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Decontamination and Decommissioning of Buildings 1, 2, and 40 at Technical Area 33

Historic Building Survey Report No. 195

Los Alamos National Laboratory

August 30, 2001
Survey No. 861

Prepared for the Department of Energy,
National Nuclear Security Administration
Los Alamos Area Office

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Introduction

The following information has been prepared as part of a notification of potential adverse effect to three historic Los Alamos National Laboratory (LANL) properties located on Department of Energy land at Technical Area (TA) 33: TA-33-1, TA-33-2, and TA-33-40. The proposed decontamination and decommissioning (D&D) action is part of LANL's routine phasing out of aging and vacant properties and will result in the demolition of all three properties. The D&D activities will adversely affect the attributes that make these buildings eligible for the National Register of Historic Places under Criterion A. Work processes carried out at TA-33 supported Cold War weapon component testing activities from 1948 to 1972. TA-33-1 (laboratory and office) and TA-33-2 (shop and laboratory) were built from 1947 to 1948 and are located in "Area 6" of TA-33. TA-33-40 (the Saw Building) was built in 1951 in the "Main Site" area.

This report is intended to provide the background information necessary to initiate the Section 106 consultation process; additional documentation will follow when a treatment plan is developed and final mitigation measures are determined. This report contains a description of the proposed action, historical background information, property descriptions, building integrity and contamination information, and recommendations for National Register of Historic Places eligibility. Maps are contained in Appendix A and New Mexico Historic Building Survey Forms, photographs, and building drawings are contained in Appendix B.

The State Historic Preservation Officer (SHPO) is requested to concur with the eligibility determinations contained in this report and to concur that the proposed D&D action will adversely affect buildings TA-33-1, TA-33-2, and TA-33-40.

Project Description

The three buildings are excess LANL property and are scheduled for clean up and eventual demolition. As part of the Department of Energy's mission statement, LANL is responsible for "... cleaning 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 buildings will be a continuation of LANL's D&D efforts and will also minimize the threat of wildfire by reducing the volume of potentially combustible material at TA-33. Associated utilities will also be removed during the D&D activities.

In July 2001, a historic building survey was conducted by Ken Towery, Ares Corporation; John Ronquillo, Sigma Science Inc.; and Alysia McLain, Kari Garcia, and Ellen McGehee, Environment, Safety, and Health Division, Ecology Group (ESH-20), LANL. The building survey was accomplished by first conducting a field visit to TA-33. New Mexico Historic Building Survey Forms were completed and photographs were taken (Appendix B). Records research at LANL was also carried out, and existing drawings were compiled for the buildings (Appendix B).

Historical Background

TA-33 (General Site Information)

TA-33, or Hot Point (HP) Site, was initially developed in 1947 for the Laboratory's weapons testing group, M-3, as a substitute test site for experiments that were being conducted at Trinity Site in southern New Mexico. These tests used conventional high explosives as well as uranium, beryllium, and polonium radiation sources. Experiments were conducted primarily to verify designs of nuclear weapons components called initiators and were performed in underground chambers and on surface firing pads. Additional tests were carried out at firing sites equipped with large guns that fired projectiles into earthen berms. This testing ended at TA-33 by 1972. Building TA-33-86, a high-pressure tritium facility, was in operation at TA-33 from 1955 until 1990. In later years, much of this area was obtained for offices, laboratories, and storage space for the Hot Dry Rock experiments being conducted at the Fenton Hill site in the Jemez Mountains and for the International Technologies Group, which engages in electronics design and fabrication (Los Alamos National Laboratory 1992).

Early History – Initiator Testing Group

In 1945, Group M-3 (later W-3) was formed under the leadership of D.P. McMillan to study weapons initiators. An initiator is a device used in nuclear weapons that supplies a source of neutrons that will quickly enhance the chain reaction at exactly the right moment (Los Alamos National Laboratory 1993). Basic initiator designs had already been developed during the war years at Los Alamos. Post-World War II (WWII) work related to refinements of design and to the specific study of the timing of initiators. From 1945 to 1947 a variety of development and testing locations were used by Group M-3, including Sandia Canyon (formerly TA-20), TA-21 (DP East), P-Site (now part of TA-16), and the Trinity Site near Alamogordo, New Mexico. In November of 1947, a site visit was made to the proposed area for a local initiator test site. In early 1948, TA-33 was "accepted" for start up and the first phase of construction at Area 6 was completed. Area 1 (present day East Site) was also operational (Los Alamos National Laboratory Archives).

Area 1/East Site

East Site (formerly known as Area 1) is a firing site located at the easternmost point of a mesa overlooking White Rock Canyon of the Rio Grande (Los Alamos National Laboratory 1992). After the end of WWII, two bomb designs were being developed for use in the United States stockpile: a plutonium "implosion" device and a uranium "gun-type" device. The implosion design used shaped high explosives to compress a subcritical mass of plutonium-239. The symmetrical compression would increase the density of the fissionable material and cause a critical reaction (Los Alamos National Laboratory 1995). Area 1 was an early test site used to conduct underground tests on implosion-type initiators. The tests were designed to be one-time events and a new pit facility was to be dug for each test. Typically, an octagonal pit structure and its associated entrance shaft would be constructed underground. Neutron counters and the initiator experimental apparatus would be placed in the reinforced concrete pit, or "chamber," and electronic cables would be routed from the pit structure to a distant control room. A portable

elevator building would be placed over the shaft until just before the test was ready to be run. Completed test data were received by instrumentation in the control room in TA-33-1 via the electronic cables (Los Alamos National Laboratory Archives). Buildings TA-33-1 and TA-33-2 were originally designed to be portable so that they could be moved to a new location at the completion of each underground test. These buildings were built on skids along with buildings TA-33-3 (Elevator Building) and TA-33-5 (Guard House). At East Site, the construction of Chamber #1 (original HP-4) was completed January 21, 1948, and tested April 14, 1948 (Figure 1). Another underground chamber (Chamber #2) was completed October 8, 1948, and tested in December of the same year. This area was reactivated for the testing of gun-type initiators in 1955 (Los Alamos National Laboratory 1992; Los Alamos National Laboratory Archives).

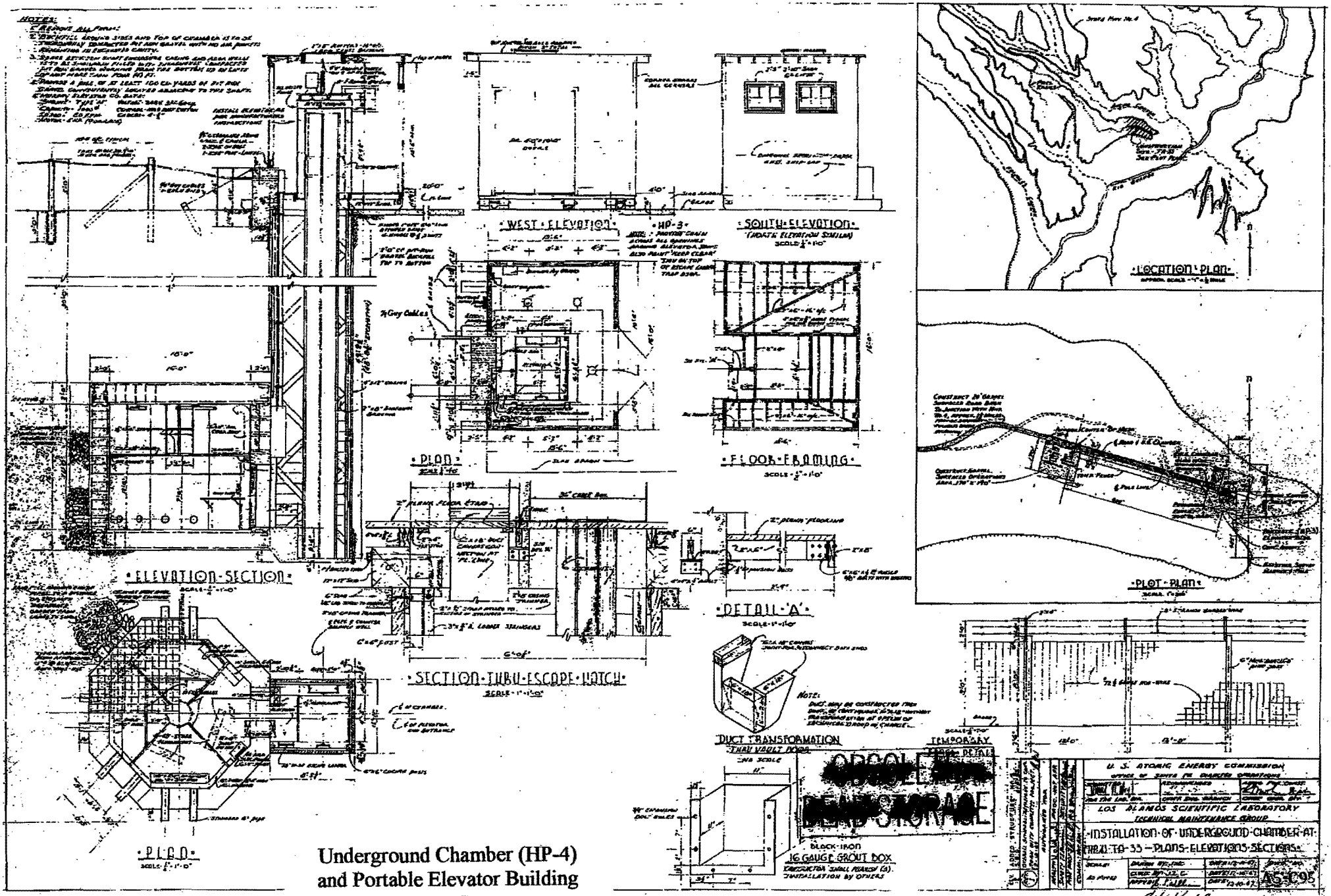
Area 6

Area 6 was developed in 1948 for initiator experiments and work focused on the testing of initiators used in gun devices. The gun device was conceptually simple and involved shooting one subcritical mass of uranium-235 into another at sufficient speed to avoid pre-detonation. Together, the two subcritical masses form a supercritical mass that releases a tremendous amount of nuclear energy (Hoddeson *et al.* 1997).

Area 6 was an active firing site with two firing areas. One was located near TA-33-16, a steel "Butler" building. This firing area consisted of a concrete shot pad where a large-bore gun was mounted. Projectiles were fired at targets placed in front of barricades or shot into catcher boxes built of timbers and filled with soil, wood chips, and vermiculite. Projectiles fired into catcher boxes were recovered and sectioned. Compressed air or high explosives were used to fire the guns. The second firing area was located 100 ft southwest of TA-16-33 and consisted of a shot pad and two wooden barricades (Los Alamos National Laboratory 1992). Figure 2 shows the remains of this firing area.

TA-33-1 and TA-33-2 were moved to Area 6 in late 1948 or early 1949 to support the Elsie Program (a gun-type device). TA-33-16, formerly building 6, was completed in March of 1949 and originally housed an air gun. At this time, the program to test implosion initiators moved from Area 1 to South Site, another firing site at TA-33. Both types of initiator testing continued at Area 6 and South Site during the 1950s. At Area 6, TA-33-1 was used as an office and laboratory space before the Main Site administrative center at TA-33 was fully developed. TA-33-2 was used as shop, warehouse, and laboratory (Los Alamos National Laboratory Archives).

In 1951, Area 6 was renovated to support another experimental program. Priorities included constructing another gun area and a saw building. A second phase was to remodel the old Butler building at Area 6 (TA-33-16) and add electronic control room equipment (Los Alamos National Laboratory Archives). This new phase of construction in the general area of Area 6 included the construction of TA-33-19, TA-33-20, and TA-33-40 (the Saw Building) and led to the development of Main Site. Work at Area 6 diminished in importance as additional gun program testing was carried out at East Site (old Area 1) in the mid-1950s. By 1955, shots were discontinued at Area 6. In 1956, TA-33-16 was being used to make and machine laminating material. TA-33-1 housed experiments to make niobate crystals, and TA-33-2 was being used as a shop (Los Alamos National Laboratory 1992).



