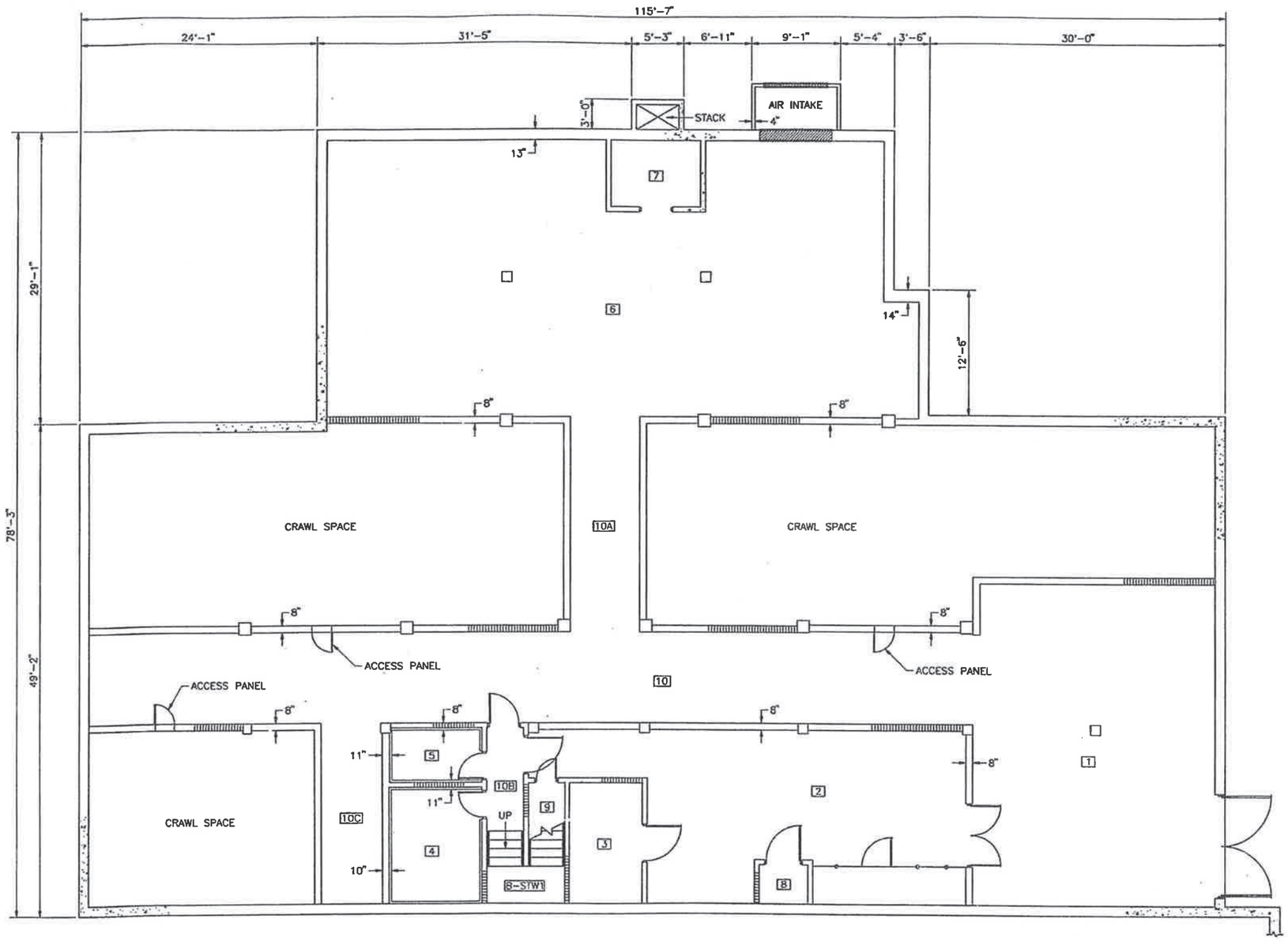
SEC. CLASSIFICATION
CLASS. U
REVIEWER Madrid
DATE 12.2.83

SUBMITTED	RECOMMENDED	APPROVED
E. Trujillo	Darwin Page	G. Peter Lotz

DRAWN	GLASS	DATE	SHEET NO.	DRAWING NO.
CHECKED Humble H&N		11-15-83	1 OF 1	ENG-R2880

K & E P8166 CLOTH

RECEIVED LOGGED AND TO VAULT



ROOM INFORMATION CHART

RM NO	NET SQ FOOTAGE	RM NO	NET SQ FOOTAGE	RM NO	NET SQ FOOTAGE
1	790	6	1517	10A	151
2	621	7	65	10B	46
3	96	8	23	10C	112
4	116	9	35	8-STW1	81
5	57	10	835		

TOTAL ROOM NET SQUARE FOOTAGE (THIS SHEET) = 4,545

GROSS SQUARE FOOTAGE (THIS SHEET) = 4,966

TOTAL ROOM NET SQUARE FOOTAGE (BUILDING) = 11,572

GROSS SQUARE FOOTAGE (BUILDING) = 12,405

LEGEND

CONCRETE
CONCRETE BLOCK
LOUVER
CHAIN LINK FENCE
COLUMNS

NOTES

1. ALL EXTERIOR WALLS ARE 12" THICK UNLESS OTHERWISE NOTED.
2. ALL INTERIOR WALLS ARE 6" THICK UNLESS OTHERWISE NOTED.
3. REFERENCE DRAWING ENG-R2880.
4. ROOM NET SQUARE FOOTAGE IS COMPUTED BY MEASURING FROM THE INSIDE FACE OF EXTERIOR WALLS TO THE CENTERLINE OF ALL OTHER WALLS. AREAS SHOWN ARE ROUNDED TO THE NEAREST SQUARE FOOT.
5. GROSS SQUARE FOOTAGE IS EQUAL TO ALL FLOOR AREA (INCLUDING ALL OPENINGS IN FLOOR SLABS) MEASURED TO THE OUTER SURFACES OF EXTERIOR OR ENCLOSING WALLS, AND INCLUDES ALL FLOORS, MEZZANINES, HALLS, VESTIBULES, STAIRWELLS, SERVICE AND EQUIPMENT ROOMS, PENTHOUSES, VAULTS, AND ENCLOSED PASSAGES.
6. DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH.

BASEMENT FLOOR PLAN

SCALE: 3/16" = 1'-0"

6 4 2 0 6 12 24
GRAPHIC SCALE

N

FIELD VERIFIED 1-3-96

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP

JOHNSON CONTROLS

AS-BUILT RECORD FLOOR PLAN
LABORATORY BUILDING
ARCH: BASEMENT FLOOR PLAN

DRAWN: D. TIDEMAN
VERIFIED: DWL 2-13-96 / FG
CHECKED: C. SARBOUN
DATE: 1-22-96

BLDG 460 TA-16

SUBMITTED: HMS for J. Forte 2-13-96 JERRY FORTE
APPROVED FOR RELEASE: F. G. Thompson 2/16/96 FRED THOMPSON

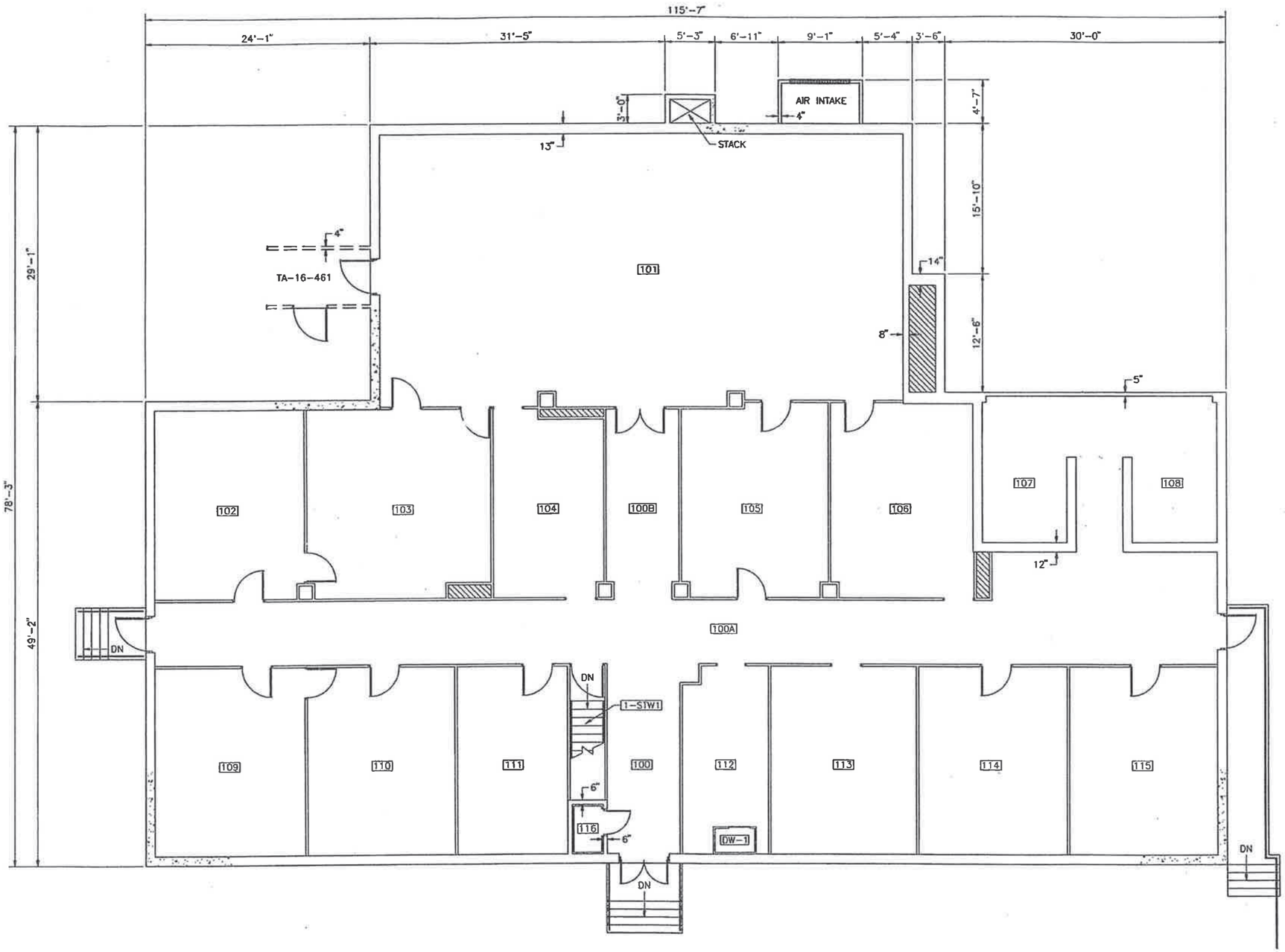
Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 1 OF 2

CLASSIFICATION: U REVIEWER: T. GUSDORF DATE: 2-12-96

PROJECT ID: 016523
DRAWING NO: AB603
REV:

JCI NO 95-030



FIRST FLOOR PLAN

SCALE: 3/16" = 1'-0"

6 4 2 0 6 12 24
GRAPHIC SCALE

N

ROOM INFORMATION CHART

RM NO	NET SQ FOOTAGE	RM NO	NET SQ FOOTAGE	RM NO	NET SQ FOOTAGE
100	164	105	332	112	187
100A	988	106	335	113	318
100B	161	107	179	114	321
101	1611	108	171	115	318
102	326	109	323	116	20
103	396	110	321	UTILITY 1	24
104	235	111	240	1-STW1	57

TOTAL ROOM NET SQUARE FOOTAGE (THIS SHEET) = 7,027

GROSS SQUARE FOOTAGE (THIS SHEET) = 7,439

TOTAL ROOM NET SQUARE FOOTAGE (BUILDING) = 11,572

GROSS SQUARE FOOTAGE (BUILDING) = 12,405

LEGEND

CONCRETE
CONCRETE BLOCK
LOUVER
UTILITY SPACE
WOOD OR METAL STUD
COLUMNS

NOTES

1. ALL EXTERIOR WALLS ARE 12" THICK UNLESS OTHERWISE NOTED.
2. ALL INTERIOR WALLS ARE 3" THICK UNLESS OTHERWISE NOTED.
3. REFERENCE DRAWING ENG-R2880.
4. ROOM NET SQUARE FOOTAGE IS COMPUTED BY MEASURING FROM THE INSIDE FACE OF EXTERIOR WALLS TO THE CENTERLINE OF ALL OTHER WALLS. AREAS SHOWN ARE ROUNDED TO THE NEAREST SQUARE FOOT.
5. GROSS SQUARE FOOTAGE IS EQUAL TO ALL FLOOR AREA (INCLUDING ALL OPENINGS IN FLOOR SLABS) MEASURED TO THE OUTER SURFACES OF EXTERIOR OR ENCLOSING WALLS, AND INCLUDES ALL FLOORS, MEZZANINES, HALLS, VESTIBULES, STAIRWELLS, SERVICE AND EQUIPMENT ROOMS, PENTHOUSES, VAULTS, AND ENCLOSED PASSAGES.
6. DIMENSIONS SHOWN ARE ROUNDED TO THE NEAREST INCH.

MF	NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP

JOHNSON CONTROLS

AS-BUILT RECORD FLOOR PLAN
LABORATORY BUILDING
ARCH: FIRST FLOOR PLAN

DRAWN: D. TIDEMAN
VERIFIED: DWTP & DWT/KPS/TG
CHECKED: C. SANDOVAL
DATE: 1-22-96

BLDG 450 TA-16

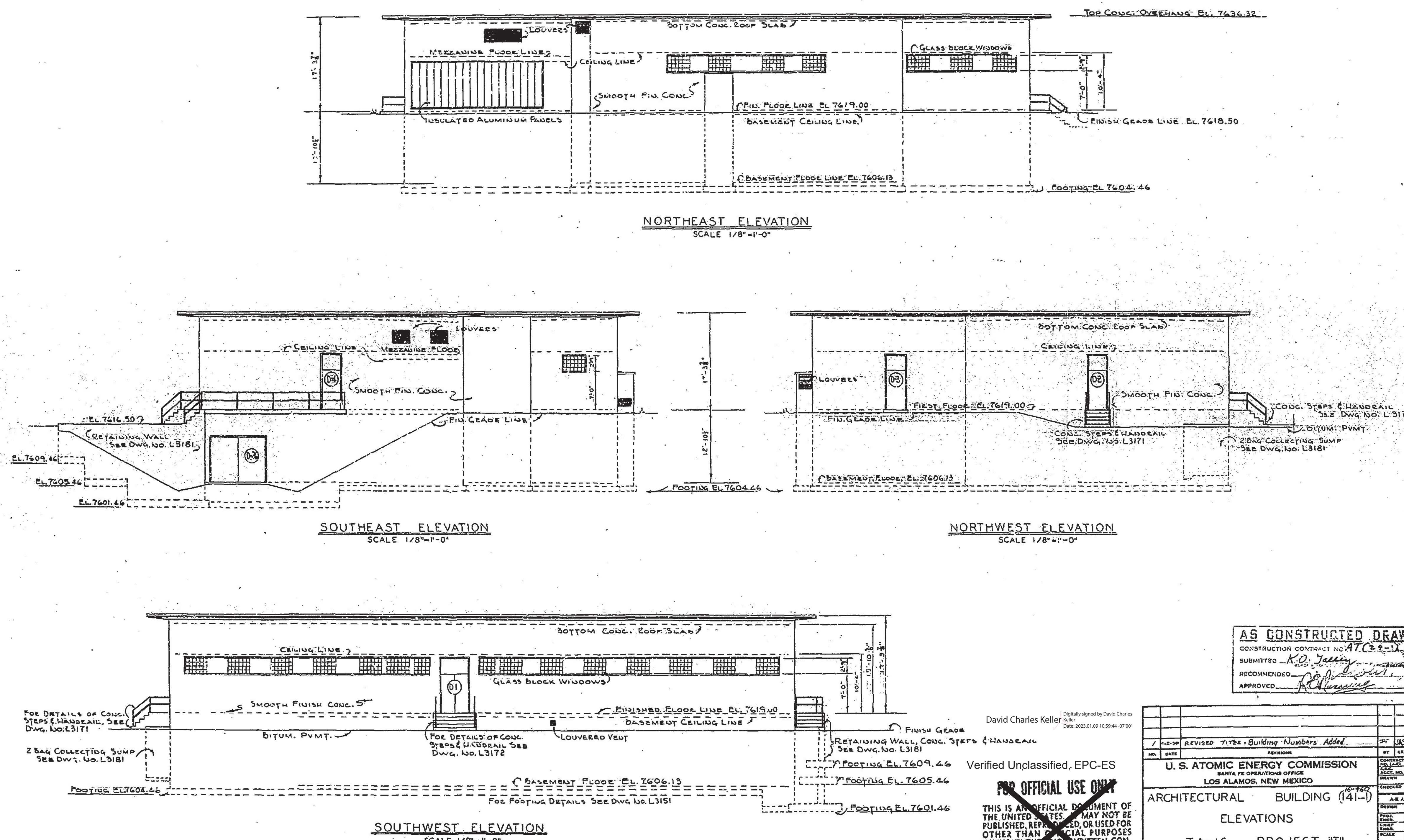
SUBMITTED: JERRY FORTE 2-13-96 (HMS for J. Forte)
APPROVED FOR RELEASE: FRED THOMPSON 2/16/96

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 2 OF 2

CLASSIFICATION: U REVIEWER: T. GUSDORF DATE: 2-12-96

PROJECT ID: 016523
DRAWING NO: AB603
REV:



David Charles Keller Digitally signed by David Charles Keller Date: 2023.01.09 10:59:44 -07'00'

Verified Unclassified, EPC-ES

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AS CONSTRUCTED DRAWING
CONSTRUCTION CONTRACT NO. AT(29-1)1207
SUBMITTED K.O. Talley
RECOMMENDED
APPROVED

NO.	DATE	REVISIONS	BY	CK.	PROJ. ENGR.	A.E.C. APP.
1	1-2-54	REVISED TITLE - Building Numbers Added		JAS		

U. S. ATOMIC ENERGY COMMISSION
SANTA FE OPERATIONS OFFICE
LOS ALAMOS, NEW MEXICO

ARCHITECTURAL BUILDING (141-1) 16-460

ELEVATIONS

T.A.-16 PROJECT "I"

CONTRACT NO. (A-E) 470 · DRAWN J.O.M. · CHECKED W.E.C. · A-E APPROVED · DESIGN W.E.C. · SCALE 1/8"=1'-0" · DATE 3-12-51

SUBMITTED Mar. 13, 51 ARCHITECT-ENGINEER · RECOMMENDED A.E.C. · APPROVED A.E.C.

FILE NO. 2984

BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

DRAWING NO. SFA-KG-L3121 · SHEET 10 · OF 86

LAB JOB 672 L.A.S.L. DWG. NO. ENG-C16279

LANL TA- Building # 16-0463

Camera 98424

Frame #s DCP-0356 through DCP_0360

Surveyor(s) S. McCarthy, B. McCormick, K. Garcia, E. McGehee; C. Townsend, K. Garcia

Date 7/22/2002; 1/31/2020

Los Alamos National Laboratory
Historic Building Survey Form

Building Name Rest House, HE Storage UTMs easting 377826 northing 3967678 zone 13

Legal Description: Map Frijoles Quad tnsp 19N range 6E sec 30

Current Use/ Function Vacant Original Use/ Function Rest House, HE Storage

Date (estimated) Date (actual) 1966 Property Type Laboratory/Processing

Type of Construction

Pre-Engineered ☐ Steel Frame ☐ Wood Frame ☐ CMU ☑ Reinforced Concrete ☑

Other Type of Construction # of Stories 1

Foundation Reinforced Concrete

Exterior CMU-Exterior ☑ Reinforced Concrete-Exterior ☐ Steel (galvanized) ☐ Steel (corrugated) ☐

Wood Siding ☐ Asbestos Shingles-Exterior ☐ In-Fill Panels ☐ Other-Exterior

Exterior Treatment (painted, stuccoed, etc) Painted

Exterior Features (docks, speakers, lights, signs, etc) Inset loading dock with exposed steel roof joists, dock lighting, speakers, and alarms.

Addition CMU-Addition ☐ Reinforced Concrete-Addition ☐ Steel (galvanized)- Addition ☐ Wood ☐

Steel (corrugated)-Addition ☐ Asbestos Shingles-Addition ☐ Other- Addition

Exterior Treatment-Addition

Exterior Features-Addition

Roof Form Slanted/Shed ☐ Gable ☐ Other Roof Type Flat with interior roof drains

Degree of Pitch/ Slope Slight

Roof Materials Corrugated Metal ☐ Rolled Asphalt ☐ Asbestos Shingles ☐ 4-Ply Built Up ☑

Other Roof Materials Built-up

Window Type Casement ☐ Single Hung Sash ☐ Double Hung Sash ☐ Fixed Window ☐

Other Window Type

# of Each Window Type/ Comments None

Glass Type Clear ☐ Wire Glass ☐ Opaque ☐ Painted Glass ☐ Glass Block ☐

Light Pattern

Door Type Personnel Door Types Exterior Fire Door ☐ Single ☐ Double ☑ Roll-up ☐ Sliding ☐

Hollow Metal ☑ Solid Wood ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☑

Interior Fire Door ☐ Single ☑ Double ☐ Roll-up ☐ Sliding ☐
Hollow Metal ☑ Solid Wood ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

Equipment Door Types Exterior Fire Door ☐ Single ☐ Double ☐ Roll-up ☐ Sliding ☐
Hollow Metal ☐ Solid Wood ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

Interior Fire Door ☐ Single ☐ Double ☐ Roll-up ☐ Sliding ☐
Hollow Metal ☐ Solid Metal ☐ 1/2 Glazed ☐ Paneled ☐
Louvered ☐ Painted ☐

# of Each Door Type/Comments: 1 painted, double, hollow-metal personnel door, 1 single hollow-metal door.

Interior Wall Gypsum Board ☐ Reinforced Concrete- Interior ☐

CMU- Interior ☑ Plywood ☐ Other- Interior

In-Wall Electrical Wiring ☐ On-Wall Electrical Wiring ☑

Ceiling Drop Ceiling ☐

Interior Comments (Equipment, etc)

Degree of Remodeling Minor

Condition Excellent ☐ Good ☐ Fair ☑ Deteriorating ☐ Contaminated ☐ Burned ☐

Associated Buildings ☑

If yes, list building names and #s TA-16-460

Integrity Good

Significance None

Eligible Under Criterion A ☑ B ☐ C ☐ D ☐ Not Eligible ☐

DOE Themes

Nuclear Weapon Components and Assembly ☑ Nuclear Weapon Design and Testing ☑ Nuclear Propulsion ☐

Peaceful Uses: Plowshare, Nuclear Medicine, Nuclear Energy, Nuclear Science ☐ Energy and Environment: Research and Design Projects ☐

LANL Themes

Weapons Research and Design, Testing, and Stockpile Support ☑ Super Computing ☐

Reactor Technology ☐ Biomedical/Health Physics ☐ Strategic and Supporting Research ☐

Environment/Waste Management ☐ Administration and Social History ☐ Architectural History ☐

Recommendations/ Additional Comments

Architectural Features (elevations)

TA-16-0463 was a one-story building. Rectangular-in-plan, it measured 14 feet 8 inches by 24 feet 8 inches, encompassed approximately 169 square feet, and was oriented northeast by southwest. Built on a 3-foot-high poured-in-place reinforced concrete foundation, the walls were constructed of CMUs. The nearly flat roof was constructed of steel joists atop a bond beam and was clad in fiber-strand boards. The southwest façade featured a deeply inset dock accessed by concrete stairs with metal-pipe railings. Adjacent to the stairs in the exterior of the foundation were dock bumpers. Access into the building from the dock was provided by paired, metal-panel personnel doors. The northwest façade featured a single, metal-panel personnel door. On its northeast end, the facility was connected to facility TA-16-0461, a covered passageway. The southeast side of the building features an adjacent and earthen-filled ARMCO bin. The Laboratory completed drawings for TA-16-0463, a high-explosives storage facility, in June 1966. TA-16-0463 had structural integrity, and the exterior was in fair condition. Its architectural design was influenced by the International Modernist architectural style, and character-defining features included geometrical massing, lack of ornament, flat roof, continuous surface planes, and unornamented doors.

Total sq ft 169 net

Architect/ Builder Contractor: The Zia Company

Alterations

List of Selected Drawings (Cntrl + Enter for paragraph break)

ENG C-31940
Sheet 2 of 10
TA-16, Bldg 16-463
Plan, Elevation & Sections
January 24, 1966

ENG-R 575
Sheet 1 of 1
TA-16, Bldg 16-463
Floor Plan
June 10, 1966

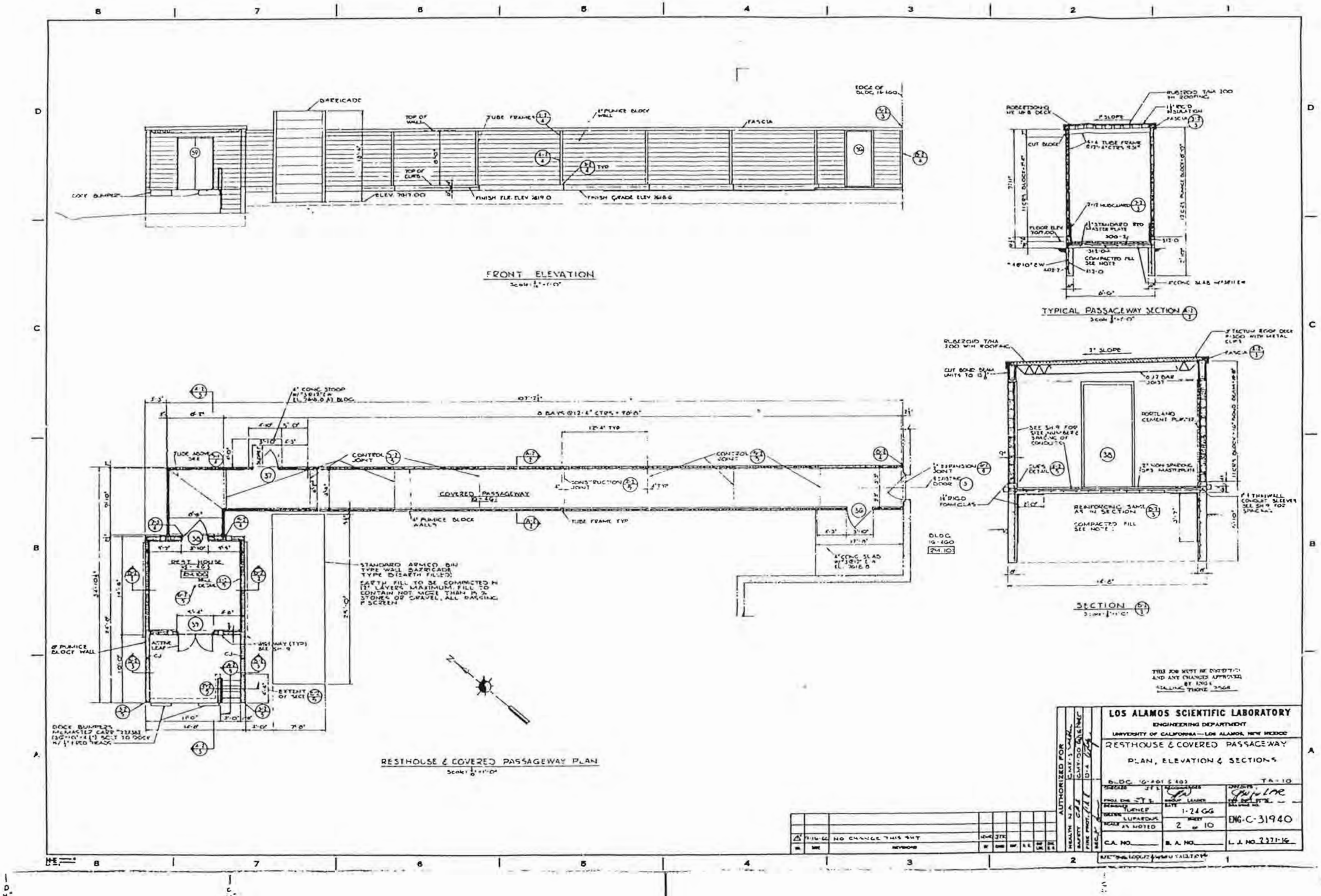
ENG-R 575
Sheet 1 of 1
TA-16, Bldg 16-463
Floor Plan
June 10, 1966
Revised to status of January 31, 2020