Underground Chamber (HP-4)
and Portable Elevator Building
1947

Figure 1

Figure 2. Shot Pad (foreground), Barricades, and TA-33-16 (background)

Main Site

The buildings at Main Site were constructed over a 13-year period (1949 to 1962) and, ultimately, Main Site became the administrative center for TA-33. Key facilities include TA-33-19 (Office and Laboratory Building), TA-33-20 (Warehouse Building), TA-33-39 (Shop Building), TA-33-86 (Gas Handling Facility), and TA-33-114 (Office and Laboratory Building). Construction styles vary widely from a metal Quonset hut to cinder block buildings, reinforced concrete buildings, and other metal and wood buildings.

TA-33-40, built at Main Site in 1951, was used to saw open experimental casings related to initiator research and development. The use of the slit saw was critical in determining the results of the various initiator tests. In 1953, TA-33-40 was moved to its present location to make room for a new facility. This new Gas Handling Facility (TA-33-86) was completed in 1955, the same year that D.P. McMillan, W-3's original group leader, left the initiator testing group to pursue other research at Los Alamos. He was replaced by J.E. Dougherty (Los Alamos National Laboratory 1992; Los Alamos National Laboratory Archives).

Property Descriptions

(Complete architectural descriptions are contained in the historic building survey forms located in Appendix B.)

Building Identification and Numbering

The buildings discussed in this report are identified using the current LANL system of placing the TA prefix before each building number. Historically, however, the "HP" prefix (for Hot Point Site) was used before each building number and some of the drawings included in this report may use the old system of building identification. For example, TA-33-40 is the same building as HP-40.

Originally, buildings and structures at TA-33 were numbered in the order of their construction. At some point, the buildings were renumbered. Buildings HP-1 and HP-2 at Area 6 retained their original numbers (TA-33-1 and TA-33-2) but building 6 at Area 6 became TA-33-16. Buildings 1 and 2 at Main Site were renumbered TA-33-19 and TA-33-20. There was some confusion about this latter renumbering because both TA-33-1 and the new TA-33-19 (formerly building 1) are both laboratory buildings. Additionally, TA-33-2 and the new TA-33-20 (formerly building 2) are both warehouses. Careful scrutiny of the drawings, area maps, and records helped to clarify this confusing situation. For example, TA-33-19 is much larger and more complex in layout than TA-33-1.

Buildings TA-33-1 and TA-33-2

TA-33-1 and TA-33-2 were both constructed by R.E. McKee between December 12, 1947, and January 21, 1948, and are primarily associated with initiator testing at Area 6. However, they were originally constructed for use at Area 1 (now East Site) and were moved to their present site at Area 6 sometime between July of 1948 and January of 1949 (Los Alamos National Laboratory 1992; Los Alamos National Laboratory Drawings A5-C162 and ENG4-R45). The relocation of these two buildings from East Site corresponds to the completion of an underground initiator test at Chamber #2 in late 1948.

TA-33-1 (HP-1), Portable Laboratory and Office Building

TA-33-1 was originally designed as a laboratory and office space. This small building (450 gross ft^2) is of wood frame construction, has a pitched roof, and has painted wood siding on its exterior. The roof is composed of rolled asphalt over wood framing and is in an advanced state of deterioration. The building was designed to be portable and sits on wooden skids. A laboratory sink and workbench are the only notable equipment remaining in the building. Overall, TA-33-1 is in fair condition although it is suffering from the effects of time and from exposure to the elements.

TA-33-1 was used at Area 6 as an office and laboratory building in support of the initiator testing program until 1955 when gun testing programs were moved to East Site. TA-33-1 was used after 1955 for the production of niobate crystals. It is likely that active work in this building

ceased before the end of the initiator testing program in 1972. TA-33-1 is currently empty and was last used for general storage.

TA-33-2 (HP-2), Portable Warehouse Building

TA-33-2 was originally designed to be a portable warehouse. Over the years, it also was used as a shop and laboratory space in support of TA-33's initiator testing program. TA-33-2 is a one-story building and is approximately 450 gross ft^2 in size. Like TA-33-1, it is of wood frame construction, sits on wooden skids, has a pitched roof, and has painted wood siding on its exterior. The roof is composed of rolled asphalt over wood framing and is in fair condition. The exterior of the building is deteriorating and is generally in poor condition.

After 1955, when testing activities moved to East Site, TA-33-2 continued to be used in its capacity as a shop. As was the case with building TA-33-1, active work in this building was probably discontinued before the end of the initiator testing program. It was last used for general storage.

TA-33-40 (HP-40), Saw Building

TA-33-40 was built by the Zia Company between February 12, 1951, and March 23, 1951. It is a windowless, one-story building of approximately 335 gross ft^2. TA-33-40 is of wood frame construction and has a slightly pitched, shed-type roof. The building was constructed at Main Site to house saw operations previously being conducted in building TA-33-16 at Area 6 (Los Alamos National Laboratory Engineering Documents Lab Job #755).

TA-33-40 originally housed a 24" saw with self-contained coolant. This slit saw was used to open steel and uranium (both depleted and natural) projectiles containing polonium and beryllium after they were retrieved from initiator experiments (Los Alamos National Laboratory 1992). In 1953, TA-33-40 was relocated northeast of building TA-33-39 at Main Site to make room for the Gas Handling Facility, TA-33-86. Heating, plumbing, and electrical alterations, including room exhaust modifications were made to accommodate the relocation. At its new location, a sand bag barricade was situated approximately 4 feet from the building around the east, north, and west elevations (Los Alamos National Laboratory Drawing ENG-C2956). This barricade was constructed to shield a nearby road from possible shrapnel (Los Alamos National Laboratory Engineering Documents Lab Job # 1362). TA-33-40 continued to be used as a saw building at its new location until 1972 when W-3 operations ended. The building was last used as a general storage area.

Integrity Issues, Moved Properties, and Potential for Contamination

Integrity

The LANL Cultural Resources Management Team has developed four integrity codes to assess potentially eligible properties. The integrity requirements for properties eligible under Criterion A are less stringent than for those properties eligible under Criterion C. A historically significant property with a level 3 integrity could still be eligible, especially if an element of historical

uniqueness is involved. Properties eligible under Criterion C should have no lower than a level 2 integrity. Level 4 integrity properties are not eligible for the Register.

1. Excellent Integrity - the property is still closely associated with its primary context and retains integrity of location, design, setting, workmanship, materials, feeling, and association. Little or no remodeling has occurred to the property and all remodeling is in keeping with its associated historic context/significant use period.

2. Good Integrity - the property's interior and exterior retain historic feeling and character but most of the original equipment may be gone. The property may have had minor remodeling.

3. Fair Integrity - a property in this category should retain original location, setting, association, and exterior design. All associated interior machinery/equipment may be absent but the essential question is "Is this property still recognizable to a contemporary of the building's historic period?"

4. Poor Integrity - the property has no connection with the historically significant setting, feeling, and context. Major changes to the property have occurred. The property would be unrecognizable to a contemporary.

Based on the initial field visits, it appears that most of the original equipment has been removed from the three buildings discussed in this report. Other than this loss of interior integrity, the buildings and structures have not been significantly modified since their period of significance. TA-33-1, TA-33-2, and TA-33-40 are all in fair physical condition with some deterioration due to the passage of time and lack of upkeep. The buildings retain original location, setting, association, and exterior design and would be recognizable to someone who worked at TA-33 between 1948 and 1972. These three buildings have level 3 integrity.

Moved Properties

Buildings TA-33-1 and TA-33-2 were designed to be portable and were moved from their original locations at East Site to their present locations. Additionally, it is likely that they were moved at least once while at East Site in conjunction with the construction and use of the second underground test at Chamber #2. At Main Site, building TA-33-40 was moved in order to accommodate the construction of the Gas Handling Facility, TA-33-86. None of the Saw Building's original functions were affected by this move and it continued to operate at Main Site until the end of TA-33's initiator testing program in 1972. The fact that all three buildings were moved has no bearing on their eligibility status. TA-33-1 and TA-33-2 were designed to be portable and being moved supported their original function. TA-33-40 was moved only a short distance and continued to function as originally designed.

Contamination

Based on the nature of the activities conducted at TA-33, possible site-wide contaminants include depleted and enriched uranium, beryllium, high explosives residues, deuterium, and

tritium. Minor contaminants associated with former operations include plutonium, cadmium, silver, lead, mercury, and solvents (Los Alamos National Laboratory 1992).

TA-33-1 and TA-33-2

In the general area of Area 6, potential contaminants include barium, lead, uranium, beryllium, and high explosives. Additionally, contaminants from the area of building TA-33-1 may include volatile organics and photoprocessing chemicals (Los Alamos National Laboratory 1992).

TA-33-40

LANL records indicate that a fan was installed in the roof of TA-33-40 because uranium fumes were emanating from saw operations. The cutting operation produced fumes and dust and a filter system was installed to keep dust from settling on the slit-saw operator. Loss of uranium ranged from 1 to 2 lbs. per week. Contamination could still remain in the vicinity of the TA-33-40 because the building's floor drain ran downhill several feet without a sump or holdup and effluents were allowed to leach into the ground (Los Alamos National Laboratory 1992; Los Alamos National Laboratory Archives).

National Register Eligibility Recommendations

Based on the information gathered during this building survey, TA-33-1, TA-33-2, and TA-33-40 are eligible for nomination to the National Register of Historic Places under Criterion A. Although these three buildings do not possess a high level of interior integrity, they still maintain significant historical integrity. TA-33-1, TA-33-2, and TA-33-40 are all at least 50 years old and retain the key elements of original location, setting, association, feeling, and exterior design. The main period of significance for these buildings covers the years between 1948 and 1972. The activities conducted in these buildings directly contributed to Cold War weapons research and development at Los Alamos. Specifically, all three buildings supported the initiator testing program at TA-33—testing both gun-type and implosion initiator designs. TA-33-1 once served as the first laboratory and office space at TA-33. TA-33-2, although primarily used as a support building, was occasionally used as a laboratory. The Saw Building, TA-33-40, was a significant processing building that was in use until the initiator testing program ended in the early 1970s. The building housed a slit saw that was used to cut open experimental casings to access important test data.

The SHPO is requested to concur with the eligibility determinations contained in this report and to concur that the proposed D&D action will adversely affect buildings TA-33-1, TA-33-2, and TA-33-40.

As a result of this historic building survey, this project complies with the National Historic Preservation Act of 1966 (as amended).

References Cited

Hoddeson, Lillian, Paul W. Henriksen, Roger A. Meade, and Catherine Westfall
1997 *Critical Assembly; A Technical History of Los Alamos during the Oppenheimer Years, 1943-1945.* Cambridge University Press, Cambridge, UK. Copyrighted by the U.S. Department of Energy, 1993. First published 1993, reprinted 1995 and 1997, and digitally printed 1998.

Los Alamos National Laboratory
1992 *RFI Work Plan for Operable Unit 1122: Environmental Restoration Program,* LA-UR-92925, Los Alamos National Laboratory, Los Alamos, New Mexico.

1993 *Los Alamos: Beginnings of an Era 1943-1945.* Los Alamos Historical Society, Los Alamos, New Mexico.

1995 *Dateline: Los Alamos, Special Issue, LALP –95-2-6&7.* Los Alamos National Laboratory, Los Alamos, New Mexico.

Los Alamos National Laboratory Archives
Information acquired from the LANL Archives, TA-21-1001, Roger Meade, LANL Archivist. Files accessed include "Group M-3 and Group W-3 Monthly Progress Reports" and other general LANL organizational chart information on file at the archives.

Los Alamos National Laboratory Drawings A5-C162 and ENG4-R45
Drawings on file at Facility and Waste Operations Division (FWO), Los Alamos National Laboratory, Los Alamos, New Mexico.