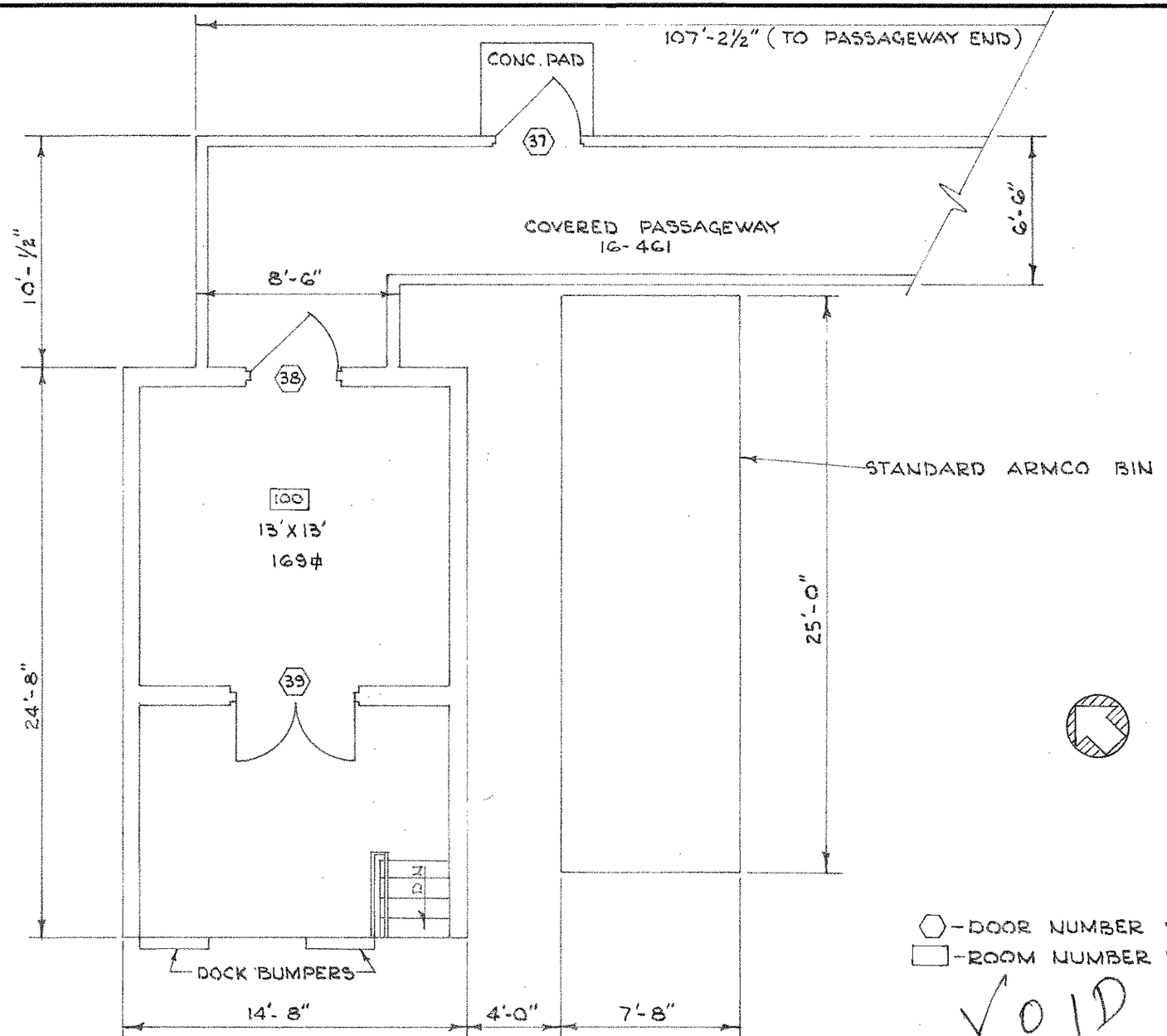
TA-16-463 Southwest elevation

TA-16-463 Southeast elevation

TA-16-463 Northwest elevation

TA-16-463 Northeast elevation


FRONT ELEVATION
TYPICAL PASSAGEWAY SECTION
SECTION
RESTHOUSE & COVERED PASSAGEWAY PLAN
COVERED PASSAGEWAY
REST HOUSE
BARRICADE
FASCIA
DOCK BUMPER
FINISH FLR ELEV
FINISH GRADE ELEV
CONTROL JOINT
CONSTRUCTION JOINT
TUBE FRAME TYP
4" PUMICE BLOCK WALLS
COMPACTED FILL SEE NOTE
STANDARD ARMCO BIN TYPE WALL BARRICADE TYPE D (EARTH FILLED)
EARTH FILL TO BE COMPACTED IN 12" LAYERS MAXIMUM. FILL TO CONTAIN NOT MORE THAN 1% 2" STONES OR GRAVEL, ALL PASSING 1" SCREEN
8 BAYS @ 12'-4" CTRS = 98'-8"
BLDG. 16-460
1" EXPANSION JOINT
EXISTING DOOR
1" RIGID FOAMGLAS
DOCK BUMPERS MCMASTER CARR
PORTLAND CEMENT PLASTER
REINFORCING SAME AS IN SECTION
RUBEROID T&A 200 WITH ROOFING
2" SLOPE
LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO
RESTHOUSE & COVERED PASSAGEWAY
PLAN, ELEVATION & SECTIONS
BLDG. 16-401 & 403
TA-10
TURNER
LUPARDUS
AS NOTED
1-24-66
2 of 10
ENG-C-31940
C.A. NO.
B. A. NO.
L. J. NO. 2371-16
AUTHORIZED FOR
HEALTH
SAFETY
FIRE PROT.
NO CHANGE THIS SHT



⬡ - DOOR NUMBER SYMBOL
▭ - ROOM NUMBER SYMBOL

VOID

TOTAL SQ. FT. - 169

AUTHORIZED FOR	
HEALTH	
SAFETY	
FIRE PROT.	
SEC.	

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

FLOOR PLAN
BLDG. 16-463 TA-16

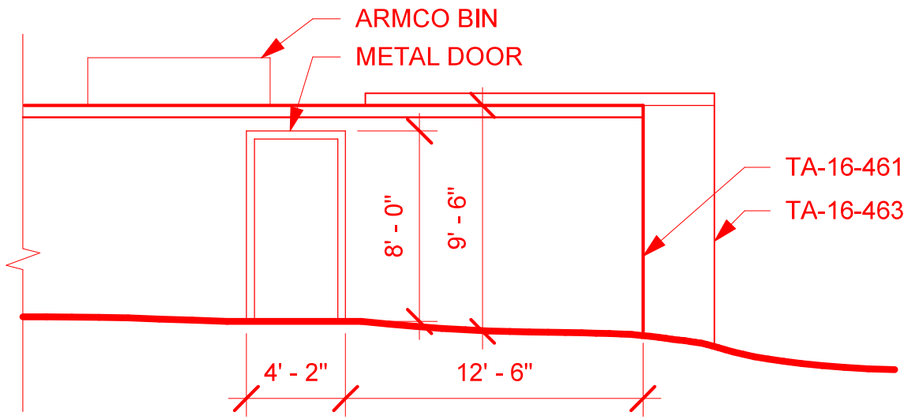
APPROVALS:
ENG. GROUP: 3 SEP
DIVISION:
ENG. DEPT. OFFICE: GPR

DESIGN:
DESIGNER: TRASK
PROJ. ENG.: T Byers

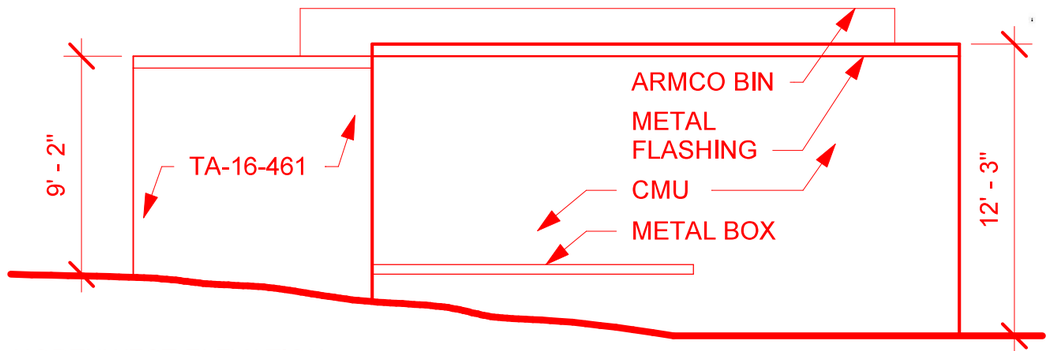
DATE	SCALE
6-10-66	3/16"=1'-0"
SHEET	SKETCH NO.
1 OF 1	ENG. R-575

K•E ALBANENE® LA 1662 TRACING PAPER

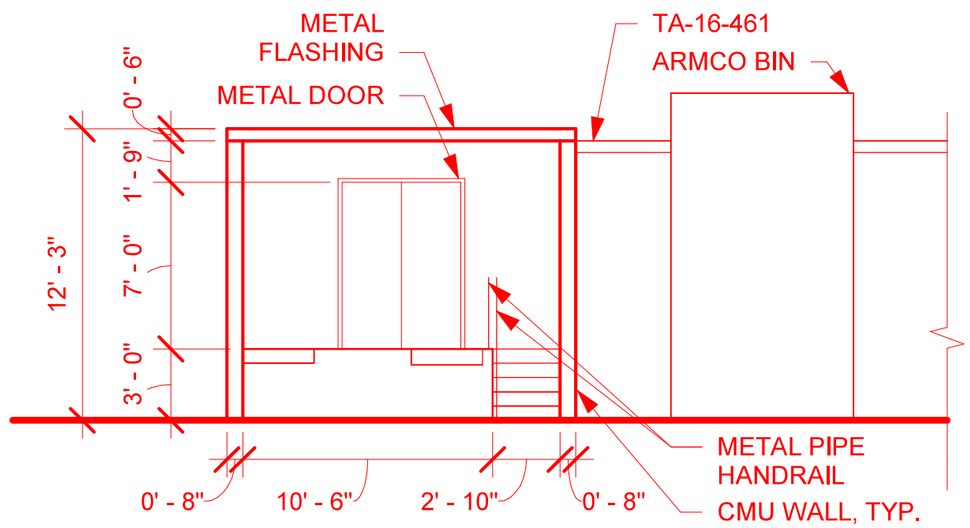
REC'D LOGGED TO VAULT INFO. SHOWN CURRENT AS OF JUNE 1966 B. A. NO. J. O. NO. LAB. JOB NO.



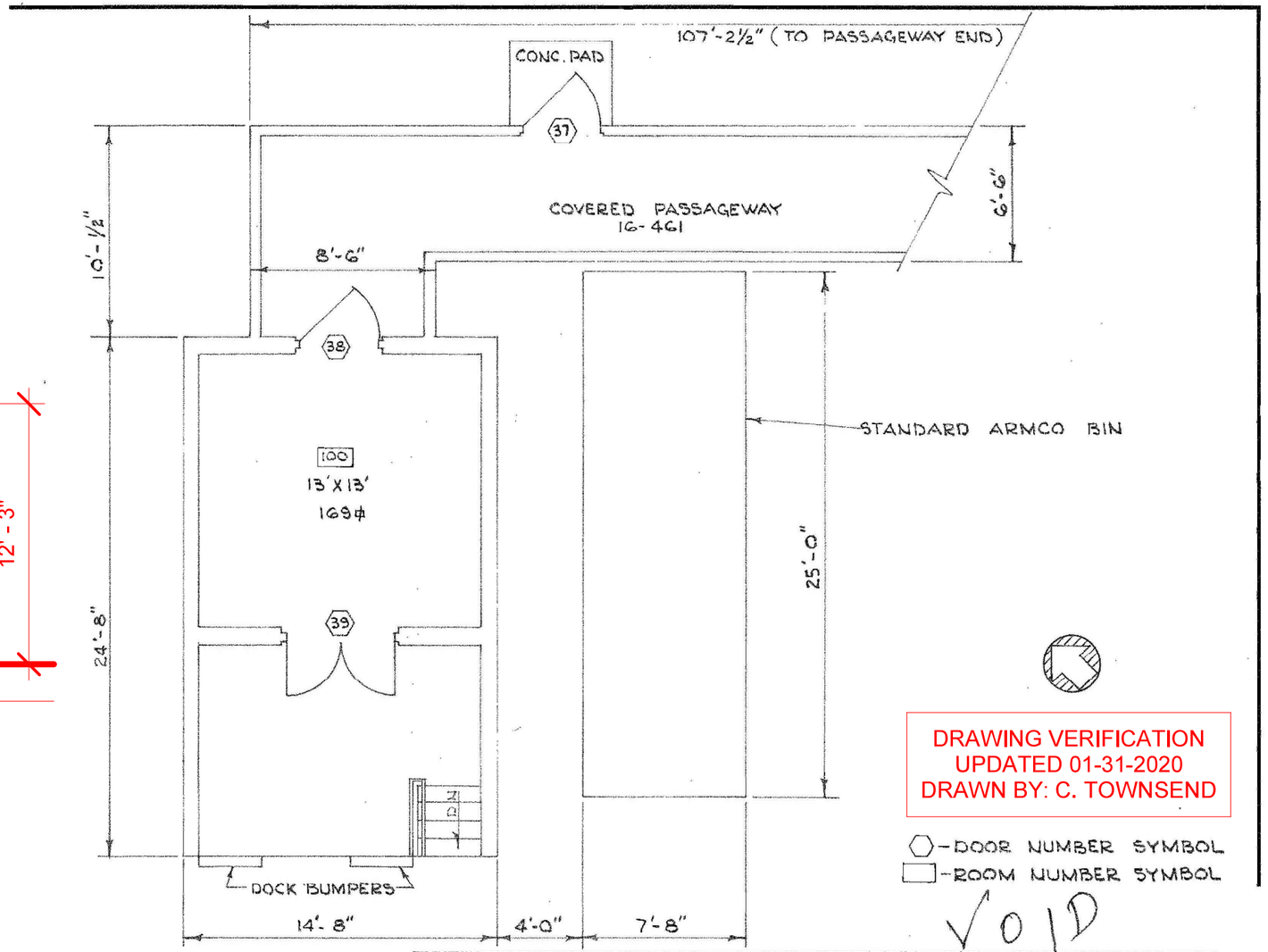
NORTHEAST ELEVATION



NORTHWEST ELEVATION



SOUTHWEST ELEVATION



DRAWING VERIFICATION
UPDATED 01-31-2020
DRAWN BY: C. TOWNSEND

⬡ – DOOR NUMBER SYMBOL
▭ – ROOM NUMBER SYMBOL

VOID

AUTHORIZED FOR	
HEALTH	
SAFETY	
FIRE PROT.	
SEC.	

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

FLOOR PLAN
BLDG. 16-463 TA-16

APPROVALS:
ENG. GROUP: 3 SEP
DIVISION:
ENG. DEPT. OFFICE: FHR

DESIGN:
DESIGNER: TRASK
PROJ. ENG.: TBynes

DATE	SCALE
6-10-66	3/16"=1'-0"
SHEET	SKETCH NO.
1 OF 1	ENG. R-575

TO VAULT INFO. SHOWN CURRENT AS OF JUNE 1966 B.A. NO. J.O. NO. LAB. JOB NO.

Appendix B: TA-16-0460 Artifact List

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Artifacts retained from the TA-16-460 Complex

- Glass construction bricks (TA-16-460)
- Door handle “Push” lever (TA-16-462)
- Explosion Proof Phone (TA-16-463)

Appendix C: Lists of All Drawings

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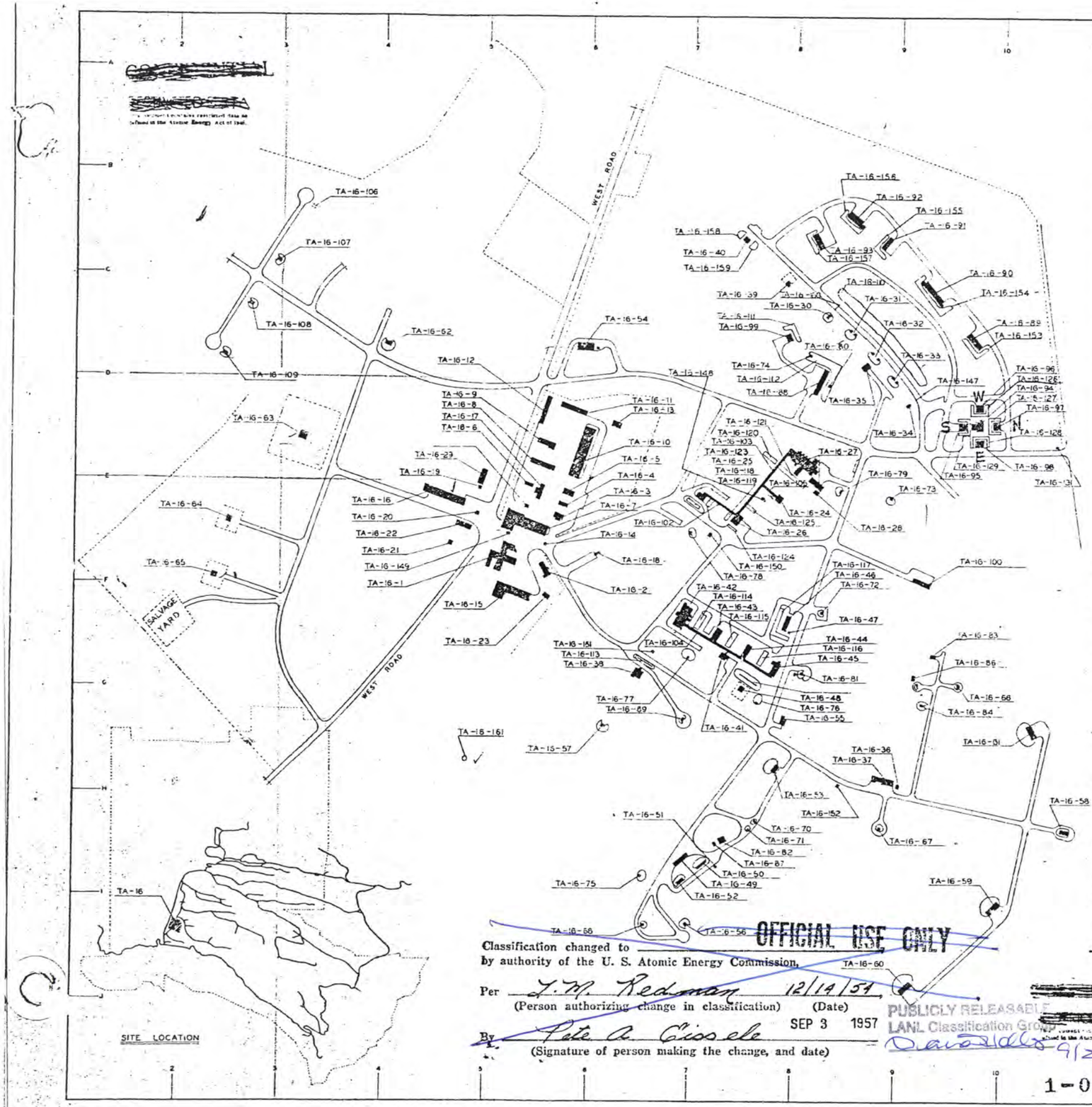

STRUCTURE NUMBER	DESIGNATION (SBD)	REMARKS & FORMER DESIGNATION
TA-16- 1	16 - 1	5F ADMINISTRATION BLDG.
TA-16- 2	16 - 2	6F OFFICE
TA-16- 3	16 - 3	8E ZIA ELEC. BLDG.
TA-16- 4	16 - 4	6E INFLAMMABLE STOCK STORAGE
TA-16- 5	16 - 5	6E INSTRUMENT SHOP
TA-16- 6	16 - 6	5E ZIA REPAIR SHOP
TA-16- 7	16 - 7	6E STEAM PLANT & MACHINE SHOP
TA-16- 8	16 - 8	5E ZIA CABINET SHOP
TA-16- 9	16 - 9	5E MOTOR POOL DISPATCH OFFICE
TA-16- 10	16 - 10	6E WAREHOUSE
TA-16- 11	16 - 11	6D OBSOLETE STORAGE, WAS S-10D
TA-16- 12	16 - 12	5D WAREHOUSE, WAS S-10E
TA-16- 13	16 - 13	6D DOCK, WAS S-10F
TA-16- 14	16 - 14	8F GUARD HOUSE, WAS S-11
TA-16- 15	16 - 15	5F LAUNDRY & LOCKER RM. WAS S-12
TA-16- 16	16 - 16	4E CAFETERIA, WAS S-13
TA-16- 17	16 - 17	5F PLUMBING SHOP, WAS S-14
TA-16- 18	16 - 18	6F STEAM WASHING HOUSE, WAS S-15
TA-16- 19	16 - 19	5E PUMP HOUSE, WAS S-16
TA-16- 20	16 - 20	5E WATER PUMP HOUSE, WAS S-17
TA-16- 21	16 - 21	5F PUMPING STATION, WAS S-17A
TA-16- 22	16 - 22	5E OFFICE, WAS S-8
TA-16- 23	16 - 23	6F STORAGE, WAS S-19
TA-16- 24	16 - 24	6E ANALYTICAL LAB., WAS S-20
TA-16- 25	16 - 25	7E PROCESS BLDG WAS S-23
TA-16- 26	16 - 26	8E PROCESS BLDG., WAS S-24
TA-16- 27	16 - 27	8E MELTING & CASTING, WAS 25325E
TA-16- 28	16 - 28	8E WATER COOLING TOWER, WAS S-25T
TA-16- 29	16 - 29	3E FUEL OIL TANK
TA-16- 30	16 - 30	8C MAGAZINE, WAS S-26A
TA-16- 31	16 - 31	9C MACH. BUILDING, WAS S-26B
TA-16- 32	16 - 32	9C MACH. BUILDING, WAS S-26C
TA-16- 33	16 - 33	9D MACH. BUILDING, WAS S-26D
TA-16- 34	16 - 34	9D MAGAZINE, WAS S-26E
TA-16- 35	16 - 35	9D EQUIPMENT ROOM, S-26F
TA-16- 36	16 - 36	9H EXPLOSIVE TESTING, S-27
TA-16- 37	16 - 37	9H STEAM CLEANING, WAS S-27E
TA-16- 38	16 - 38	8G EXPERIMENTAL CASTING, S-28
TA-16- 39	16 - 39	8C RADIO-GRAPHIC BLDG, S-29
TA-16- 40	16 - 40	7C RADIO-GRAPHIC BLDG S-29-B
TA-16- 41	16 - 41	7G PROCESS LAB WAS S-30
TA-16- 42	16 - 42	7F PROCESS BLDG WAS S-31
TA-16- 43	16 - 43	7F PROCESS BLDG WAS S-32
TA-16- 44	16 - 44	8G PROCESS BLDG WAS S-33
TA-16- 45	16 - 45	8G PROCESS BLDG WAS S-34
TA-16- 46	16 - 46	8F PROCESS BLDG WAS S-35
TA-16- 47	16 - 47	8F EQUIPMENT, WAS S-35E
TA-16- 48	16 - 48	8G RADIUM BLDG, WAS S-36
TA-16- 49	16 - 49	7I ANALYTICAL LAB. WAS S-41
TA-16- 50	16 - 50	7I EXPERIMENTAL CASTING, S-42
TA-16- 51	16 - 51	7I STEAM CLEANING, WAS S-42A
TA-16- 52	16 - 52	7I EXPLOSIVE MATL, WAS S-43
TA-16- 53	16 - 53	8H OPTICAL EQUIP. STOR, S-44
TA-16- 54	16 - 54	8D PROCESS BLDG S-45
TA-16- 55	16 - 55	8G GRINDING BLDG, S-45A
TA-16- 56	16 - 56	7I TESTING LAB., S-46
TA-16- 57	16 - 57	8G MAGAZINE, S-56
TA-16- 58	16 - 58	10H MAGAZINE, S-57
TA-16- 59	16 - 59	10I MAGAZINE, S-58
TA-16- 60	16 - 60	9J MAGAZINE, S-59
TA-16- 61	16 - 61	10H MAGAZINE, S-60
TA-16- 62	16 - 62	10D MAGAZINE S-66
TA-16- 63	16 - 63	3D MAGAZINE S-67
TA-16- 64	16 - 64	2E MAGAZINE S-68
TA-16- 65	16 - 65	2F MAGAZINE S-69
TA-16- 66	16 - 66	10G MAGAZINE S-70
TA-16- 67	16 - 67	9H MAGAZINE S-71
TA-16- 68	16 - 68	8I MAGAZINE S-72
TA-16- 69	16 - 69	7G MAGAZINE S-73
TA-16- 70	16 - 70	8H MAGAZINE S-74
TA-16- 71	16 - 71	8H MAGAZINE S-75
TA-16- 72	16 - 72	8I MAGAZINE S-76
TA-16- 73	16 - 73	9E MAGAZINE S-77
TA-16- 74	16 - 74	8D MAGAZINE S-78
TA-16- 75	16 - 75	6I PERSONNEL SHELTER, S-80
TA-16- 76	16 - 76	8G PERSONNEL SHELTER, S-81
TA-16- 77	16 - 77	7G PERSONNEL SHELTER, S-82
TA-16- 78	16 - 78	7E PERSONNEL SHELTER, S-83
TA-16- 79	16 - 79	8E PERSONNEL SHELTER, S-84
TA-16- 80	16 - 80	8D STORAGE S-85
TA-16- 81	16 - 81	8G PROCESS BLDG & FAN ROOM S-90
TA-16- 82	16 - 82	7H STORAGE, S-91
TA-16- 83	16 - 83	9F LABORATORY, S-92
TA-16- 84	16 - 84	9G MAGAZINE, S-93
TA-16- 85	16 - 85	WAREHOUSE, S-94 (DESTROYED)
TA-16- 86	16 - 86	9G LABORATORY, S-95
TA-16- 87	16 - 87	7H MACH. SHOP TRAILER, S-95A
TA-16- 88	16 - 88	8D CASTING REST HOUSE, S-100
TA-16- 89	16 - 89	10C PROCESS BLDG FORMERLY S-104
TA-16- 90	16 - 90	9C PROCESS BLDG FORMERLY S-102
TA-16- 91	16 - 91	9C PROCESS BLDG FORMERLY S-105
TA-16- 92	16 - 92	9B INSPECT BLDG FORMERLY S-101
TA-16- 93	16 - 93	9C PROCESS BLDG FORMERLY S-103
TA-16- 94	16 - 94	10D EQUIP & CONTROL, S-106
TA-16- 95	16 - 95	9E MACH. BLDG S-106 S
TA-16- 96	16 - 96	10D MACH. BLDG S-106 W
TA-16- 97	16 - 97	10D MACH. BLDG S-106 N
TA-16- 98	16 - 98	10E MACH. BLDG S-106 E
TA-16- 99	16 - 99	MAGAZINE WAS S-8
TA-16- 100	16 - 100	9F PROCESS BLDG WAS S-108
TA-16- 101	16 - 101	RESERVE
TA-16- 102	16 - 102	7E PASSAGEWAY 15-2E & 15-
TA-16- 103	16 - 103	7E PASSAGEWAY 16-6 & 6-
TA-16- 104	16 - 104	7F PASSAGEWAY 5-12 & 16
TA-16- 105	16 - 105	8E PASSAGEWAY 16-24 & 6
TA-16- 106	16 - 106	3B " STORAGE, A-1
TA-16- 107	16 - 107	3C " STORAGE, A-2
TA-16- 108	16 - 108	3C " STORAGE, A-3
TA-16- 109	16 - 109	3D " STORAGE, A-4
TA-16- 110	16 - 110	9C BARRICADE
TA-16- 111	16 - 111	8C BARRICADE
TA-16- 112	16 - 112	8D BARRICADE
TA-16- 113	16 - 113	8C BARRICADE (EARTHEN) S- 8
TA-16- 114	16 - 114	7E " " S- 9
TA-16- 115	16 - 115	7F " " S-20
TA-16- 116	16 - 116	9C " " S-21
TA-16- 117	16 - 117	8F " " S-22
TA-16- 118	16 - 118	7E " " S-23
TA-16- 119	16 - 119	7E " " S-24
TA-16- 120	16 - 120	8E " " S-25
TA-16- 121	16 - 121	8E " " S-26
TA-16- 122	16 - 122	" " S-27 REV.
TA-16- 123	16 - 123	" " S-28
TA-16- 124	16 - 124	8E " " S-129
TA-16- 125	16 - 125	8E " " S-130
TA-16- 126	16 - 126	10D " " S-131
TA-16- 127	16 - 127	10D " " S-132
TA-16- 128	16 - 128	10D " " S-133
TA-16- 129	16 - 129	10E " " S-134
TA-16- 130	16 - 130	RESERVE
TA-16- 131	16 - 131	10E GUARD HOUSE, S-136
TA-16- 132	16 - 132	PAINT SHOP, S-137
TA-16- 133	16 - 133	LUMBER STORAGE, S-138
TA-16- 134	16 - 134	MESS HALL, S-139
TA-16- 135	16 - 135	STORAGE BLDG, S-140
TA-16- 136	16 - 136	IMPLEMENT SHED, S-141
TA-16- 137	16 - 137	PLUMBING & ELEC. SHOP, S-142
TA-16- 138	16 - 138	BLACKSMITH SHOP, S-143
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TA-16- 140	16 - 140	STORAGE BLDG, S-145
TA-16- 141	16 - 141	STORAGE BLDG, S-146
TA-16- 142	16 - 142	FIRE HOUSE, S-147
TA-16- 143	16 - 143	HOSE HOUSE, S-148
TA-16- 144	16 - 144	EQUIP. RM. & STORAGE, S-149
TA-16- 145	16 - 145	LATRINE, S-150
TA-16- 146	16 - 146	PORTABLE STORAGE, S-151
TA-16- 147	16 - 147	9D ROAD BLOCK
TA-16- 148	16 - 148	8E SOLVENT BLDG.
TA-16- 149	16 - 149	5E GUARD BLDG.
TA-16- 150	16 - 150	7E HOSE HOUSE
TA-16- 151	16 - 151	7G " "
TA-16- 152	16 - 152	8H " "
TA-16- 153	16 - 153	10C BARRICADE
TA-16- 154	16 - 154	9F BARRICADE
TA-16- 155	16 - 155	9C BARRICADE
TA-16- 156	16 - 156	9B BARRICADE
TA-16- 157	16 - 157	8I BARRICADE
TA-16- 158	16 - 158	8C BARRICADE
TA-16- 159	16 - 159	8I BARRICADE
TA-16- 160	16 - 160	8E ROAD BLOCK
TA-16- 161	16 - 161	8H SEPTIC TANK