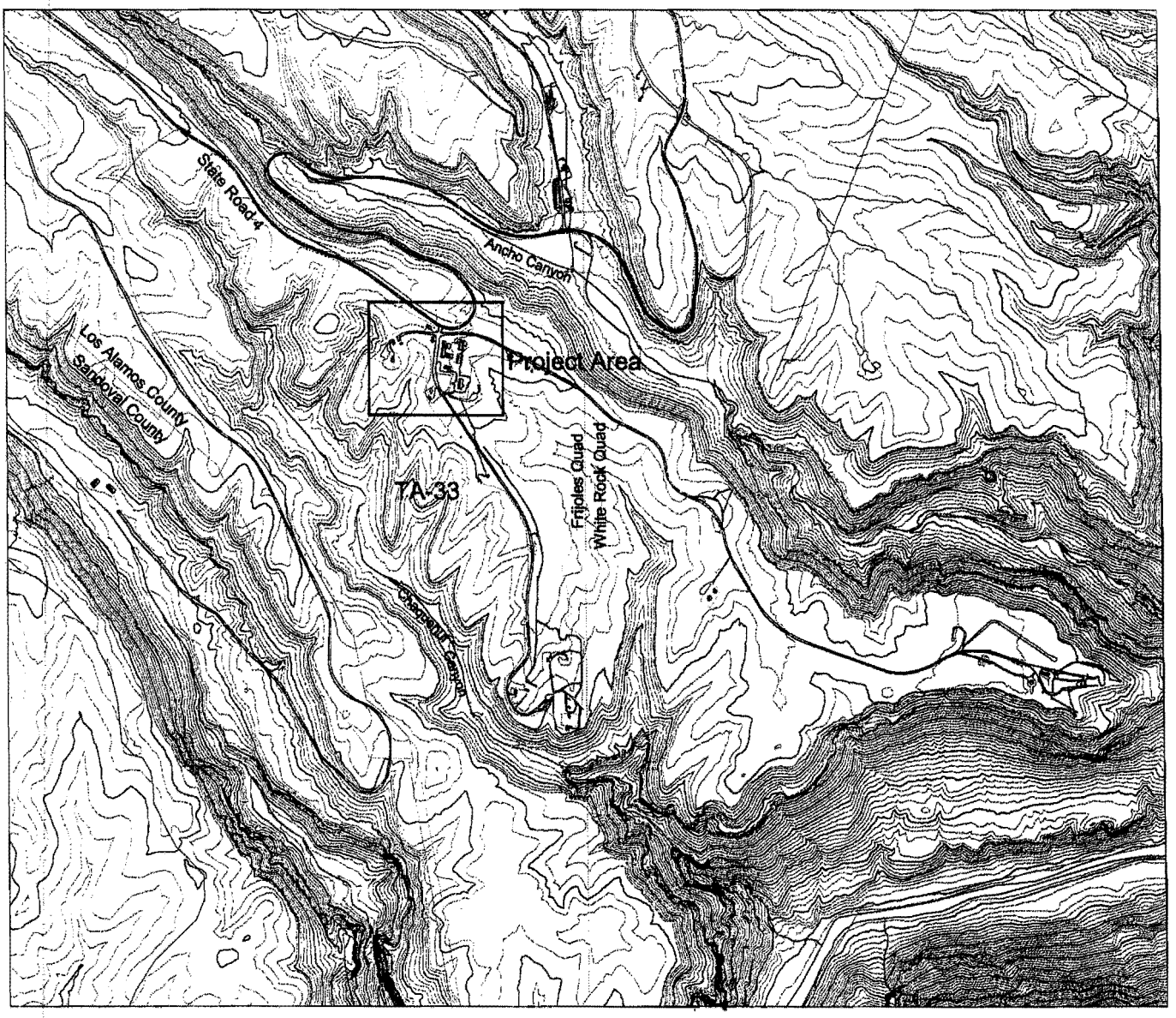
Los Alamos National Laboratory Drawing ENG-C2956
Drawing on file at Facility and Waste Operations Division (FWO), Los Alamos National Laboratory, Los Alamos, New Mexico.

Los Alamos National Laboratory Engineering Documents, Lab Job #755
Correspondence dated 1/22/51, on file at Facility and Waste Operations Division (FWO), Los Alamos National Laboratory, Los Alamos, New Mexico.

Los Alamos National Laboratory Engineering Documents, Lab Job # 1362
Correspondence dated 11/52, 12/52, and 3/53, on file at Facility and Waste Operations Division (FWO), Los Alamos National Laboratory, Los Alamos, New Mexico.

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.

Appendix A
Maps



Los Alamos
National LAboratory

Cultural Resources Management Team
ESH-20 Ecology Group

1:24000

1000 0 1000 2000 3000 Feet

400 0 400 800 Meters

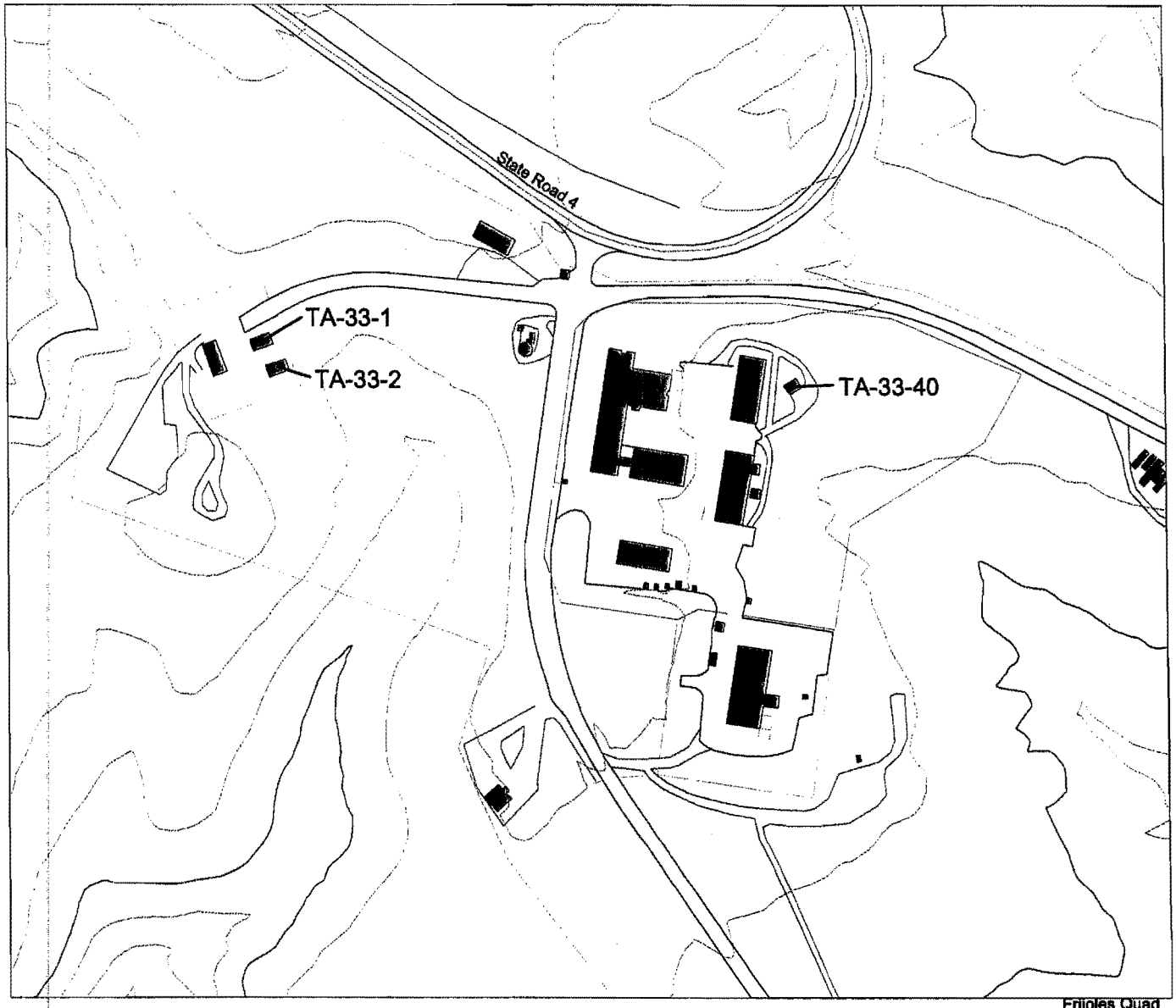
N
W E
S

20 Foot Contours
100 Foot Contours
Techarea
Drainage
Township, Section, Range
USGS 7.5 Minute Quad
Trails
Roads
Roaddirt
Parkpave
Parkdirt
Indfence
Secfence
Permbldg
Tmpbldg
Ugrdbldg

Decontamination and Decommissioning of TA-33-1, -2, and -40

TA-33

Map 1



Los Alamos
National LAboratory

Cultural Resources Management Team
ESH-20 Ecology Group

1:3000

200 0 200 400 Feet

50 0 50 100 Meters

N
W E
S

20 Foot Contours
100 Foot Contours
Techarea
Drainage
Township, Section, Range
USGS 7.5 Minute Quad
Trails
Roads
Roaddirt
Parkpave
Parkdirt
Indfence
Secfence
Permbldg
Tmpbldg
Ugrdbldg

Decontamination and Decommissioning of TA-33-1, -2, and -40

TA-33

Map 2

Appendix B
New Mexico Historic Building Survey Forms, Photographs, and Drawings

NEW MEXICO HISTORIC BUILDING INVENTORY FORM

Building threatened?	Surveyed	County	ID no.
Yes	date **7/29/2001 by J. Ronquillo and Ken Towery**	**Los Alamos**	**TA-33-1**

Field map Number	UTM reference: Easting **386334** Northing **3960494** Zone 13
n/a	

Location description	City/town
Technical Area (TA) 33, HP (Hot Point) Site, Area 6	**Los Alamos** Land grant/reservation **n/a**

Building name	Legal description **USGS Frijoles 7.5 Series**
TA-33-1 Original name **TA-33-1 (HP-1), Portable Laboratory**	tnsp **19N** range **6E** sec **Unplatted**

Camera name	Negative nos.	Location of neg.	Date of construction
SBSP	**51 - 56**	**LANL, ESH-20**	____ estimate **12/2/1947 to 1/21/48** actual source **Facility & Waste Operations Division (FWO) records (LANL)**

Style	Foundation material	Use	Condition
TA-33-1 is a wood frame building with a gable roof. (see below for more information)	**Concrete slab and wooden skids** Wall material/surface **The exterior surface is covered with wood siding. The interior walls consist of gypsum board.**	Present residential ✓other **According to the MOADS database, TA-33-1 is currently being used for general storage.** historic residential ✓other **TA-33-1 was originally used as a laboratory to support early initiator experiments.**	____ excellent ____ good **X** fair **X** deteriorating

Degree of remodeling
X minor ____ moderate ____ major
describe: **In 1948, a sink and C.W. (cold water?) supply were added to TA-33-1. The raceway, breakers, outlets, and water lines were replaced in 1957 as part of upgrades to the toilet facilities. The interior walls were modified at some time with the addition of 1" rigid insulation under 5/8" gypsum board.**

Surroundings	Relationship to surroundings	District potential
Developed Laboratory Technical Area 33	**X** similar ___ not similar	___ yes **X** no

Significance	Associated building? **X** yes	Associated drawings
X Eligible _ of interest _ none if not eligible, why?	What type? **Laboratory and shop buildings** If inventoried, list ID nos. **TA-33-2 and TA-33-16**	(Photos and copies of the drawings are on following pages.) **A5-C96** **Installation of Underground Chamber at TA-33, Plan, Sections, Details** **December 10, 1947** **SK No. ENG 4-513** **Install Sink and C.W. Supply In HQ Bldg. HP-1, TA-33** **February 16, 1948**

		SK No. ENG 4-522 **Lighting For TA-33 Area 1** **February 25, 1948** **A5-C162** **Underground Chamber No. 2 (HP-6)** **TA-33, Plot Plan and Details** **July 24, 1948** **ENG 4-R45** **Topo and Plot Plan, TA-33** **January 27, 1949** **ENG-C18787 (sheet 1 of 1)** **Toilet Facilities** **Bldg. HP-1, TA-33** **January 17, 1957** **ENG-R3017 (sheet 1 of 1)** **Portable Laboratory** **Floor Plan** **June 19, 1964** Size **450 gross ft^2** **(406 net ft^2)**