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Per L. M. Redman 12/14/54
(Person authorizing change in classification) (Date)

By Pete A. Cissele SEP 3 1957
(Signature of person making the change, and date)

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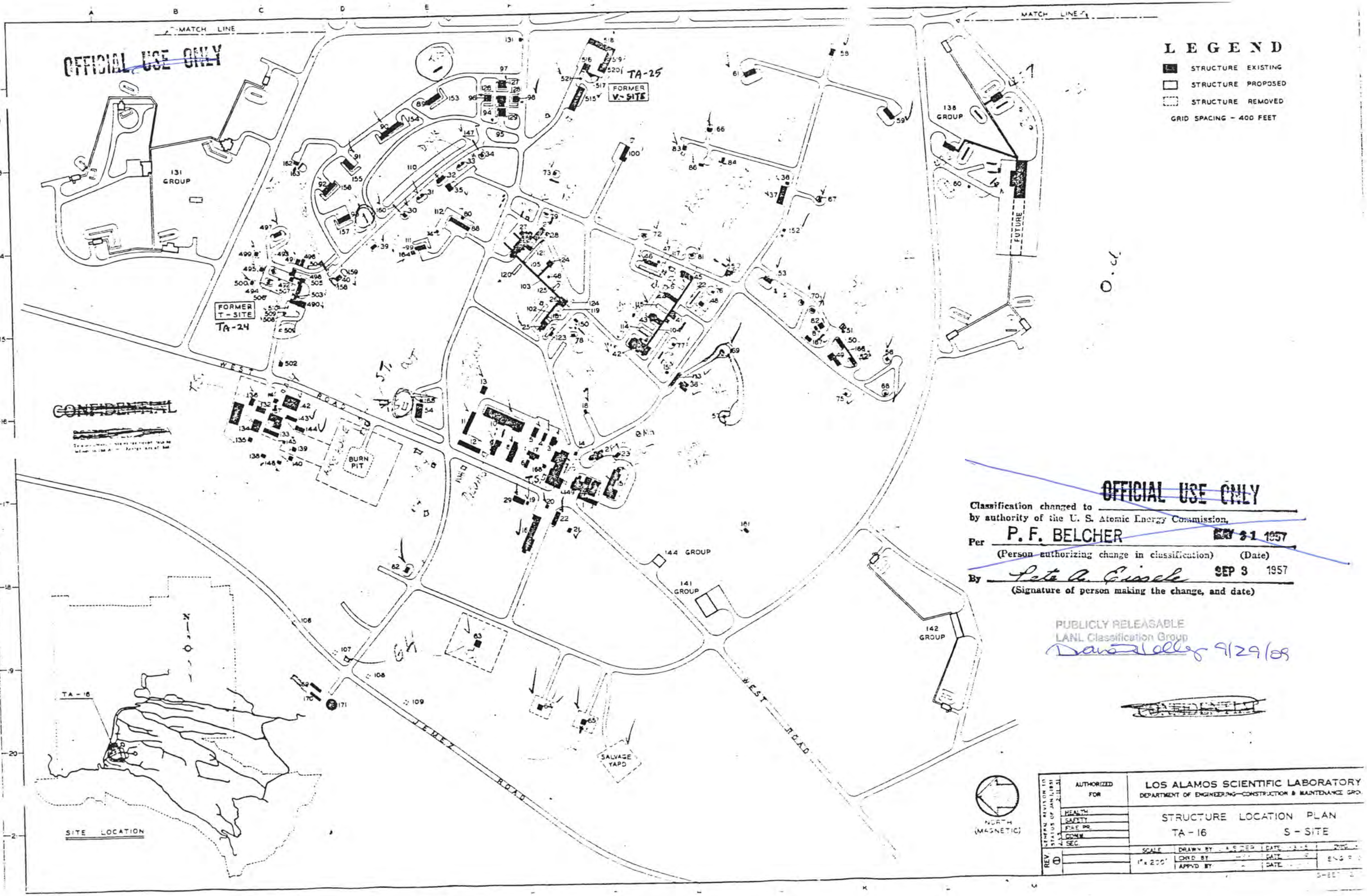
LANL Classification Group
David Allen 9/29/06

1-0106191

NORTH (MAGNETIC)

AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP
HEALTH SAFETY FIRE PR. COMM. SEC.	STRUCTURE LOCATION PLAN TA-16 S - SITE

REV.		SCALE	DRAWN BY: G.R.S.	DATE 3-1-55	DWG. NO.
0		1" = 200	CHK'D. BY:	DATE	ENGR. 132
			APPV'D. BY:	DATE	



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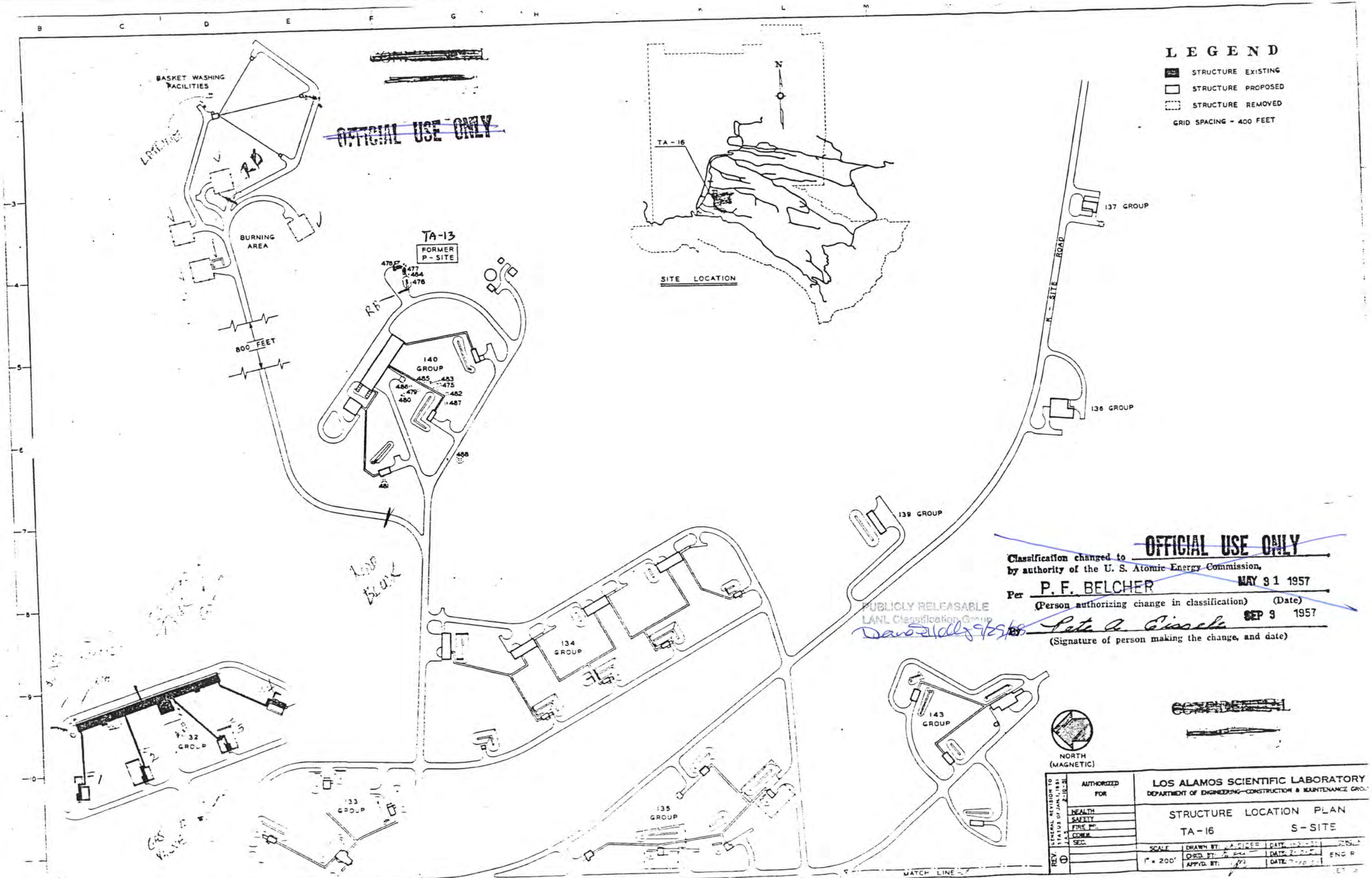
Per P. F. BELCHER MAY 31 1957
(Person authorizing change in classification) (Date)
By Pete A. Giesele SEP 3 1957
(Signature of person making the change, and date)

PUBLICLY RELEASABLE
LANL Classification Group
Dana Kelley 9/29/08

LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP

STRUCTURE LOCATION PLAN
TA-16 S-SITE

AUTHORIZED FOR	HEALTH, SAFETY, FIRE PR., COMM., SEC.
SCALE	1" = 200'
DRAWN BY	
CHKD BY	
APPVD BY	



LEGEND
STRUCTURE EXISTING
STRUCTURE PROPOSED
STRUCTURE REMOVED
GRID SPACING - 400 FEET
OFFICIAL USE ONLY
BASKET WASHING FACILITIES
BURNING AREA
800 FEET
TA-13
FORMER P-SITE
140 GROUP
SITE LOCATION
TA-16
N
137 GROUP
K - SITE ROAD
136 GROUP
139 GROUP
134 GROUP
143 GROUP
132 GROUP
133 GROUP
135 GROUP
NORTH (MAGNETIC)
Classification changed to OFFICIAL USE ONLY
by authority of the U. S. Atomic Energy Commission,
Per P. F. BELCHER MAY 31 1957
(Person authorizing change in classification) (Date)
SEP 3 1957
By
(Signature of person making the change, and date)
PUBLICLY RELEASABLE
LANL Classification Group
LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP
STRUCTURE LOCATION PLAN
TA-16
S-SITE
AUTHORIZED FOR
HEALTH
SAFETY
FIRE PR.
CODE
SEC.
SCALE
1" = 200'
DRAWN BY:
CHKD. BY:
APP'D. BY:
DATE:
MATCH LINE

~~OFFICIAL USE ONLY~~

MATCH LINE

MATCH LINE

LEGEND

- STRUCTURE EXISTING
- STRUCTURE PROPOSED
- STRUCTURE REMOVED

GRID SPACING - 400 FEET

131 GROUP

138 GROUP

141 GROUP

142 GROUP

144 GROUP

FORMER T-SITE

FORMER V-SITE

FUTURE

SERVICE AREA

BURN PIT

WEST ROAD

JEMEZ ROAD

SITE LOCATION

TA-16

N

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(Person authorized to make the change)

By Pete A. Casale SEP 3 1957

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NORTH (MAGNETIC)

REV. ② GENERAL REVISION TO STATUS OF JULY 1, 1951 N.O.B. 7-27-51

REV. ① GENERAL REVISION TO STATUS OF JAN. 1, 1951 2-11-51

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PR., COMM., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP

STRUCTURE LOCATION PLAN
TA-16 S-SITE

SCALE	DRAWN BY: J.A. SIZER	DATE: 1-31-51	DWG. NO.
1" = 200'	CHKD. BY:	DATE: 2-10-51	ENG R 134
	APPVD. BY:	DATE: 3-10-57	

SHEET 3 OF 4

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~~RESTRICTED DATA~~

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BASKET WASHING FACILITIES

BURNING AREA

800 FEET

FORMER P-SITE

140 GROUP

132 GROUP

133 GROUP

134 GROUP

137 GROUP

136 GROUP

139 GROUP

143 GROUP

K-SITE ROAD

TA-16

SITE LOCATION

N

NORTH (MAGNETIC)

MATCH LINE

MATCH LINE

LEGEND

- STRUCTURE EXISTING
- STRUCTURE PROPOSED
- STRUCTURE REMOVED

GRID SPACING - 400 FEET

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By Leta A. Lisenbe SEP 3 1957
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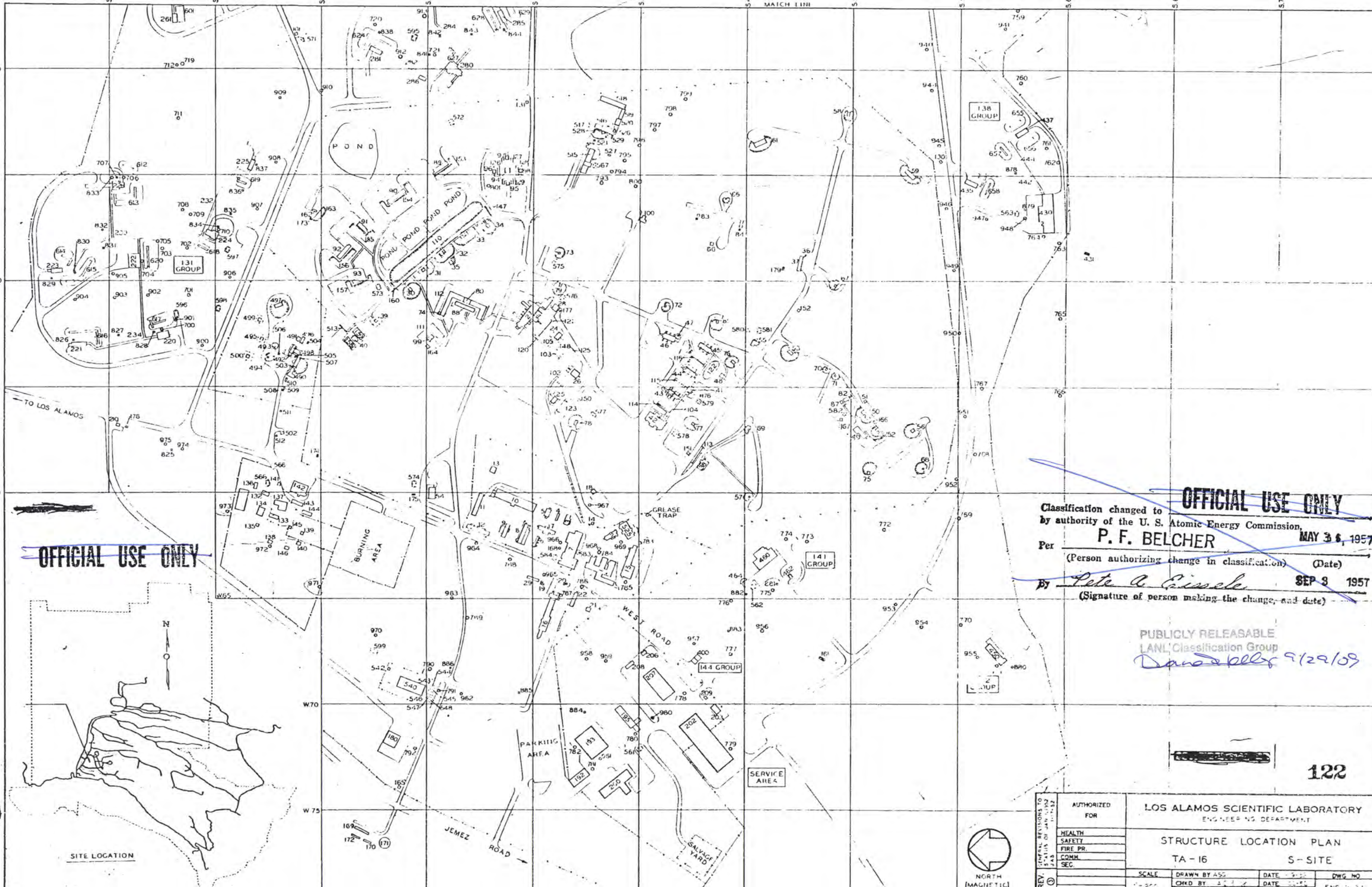
⊖	GENERAL REVISION TO STATUS OF JULY 1, 1951 N.O.B. 7-27-51	HEALTH	STRUCTURE LOCATION PLAN			
⊖	GENERAL REVISION TO STATUS OF JAN. 1, 1951 2-16-51	SAFETY	TA-16 S-SITE			
		FIRE PR.				
		COMM.				
		SEC.	SCALE	DRAWN BY: J.A. SIZER	DATE: 1-31-51	DWG. NO.
			1" = 200'	CHKD. BY: [illegible]	DATE: 3-12-51	ENG R 135
				APPVD. BY: [illegible]	DATE: 3-10-51	

SHEET 4 OF 4



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By Pete A. Eissele SEP 3 1957
(Signature of person making the change, and date)

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Dano Kelly 9/29/09

[redacted]

122

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PR., COMM., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT

STRUCTURE LOCATION PLAN
TA-16 S-SITE

ENG-R-34

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(Person authorizing change in classification) (Date)
By PETE ESSELE — SEP 3 1957
(Signature of person making the change, and date)

BASKET WASHING FACILITIES

BURNING AREA

140 GROUP

132 GROUP

134 GROUP

136 GROUP

137 GROUP

139 GROUP

143 GROUP

K-SITE ROAD

TO TA-37

MATCH LINE

SITE LOCATION

NORTH (MAGNETIC)

122

AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY ENGINEERING DEPARTMENT			
HEALTH SAFETY FIRE PR. COMM. SEC.	STRUCTURE LOCATION PLAN TA - 16 S - SITE			
REV. ① GENERAL REVISIONS TO AS OF JAN. 31, 1952	SCALE 1" = 200'	DRAWN BY: ASG	DATE: 1-19-52	DWG. NO. ENG R 135
		CHKD. BY: JAS &	DATE: 1-22-52	
		APPVD. BY:	DATE: 1-22-52	

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809 acres - total area

509.18 acres - excl. ar.
7.96 acres - S. excl. ar.
16.50 acres - limited acre

64% exclusion ar.
1% S. excl. ar
35% Limited ar.

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Classification changed to
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Per P. F. BELCHER (Person authorizing change in classification) (Date) MAY 31 1957

By Pete A. Esposito (Signature of person making the change, and date) SEP 3 1957

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Dan Dellegg 9/29/09

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258

TO LOS ALAMOS

POND

POND POND POND POND

BURNING AREA

WEST ROAD

PARKING AREA

SERVICE AREA

JEMEZ ROAD

SALVAGE YARD

131 GROUP

38 GROUP

141 GROUP

44 GROUP

142 GROUP

GREASE TRAP 1082

543

TA-16

SITE LOCATION

N

NORTH (MAGNETIC)

REV.		AUTHORIZED FOR
⑦	GENERAL REVISION TO STATUS OF JULY 1, 1952	HEALTH
⑥	GENERAL REVISIONS TO STATUS OF JAN. 1, 1952	SAFETY
		FIRE PR.
		COMM.
		SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT

STRUCTURE LOCATION PLAN
TA - 16 S - SITE

SCALE	DRAWN BY: ASG	DATE: 4-9-52	DWG. NO.
1" = 200'	CHKD. BY: JAS	DATE: 4-22-52	ENG R 134
	APPVD. BY:	DATE: 1-22-52	

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Per P. F. BELCHER MAY 31 1957
(Person authorizing change in classification) (Date)

By Peter A. Eisele SEP 3 1957
(Signature of person making the change, and date)

BASKET WASHING FACILITIES

BURNING AREA

140 GROUP

132 GROUP

134 GROUP

139 GROUP

143 GROUP

136 GROUP

137 GROUP

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

K-SITE ROAD

TO TA-37

TA-16

SITE LOCATION

MAG DECLINATION 15°30'
GRID NORTH
TRUE NORTH

MATCH LINE

375

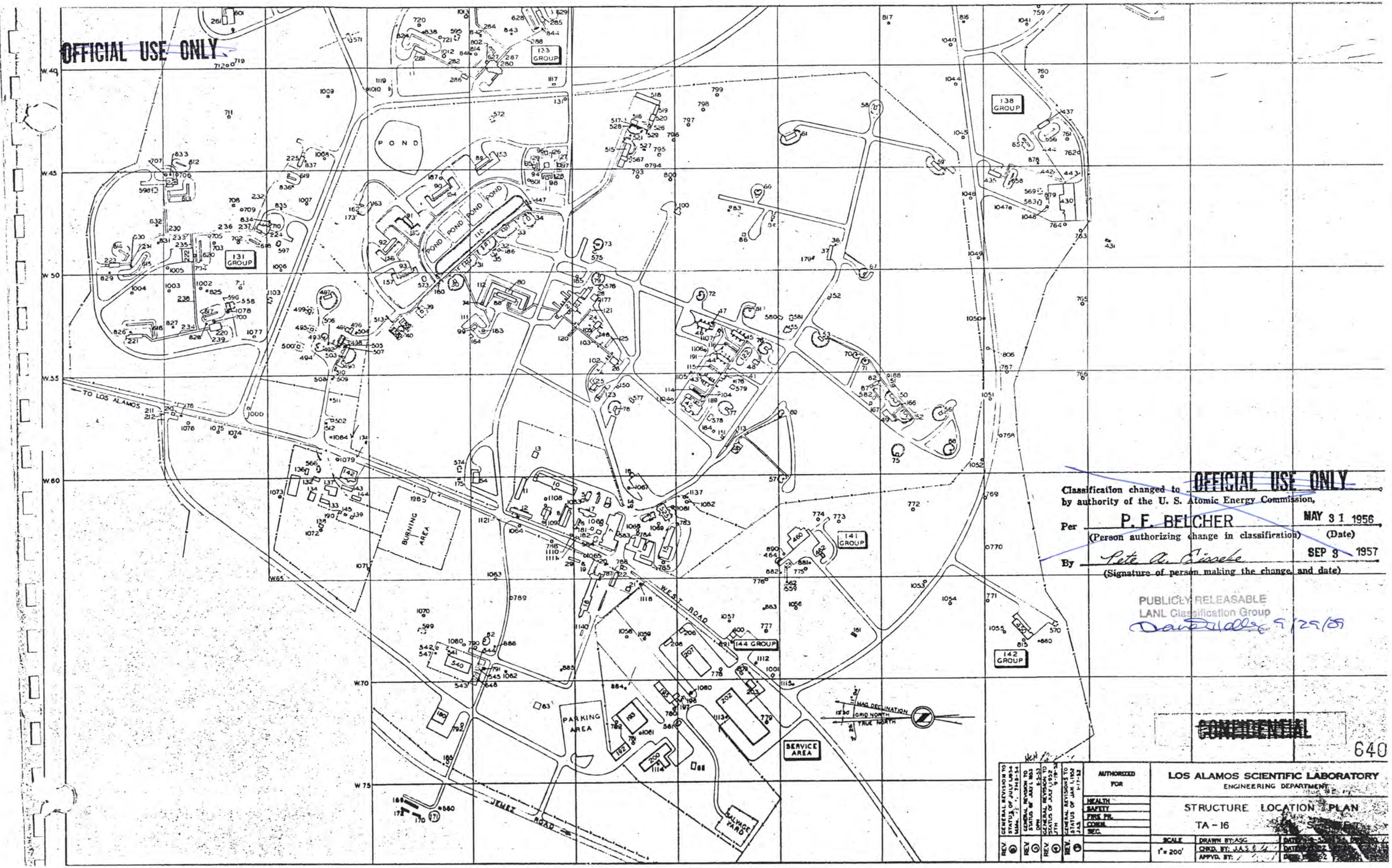
REV.	
A	GENERAL REVISION TO STATUS OF JULY 1, 1953 DPH 6-8-53
	GENERAL REVISIONS TO STATUS OF JAN. 1, 1952 9-15-52 JAS 11TH
REV. A	
REV. B	

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PR., COMM, SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT

STRUCTURE LOCATION PLAN
TA-16 S-SITE

SCALE	DRAWN BY: ASG	DATE: 1-19-52	DWG. NO.
1"=200'	CHKD. BY: JAS & EG	DATE: 1-22-52	ENG. R 135
	APPVD. BY: [illegible]	DATE: 1-22-52	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By Pete A. Eisele SEP 3 1957
(Signature of person making the change and date)
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LANL Classification Group
CONFIDENTIAL
640
LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
STRUCTURE LOCATION PLAN
TA - 16
SCALE 1" = 200'
DRAWN BY: ASG
CHKD. BY: J.A.S.
APPVD. BY:
AUTHORIZED FOR
HEALTH
SAFETY
FIRE PR.
COMM.
SEC.
POND
BURNING AREA
PARKING AREA
SERVICE AREA
SALVAGE YARD
WEST ROAD
JEMEZ ROAD
TO LOS ALAMOS
131 GROUP
133 GROUP
138 GROUP
141 GROUP
142 GROUP
144 GROUP
MAG. DECLINATION
GRID NORTH
TRUE NORTH

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BASKET WASHING FACILITIES

BURNING AREA

140 GROUP

132 GROUP

134 GROUP

139 GROUP

143 GROUP

136 GROUP

137 GROUP

K-SITE ROAD

TO TA-37

MAG DECLINATION 13°30' EAST
GRID NORTH
TRUE NORTH

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Per P. F. BELCHER MAY 31 1956
(Person authorizing change in classification) (Date)
By Pete A. Cissele SEP 3 1957
(Signature of person making the change, and date)

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LANL Classification Group
Dana Hall 9/25/15

REV.	
6	GENERAL REVISION TO STATUS OF JULY 1, 1954 MMC 7-15-54
5	GENERAL REVISION TO STATUS OF JULY 1, 1953 DPH 6-8-53
4	GENERAL REVISION TO STATUS OF JULY 1, 1952 9-15-52
3	GENERAL REVISIONS TO STATUS OF JAN. 1, 1952 JAS 1-17-52