Architectural features	Comments
TA-33-1 is a free standing, one-story building of approximately 450 gross square feet. It is of wood frame construction, has a pitched roof, and has painted wood siding on the exterior. The roof is composed of rolled asphalt over wood framing and is in an advanced state of deterioration. The building was designed to be portable and sits on wooden skids. On the west elevation, there is one pedestrian door and one hopper-type window with single pane glass. The window has twelve individual panes of clear glass and appears to be of original construction. There are similar windows on the south (4), east (2), and north (3) elevations. The interior walls are in a bad state of deterioration and appear to have been modified at some time with the addition of 1" rigid insulation under 5/8" gypsum board. Today the building stands empty. A laboratory sink and workbench are the only notable equipment remaining in the building. Overall, TA-33-1 is in fair condition although it is suffering from the effects of time and from exposure to the elements.	**Built by R.E. McKee. The history of this building is closely linked with that of TA-33-2. Both buildings were moved to Area 6 from Area 1 (now East Site) sometime between July of 1948 and January of 1949.** Associated historic theme **Cold War Nuclear Weapons Research and Development (specifically initiator testing)** Property type: **Laboratory/Processing** Contamination history **Possible hazardous or radioactive materials used in or near the building include barium, lead, uranium, beryllium, high explosives, volatile organics, and photoprocessing chemicals.** Integrity **Fair** Eligibility: **Eligible under Criterion A**

TA-33-1 North Elevation

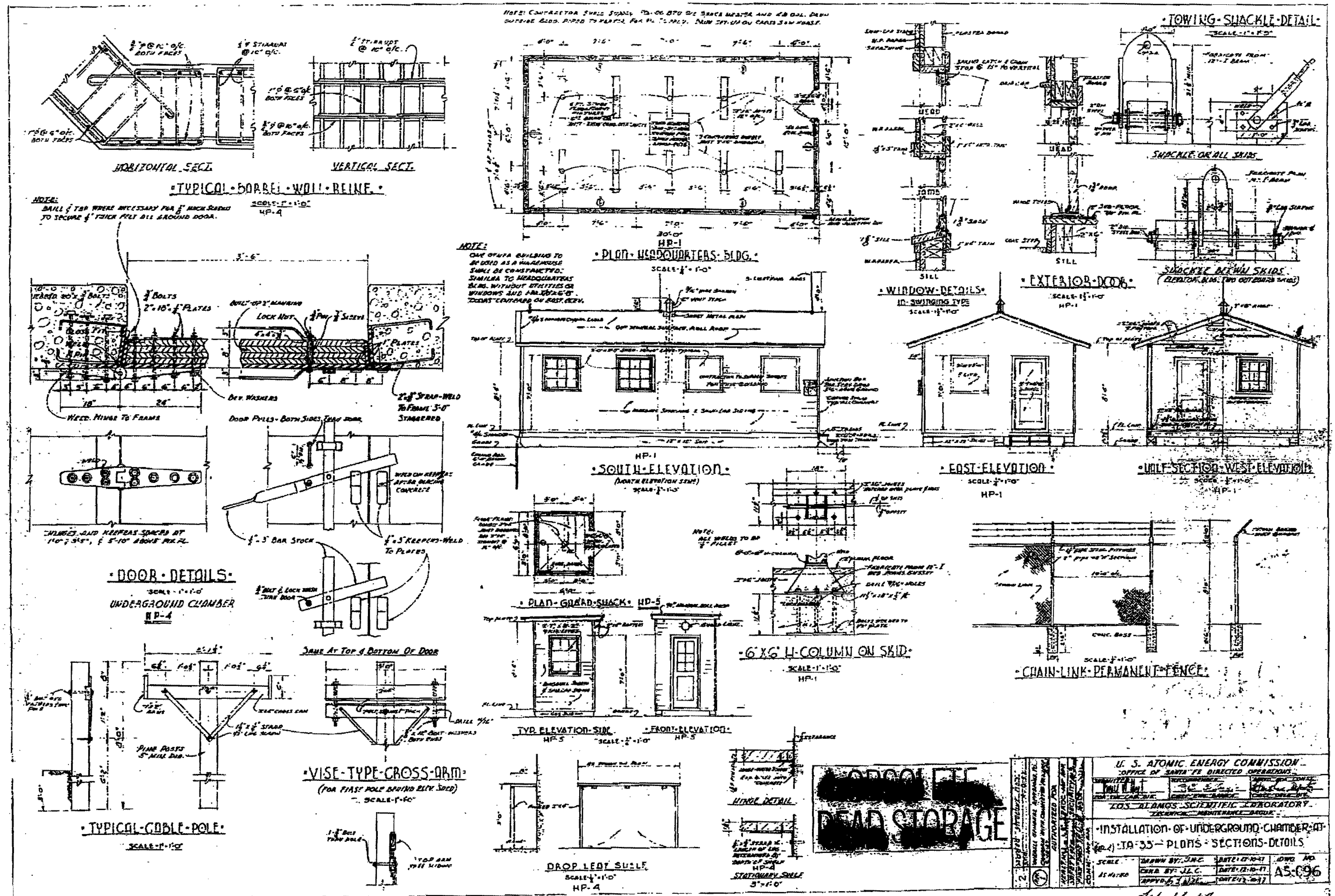
TA-33-1 West Elevation

TA-33-1 South Elevation

TA-33-1 East Elevation

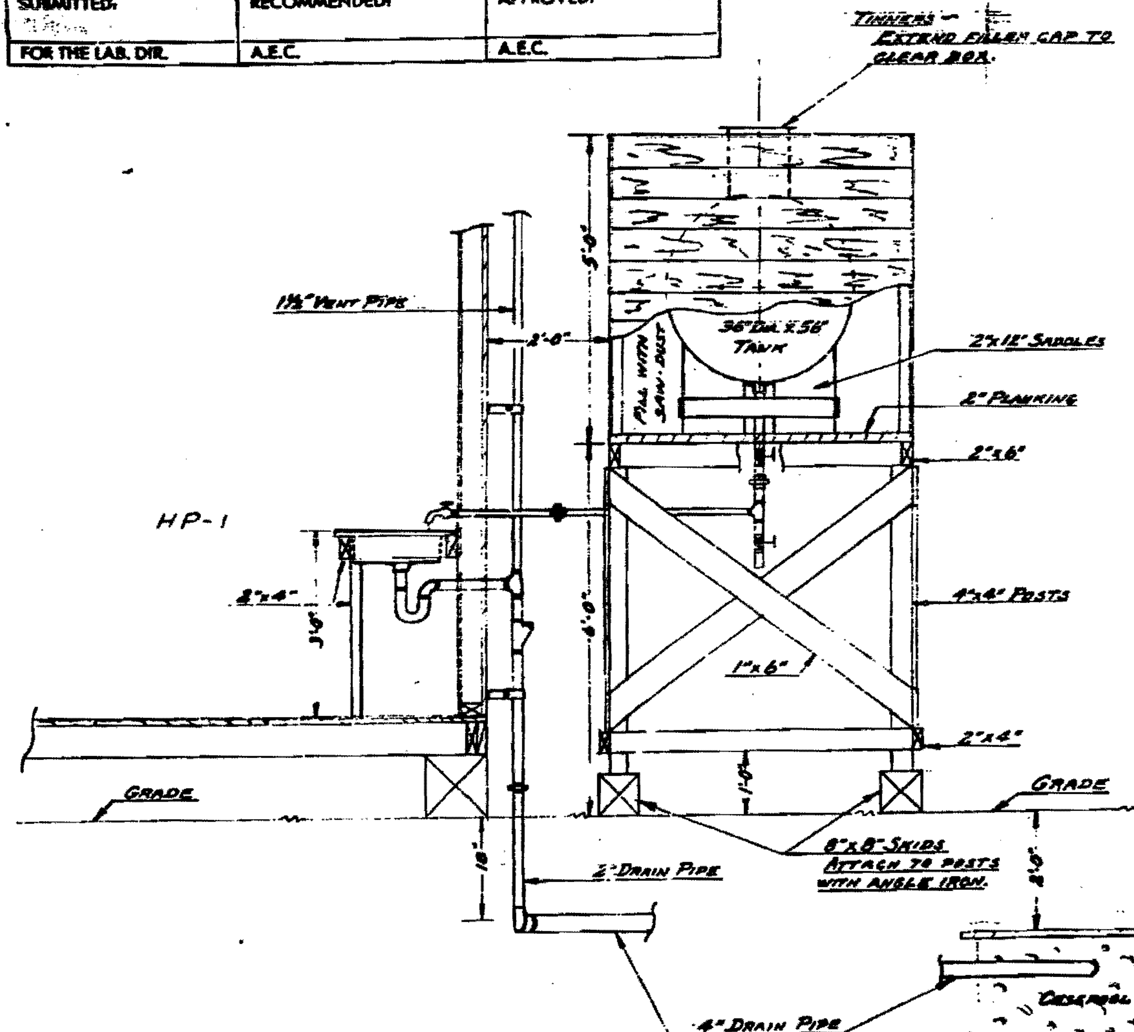
TA-33-1 Interior looking East

TA-33-1 Interior looking West


TYPICAL BARREL WALL REINF.
HORIZONTAL SECT.
VERTICAL SECT.
PLAN - HEADQUARTERS - BLDG.
WINDOW - DETAILS
IN-SWINGING TYPE
EXTERIOR DOOR
TOWING - SHACKLE - DETAIL
SHACKLE ON ALL SKIDS
SHACKLE BETW'N SKIDS
SOUTH - ELEVATION
EAST - ELEVATION
HALF SECTION - WEST ELEVATION
DOOR - DETAILS
UNDERGROUND CHAMBER
HP-4
PLAN - GUARD SHACK
TYP. ELEVATION - SIDE
FRONT - ELEVATION
6" X 6" H-COLUMN ON SKID
CHAIN-LINK PERMANENT FENCE
TYPICAL GABLE POLE
VISE - TYPE - CROSS - ARM
DROP LEAF SHELF
HINGE DETAIL
STATIONARY SHELF
DEAD STORAGE
U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS SCIENTIFIC LABORATORY
INSTALLATION OF UNDERGROUND CHAMBER AT TA-33 - PLANS - SECTIONS - DETAILS
A5-C96

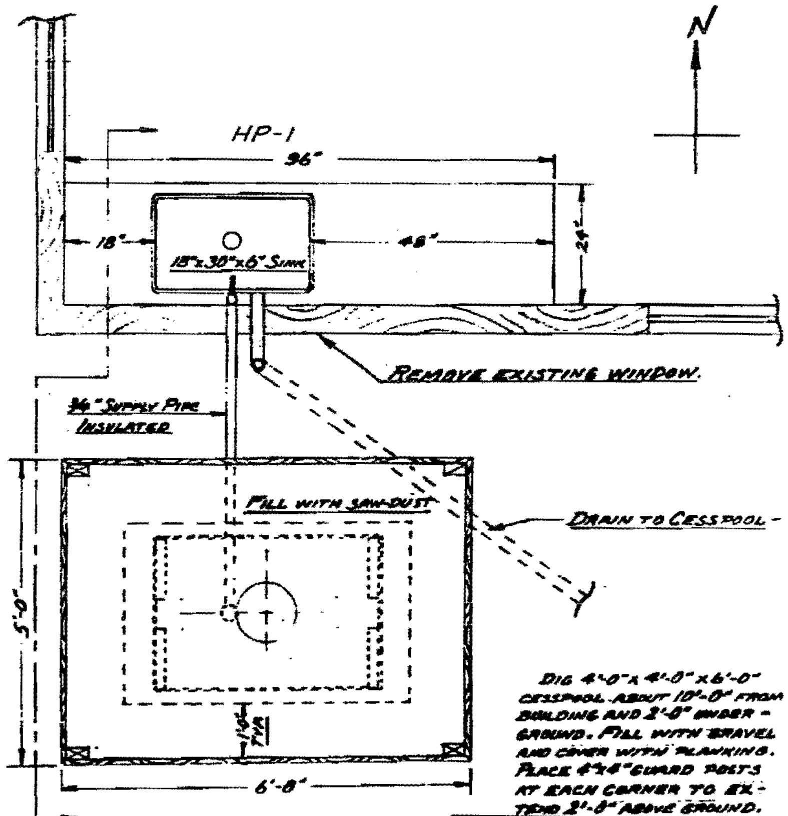
RECORD DRAWING--AS BUILT CONSTRUCTION

SUBMITTED:	RECOMMENDED:	APPROVED:
FOR THE LAB. DIR.	A.E.C.	A.E.C.



~ELEVATION VIEW~

FURNISH LADDER FOR ACCESS TO FILLER CAP.



DIG 4'-0" x 4'-0" x 6'-0" CESSPOOL ABOUT 10'-0" FROM BUILDING AND 2'-0" UNDER-GROUND. FILL WITH GRAVEL AND COVER WITH PLANKING. PLACE 4"x4" GUARD POSTS AT EACH CORNER TO EXTEND 2'-0" ABOVE GROUND.

~PLAN VIEW~

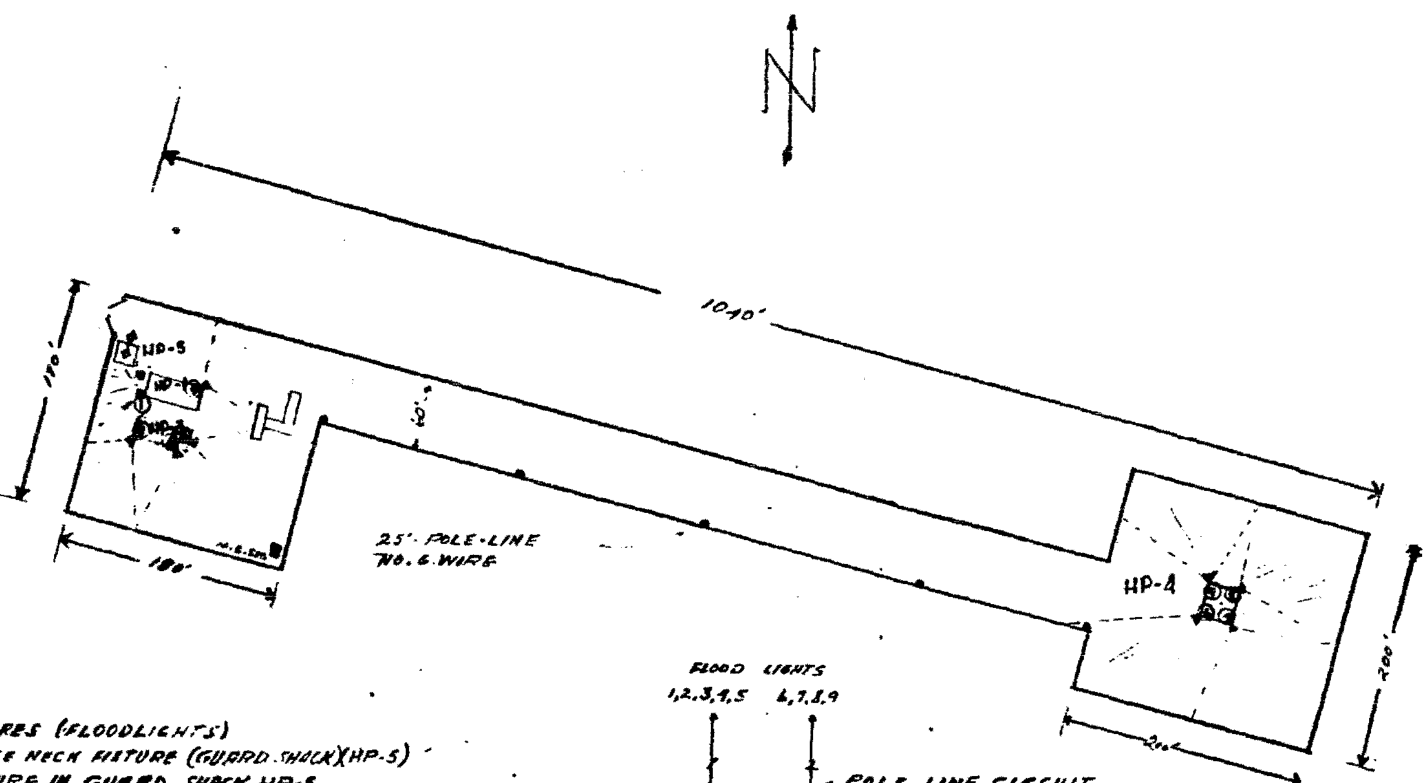
AUTHORIZED FOR

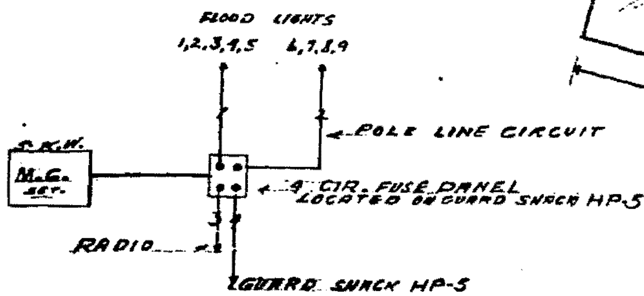
HEALTH	
SAFETY	T.E.E.
FIRE PROT.	F.R.R.
PROCUREMENT	
COMMUNICATIONS	
SECURITY	M-3

9/16/53 Req. no revision, as built sketch was

② Added Struct. No.s
① Was ASM-43 S (Rev 8-5-50)

INSTALL. - SINK & C.W. SUPPLY IN HQ. BLDG. - TA-33 (HP-1)		J.O. 151678	GR. M-6
SCALE X	H.V.P.	2-16-48	MAINTENANCE GROUP	SKETCH No. ENG 4-513
	APP'D.	DATE 2-16-48		





▲ - 300 W FIXTURES (FLOODLIGHTS)
◆ - 200 W - GOOSE NECK FIXTURE (GUARD SHACK)(HP-5)
◇ - 200-W - FIXTURE IN GUARD SHACK HP-5
■ - 5 K.W. M.G. SET.

LOAD -	CIR. NO. 1 =	1500 WATTS
"	CIR. NO. 2 =	1200 "
"	" NO. 3 =	500 "
"	" NO. 4 =	400 "
TOTAL LOAD		3600 - WATTS

(3) 9/11/53 Required no revision, as built status was
(2) revised title. SRD - 4-2-52
(1) Was ASM-A51 (REV 8-5-50) CMH.

AUTHORIZED FOR

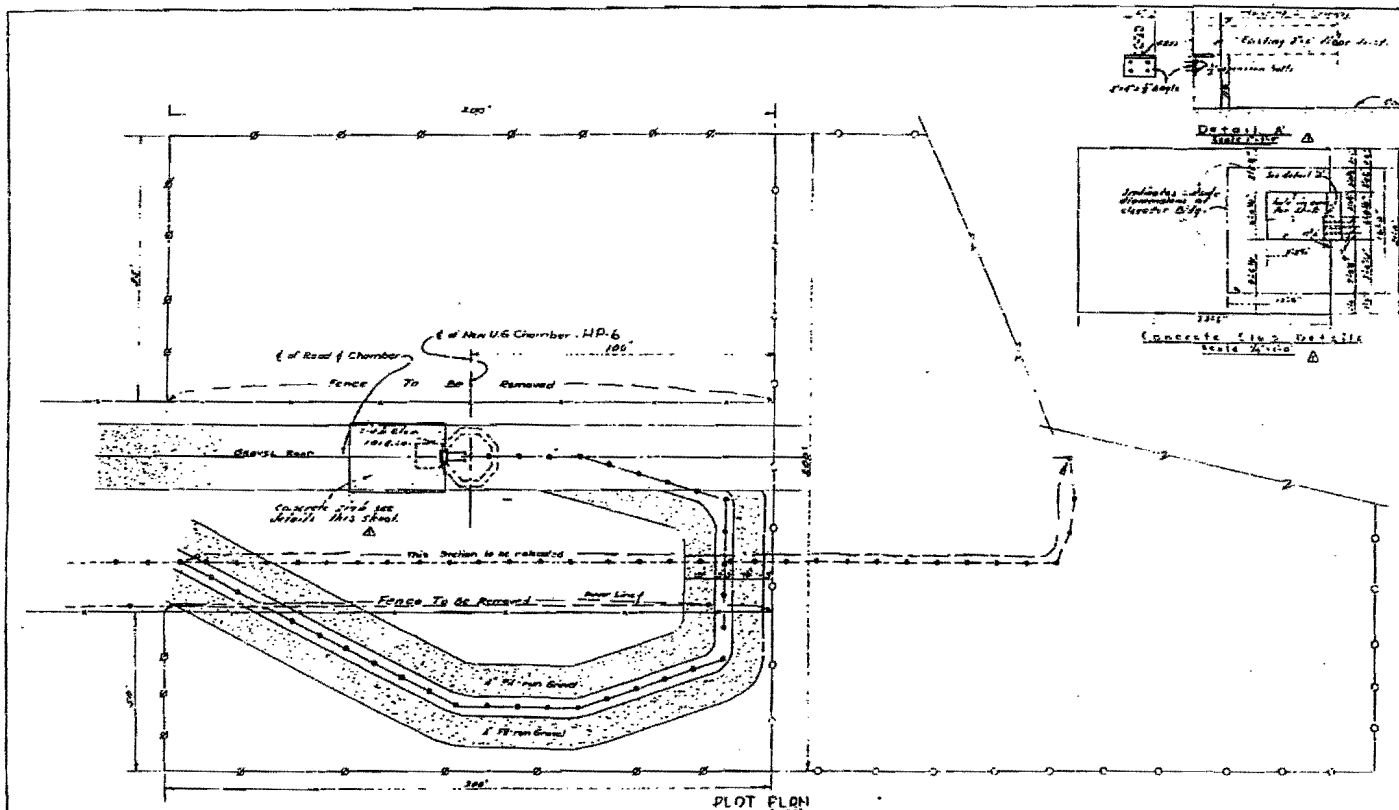
HEALTH
SAFETY ✓ TEE
FIRE PROT. ✓ F.R.R. by E.H.
PROCUREMENT
COMMUNICATIONS
SECURITY
H-3

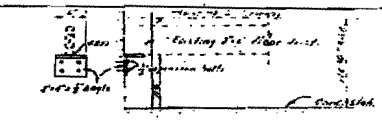
RECORD DRAWING—AS BUILT CONSTRUCTION

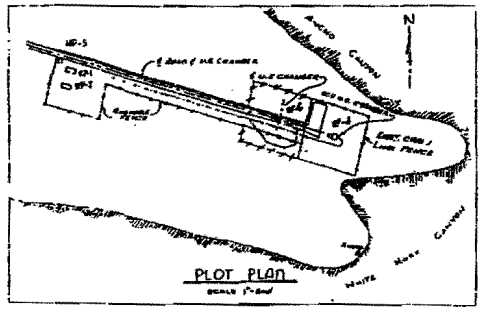
SUBMITTED:	RECOMMENDED:	APPROVED:
FOR THE LAB. DIR.	A.E.C.	A.E.C.