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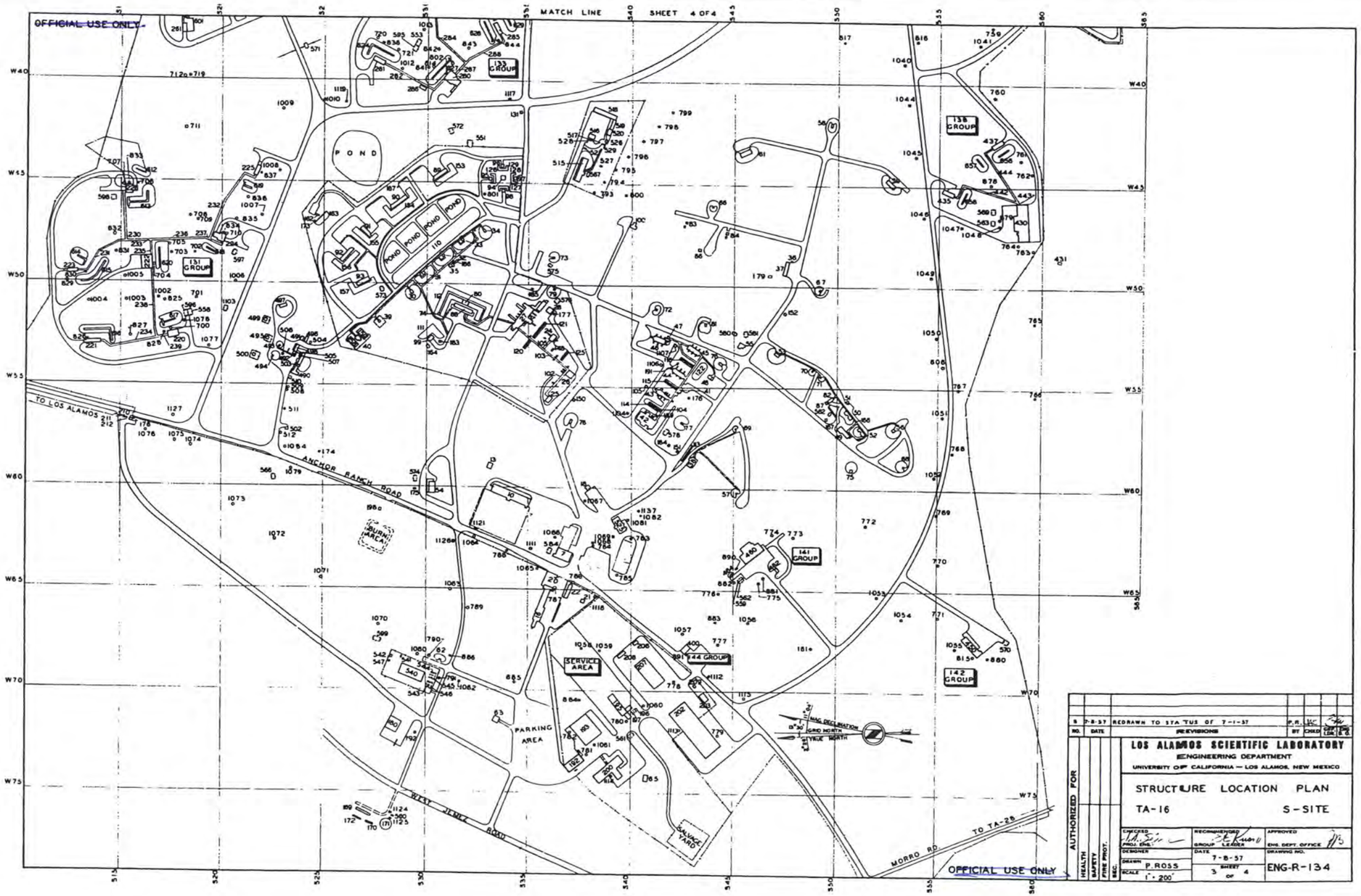
AUTHORIZED FOR: HEALTH, SAFETY, FIRE PR., COMM., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT

STRUCTURE LOCATION PLAN
TA - 16 S - SITE

SCALE	DRAWN BY: ASG	DATE: 1-19-52	DWG. NO.
1" = 200'	CHKD. BY: JAS	DATE: 1-22-52	ENG. R 135
	APPVD. BY:	DATE: 1-22-52	



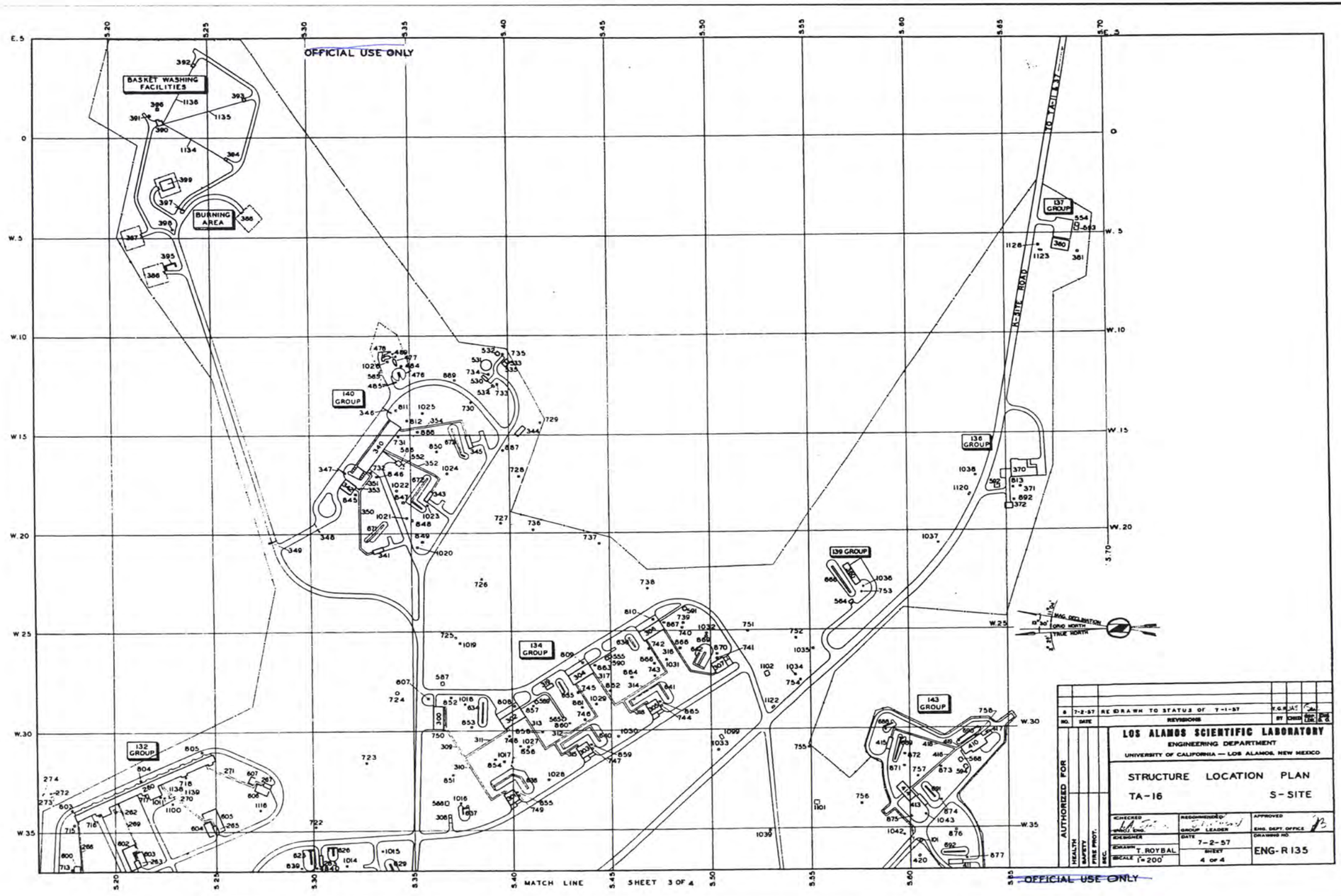
NO.	DATE	REVISIONS	BY	CHKD
8	7-8-57	REDRAWN TO STATUS OF 7-1-57	P.R.	WC

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-16 S-SITE

CHECKED (MULL. ENG.)	RECOMMENDED GROUP LEADER	APPROVED ENG. DEPT. OFFICE
DESIGNED	DATE 7-8-57	DRAWING NO. ENG-R-134
DRAWN P.ROSS	SHEET 3 OF 4	
SCALE 1" = 200'		



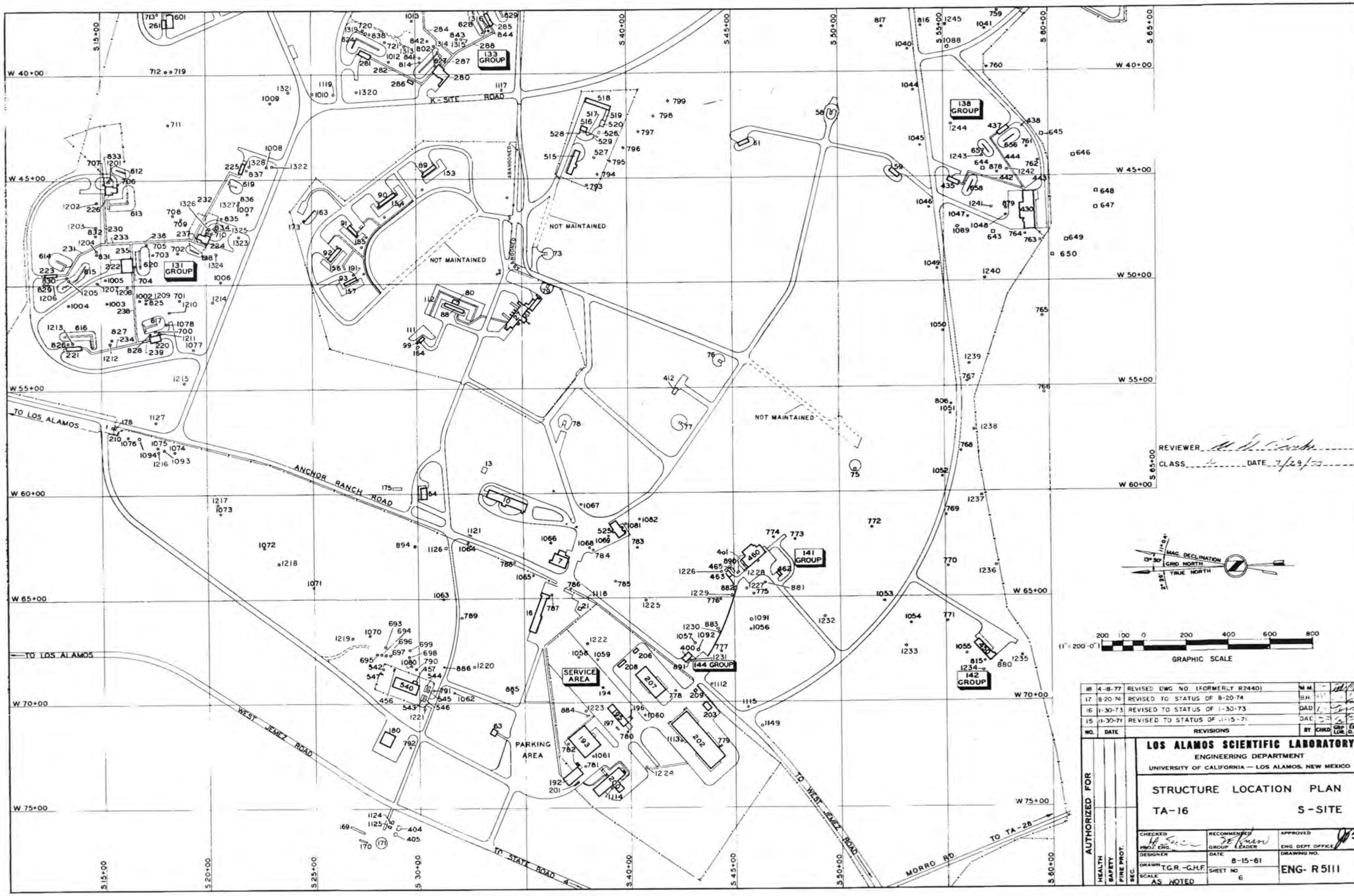
NO.	DATE	REVISIONS	BY	CHKD	ENG	PROJ
8	7-2-57	RE DRAWN TO STATUS OF 7-1-57	Y.G.M.	JAT		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., REC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-16 S-SITE

CHECKED	RECOMMENDED	APPROVED
PROJECT ENGR.	GROUP LEADER	ENG. DEPT. OFFICE
ENGINEER	DATE 7-2-57	DRAWING NO.
DRAWN T. ROYBAL	SHEET 4 of 4	ENG-R 135
SCALE 1"=200'		



NO.	DATE	REVISIONS	BY	CHKD	GRP LDR.	ENG D.O.
18	4-8-77	REVISED DWG NO. (FORMERLY R2440)	M.M.			
17	8-20-74	REVISED TO STATUS OF 8-20-74	B.H.			
16	1-30-73	REVISED TO STATUS OF 1-30-73	DAD			
15	1-30-71	REVISED TO STATUS OF 1-15-71	DAC			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-16 S-SITE

CHECKED	RECOMMENDED	APPROVED
PROJ. ENG.	GROUP LEADER	ENG. DEPT. OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO.
DRAWN T.G.R.-G.H.F.	SHEET NO. 6	ENG- R5111
SCALE AS NOTED		

BURNING AREA

BURNING AREA

132 GROUP

140 GROUP

134 GROUP

139 GROUP

143 GROUP

136 GROUP

137 GROUP

TO TA-II & 37

K-SITE ROAD

S 30+00 | S 35+00 | S 40+00 | S 45+00 | S 50+00 | S 55+00 | S 60+00 | S 65+00 | S 70+00

0+00 | W 5+00 | W 10+00 | W 15+00 | W 20+00 | W 25+00 | W 30+00

MAG. DECLINATION 13° 30' EAST
GRID NORTH
TRUE NORTH

GRAPHIC SCALE (1" = 200'-0")

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR.	ENG. G. O.
20	11-4-77	ADDED ARCH SITE 15858, UNEX	DAD			
19	4-18-77	REVISED DWG NO (FORMERLY R2411)	MM			
18	8-20-75	REVISED TO STATUS OF 8-20-74	SH			
17	8-30-73	REVISED TO STATUS OF 8-30-73	DAD			
16	1-30-73	REVISED TO STATUS OF 1-30-73	DAD			
15	11-30-71	REVISED TO STATUS OF 11-30-71	DAD			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., REC.

LOS ALAMOS SCIENTIFIC LABORATORY

ENGINEERING DEPARTMENT

UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

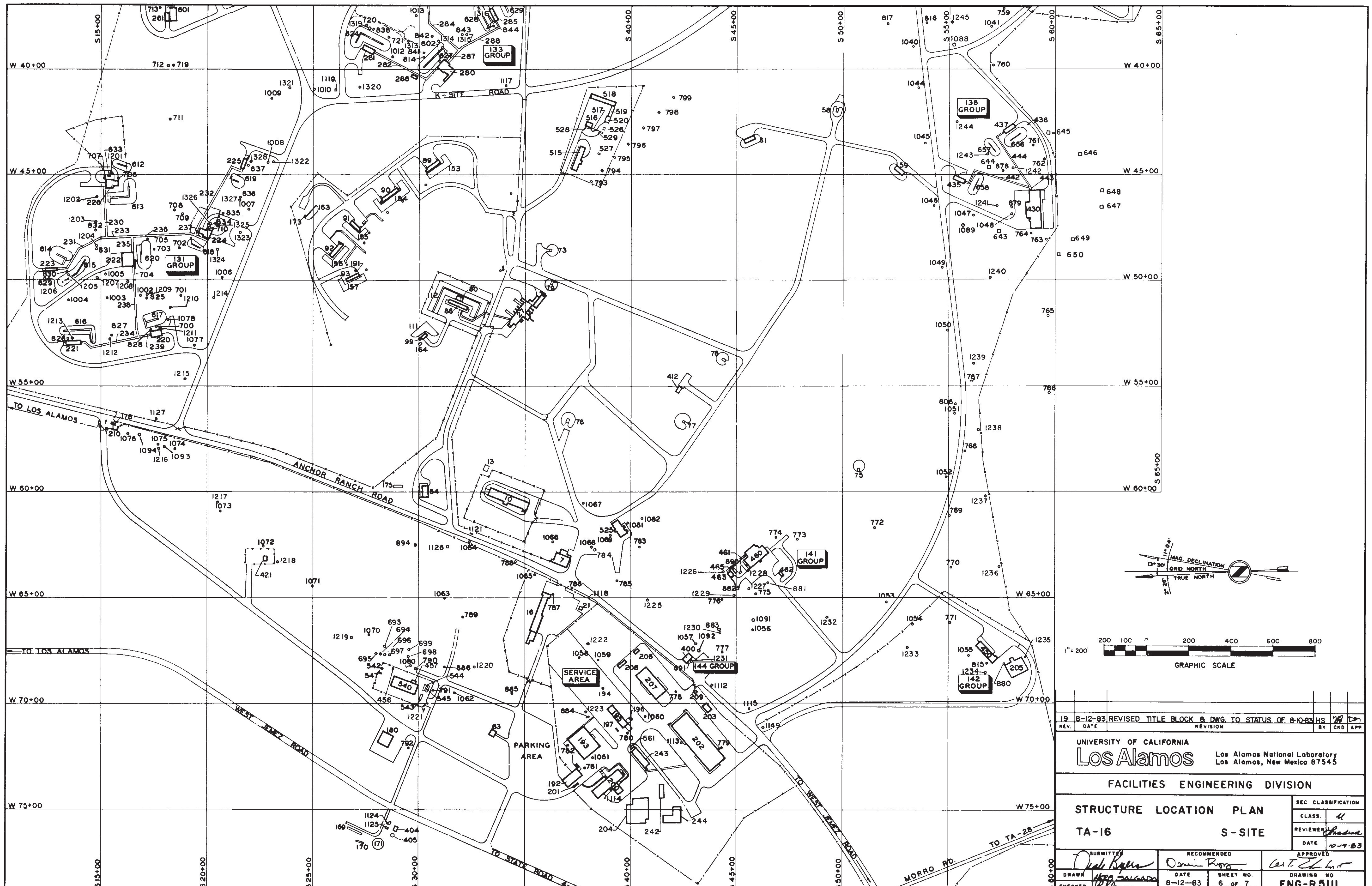
STRUCTURE LOCATION PLAN

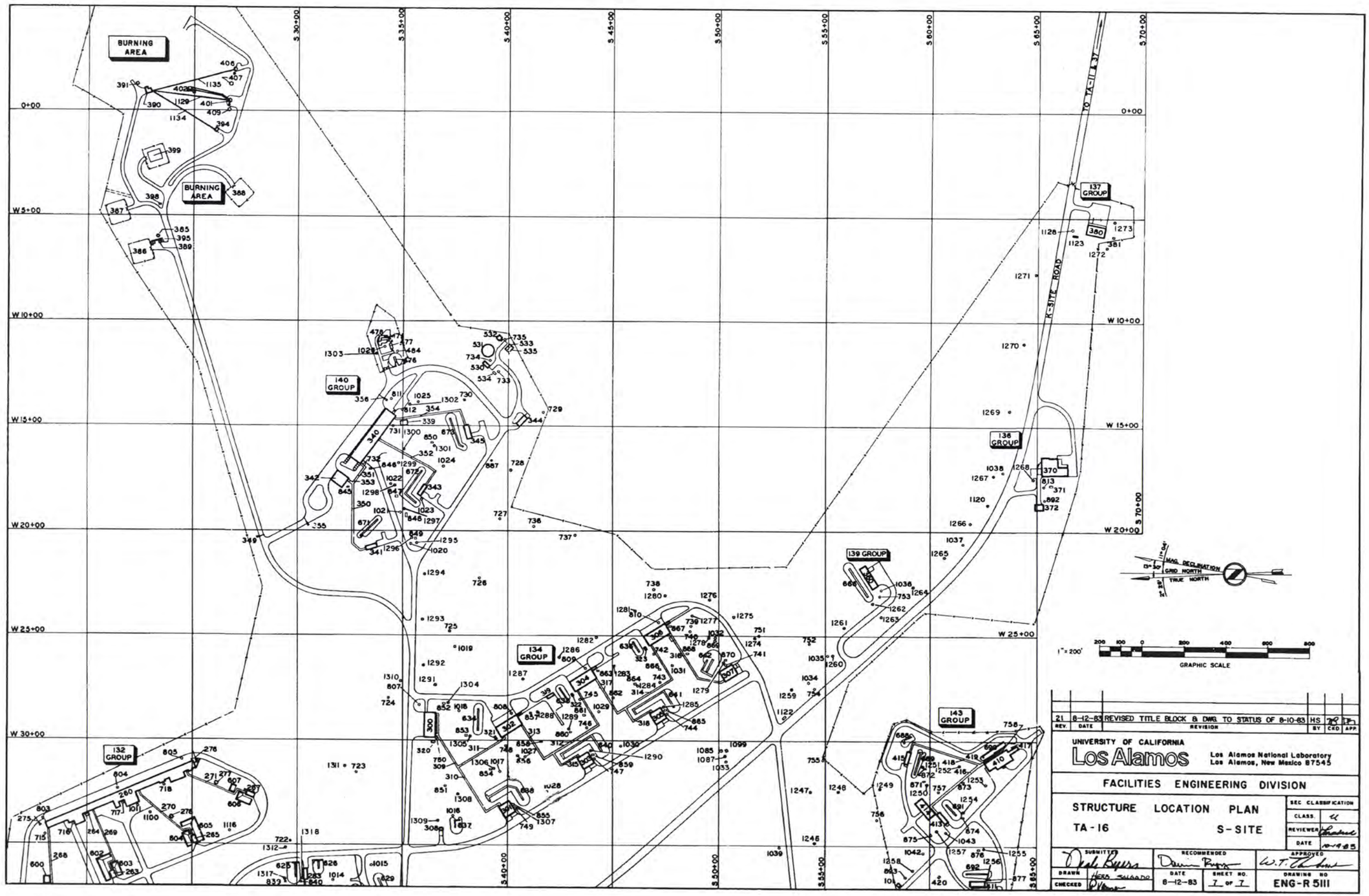
TA-16 S-SITE

CHECKED	RECOMMENDED	APPROVED
PROJ. ENG.	GROUP LEADER	ENG. DEPT. OFFICE
DESIGNED	DATE	DRAWING NO.
DRAWN FRENCH	8-15-61	ENG- R5111
SCALE AS FILED	SHEET NO. 7	

REVIEWER

CLASS DATE


19 8-12-83 REVISED TITLE BLOCK & DWG. TO STATUS OF 8-10-83 HS
REV. DATE REVISION BY CKD APP
UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545
FACILITIES ENGINEERING DIVISION
STRUCTURE LOCATION PLAN
TA-16
S-SITE
SEC CLASSIFICATION
CLASS. U
REVIEWER
DATE 10-4-83
SUBMITTED
RECOMMENDED
APPROVED
DRAWN
CHECKED
DATE 8-12-83
SHEET NO. 6 OF 7
DRAWING NO ENG-R5111
GRAPHIC SCALE
1" = 200'
MAG. DECLINATION
GRID NORTH
TRUE NORTH
R-SITE ROAD
ANCHOR RANCH ROAD
WEST JEMEZ ROAD
TO LOS ALAMOS
TO STATE ROAD 4
TO TA-28
MORRO RD.
SERVICE AREA
PARKING AREA
131 GROUP
133 GROUP
138 GROUP
141 GROUP
142 GROUP
144 GROUP



REV.	DATE	REVISION	BY	C&D	APP
21	8-12-83	REVISED TITLE BLOCK & DWG TO STATUS OF 8-10-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

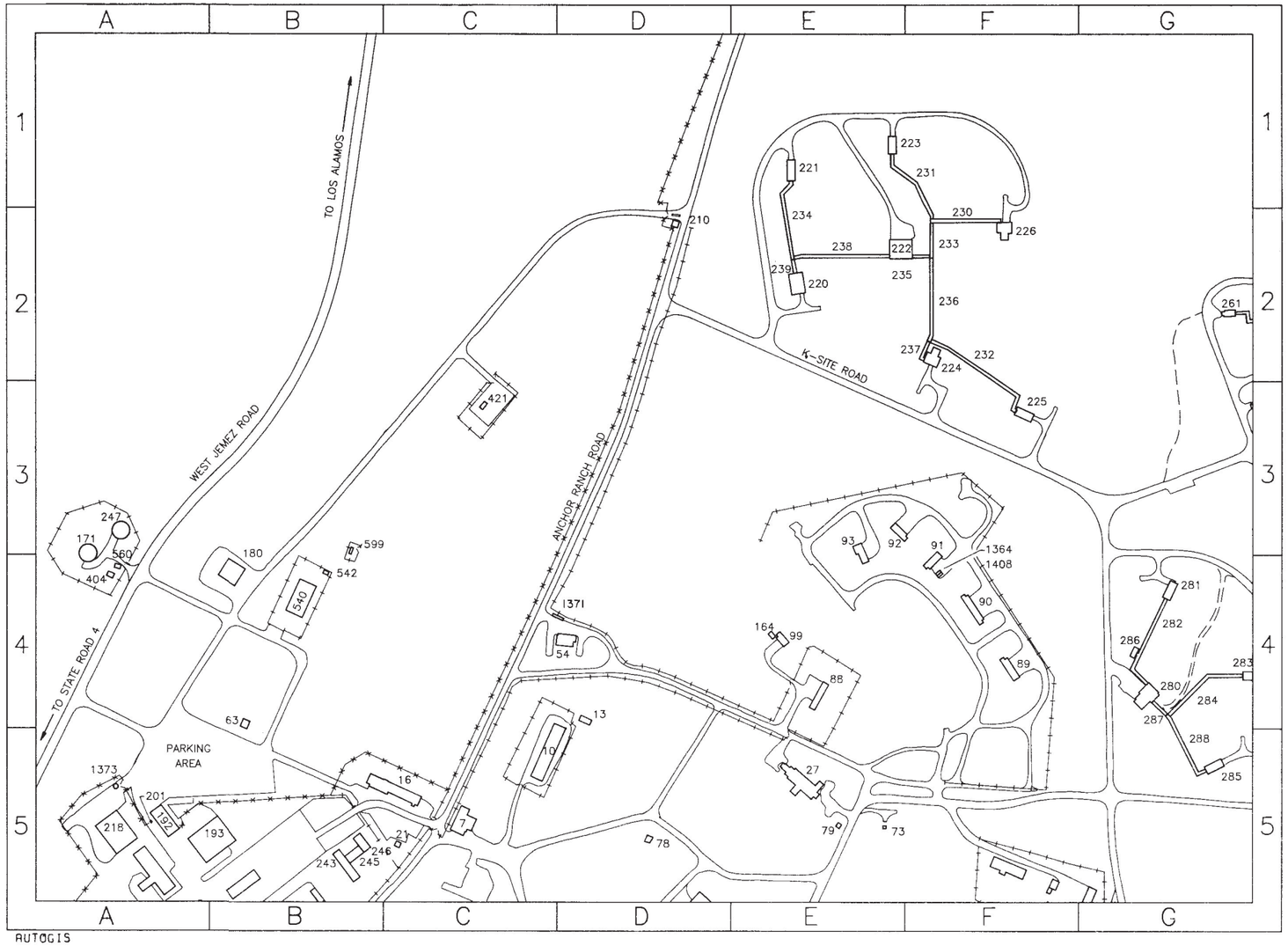
FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
TA-16 S-SITE

SEC CLASSIFICATION: CLASS. U
REVIEWER
DATE 10-4-85

SUBMITTED	RECOMMENDED	APPROVED
Dale Byers	Dennis Byers	W. T. Gibson
DRAWN: HERB SALAZAR	DATE: 8-12-83	SHEET NO.: 1 OF 1
CHECKED:		DRAWING NO.: ENG-R 5111

TA-16



AUTOCIS

SCALE 1: 2400.