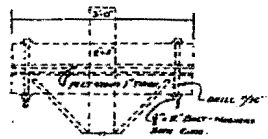
LIGHTING FOR T.A. 33 - Area 1 — J.O. 153927 — SECURITY

SCALE				SKETCH No.
X	DWG. Clark	DATE 2-25-48	H MAINTENANCE GROUP	ENG4-822
	CKD.	DATE 3-4-48		
	APPVD. RCH	DATE		

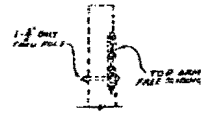


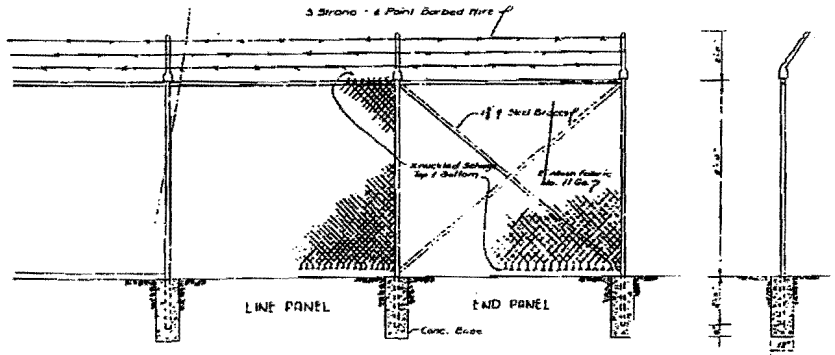




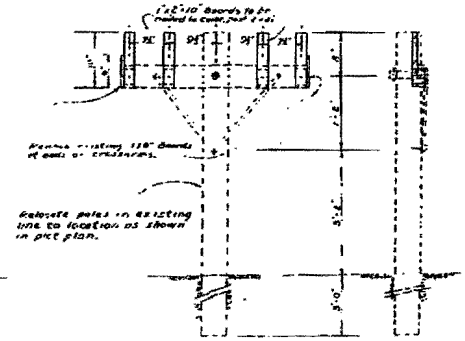


VISE-TYPE CROSS ARM
(FOR FIRST POLE BEHIND LINE SHED)
SCALE 1"=1'-0"





CHAIN LINK FENCE
Scale 3/8" = 1'-0"



TYPICAL CABLE POLE
Scale 1"=1'-0"

REFERENCE
Dwg. AS-C163 U.G. Chamber No. 2, TA-33, Structural & Electrical

OBSOLETE DEAD STORAGE

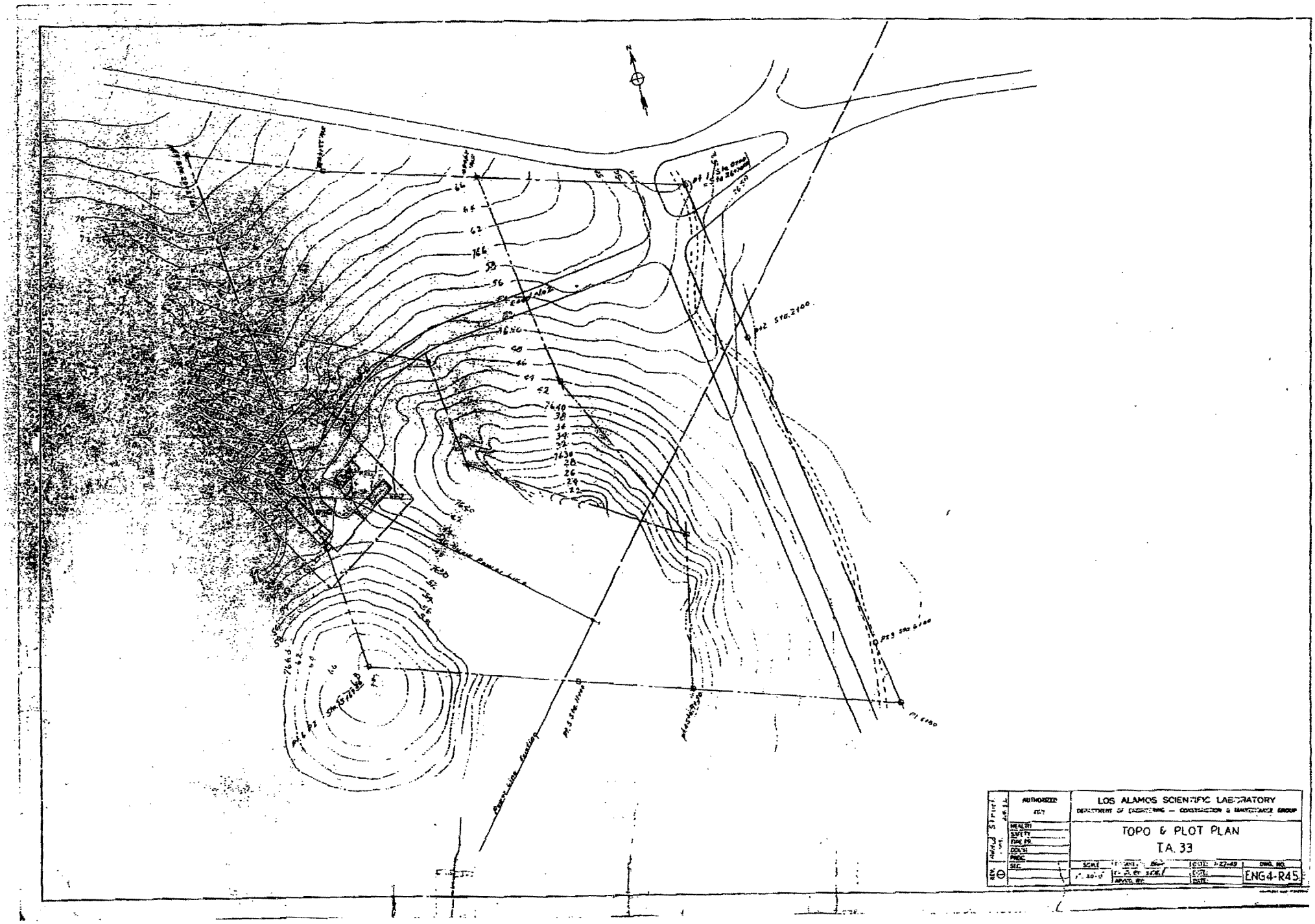
FOR OFFICIAL USE ONLY

U.S. ATOMIC ENERGY COMMISSION
OFFICE OF SANTA FE DIRECTED OPERATIONS
LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING

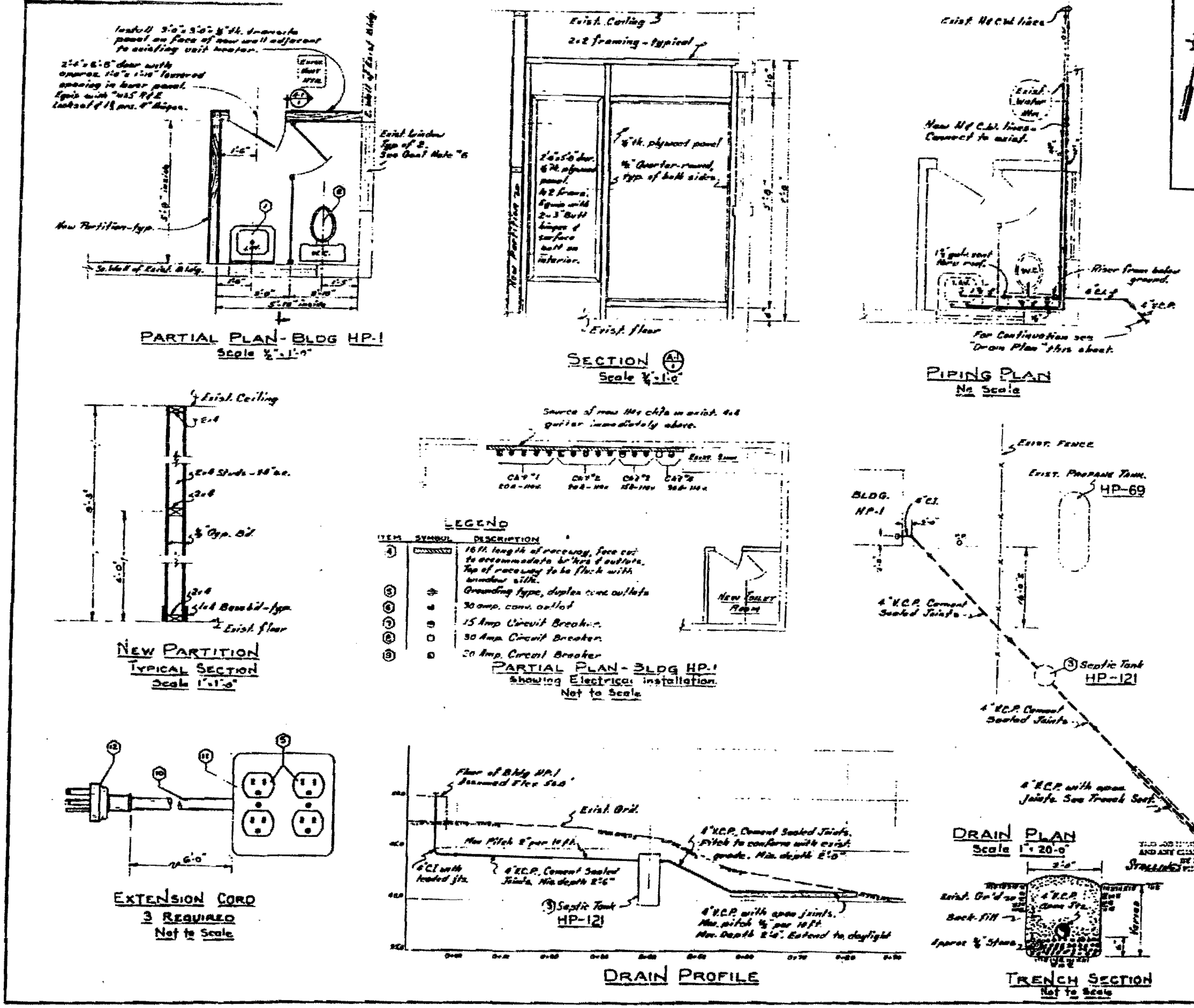
UNDERGROUND CHAMBER NO. 2
(HP-6) TA-33
PLOT PLAN & DETAILS

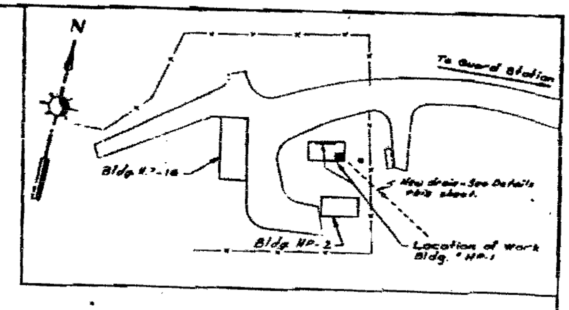
SCALE	DRAWN BY: R.E.G.	DATE: 7-26-1950	DWG. NO.
As Noted	CHKD. BY: [illegible]	DATE: 7/26/50	AS-C16
	APPVD. BY: [illegible]	DATE: 7-27-50	

Job No. 174


LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING — CONSTRUCTION & MAINTENANCE GROUP
TOPO & PLOT PLAN
T.A. 33
ENG4-R45

~~OFFICIAL USE ONLY~~





LOCATION PLAN

BLDG. 1 — AREA 6 — TA-33

LIST OF EQUIPMENT

ITEM NO.	REQ'D	DESCRIPTION	CAT. NO.	MFD. BY
1	1	Lavatory, white porcelain, complete with faucets & 1¼" P Trap.	To be furnished by L.A.S.L. Grp. Eng. &	
2	1	Water Closet "Wellworth," close-coupled vitreous china.	K-5765-R	Kohler Co.
3	1	Septic Tank, 500 gal., 4" Connections, Commercial Standard.	65 COM	Keystone Tank Perry, N.Y.
4	16 ft.	Electrical Raceway, nominal size 3½"x3¾" complete with fittings & cover plate		Wiremold Co. Hartford, Conn.
5	16	Grounding Type, Duplex Conv. Outlets	5262	Harvey Hubbell, Inc.
6	1	30 amp, 3 wire outlet & cap	9344 & 9354	
7	1	15 amp. Circuit Breaker.	0411	Heinemann Elec. Co.
8	1	30 amp. Circuit Breaker.	0411	
9	2	20 amp. Circuit Breaker.	0411	
10	18 ft.	3 conductor, #12 wire, rubber covered flexible cable		Gen'l Elec. Co.
11	3	Surface Cover & 4" sq. x 1½" dp. box.	8370	[illegible] Elec.
12	3	Rubber finger-grip cap, 3 wire	5275	Hubbell.

GENERAL NOTES.

1. New water lines are to be galvanized pipe with globe valves installed adjacent to fixtures. Hot water line only is to be insulated.
2. Existing electric heater along north building wall is to be removed & salvaged by direction of Eng. & field engineer. Remove excess breakers from exist. 4x4 gutter to allow for installation of new raceway. New outlets & breakers are to be equally spaced along length of raceway.
3. The entire electrical installation is to be made in accordance with the current rules of the N.E.C.
4. New raceway, breakers & outlets shall be bonded to the exist. building grounding system.
5. All wire shall be #12 AWG, type TW except for the 30 amp. circuit which shall be wired with #10 AWG, type TW.
6. Paint interior of exist. window lites within new toilet room with one coat of flat white. Paint all new construction to match existing adjacent walls.
7. Equal, approved substitutions may be made for any or all items in the List of Equipment.

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

TOILET FACILITIES

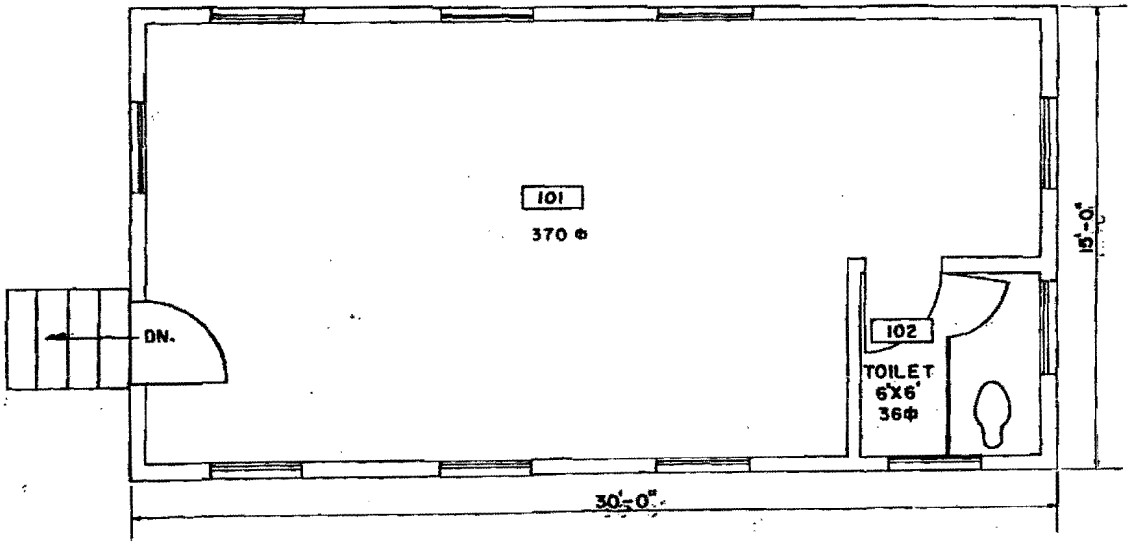
BLDG HP-1 TA-33

E.B. Johnson
Date: Jan 17, 1957.
Scale: Noted
Sheet 1 of 1
ENG-C 18787

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT.

S. A. NO. ______ LAB. JOB NO. 1952

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR	ENG D.O.
1	6-16-65	REVISED TO STATUS OF 6-12-65	DRK			



(1/4"=1'-0")

0 5 10

GRAPHIC SCALE

TOTAL SQ. FT. 408

REV.	DATE	REVISION	BY	CHK.	APP.
2	6-8-64	REVISED TO STATUS OF 6-6-64			

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

FACILITIES ENGINEERING DIVISION

PORTABLE LABORATORY
FLOOR PLAN

BLDG. HP-1 TA-33

SEC. CLASSIFICATION: CLASS. U

DESIGNED	BREWER	DRAWN	DATE 6-19-64	SHEET NO. 1 OF 1
CHECKED		REN		DRAWING NO. ENG-R3017

REC'D ___ LOGGED ___ TO VAULT

NEW MEXICO HISTORIC BUILDING INVENTORY FORM

Building threatened?	Surveyed	County	ID no.
yes	date **7/29/2001** by **J. Ronquillo and Ken Towery**	**Los Alamos**	**TA-33-2**

Field map Number	UTM reference: Easting **386341** Northing **3960482** Zone **13**
n/a	

Location description	City/town
Technical Area (TA) 33, HP (Hot Point) Site, Area 6	**Los Alamos** Land grant/reservation **n/a**

Building name	Legal description **USGS Frijoles 7.5 Series**
TA-33-2 Original name **TA-33-2 (HP-2) Portable Warehouse**	tnsp **19N** range **6E** sec **Unplatted**

Camera name	Negative nos.	Location of neg.	Date of construction
SBSP	**57 - 63**	**LANL, ESH-20**	____ estimate **12/2/1947 to 1/21/48** actual source **Facility & Waste Operations Division (FWO) records (LANL)**

Style	Foundation material	Use	Condition
TA-33-2 is a wood frame building with a gable roof. (see below for more information)	**Partial concete slab on grade and wooden skids** Wall material/surface **The exterior walls are covered with wood siding. The interior walls consist of either sheet rock or asbestos board material.**	Present residential ✓other **According to the MOADS database TA-33-2 is currently being used for general storage.** historic residential ✓other **TA-33-2 was originally used as a warehouse, shop, and occasional laboratory in support of early initiator experiments.**	____ excellent ___ good **X** fair **X** deteriorating

Degree of remodeling
X minor _____ moderate ____ major
Describe: **There is no evidence of remodeling at TA-33-2.**

Surroundings	Relationship to surroundings	District potential
Developed Laboratory Technical Area 33	**X** similar ___ not similar	___ yes **X** no
	Associated building? **X** yes What type? **Laboratory buildings** If inventoried, list ID nos. **TA-33-1 and TA-33-16**	Associated drawings (Photos and copies of the drawings are on following pages.) **A5-C162** **Underground Chamber No. 2 (HP-6)** **TA-33, Plot Plan and Details** **July 24, 1948** **ENG 4-R45** **Topo and Plot Plan, TA-33** **January 27, 1949** **ENG-R3018 (sheet 1 of 1)**

		Portable Warehouse **Floor Plan** **Bldg. HP-2, TA-33** **June 18, 1964** Size **450 gross ft^2** **(406 net ft^2)**

Architectural features

TA-33-2 is a free standing, one-story building of approximately 450 gross square feet. It is of wood frame construction, has a pitched roof, and has painted wood siding on the exterior. The roof is composed of rolled asphalt over wood framing and is in fair condition. The building was designed to be portable and sits on wooden skids. Currently, a portion of the floor is a concrete slab sitting on grade. On the west elevation, there is a wood-paneled, double door and one hopper-type window with single pane glass. The window has sixteen individual panes of clear glass and appears to be of original construction. The exterior of the building is deteriorating and is generally in poor condition. The interior walls appear to be original and are composed of wood framing and either sheet rock or asbestos board material. There is an asphalt drive and parking area west of the building.

Comments

Built by R.E. McKee. The history of this building is closely linked with that of TA-33-1. Both buildings were moved to Area 6 from Area 1 (now East Site) sometime between July of 1948 and January of 1949.

Associated historic theme

Cold War Nuclear Weapons Research and Development (specifically initiator testing)

Property type

Support and Laboratory/Processing

Contamination history

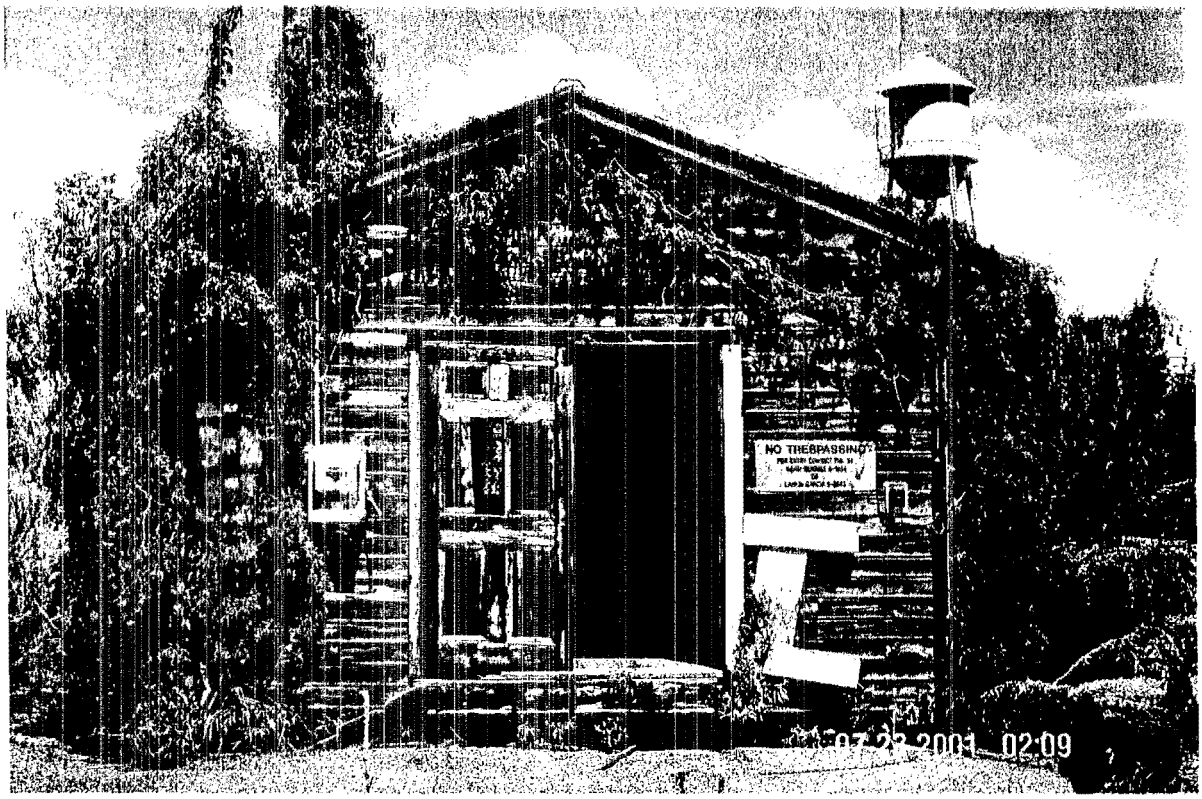
Possible hazardous or radioactive materials used in or near the building include barium, lead, uranium, beryllium, and high explosives.