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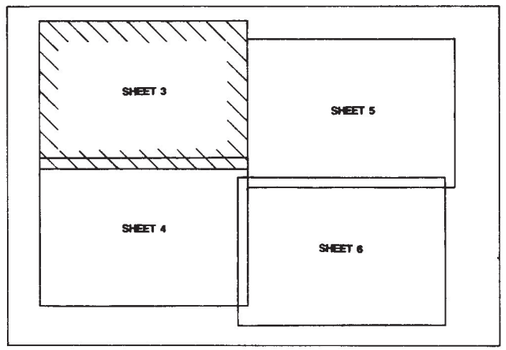
200 0 200 400 FEET



TA-16 MAP GUIDE

REV	DATE	REVISION	BY	CKD	APP
22	5-10-89	REDRAWN & REVISED TO STATUS OF 5-1-89	JMM	B	CMB

UNIVERSITY OF CALIFORNIA
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

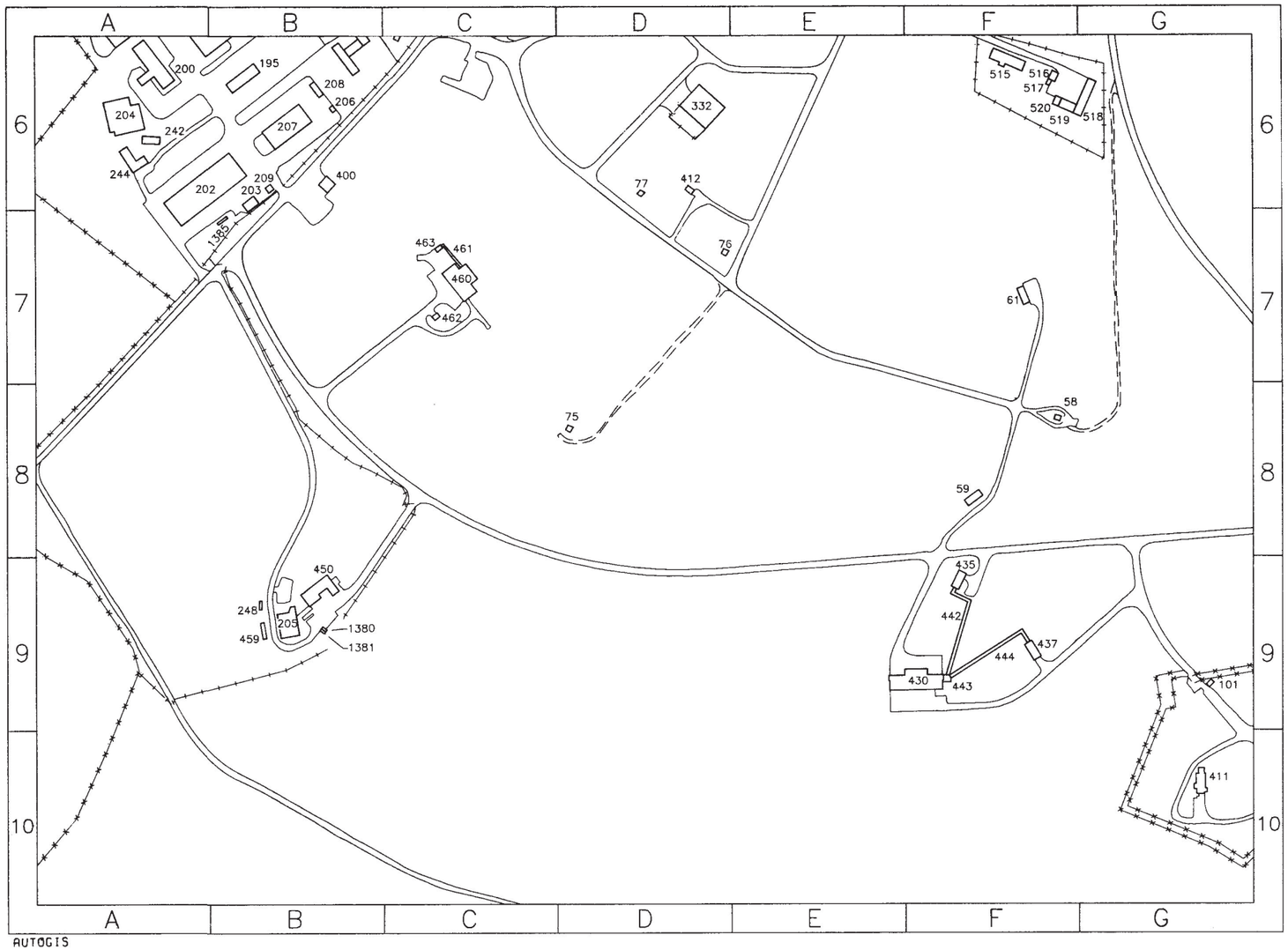
STRUCTURE LOCATION MAP

SEC. CLASSIFICATION: CLASS U; REVIEWER S Cowley; DATE 5/10/89

TA-16 **S-SITE**

SUBMITTED	RECOMMENDED	APPROVED
DRAWN J. MORK	DATE 5-10-89	SHEET NO. 3 of 6
CHECKED N. BYERS		DRAWING NO. ENG- R 5111

TA-16



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SCALE 1: 2400.

200 0 200 400 FEET

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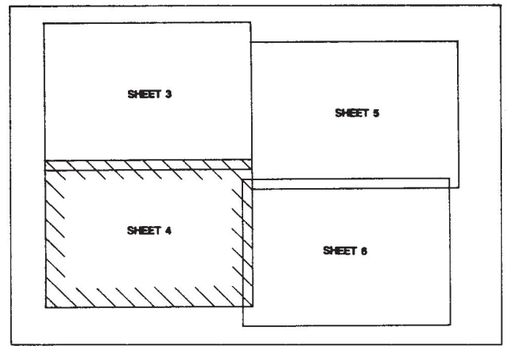

TA-16 MAP GUIDE

REV.	DATE	REVISION	BY	CKD.	APP
22	5-10-89	REDRAWN & REVISED TO STATUS OF 5-1-89	JM	JWB	CMB

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FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION MAP

SEC. CLASSIFICATION: CLASS: U

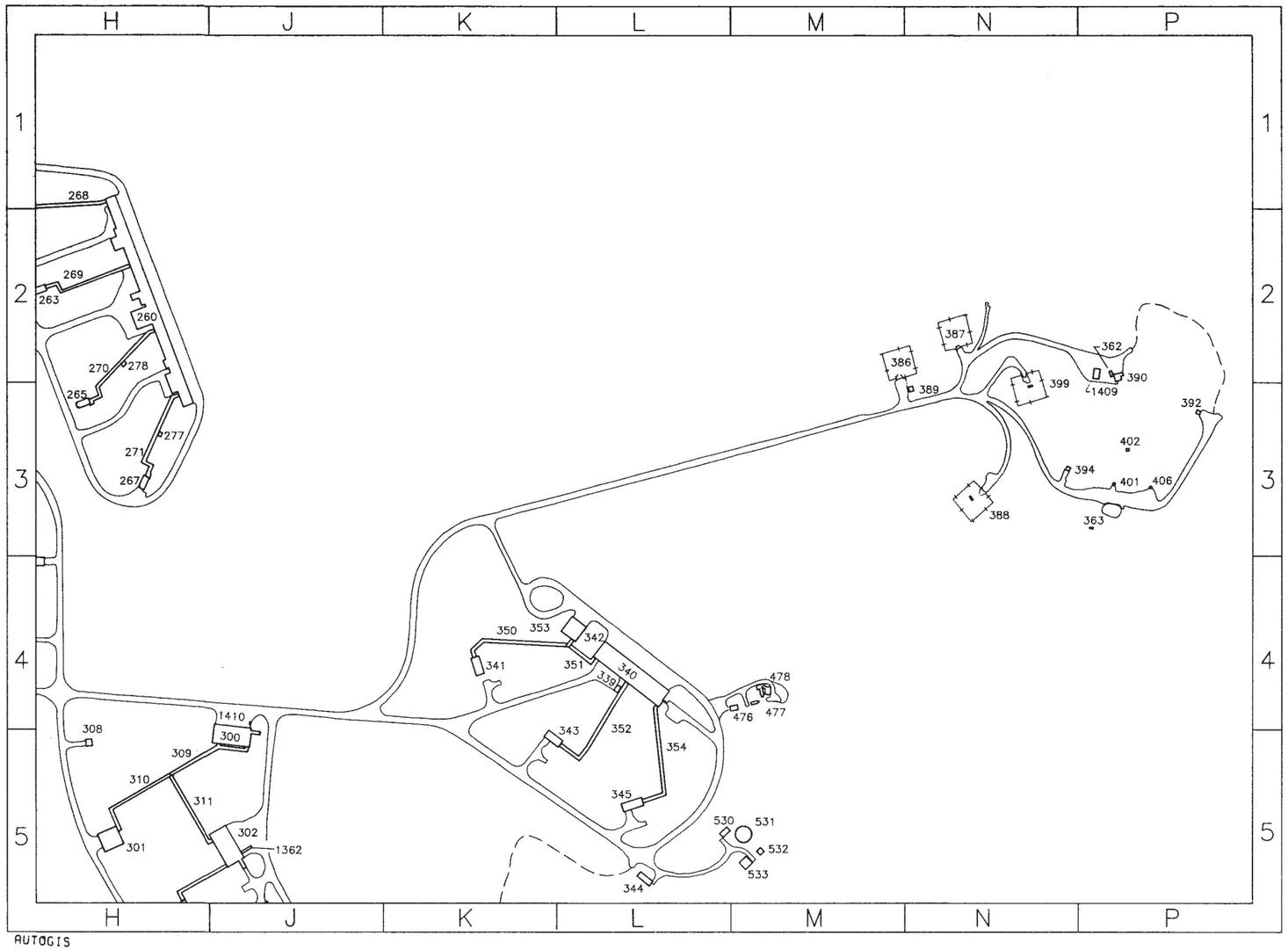
TA-16 **S-SITE**

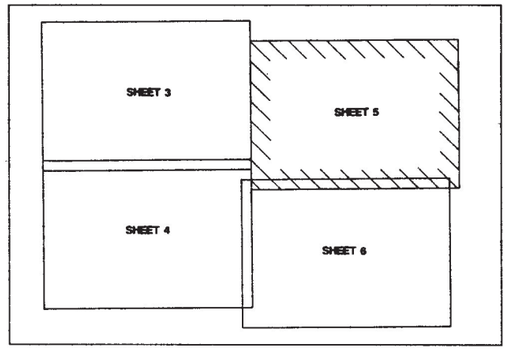
REVIEWER: S Crowley

DATE: 5/16/89

SUBMITTED	RECOMMENDED	APPROVED
DRAWN: J. MORK	DATE: 5-10-89	SHEET NO.: 4 OF 6
CHECKED: N. BYERS		DRAWING NO.: ENG- R 5111

TA-16





TA-16 MAP GUIDE

SCALE 1: 2400.

200 0 200 400 FEET

N

REV	DATE	REVISION	BY	CKD	APP
22	5-10-89	REDRAWN & REVISED TO STATUS OF 5-1-89			

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Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

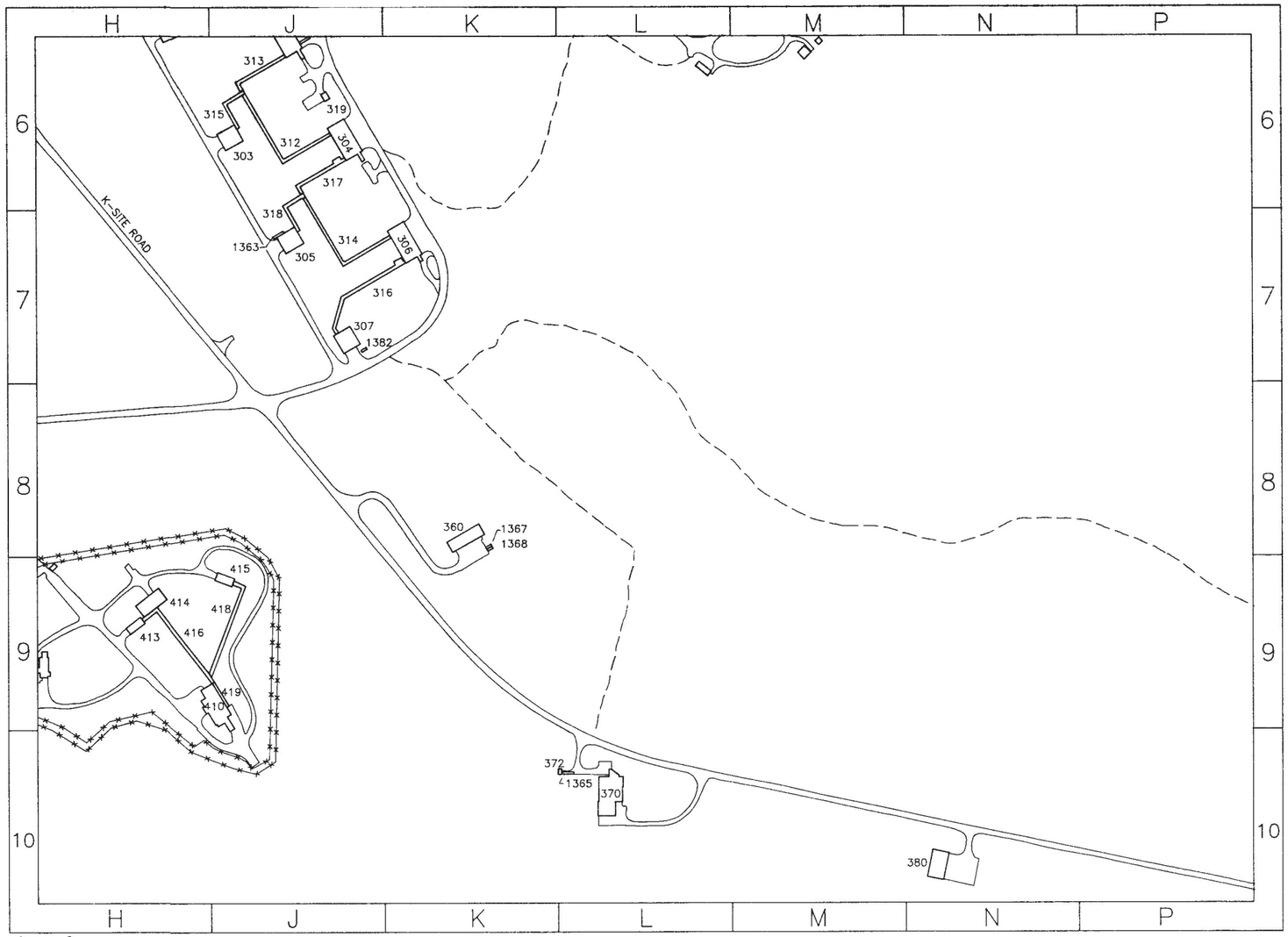
STRUCTURE LOCATION MAP

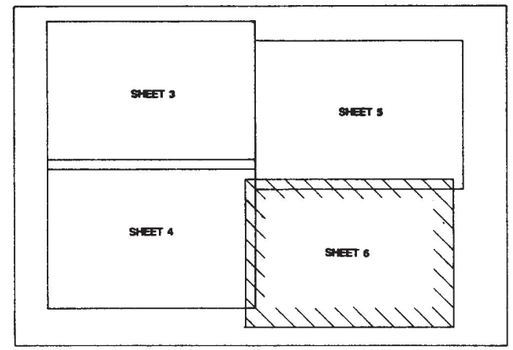
TA-16 **S-SITE**

SEC. CLASSIFICATION: CLASS U; REVIEWER J Conley; DATE 5/10/89

SUBMITTED	RECOMMENDED	APPROVED
DRAWN J. MORK	DATE 5-10-89	SHEET NO. 5 OF 6
CHECKED N. BYERS		DRAWING NO. ENG- R 5111

TA-16





TA-16 MAP GUIDE

AUTOGIS

SCALE 1: 2400.

200 0 200 400 FEET

N

REV	DATE	REVISION	BY	CKD	APP
22	5-10-89	REDRAWN & REVISED TO STATUS OF 5-1-89			

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Los Alamos National Laboratory, Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION MAP

SEC. CLASSIFICATION

CLASS

REVIEWER J. Crowley

DATE 5/16/89

TA-16 **S-SITE**

SUBMITTED	RECOMMENDED	APPROVED
DRAWN J. MORK	DATE 5-10-89	SHEET NO. 6 OF 6
CHECKED N. BYERS		DRAWING NO. ENG- R 5111

KEY MAP

SHEET 3 | SHEET 4
SHEET 5 | SHEET 6

TO LOS ALAMOS
WEST JEMEZ ROAD
STATE ROAD 501
TO TA-09
TA-09
TA-16
TA-16
K SITE ROAD
ANCHOR RANCH ROAD
DOE BOUNDARY
TO STATE ROAD 4
TA-16
FIELD VERIFIED 03-25-96

N

SCALE: 1:2400
200 0 200 400
FEET

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
7	03-29-96		REVISED TO STATUS OF 03-25-96	JAC	JAC	JPM	JAF	FCT
6	01-31-96		REVISED TO STATUS OF 01-26-96	JAC	JAC	JPM	JAF	FCT
5	12-20-95		REVISED TO STATUS OF 12-19-95	JAC	JAC	JPM	JAF	FCT

JOHNSON CONTROLS

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN J. MORA
VERIFIED J. MORA
CHECKED K. SALAZAR
DATE 08-04-93

SUBMITTED JERRY FORTE 4-2-96
APPROVED FOR RELEASE FRED THOMPSON FCT by JAF

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 3 OF 6

CLASSIFICATION U REVIEWER K. SALAZAR DATE 4/4/96

PROJECT ID 11952

DRAWING NO AB21

REV 7

JCI NO 91-020

A B C D E F G

1 2 3 4 5 6

R SITE ROAD

TECHNICAL AREA BOUNDARY

TA-09
TA-14

TA-14
TA-16

TA-09
TA-16

DROP ARM GATES

DROP ARM GATE

DROP ARM GATE

DROP ARM GATES

K SITE ROAD

261 263 260 1480 278 265 277 267

281 286 283 280 1481 285

1410 300 308 1483 301 1362 302 319 303 304

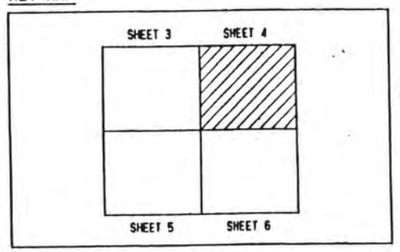
342 341 1485 339 340 343 345 344

478 476 477

530 531 532 535 533

386 387 1385 362 390 295 294 389 399 1409 392 402 394 401 406 388 363

KEY MAP



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SCALE: 1:2400

200 0 200 400

FEET

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
4	03-29-96		REVISED TO STATUS OF 03-25-96	JMC	JAC	JPM	JAF	FCT
3	01-31-96		REVISED TO STATUS OF 01-26-96	JAC	JAC	JPM	JAF	FCT
2	12-20-95		REVISED TO STATUS OF 12-19-95	JAC	JAC	JPM	JAF	FCT

JOHNSON CONTROLS

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN J. MONTOYA

VERIFIED J. MONTOYA

CHECKED H. SALAZAR

DATE 08-04-93

SUBMITTED JERRY FORTE 4-2-96

APPROVED FOR RELEASE FRED THOMPSON 4/2/96

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 4 OF 6

CLASSIFICATION U REVIEWER H. SALAZAR DATE 4/5/96

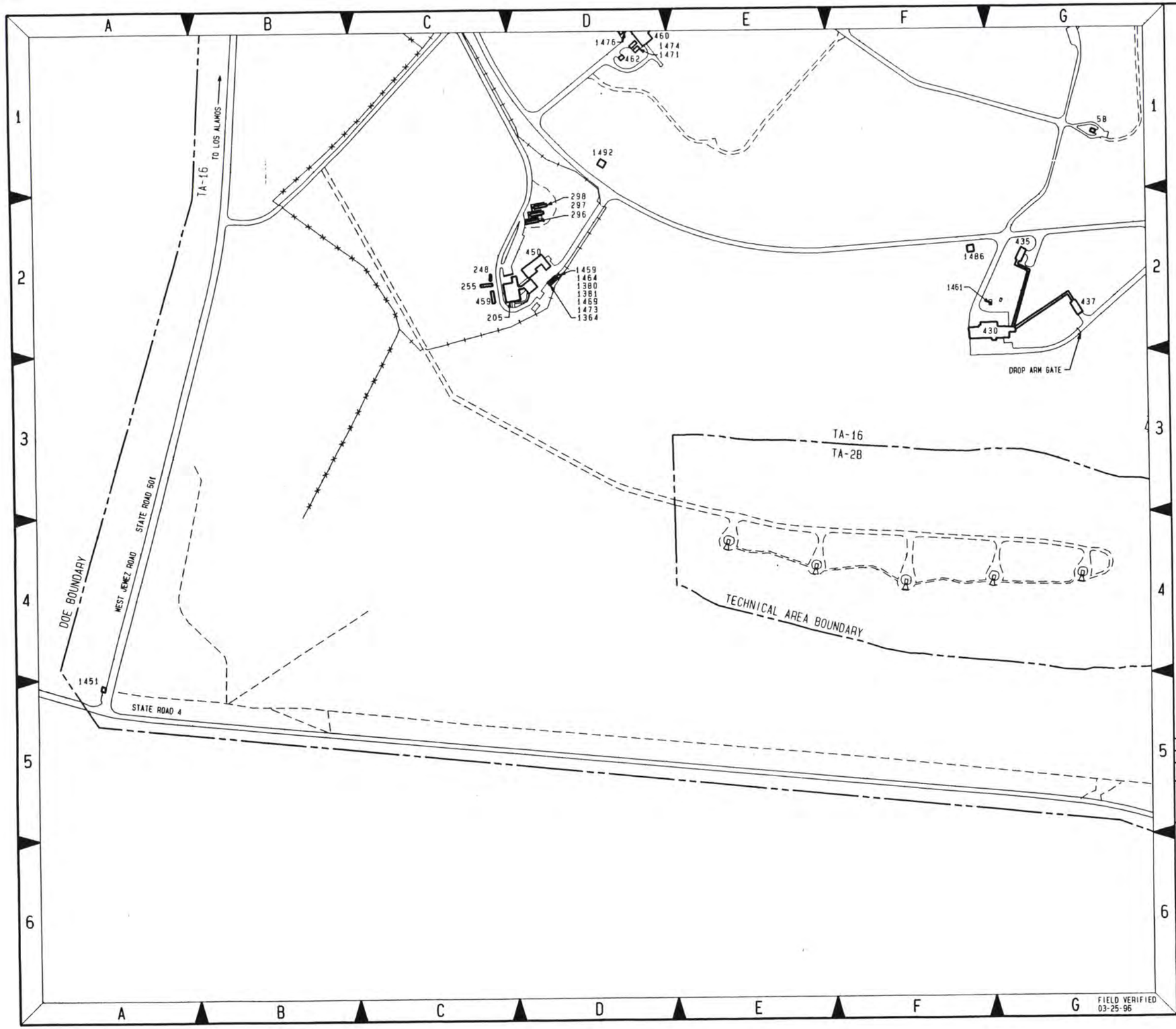
PROJECT ID 11952

DRAWING NO AB21

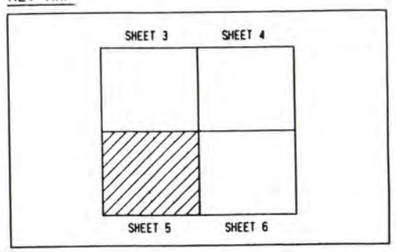
REV 4

JCI NO. 91-020

FIELD VERIFIED 03-25-96



KEY MAP



N

SCALE: 1:2400

200 0 200 400

FEET

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
6	03-29-96		REVISED TO STATUS OF 03-25-96	JAC	JAC	JPM	JAF	FCT
5	01-31-96		REVISED TO STATUS OF 01-26-96	JPN	JPM	HMS	JAF	FCT
4	12-20-95		REVISED TO STATUS OF 12-19-95	JPN	JPM	HMS	JAF	FCT

JOHNSON CONTROLS

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN

VERIFIED

CHECKED H. SALAZAR

DATE 08-04-93

SUBMITTED JERRY FORTE 4-6-96

APPROVED FOR RELEASE FRED THOMPSON

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SHEET 5 OF 6

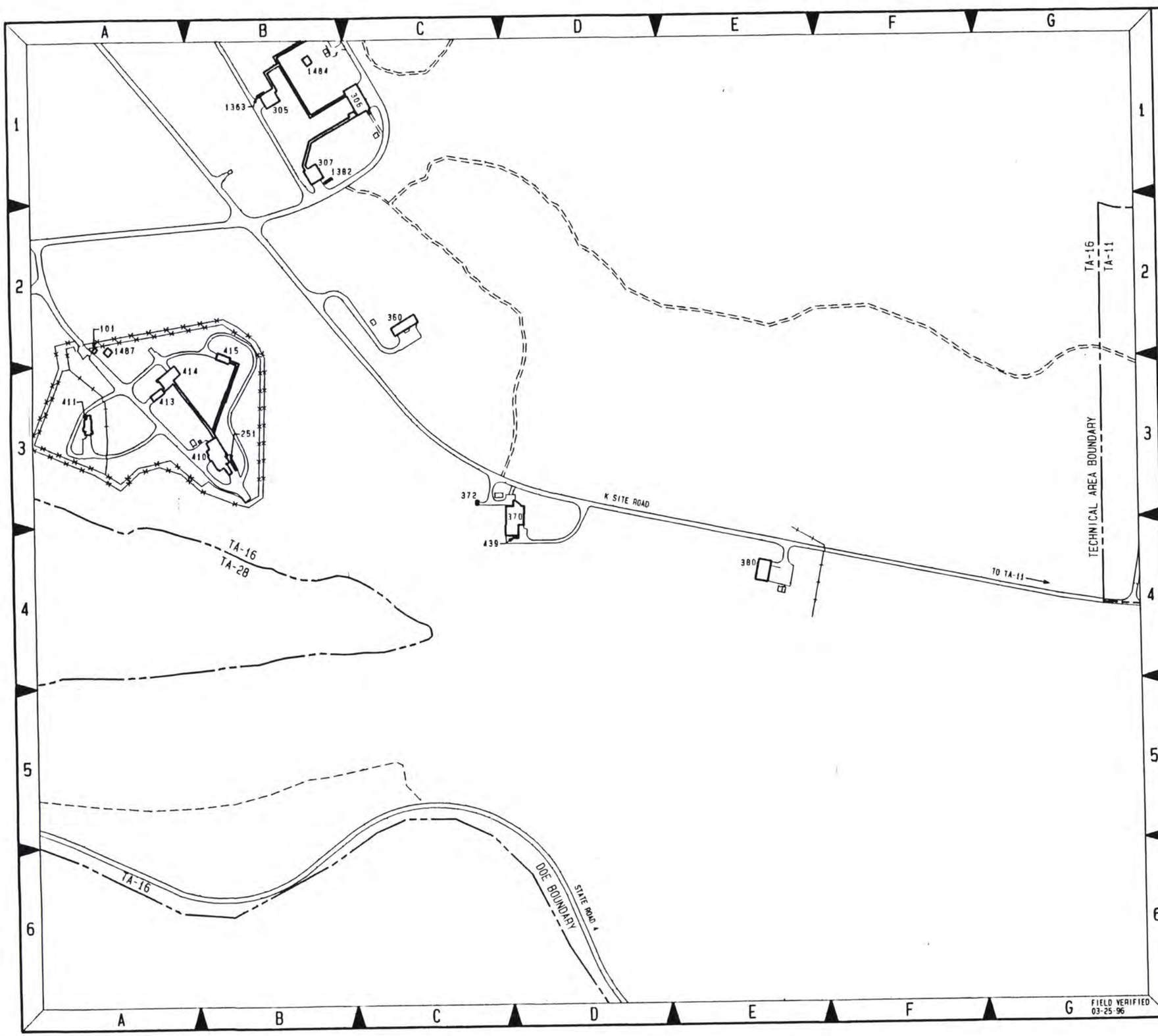
CLASSIFICATION U REVIEWER H SALAZAR DATE 4/4/96

PROJECT ID 11952

DRAWING NO AB21

REV 6

JCI NO 91-020



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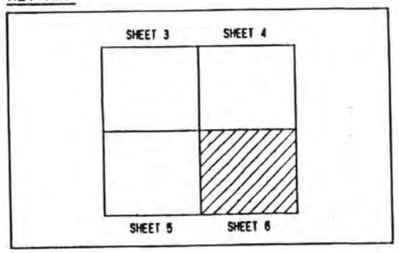

SCALE: 1:2400

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200 0 200 400

FEET

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
3	03-29-96		REVISED TO STATUS OF 03-25-96	JAC	JAC	JPM	JAF	FCT
2	01-31-96		REVISED TO STATUS OF 01-26-96	JAC	JAC	JPM	JAF	FCT
1	05-16-94		REVISED PER NEW STANDARDS AND TO STATUS OF 05-05-94	JPM	JPM	HMS	JAF	FCT

JOHNSON CONTROLS

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN J. POPE

VERIFIED J. HOWARD

CHECKED H. SALAZAR

DATE 08-04-93

SUBMITTED JERRY FORTE 4-2-96

APPROVED FOR RELEASE FRED THOMPSON 4-2-96

Los Alamos — Los Alamos National Laboratory, Los Alamos, New Mexico 87545

SHEET 6 OF 6

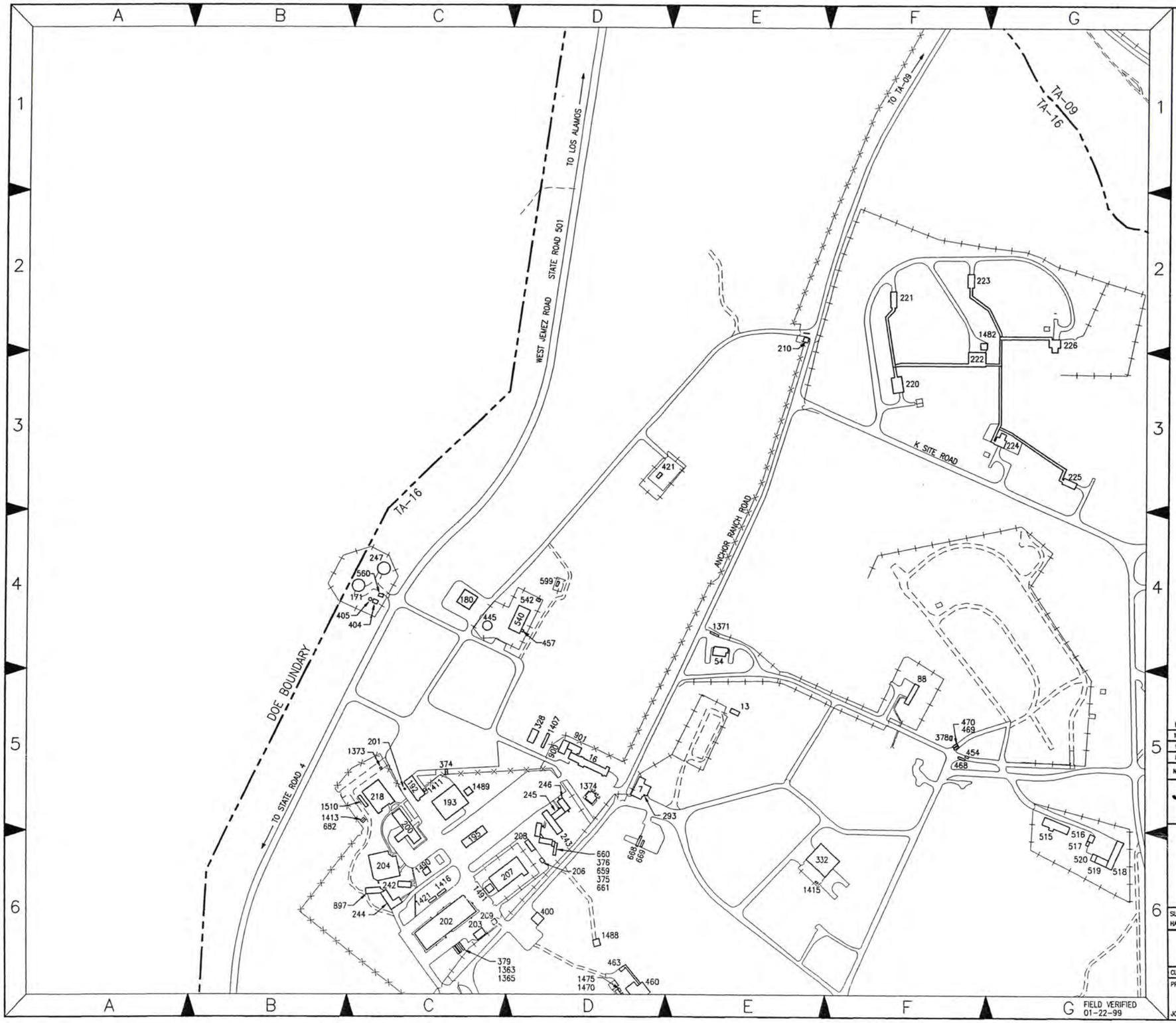
CLASSIFICATION U REVIEWER H. SALAZAR DATE 4/4/96

PROJECT ID 11952

DRAWING NO AB21

REV 3

JCI NO 91-020



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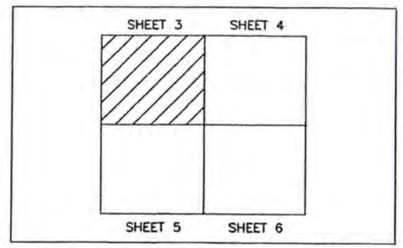


SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
11	03-01-99		REVISED TO STATUS OF 03-01-99	SAD	MSV	HMS	HMS	LAB
10	02-10-97	U	REVISED TO STATUS OF 02-10-97	CJR	CJR	HMS	JAF	LAB
9	07-31-96	U	REVISED TO STATUS OF 07-31-96	JAC	JAC	JAF	JAF	FCT
8	05-31-96	U	REVISED TO STATUS OF 05-31-96	JPM	JPM	HMS	JAF	FCT

Johnson Controls
Northern New Mexico

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN	J. MORK
VERIFIED	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED
HAROLD SALAZAR

APPROVED FOR RELEASE
LARRY BAYS

Los Alamos Los Alamos National Laboratory
Los Alamos, New Mexico 87545

SHEET 3 OF 6

CLASSIFICATION U REVIEWER HAROLD SALAZAR DATE 4-23-99

PROJECT ID 11952

JCI NO 97-002

DRAWING NO AB21

REV 11

A B C D E F G

1 2 3 4 5 6

R SITE ROAD

TECHNICAL AREA BOUNDARY

TA-09
TA-16

TA-09
TA-14

TA-14
TA-16

DROP ARM GATES

DROP ARM GATE

DROP ARM GATES

DROP ARM GATE

K SITE ROAD

261 263 260 1480 278 265 277 267

281 286 280 283 1481 285

308 1410 300 1483 301 302 1362 303 319 304

342 341 1485 340 339 343 345 344

478 476 477

530 531 532 533 535

387 386 471 295 294 389 1507

362 898 653 390 1409 399

392 402 394 401 406 1508 441 363

FIELD VERIFIED 01-22-99

KEY MAP

SHEET 3	SHEET 4
SHEET 5	SHEET 6

SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
6	03-01-99		REVISED TO STATUS OF 03-01-99	SAB	MSV	HMS	HMS	LAB
5	07-31-96	U	REVISED TO STATUS OF 07-31-96	JAC	JAC	JPM	JAF	LAB
4	03-29-96	U	REVISED TO STATUS OF 03-25-96	JAC	JAC	JPM	JAF	FCT
3	01-31-96	U	REVISED TO STATUS OF 01-31-96	JPM	JPM	JPM	JAF	FCT

Johnson Controls
Northern New Mexico

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN	J. MORK
VERIFIED	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED
HAROLD SALAZAR

APPROVED FOR RELEASE
LARRY BAYS

Los Alamos Los Alamos National Laboratory
Los Alamos, New Mexico 87545

SHEET 4 OF 6

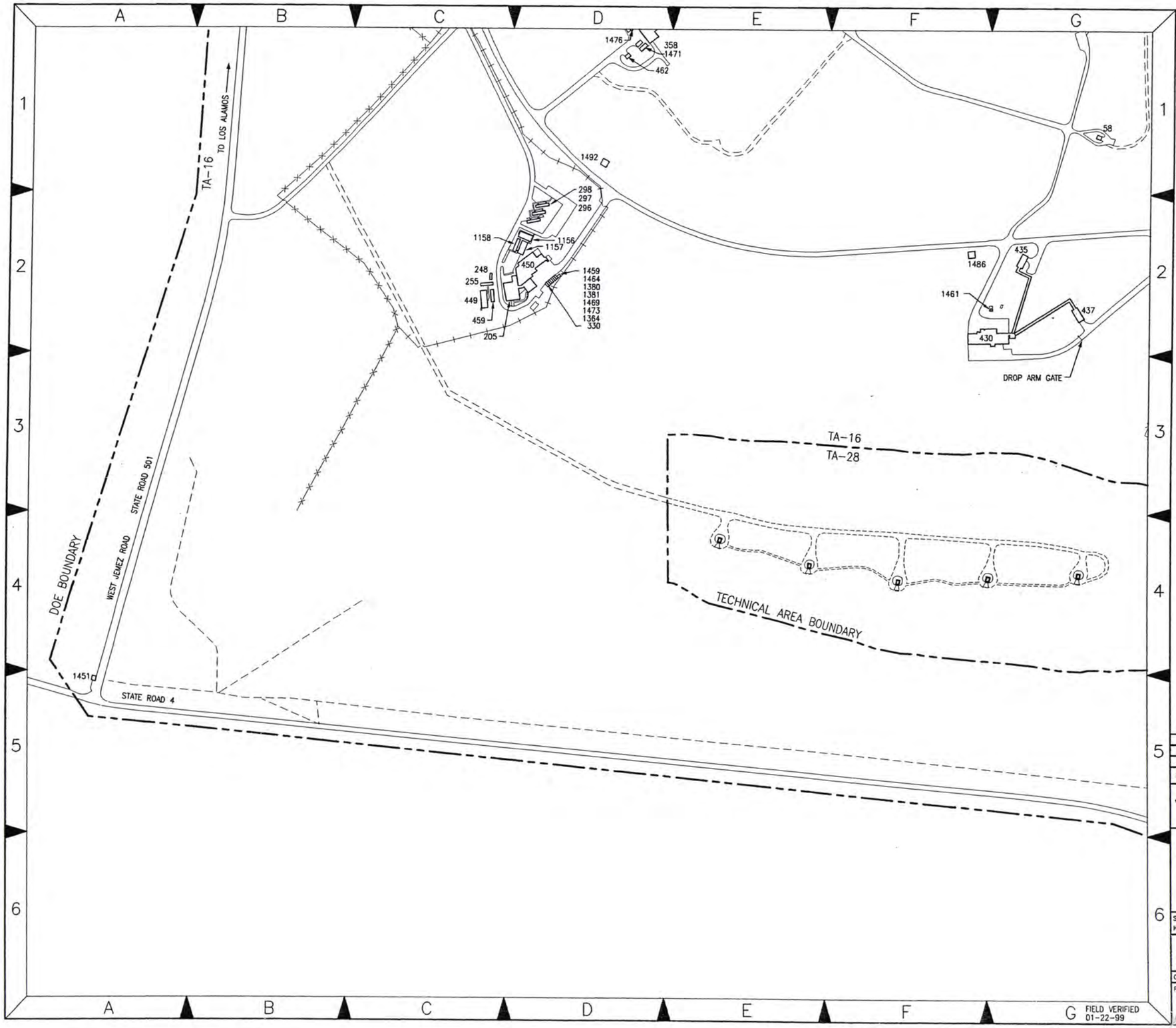
CLASSIFICATION U REVIEWER HAROLD SALAZAR DATE 4-23-99

PROJECT ID 11952

DRAWING NO AB21

REV 6

JCI NO 97-002



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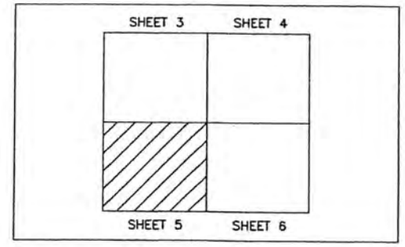


SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
8	03-01-99		REVISED TO STATUS OF 03-01-99	SAD	BSV	HMS	HMS	LAB
7	02-10-97	U	REVISED TO STATUS OF 02-10-97	CJR	CJR	HMS	JAF	LAB
6	03-29-96	U	REVISED TO STATUS OF 03-29-96	JAC	JAC	JAF	JAF	FCT
5	01-31-96	U	REVISED TO STATUS OF 01-31-96	JPM	JPM	HMS	JAF	FCT

Johnson Controls
Northern New Mexico

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN	J. MORK
VERIFIED	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED
HAROLD SALAZAR

APPROVED FOR RELEASE
LARRY BAYS

Los Alamos Los Alamos National Laboratory
Los Alamos, New Mexico 87545

SHEET 5 OF 6

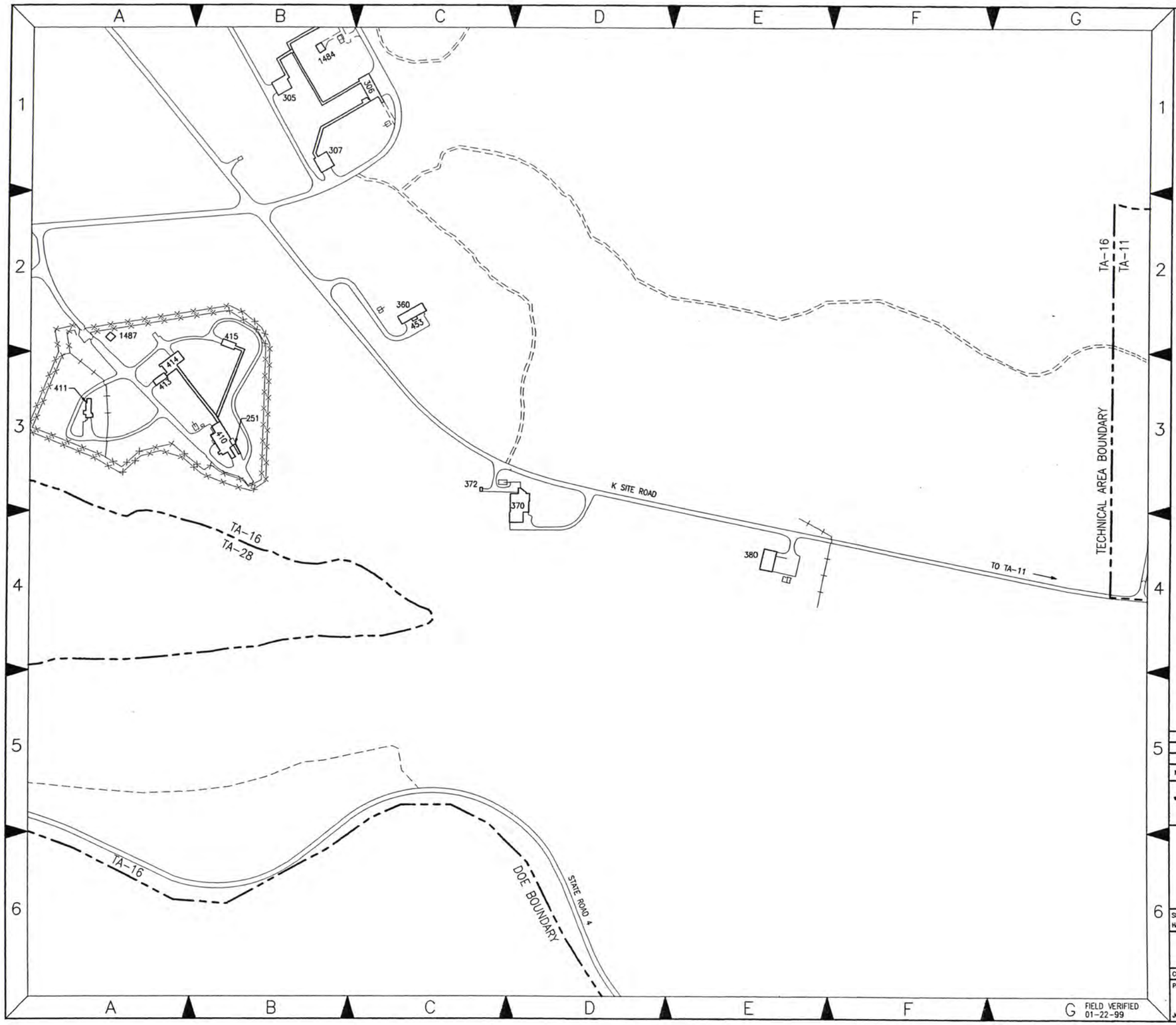
CLASSIFICATION U REVIEWER HAROLD SALAZAR DATE 9-23-99

PROJECT ID 11952

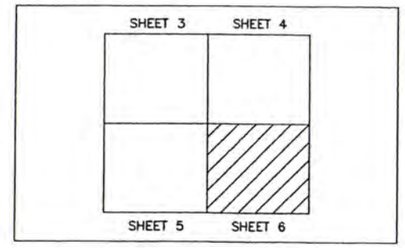
ICI NO 97-002

DRAWING NO AB21

REV 8



KEY MAP



SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
5	03-01-99		REVISED TO STATUS OF 03-01-99	SAD	MSV	HMS	HMS	LAB
4	05-31-96	U	REVISED TO STATUS OF 05-31-96	JAC	JAC	JPM	JAF	LAB
3	03-29-96	U	REVISED TO STATUS OF 03-25-96	JAC	JAC	JPM	JAF	FCT
2	01-31-96	U	REVISED TO STATUS OF 01-31-96	JPM	JPM	JPM	JAF	FCT

Johnson Controls
Northern New Mexico

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN	J. MORK
VERIFIED	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED: HAROLD SALAZAR

APPROVED FOR RELEASE: LARRY BAYS

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

SHEET 6 OF 6

CLASSIFICATION: U REVIEWER: HAROLD SALAZAR DATE: 4-23-99

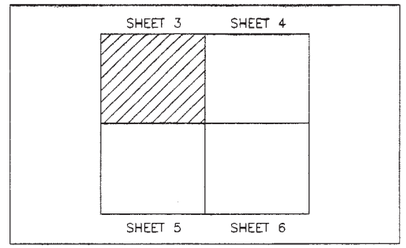
PROJECT ID: 11952

JCI NO 97-002

DRAWING NO: AB21

REV: 5

KEY MAP



SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DWN	DES	CHKD	SUB	APP
18	07-09-04	IL HMS	REVISED TO STATUS OF 07-09-04	EIM	HPR	RAG	HMS	LAB
17	10-22-03		REVISED TO STATUS OF 10-22-03	EIM	HPR	MEG	HMS	LAB
16	03-24-03		REVISED TO STATUS OF 03-24-03	EIM	HPR	MEG	HMS	LAB
15	11-25-02		REVISED TO STATUS OF 11-25-02	HPR	MEG	MEG	HMS	LAB

KSL KBR • SHAW • LATA

AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN	J. MORK
DESIGN	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED
HAROLD SALAZAR

APPROVED FOR RELEASE BY
LARRY BAYS

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PO Box 1663
Los Alamos, New Mexico 87545

SHEET 3

3 OF 6

CLASSIFICATION U

REVIEWER H. SALAZAR

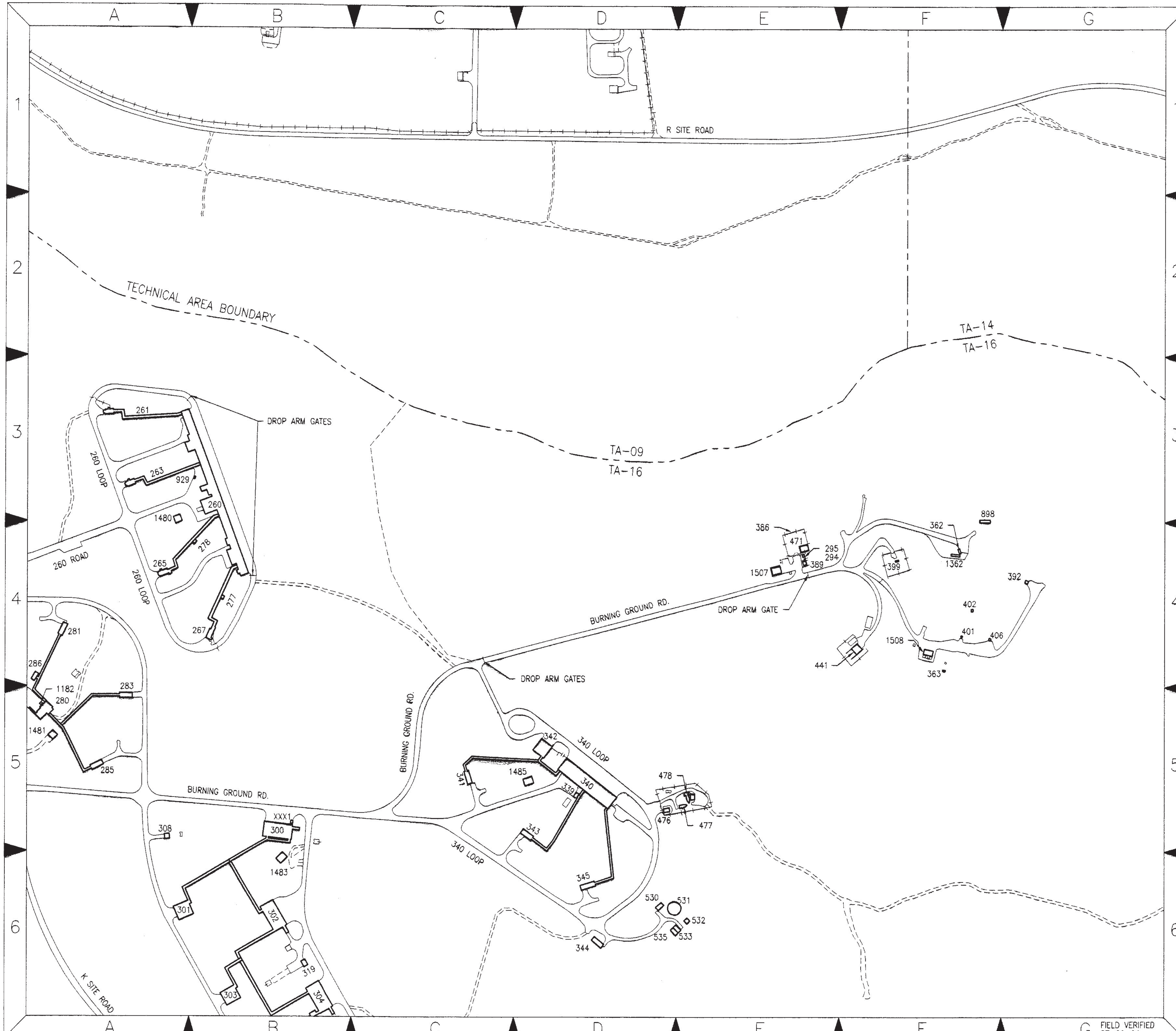
DATE

PROJECT ID
KSL NO. 91-020
11952

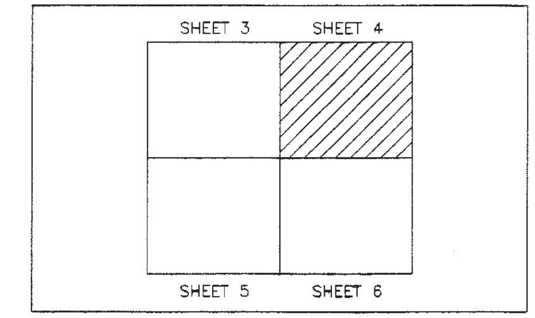
DRAWING NO
AB21

REV
18

FIELD VERIFIED
07-09-04



KEY MAP



NO	DATE	CLASS REV	DESCRIPTION	DWN	DES	CHKD	SUB	APP
12	07-09-04		REVISED TO STATUS OF 07-09-04	EIM	HPR	RAC	HMS	LAB
11	10-22-03		REVISED TO STATUS OF 10-22-03	EIM	HPR	MEG	HMS	LAB
10	03-24-03		REVISED TO STATUS OF 03-24-03	EIM	HPR	MEG	HMS	LAB
9	11-25-02		REVISED TO STATUS OF 11-25-02	HPR	MEG	MEG	HMS	LAB

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AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN	J. MORK
DESIGN	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

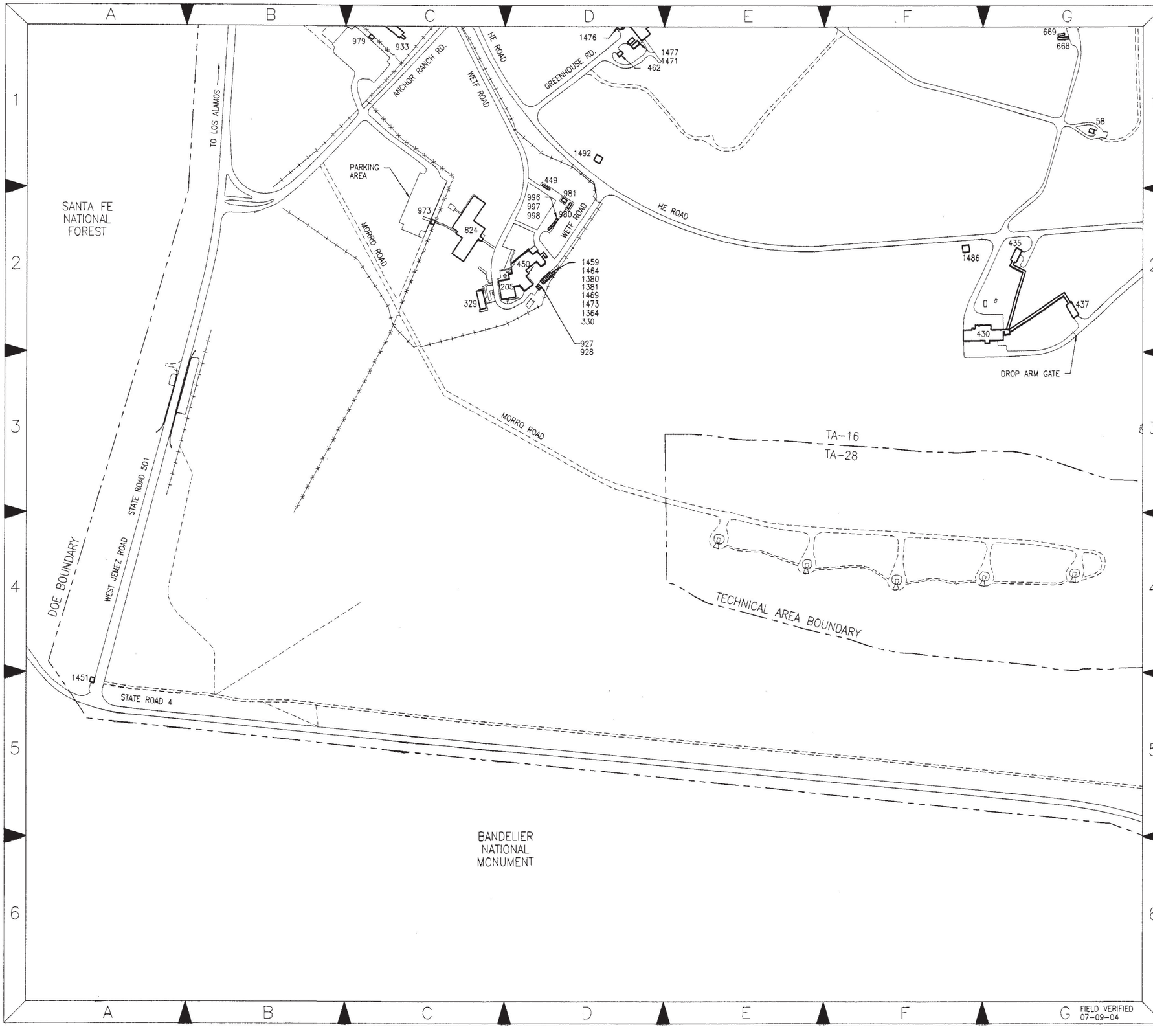
SUBMITTED: HAROLD SALAZAR
APPROVED FOR RELEASE BY: LARRY BAYS

Los Alamos NATIONAL LABORATORY — PO Box 1663, Los Alamos, New Mexico 87545

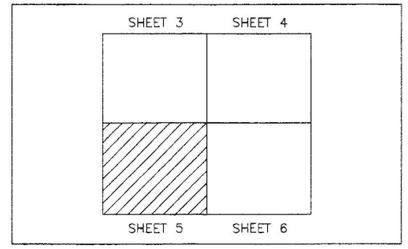
SHEET 4 — 4 OF 6

CLASSIFICATION U | REVIEWER H. SALAZAR | DATE

PROJECT ID: KSL NO. 91-020 | 11952 | DRAWING NO: AB21 | REV: 12



KEY MAP



SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DWN	DES	CHKD	SUB	APP
15	07-09-04		REVISED TO STATUS OF 07-09-04	EIM	HPR	RAG	HMS	LAB
14	10-22-03		REVISED TO STATUS OF 10-22-03	EIM	HPR	MEG	HMS	LAB
13	03-24-03		REVISED TO STATUS OF 03-24-03	EIM	HPR	MEG	HMS	LAB
12	11-25-02		REVISED TO STATUS OF 11-25-02	HPR	MEG	MEG	HMS	LAB

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AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN	J. MORK
DESIGN	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED: HAROLD SALAZAR

APPROVED FOR RELEASE BY: LARRY BAYS

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

SHEET 5

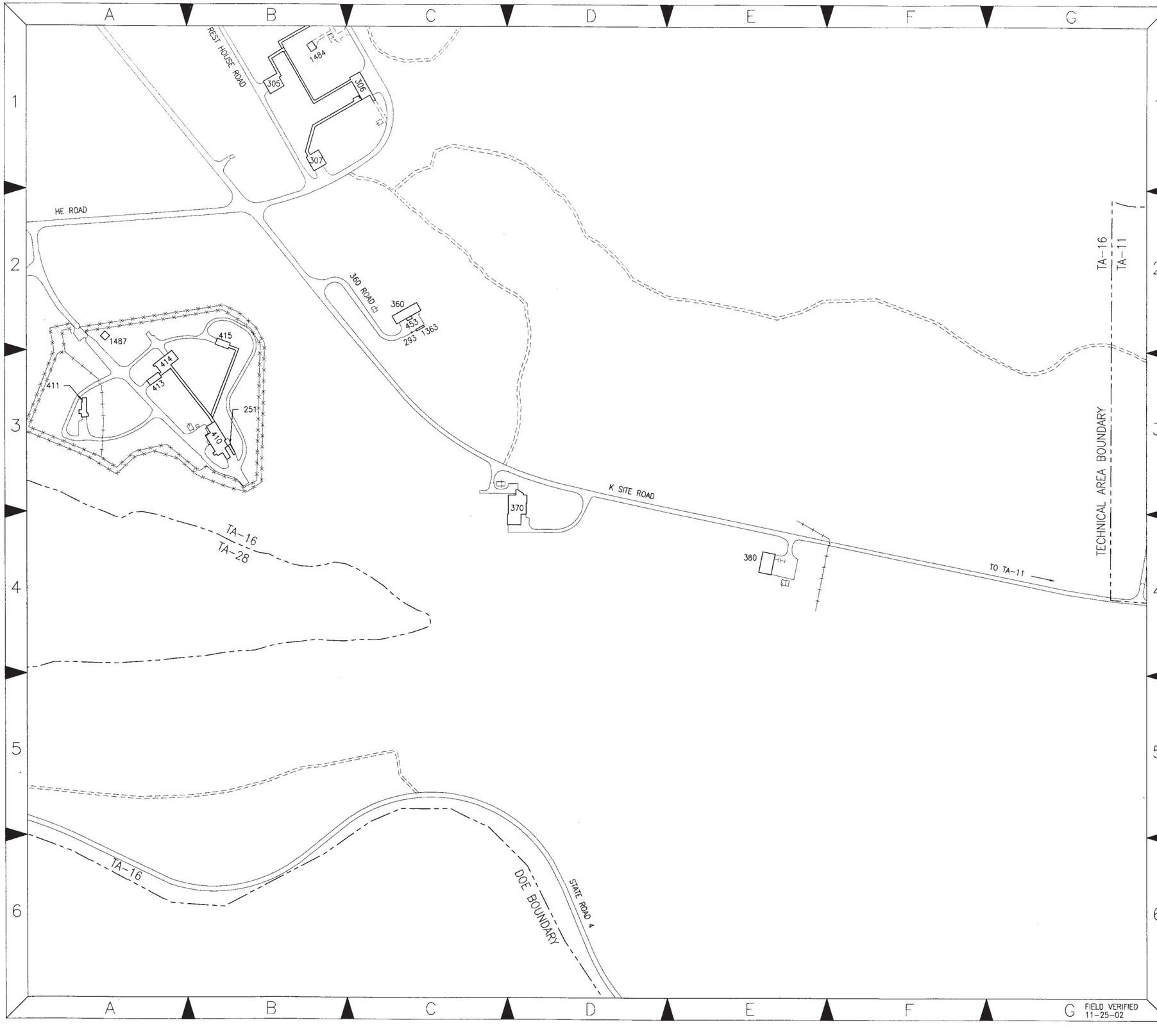
5 OF 6

CLASSIFICATION U | REVIEWER H. SALAZAR | DATE

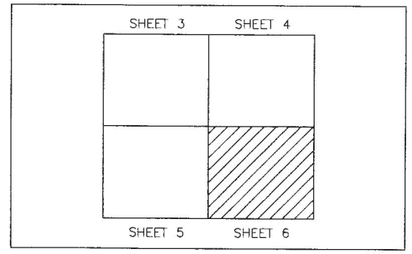
PROJECT ID: KSL NO. 91-020 11952

DRAWING NO: AB21

REV: 15



KEY MAP



SCALE: 1:2400

200 0 200 400

FEET

N

FIELD VERIFIED 11-25-02

NO	DATE	CLASS REV	DESCRIPTION	DWN	VER	CHKD	SUB	APP
8	11-25-02	HS	REVISED TO STATUS OF 11-25-02	HPR	MES	MRS	HMS	LAB
7	04-16-01		REVISED TO STATUS OF 04-16-01	HPR	SAD	CES	HMS	LAB
6	05-30-00		REVISED TO STATUS OF 05-30-00	MMM	SAD	CES	HMS	LAB
5	03-01-99		REVISED TO STATUS OF 03-01-99	SAD	MSV	HMS	HMS	LAB

Johnson Controls
Northern New Mexico

AS-BUILT STRUCTURE LOCATION MAPS

TA-16

S-SITE

DRAWN	J. MORK
VERIFIED	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED
HAROLD SALAZAR

APPROVED FOR RELEASE
LARRY BAYS

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

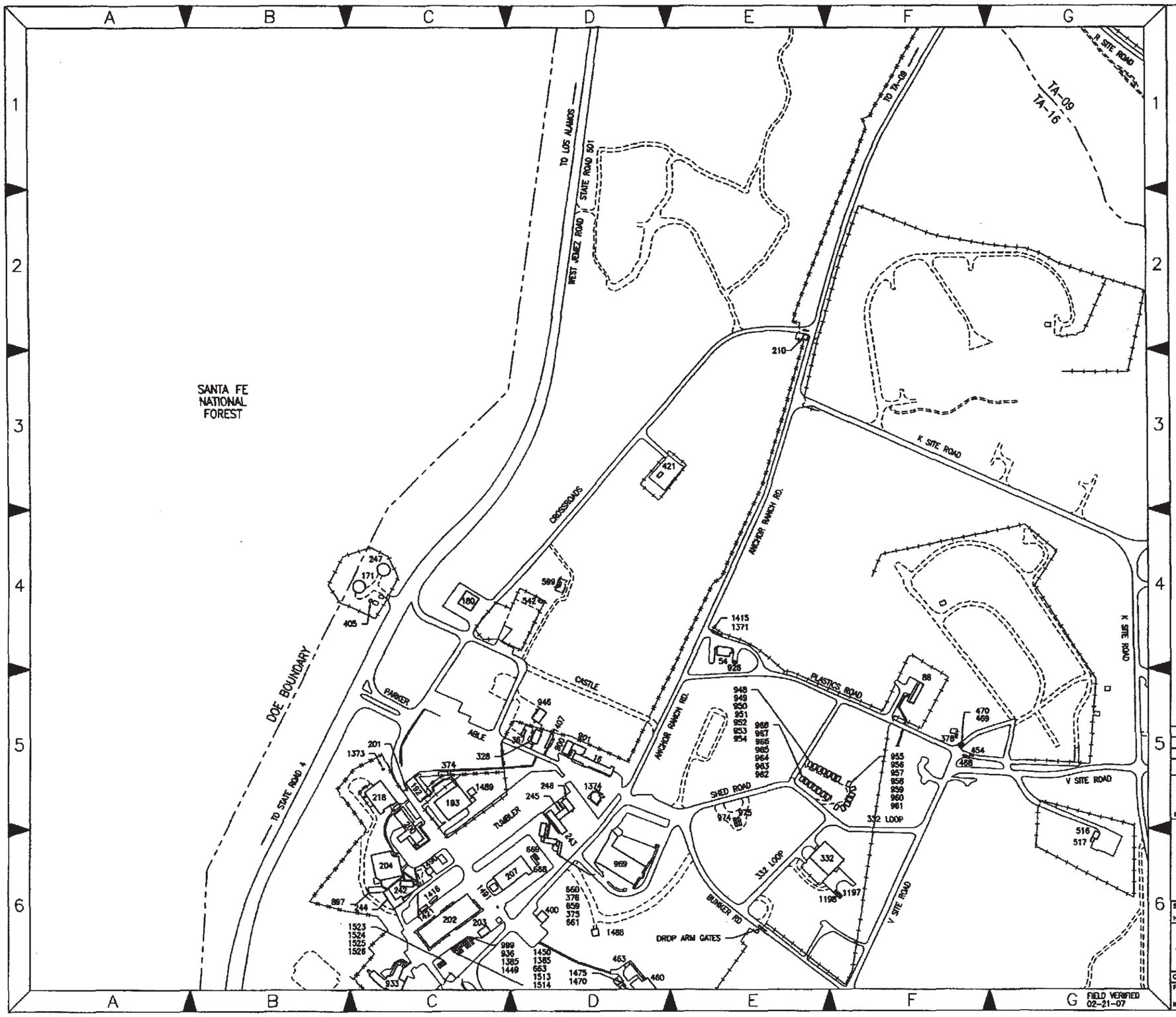
SHEET 6 OF 6

CLASSIFICATION U REVIEWER HAROLD SALAZAR DATE 11-25-02

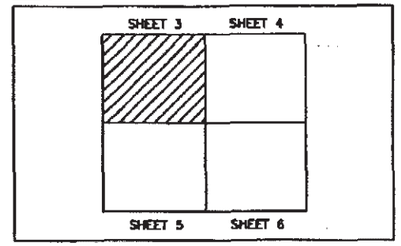
PROJECT ID 11952
JCI NO 91-020

DRAWING NO AB21

REV 8



KEY MAP



SCALE: 1:2400

200 0 200 400 FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DRN	DES	CHKD	SUB	APP
21	03-21-07		REVISED TO STATUS OF 03-21-07	LHV	HPR	RAG	HMS	SAP
20	06-07-06		REVISED TO ADD TRANSFORMERS S.E. 202	HPR	HPR	RAG	HMS	SAP
19	06-10-05		REVISED TO STATUS OF 06-10-05	HPR	HPR	RAG	HMS	RAT
18	07-09-04		REVISED TO STATUS OF 07-09-04	DIN	HPR	RAG	HMS	LAS

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AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN	J. MARK
DESIGN	J. MORK
CHECKED	H. SALAZAR
DATE	06-04-93

SUBMITTED
HAROLD SALAZAR

APPROVED FOR RELEASE BY
LARRY BAYS

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

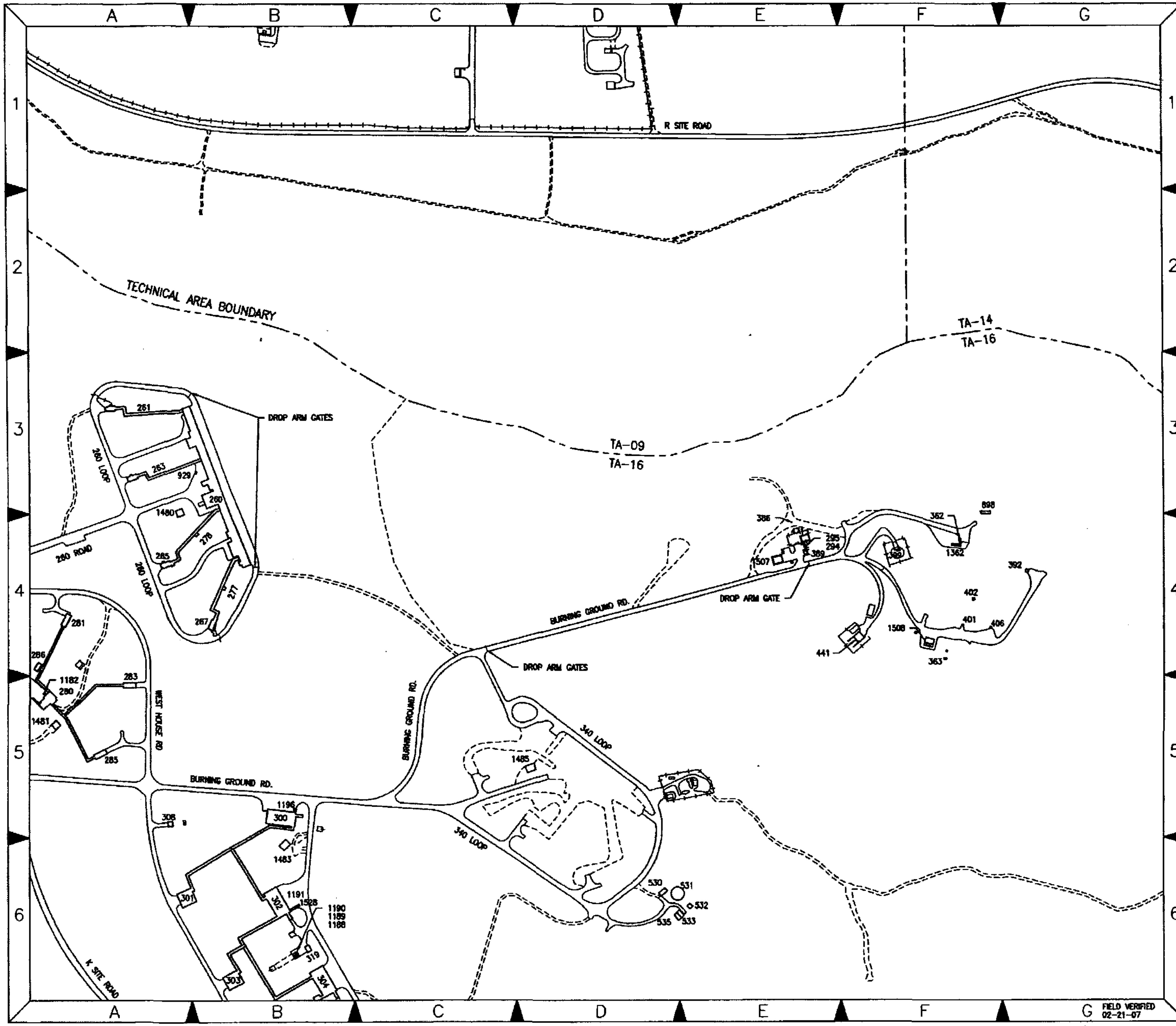
SHEET 3
3 OF 6

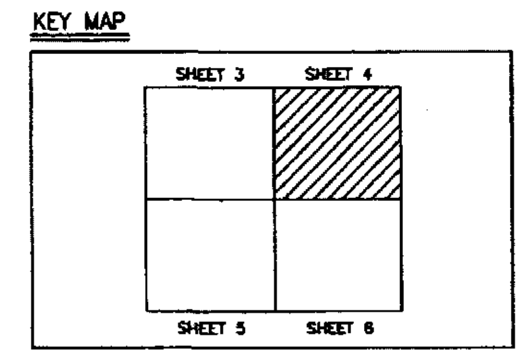
CLASSIFICATION U | REVIEWER H. SALAZAR | DATE

PROJECT ID
KSL NO. 91-020 11952

DRAWING NO
AB21

REV
21





NO	DATE	CLASS REV	DESCRIPTION	DWN	DCS	CHKD	SUB	APP
14	02-21-07	[illegible]	REVISED TO STATUS OF 02-21-07	LBW	HPR	RAG	HMS	
13	06-10-05		REVISED TO STATUS OF 06-10-05	HPR	HPR	RAG	HMS	RAT
12	07-08-04		REVISED TO STATUS OF 07-08-04	EM	HPR	RAG	HMS	LAB
11	10-22-03		REVISED TO STATUS OF 10-22-03	EM	HPR	MSG	HMS	LAB

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AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN: J. MORK
DESIGN: J. MORK
CHECKED: H. SALAZAR
DATE: 08-04-03

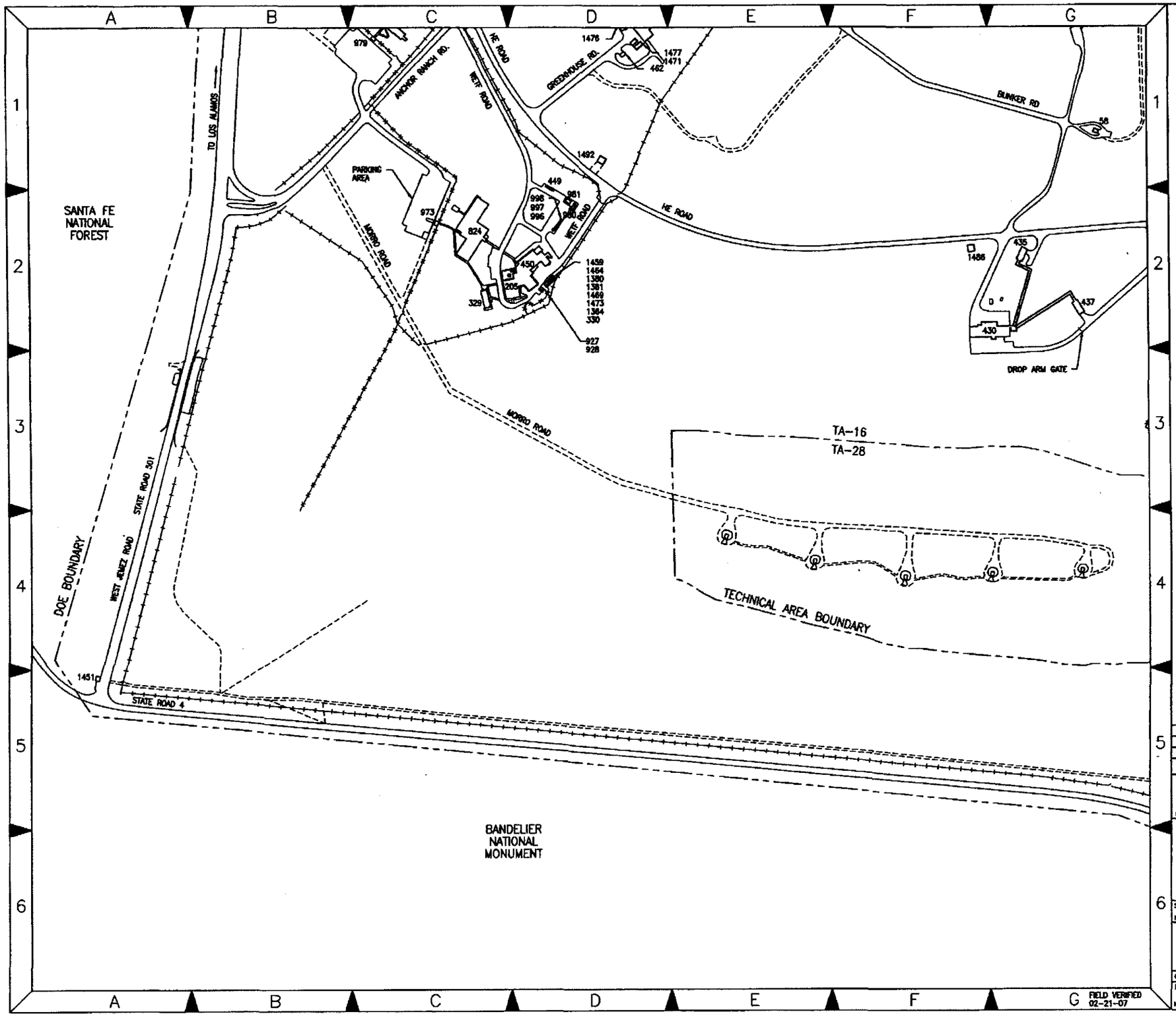
SUBMITTED: HAROLD SALAZAR
APPROVED FOR RELEASE BY: LARY BAYS

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

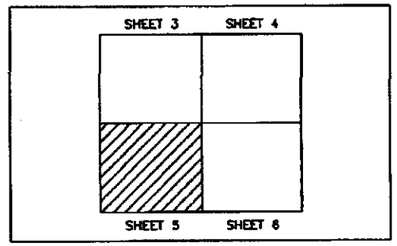
SHEET 4
4 OF 6

CLASSIFICATION U
REVIEWER H. SALAZAR
DATE

PROJECT ID: KSL NO. 91-020 11952
DRAWING NO: AB21
REV: 14



KEY MAP



SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DRN	DES	CHKD	SUB	APP
16	02-21-07		REVISED TO STATUS OF 02-21-07	LJW	HPR	RNG	HNS	
15	07-09-04		REVISED TO STATUS OF 07-09-04	EBH	HPR	RNG	HNS	LAB
14	10-22-03		REVISED TO STATUS OF 10-22-03	EBH	HPR	RDG	HNS	LAB
13	03-24-03		REVISED TO STATUS OF 03-24-03	EBH	HPR	MDS	HNS	LAB

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AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN	J. MORK
DESIGN	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-03

SUBMITTED: HAROLD SALAZAR

APPROVED FOR RELEASE BY: LARRY BAYS

Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545

SHEET 5

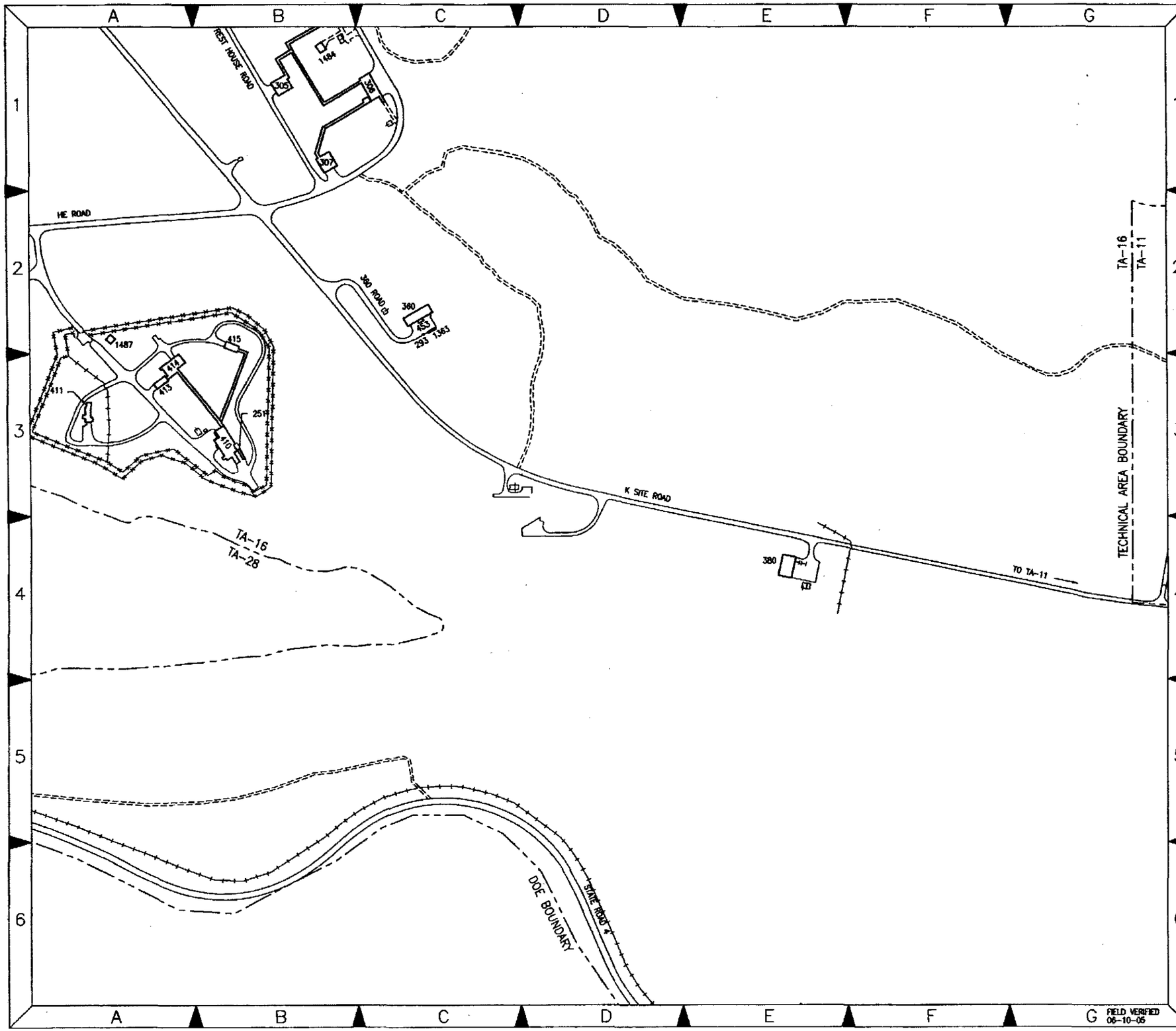
5 OF 6

CLASSIFICATION U | REVIEWER H. SALAZAR | DATE

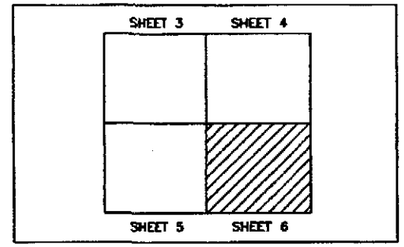
PROJECT ID: KSL NO. 91-020 11952

DRAWING NO: AB21

REV: 16



KEY MAP



SCALE: 1:2400

200 0 200 400

FEET

N

NO	DATE	CLASS REV	DESCRIPTION	DRN	VER	CHKD	SUB	APP
9	06-10-05	U HPR	REVISED TO STATUS OF 06-10-05	HPR	HPR	RMZ	HMS	RMZ
8	11-25-02		REVISED TO STATUS OF 11-25-02	HPR	MER	MED	HMS	LAB
7	04-16-01		REVISED TO STATUS OF 04-16-01	HPR	SAD	CES	HMS	LAB
6	05-30-00		REVISED TO STATUS OF 05-30-00	MAM	SAD	CES	HMS	LAB

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AS-BUILT STRUCTURE LOCATION MAPS

S-SITE

TA-16

DRAWN	J. MORK
DESIGN	J. MORK
CHECKED	H. SALAZAR
DATE	08-04-93

SUBMITTED: HAROLD SALAZAR

APPROVED FOR RELEASE BY: LARRY BOYS

Los Alamos NATIONAL LABORATORY
PO Box 1663
Los Alamos, New Mexico 87545

SHEET 6 of 6

CLASSIFICATION U

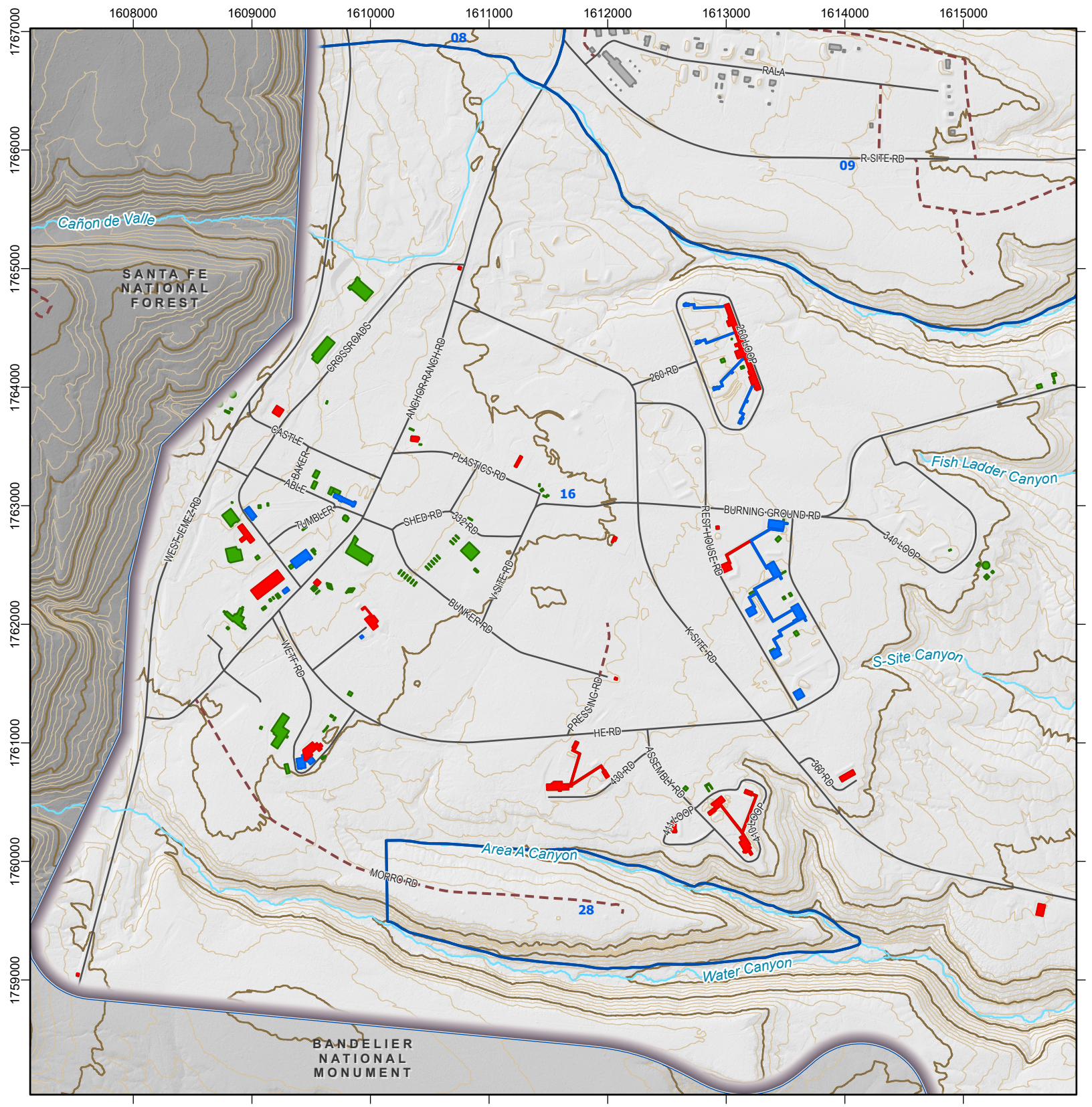
REVIEWER H. SALAZAR

DATE

PROJECT ID: KSL NO. 91-020 11952

DRAWING NO: AB21

REV 9



Legend

- Previously Declared Eligible
- Not Eligible
- TA-16 Buildings
- Other Buildings
- LANL Boundary
- Technical Areas
- Drainage
- Dirt Roads
- Paved Roads
- Contours, 20 ft
- Contours, 100 ft

N

0 1000 2000 Feet

0 250 500 Meters

TA-16 Evaluated Buildings

Scale: 1:13,000 ft

New Mexico State Plane Coordinate System, Central Zone (3002)
North American Datum, 1983 (NAD83), US Survey Feet

Map Number: 22-113-04 November 2022
Bethann McVicker, GIS Program

GIS Program Los Alamos NATIONAL LABORATORY

Appendix D: Construction History of TA-16 including Register Eligible and Ineligible Buildings

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TA-16-460 DRAWING LIST

Date	Disc.	Drawing No.	Drawing Name
3/7/1951	STRUC.	C16288-00019	BASEMENT AND FOUNDATION PLAN AND DETAILS, PROJECT I
3/7/1951	STRUC.	C16289-00020	FIRST FLOOR FRAMING PLAN, PROJECT I
3/7/1951	STRUC.	C16289-00020	FIRST FLOOR FRAMING PLAN, PROJECT I
3/7/1951	STRUC.	C16290-00021	ROOF FRAMING PLAN AND DETAILS, PROJECT I
3/7/1951	STRUC.	C16292-00023	ROOF SLEEVE AND INSERT LAYOUT AND DETAILS, PROJECT I
3/7/1951	STRUC.	C16293-00024	LONGITUDINAL SECTIONS, PLAN AND DETAILS, PROJECT I
3/7/1951	STRUC.	C16294-00025	TRANSVERSE SECTIONS, PROJECT I
3/7/1951	STRUC.	C16295-00026	MISCELLANEOUS DETAILS, PROJECT I
3/7/1951	MECH.	C16314-00045	EQUIPMENT PIPING DETAILS, PROJECT I
3/7/1951	MECH.	C16315-00046	PIPING SECTIONS, PROJECT I
3/7/1951	MECH.	C16318-00049	SERVICE PIPING ROOM 102, PROJECT I
3/7/1951	MECH.	C16320-00051	SERVICE PIPING ROOM 106, PROJECT I
3/8/1951	STRUC.	C16291-00022	FIRST FLOOR SLEEVE AND INSERT LAYOUT, PROJECT I
3/8/1951	MECH.	C16301-00032	FIRST FLOOR PLUMBING PLAN, PROJECT I
3/8/1951	MECH.	C16302-00033	BASEMENT PLUMBING PLAN, PROJECT I
3/8/1951	MECH.	C16303-00034	PRESSURIZED HOODS SUPPLY & EXHAUST SYSTEM, PROJECT I
3/8/1951	MECH.	C16304-00035	EXHAUST HOOD ASSEMBLY, PROJECT I
3/8/1951	MECH.	C16305-00036	EXHAUST HOOD ASSEMBLY DETAILS, PROJECT I
3/8/1951	MECH.	C16307-00038	TOILET ROOMS EXHAUST AND MISCELLANEOUS DETAILS, PROJECT I
3/8/1951	GEN.	C16308-00039	BASEMENT AIR CONDITIONING LAYOUT, PROJECT I
3/8/1951	GEN.	C16309-00040	FIRST FLOOR AIR CONDITIONING LAYOUT, PROJECT I
3/8/1951	MECH.	C16310-00041	UTILITY ROOM DETAILS, PROJECT I
3/8/1951	FIRE	C16311-00042	FIRST FLOOR SPRINKLER PLAN, PROJECT I
3/8/1951	FIRE	C16312-00043	BASEMENT SPRINKLER PLAN, PROJECT I
3/9/1951	MECH.	C16313-00044	BASEMENT PIPING PLAN, PROJECT I
3/9/1951	MECH.	C16319-00050	SERVICE PIPING ROOM 105, PROJECT I
3/12/1951	ARCH.	C16274-00005	BASEMENT FLOOR PLAN AND SCHEDULE, PROJECT I
3/12/1951	ARCH.	C16275-00006	FIRST FLOOR PLAN AND SCHEDULES, PROJECT I
3/12/1951	ARCH.	C16276-00007	CEILING PLAN AND DETAILS, PROJECT I
3/12/1951	ARCH.	C16277-00008	ROOF PLAN AND DETAILS, PROJECT I
3/12/1951	ARCH.	C16278-00009	EQUIPMENT LAYOUT, PROJECT I
3/12/1951	ARCH.	C16279-00010	ELEVATIONS, PROJECT I
3/12/1951	ARCH.	C16280-00011	SECTIONS, PROJECT I
3/12/1951	ARCH.	C16281-00012	MISCELLANEOUS DETAILS, PROJECT I
3/12/1951	ARCH.	C16282-00013	EQUIPMENT DETAILS ROOMS 3 AND 101, PROJECT I
3/12/1951	ARCH.	C16283-00014	EQUIPMENT DETAILS, RMS. 102, 105, 107, 108, PROJECT I
3/12/1951	ARCH.	C16284-00015	EQUIPMENT DETAILS RMS. 106 & 115, PROJECT I
3/12/1951	ARCH.	C16285-00016	EQUIPMENT DETAILS RMS. 109 & 110, PROJECT I
3/12/1951	ARCH.	C16286-00017	EQUIPMENT DETAILS, PROJECT I

TA-16-460 DRAWING LIST

Date	Disc.	Drawing No.	Drawing Name
3/12/1951	ARCH.	C16287-00018	EQUIPMENT DETAILS RMS. 113 & 114, PROJECT I
3/13/1951	MECH.	C16306-00037	PARTITION DETAILS, EXHAUST SYSTEM, PROJECT I
6/24/1953	STRUC.	SK1574-00001	CONCRETE BALANCE TABLES TABLE & FORM DETAILS
7/7/1953	GEN.	C3095-00007	MODIFICATION TO AIR CONDITIONING SYSTEM, BASEMENT PLAN & DETAILS
10/30/1953	GEN.	C3207-00008	ALTERATIONS TO AIR COND. SYSTEM, ROOM 110, MECH & ELECT. PLANS, SECTIONS AND DET
3/5/1959	FIRE	R1860-00001	FIRE ALARM EQUIPMENT, BLDG. 16-460, BASEMENT & FIRST FLOOR PLANS
4/2/1962	ARCH.	R2307-00001	FALLOUT SHELTER SURVEY, FLOOR PLAN
7/12/1963	ELEC.	C18310-00001	EXHAUST HOOD INSTALLATION, MECH; FLOOR PLAN, ELEVATION, EQUIPMENT LIST, DETAILS, SINGLE LIINE DIAGRAM, NAMEPLATE SCHEDULE
4/29/1966	MECH.	C34274-00001	FILTER SYSTEM REPLACEMENT, MECH; BASEMENT FLOOR PLAN, ELEVATION, FILTER ASSSEMBLY
8/11/1966	CIVIL	C34244-00005	H.E. SUMP MODIFICATIONS, CIVIL, TANK INSTALLATION PLANS AND DETAILS
9/1/1967	ARCH.	R4143-00001	AUDIO SYSTEM EQUIP. LOCATION, BSMT. & FIRST FLOOR PLAN
9/1/1967	ELEC.	R4144-00001	AUDIO SYSTEM BLOCK DIAGRAM
6/1/1971	N/A	ENG 16-14-00001	TA-16 WALKWAY; TOPO BETWEEN BLDGS. 16-400 & 16-460
2/6/1981	GEN.	C43858-00001	CROSS CONNECTION CONTROL, GEN; SUBMITTALS, LOCATION PLAN, INDEX TO DRAWING
2/6/1981	CIVIL	C43858-00002	CROSS CONNECTION CONTROL, CIVIL; NOTES & LEGEND
2/6/1981	MECH.	C43858-00003	CROSS CONNECTION CONTROL, MECH; FIRST FLOOR PIPING PLAN LEGEND
2/6/1981	MECH.	C43858-00004	CROSS CONNECTION CONTROL, MECH; BASEMENT PIPING PLAN, SECTIONS AND DETAIL
2/6/1981	MECH.	C43858-00005	CROSS CONNECTION CONTROL, MECH; PIPING ISOMETRIC, SECTION & PARTIAL BASEMENT FLOOR PLAN
2/6/1981	MECH.	C43858-00006	CROSS CONNECTION CONTROL, MECH; NOTES & EQUIPMENT LIST
2/6/1981	ELEC.	C43858-00007	CROSS CONNECTION CONTROL, ELEC; NOTES, BILL OF MATERIAL, SCOPE OF WORK & NAMEPLATE SCHEDULE
2/6/1981	ELEC.	C43858-00008	CROSS CONNECTION CONTROL, ELEC; PARTIAL BASEMENT POWER LAYOUT AND POWER PANEL LP-9
9/6/1983	ARCH.	R2880-00001	BASEMENT & FIRST FLOOR PLAN, LABORATORY BLDG.
6/2/1986	MECH.	C44456-00001	DRAIN & AIR PIPING REPLACEMENT, MECH; DRAIN PIPING FLOOR PLAN, LOCATION PLAN & LEGEND
6/2/1986	MECH.	C44456-00002	DRAIN & AIR PIPING REPLACEMENT, MECH; AIR PIPING FLOOR PLAN DETAIL AND NOTES
11/8/1996	GEN.	C49876-00001	WASTE STREAM CORRECTIONS, FMU#70, TITLE SHEET AND INDEX TO DRAWINGS
11/8/1996	GEN.	C49876-00002	WASTE STREAM CORRECTIONS, FMU#70, GEN., LEGEND & NOTES
11/8/1996	GEN.	C49876-00003	WASTE STREAM CORRECTIONS, FMU#70, GEN., NOTES
11/8/1996	GEN.	C49876-00004	WASTE STREAM CORRECTIONS, FMU#70, GEN., NOTES AND SCOPE OF WORK
11/8/1996	GEN.	C49876-00005	WASTE STREAM CORRECTIONS, FMU#70, GEN., SUBMITTAL SCHEDULE
11/8/1996	CIVIL	C49876-00009	WASTE STREAM CORRECTIONS, FMU#70, CIVIL, SANITARY SEWER TIE IN & NOTES
11/8/1996	CIVIL	C49876-00010	WASTE STREAM CORRECTIONS, FMU#70, CIVIL, SANITARY SEWER TIE IN DETAILS
11/8/1996	GEN.	C49876-00016	WASTE STREAM CORRECTIONS, FMU#70, MECH., PLUMBING DETAILS, FLOOR DRAIN PLUG
11/8/1996	ELEC.	C49876-00017	WASTE STREAM CORRECTIONS, FMU#70, ELEC., SYMBOL LEGEND & NOTES

TA-16-460 DRAWING LIST

Date	Disc.	Drawing No.	Drawing Name
11/8/1996	MECH.	M49876-00020	WASTE STREAM CORRECTIONS, FMU#70, MECH., CORRECTIVE ACTION SUMMARY
1/3/2005	GEN.	C53336-00001	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FIRE PROTECTION, TITLE SHEET & INDEX TO DRAWINGS
1/3/2005	FIRE	C53336-00002	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; SYMBOLS LEGEND & NOTES
1/3/2005	FIRE	C53336-00003	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; BASEMENT FLOOR PLAN
1/3/2005	FIRE	C53336-00004	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; SECTION
1/3/2005	FIRE	C53336-00005	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; DETAILS
1/3/2005	FIRE	C53336-00006	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; FUNCTIONAL MATRIX
1/3/2005	FIRE	C53336-00007	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; WIRING DIAGRAM
1/3/2005	FIRE	C53336-00008	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; WIRING DIAGRAM
1/3/2005	FIRE	C53336-00009	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; BILL OF MATERIALS
1/3/2005	FIRE	C53336-00010	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; BATTERY & VOLTAGE DROP CALCULATIONS
1/3/2005	FIRE	C53336-00011	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, FP; CONDUIT FILL CALCULATIONS
1/3/2005	ELEC.	C53336-00012	PARTIAL SITE WIDE FIRE ALARM SYSTEM REPLACEMENT PROJECT, ELEC; SYMBOLS LEGEND & NOTES
10/1/2013	MECH.	C16321-00052	MECHANICAL, SERVICE PIPING ROOMS 107 & 108, BLDG. 16-460
10/1/2013	MECH.	C16322-00053	MECHANICAL, SERVICE PIPING ROOM 109, BLDG. 16-460
10/1/2013	MECH.	C16323-00054	MECHANICAL, SERVICE PIPING ROOM 110, BLDG. 16-460
10/1/2013	MECH.	C16324-00055	MECHANICAL, SERVICE PIPING ROOM 113, BLDG. 16-460
10/1/2013	MECH.	C16325-00056	MECHANICAL, SERVICE PIPING ROOM 114, BLDG. 16-460
10/1/2013	MECH.	C16326-00057	MECHANICAL, SERVICE PIPING ROOM 115, BLDG. 16-460
10/1/2013	ELEC.	C16331-00062	ELECTRICAL, FIRST FLOOR LIGHTING AND POWER, ALYOUT I, BLDG. 16-460
10/1/2013	ELEC.	C16332-00063	ELECTRICAL, FIRST FLOOR LIGHTING AND POWER, LAYOUT II & DETAILS, BLDG. 16-460
10/1/2013	ELEC.	C16333-00064	ELECTRICAL, BASEMENT LIGHTING AND POWER LAYOUT, BLDG. 16-460
10/1/2013	ELEC.	C16334-00065	ELECTRICAL, LIGHTING AND POWER DETAILS - I BLDG. 16-460
10/1/2013	ELEC.	C16335-00066	ELECTRICAL, LIGHTING AND POWER DETAILS - II BLDG. 16-460
10/1/2013	ELEC.	C16336-00067	ELECTRICAL, EMERGENCY LIGHITN & DETAILS BLDG. 16-460
10/1/2013	ELEC.	C16337-00068	ELECTRICAL, CONTROL CENTER & WIRING DIAGRAM, BLDG. 16-460
10/1/2013	ELEC.	C16338-00069	ELECTRICAL, LIGHTNING PROTECTION AND GROUNDING DETAILS, BLDG. 16-460
10/1/2013	ELEC.	C16339-00070	ELECTRICAL, BASEMENT GROUNDING PLAN AND DETAILS, BLDG. 16-460
10/1/2013	GEN.	C21317-00001	MODIFICATIONS, BLDG. 16-460 - SUPPLY & EXHAUST SYSTEM, PLAN & DETAILS
10/1/2013	GEN.	C22897-00001	BLDG. 460, GROUP 141 LOS ALAMOS, NM - MINNEAPOLIS-HONEYWELL REG. CO. AIR COND. C

TA-16-460 DRAWING LIST

Date	Disc.	Drawing No.	Drawing Name
10/1/2013	GEN.	C22898-00001	MINNEAPOLIS - HONEYWELL REG. CO. AIR COND. CONTROL OPERATONS
10/1/2013	GEN.	C22899-00001	BLDG. 460, GROUP-141 - MINNEAPOLIS - HONEYWELL REG. CO. AIR COND. CONTROL OPERAT
10/1/2013	GEN.	C27564-00001	HOOD REPLACEMENT, ROOM 101, BLDG. 16-460, PLAN AND DETAILS
10/1/2013	ELEC.	C27565-00002	HOOD REPLACEMENT, ROOM 101, BLDG. 16-460, ELECTRICAL - PLAN
10/1/2013	GEN.	C27855-00001	AIR CONDITIONING, ROOM 102, BLDG. 16-460, PLAN
10/1/2013	GEN.	C27856-00002	AIR CONDITIONING, ROOM 102, BLDG. 16-460, MECHANICAL PLAN, SECTIONS & DETAILS
10/1/2013	GEN.	C27857-00003	AIR CONDITIONING, ROOM 102, BLDG. 16-460, MECHANICAL - NOTES & EQUIPMENT LIST
10/1/2013	GEN.	C27858-00004	AIR CONDITIONING, ROOM 102, BLDG. 16-460, ELECTRICAL
10/1/2013	GEN.	C2982-00001	ALTS. TO AIR COND., SYS. BLDG. 16-460, EXIST, AIR COND. PLAN
10/1/2013	GEN.	C2983-00002	ALTS TO AIR COND. SYS., BLDG. 16-460, MOD. AIR COND. PLAN
10/1/2013	GEN.	C2984-00003	ALTS. TO AIR COND. SYS., BLDG. 16-460, MECH. SECTIONS AND DETAILS
10/1/2013	GEN.	C2985-00004	ALTS. TO AIR COND. SYS., BLDG. 16-460, BSMT. PLAN, SECTION AND DETAILS
10/1/2013	GEN.	C2986-00005	ALTS. TO AIR COND. SYS. BLDG., 16-460, PNEU. CONTROL DIAGRAM EQUIP. SCHEDULE
10/1/2013	GEN.	C2987-00006	ALTS. TO AIR COND. SYS., BLDG. 16-460, PNEU. CONTROL DIAGRAM EQUIP. SCHEDULE
10/1/2013	ARCH.	C43405-00001	STORAGE CUBICLE, BLDG. 16-430, TA-16 ARCH; LOCATION, PLOT, FOUNDATION, AND FLO
10/1/2013	ARCH.	C43405-00002	ARCH; ELEVATIONS, SECTIONS AND DETAILS
10/1/2013	ARCH.	C43405-00003	ARCH; SECTIONS AND DETAILS
10/1/2013	FIRE	C43405-00004	MECH; FIRE PROT. PLAN, DETAILS AND NOTES
10/1/2013	ELEC.	C43405-00005	ELEC; PLOT PLAN, LIGHTNING PROTECTION, NOTES, BILL OF MATERIAL AND NAMEPLATES
10/1/2013	ARCH.	C48520-00004	LOT-2-TA-16-460, ROOF PLAN-EXISTING FEATURES SITE PLAN, SECTIONS

TA-16-463 DRAWING LIST

Date	Disc.	Drawing No.	Drawing Name
11/14/1961	ELEC.	ENG.5450	NEW MAGAZINE ELECTRICAL- PLAN
11/14/1961	ELEC.	ENG.5451	NEW MAGAZINE GROUNDING SYSTEM AND ONE-LINE DIAGRAM
06/10/1966	ARCH.	ENG.R-575	FLOOR PLAN

LA-UR-23-20661
February 2023

Historical Documentation of Buildings 0460 and 0463 at Technical Area 16

Volume 2

Los Alamos National Laboratory

LANL Fiscal Year 2022 Footprint Reduction

Historic Building Report No. 405

Survey No. 1242

NMCRIS Activity No. 151891

Los Alamos National Laboratory Historic Building Survey
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Technical Area 16 Analytical Chemistry Buildings
Technical Area 16, Buildings (460 and 463)
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Notes: The Laboratory is divided into different geographic areas called Technical Areas (TAs). These TAs are designated by numbers. The properties at TA-16 Analytical Chemistry Complex are identified using the current LANL system of placing the "TA" prefix and TA number before each building and structure number, creating a unique property identifier (ie. TA-16-460).

The Analytical Chemistry Complex consisted of one main laboratory building TA-16-460, a chemical storage building TA-16-462, and a rest house TA-16-463, used for temporary storage of explosives that were being analyzed/tested/studied.

Two of the building (TA-16-460 and -463) were previously declared eligible for the National Register of Historic Places (Register) in correspondence from the State Historic Preservation Office (SHPO) to the Department of Energy (DOE) dated August 18, 1995. Building TA-16-462 was previously evaluated as not eligible in correspondence from the SHPO to the DOE dated June 22, 2003.

These buildings were excess LANL properties and were scheduled for clean up and eventual demolition. This action is in accordance with LANL's commitment to clean up inactive sites and facilities "so that no unacceptable risk to the public or environment remains" (U.S. Department of Energy 1994). The removal of these two properties was carried out by LANL's Decontamination and Decommissioning (D&D) Program. **(For additional eligibility information see related project documentation*: 1) TA-16 Heating System Replacement,* LA-CP-95-180, Cultural Resource Survey Report No. 114, Los Alamos National Laboratory and 2**) ***Historical Documentation of the Buildings 0460 and 0463 at Technical Area 16*, LA-UR-23-20661, Historic Building Survey report No. 405, Los Alamos National Laboratory.)**

Note: After funding was received in 2019 for the D&D of these properties and prior to being able to conduct the interior photography of the buildings a portion of the roofing system failed, hence the deteriorated state of some of the rooms.

Los Alamos National Laboratory Historic Building Survey
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References

U.S. Department of Energy
1994 Environmental Restoration and Waste Management Five-Year Plan Fiscal Years 1994-1998. DOE/S-00097P, U.S. Department of Energy, Washington, D.C.

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Technical Area 16 Analytical Chemistry Buildings
Technical Area 16, Building 460
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Sandra Valdez, Photographer, Photographer, LANL
di190210001 through di190210018 June 10, 2019
di190453001 through di190453012 November 12 & 13, 2019
UI-202000708-123-001 through UI-202000708-123-067 June 24, 2020

Photograph Number	Description
di190453005	TA-16-460, southwest side (front), facing northeast.
di190453006	TA-16-460, northwest side, facing southeast.
di190453007	TA-16-460, northeast (back) and northwest sides, facing south.
di190453009	TA-16-460, northeast (back) and northwest sides, facing south.
di190453008	TA-16-460, northeast side (back), facing southwest.
di190453010	TA-16-460, southeast and northeast (back) sides, facing west.
di190453011	TA-16-460, southeast side, facing northwest.
UI-20200708-123-002	TA-16-460, from entrance hallway 100, looking into hallway 100B, hallway 100A runs perpendicular across lower front of photo, facing northeast.
UI-20200708-123-048	TA-16-460, hallway 100A, facing southeast.
UI-20200708-123-047	TA-16-460, hallway 100A, facing northwest.
UI-20200708-123-053	TA-16-460, room 101, workbenches and fume hoods, facing north.
UI-20200708-123-054	TA-16-460, room 101, workbenches and fume hoods, facing west.
UI-20200708-123-055	TA-16-460, room 101, workbenches and fume hoods, facing south.

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Technical Area 16 Analytical Chemistry Buildings
Technical Area 16, Buildings 460 continued
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Photograph Number	Description
UI-20200708-123-057	TA-16-460, room 101, workbenches and fume hoods, facing east.
UI-20200708-123-058	TA-16-460, room 101, workbench, facing northeast.
UI-20200708-123-019	TA-16-460, room 102, workbenches, level table, facing northeast.
UI-20200708-123-020	TA-16-460, room 103, work tables, facing east.
UI-20200708-123-021	TA-16-460, room 103, work tables, facing north, northeast.
UI-20200708-123-004	TA-16-460, room 104, facing north.
UI-20200708-123-027	TA-16-460, room 105, workbenches, oven, facing northeast. Steam Oven (No. 4T-135) Precision Scientific Co. Made in U.S.A. Chicago, Illinois, 1962 Model 962 AEC Property No. 137193
UI-20200708-123-049	TA-16-460, room 105, workbenches, facing south.
UI-20200708-123-032	TA-16-460, room 106, workbenches, facing northeast.
UI-20200708-123-033	TA-16-460, room 106, workbenches, facing north.
UI-20200708-123-038	TA-16-460, hallway between room 107 and 108, facing northeast. Control switches on wall outside of room 107 (left side of photo) and electrical control panels on wall outside of room 108 (right side of photo).
UI-20200708-123-039	TA-16-460, room 107, fume hood and workbench, facing west.

Los Alamos National Laboratory Historic Building Survey
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Technical Area 16 Analytical Chemistry Buildings
Technical Area 16, Building 460 continued
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Photograph Number	Description
UI-20200708-123-042	TA-16-460, room 107, fume hood and work bench, facing southwest.
UI-20200708-123-041	TA-16-460, room 107, fume hood, facing south.
UI-20200708-123-044	TA-16-460, room 108, fume hood, facing southwest.
UI-20200708-123-045	TA-16-460, room 108, fume hood, facing south.
UI-20200708-123-015	TA-16-460, room 109, workbenches, facing southwest.
UI-20200708-123-013	TA-16-460, room 110, workbenches, fume hood, safety shower (yellow marking on floor), facing southwest.
UI-20200708-123-017	TA-16-460, room 110, workbenches, fume hood, safety shower (yellow marking on floor), facing south.
UI-20200708-123-005	TA-16-460, room 111, shelving along southeast wall, facing southwest.
UI-20200708-123-024	TA-16-460, room 112, facing southwest.
UI-20200708-123-025	TA-16-460, room 112, work tables and dumb waiter, facing southwest.
UI-20200708-123-030	TA-16-460, room 113, workbench and oven, facing southwest.
UI-20200708-123-035	TA-16-460, room 114, workbenches, safety shower (yellow marking on floor), facing southwest.
UI-20200708-123-037	TA-16-460, room 115, workbenches and fume hoods, facing southwest.
UI-20200708-123-059	TA-16-460, stairwell 1, looking down to basement, facing southwest.

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Technical Area 16 Analytical Chemistry Buildings
Technical Area 16, Building 460 continued
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Photograph Number	Description
UI-20200708-123-062	TA-16-460, basement room 1, facing northwest.
UI-20200708-123-063	TA-16-460, basement room 1, looking down hallway 10, facing northwest.
UI-20200708-123-060	TA-16-460, basement room 2, dumb waiter at right side of photo, facing south.
UI-20200708-123-061	TA-16-460, basement room 2, dumb water at center of photo, facing west.
UI-20200708-123-066	TA-16-460, basement room 6, equipment room, facing north.
UI-20200708-123-067	TA-16-460, basement room 6, equipment room, facing east.
UI-20200708-123-065	TA-16-460, basement hallway 10, facing southeast.

Los Alamos National Laboratory Historic Building Survey
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Technical Area 16 Analytical Chemistry Buildings
Technical Area 16, Building 463
Los Alamos National Laboratory (LANL)
Los Alamos
Los Alamos County
New Mexico

Photograph Number	Description
di190210001	TA-16-463, southwest side, facing northeast. Steel, earthen filled barricade.
di190210002	TA-16-463, southwest side, facing east. Steel, earthen filled barricade.
di190210010	TA-16-463, southeast side, facing northwest. Steel, earthen filled barricade.
di190210005	TA-16-463, northwest side, facing, southeast.
di190210004	TA-16-463, northeast side, facing southwest.
di190210017	TA-16-463, room 100, facing northeast.

di190453005

di190453006


di190453007


di190453009

di190453008


di190453010

di190453011

UI-20200708-123-002

UI-20200708-123-048


115
No Food or Drinks
SAFETY
FIRST
EYE PROTECTION
REQUIRED IN THIS AREA
107
UI-20200708-123-047

UI-2020-0708-123-053

UI-20200708-123-054

UI-20200708-123-055


SAFETY FIRST
UI-20200708-123-057

UI-20200708-123-058

UI-20200708-123-019

UI-20200708-123-020

UI-20200708-123-021


#16
UI-202007080123-004

UI-20200708-123-027

UI-20200708-123-049

UI-20200708-123-032

UI-20200708-123-033


107
UI-20200708-123-038

UI-20200708-123-039

UI-20200708-123-042

UI -20200708-123-041

UI-20200708-123-044


DANGER
UI-20200708-123-045


NOTICE
THIS DRAIN IS FOR SANITARY WASTEWATER ONLY !
NO CHEMICALS, GLASS STRIPS OVER THIS DRAIN
NOTICE!
UI-20200708-123-015


SAFETY FIRST
DANGER
UI-20200708-123-013

UI-20200708-123-017


DANGER
UI-20200708-123-005

112

#25
4.8
6.75

EYE WASH STATION

1

UI-20200708-123-024


UI-20200708-123-025


UI-20200708-123-030


NOTICE
NO CHEMICAL WASTE IN THIS DRAIN
THIS DRAIN IS FOR SANITARY WASTE ONLY
DANGER
SAFETY FIRST
UI-20200708-123-035

UI-20200708-123-037

UI-20200708-123-059

UI-20200708-123-062

UI-20200708-123-063

UI-20200708-123-060

UI-20200708-123-061

UI-20200708-123-066

UI-20200708-123-067

UI-20200708-123-065


IF AMBER LIGHTS
ARE ON
NOTIFY ENG. &
di190210001

di190210002

di190210010

di190210005


di190210004

di190210013

di190210017