Integrity

Fair

Eligibility

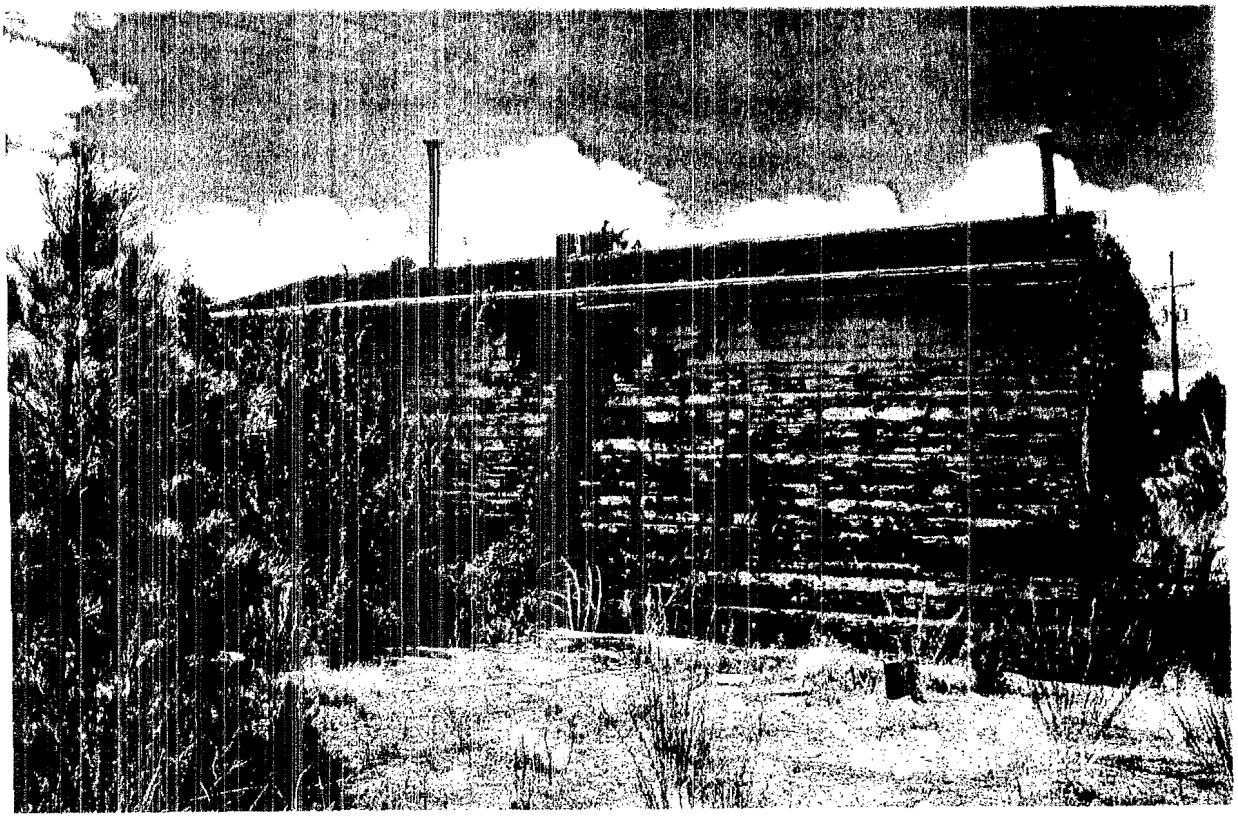
Eligible under Criterion A



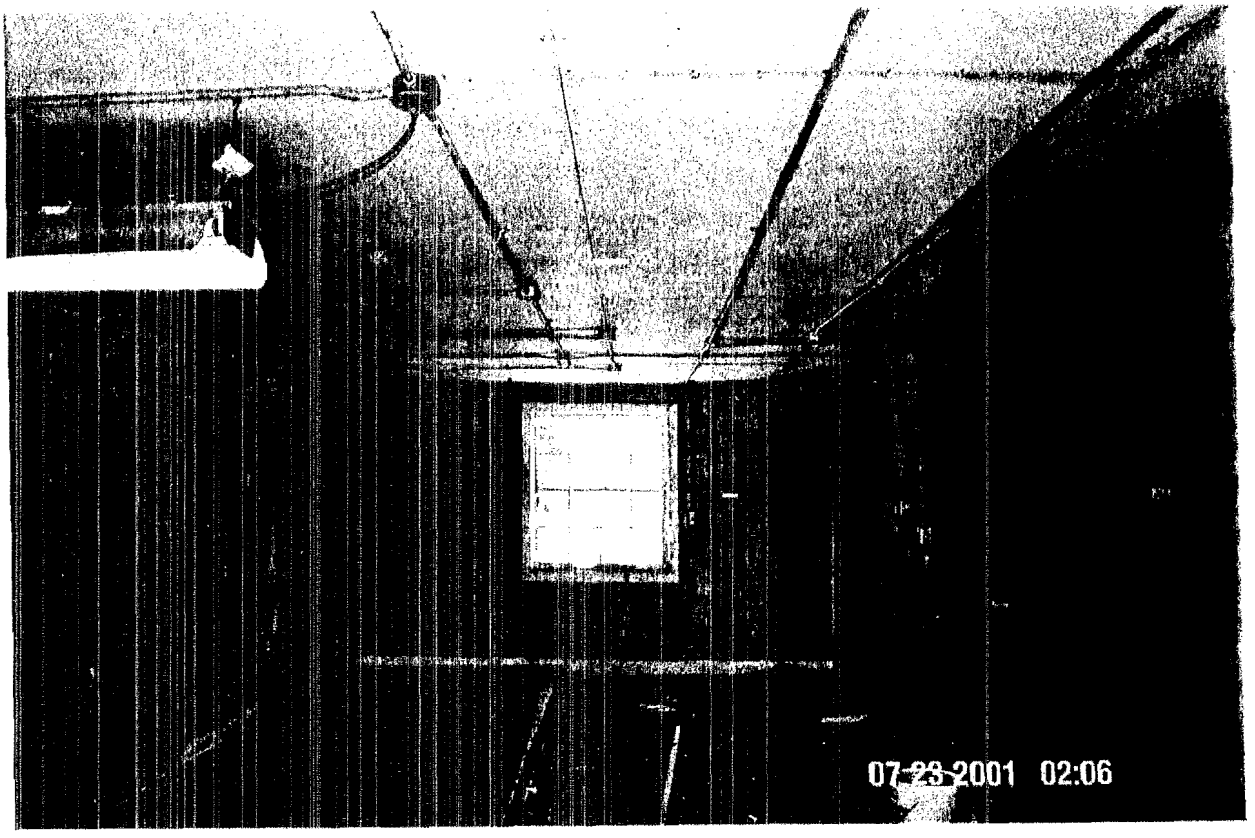
TA-33-2 West Elevation

TA-33-2 North Elevation

TA-33-2 East Elevation

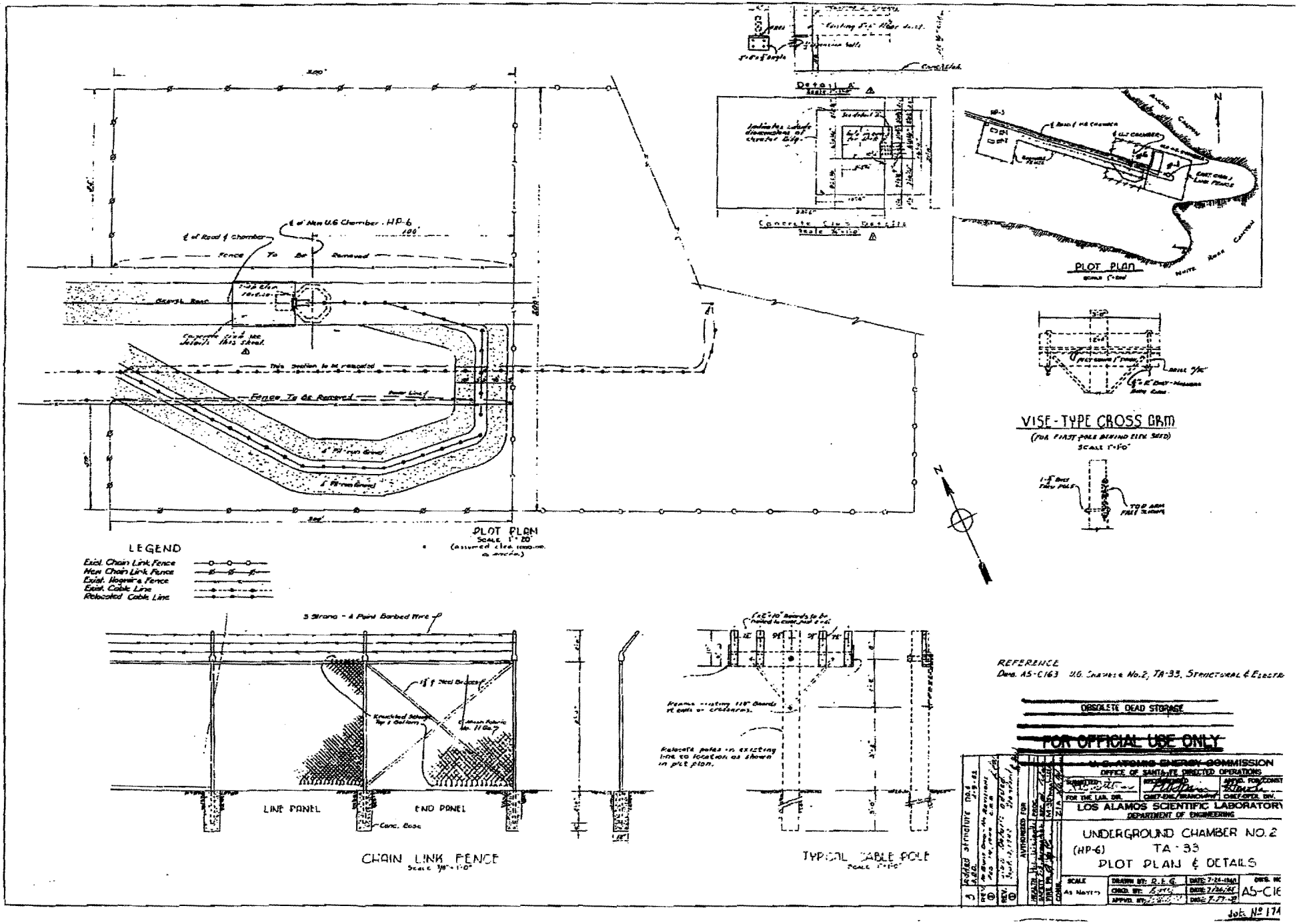


TA-33-2 South Elevation

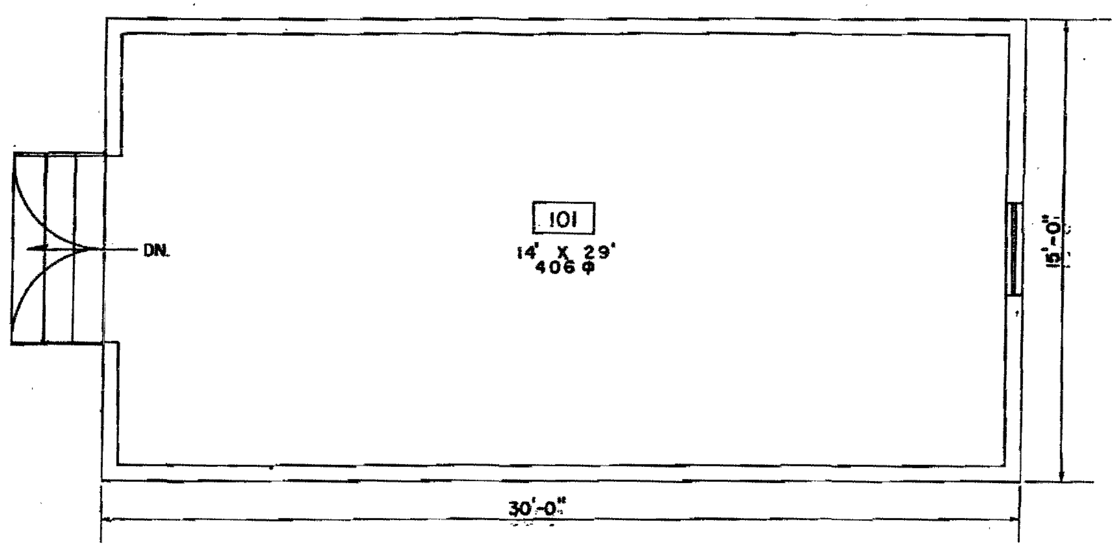


TA-33-2 Interior looking East

TA-33-2 Interior looking West


Detail A
Concrete Slab Details
PLOT PLAN
VISE-TYPE CROSS ARM
(FOR FIRST POLE BEHIND FENCE SHED)
SCALE 1"=1'0"
PLOT PLAN
SCALE 1" = 20'
LEGEND
Exist. Chain Link Fence
New Chain Link Fence
Exist. Wooden Fence
Exist. Cable Line
Relocated Cable Line
5 Strand - 4 Point Barbed Wire
LINE PANEL
END PANEL
Conc. Base
CHAIN LINK FENCE
Scale 3/8" = 1'0"
TYPICAL CABLE POLE
Scale 1"=1'0"
REFERENCE
Dwg. AS-C163 U.G. Chamber No.2, TA-33, Structural & Electr.
OBSOLETE DEAD STORAGE
FOR OFFICIAL USE ONLY
U.S. ATOMIC ENERGY COMMISSION
OFFICE OF SANITARY DIRECTED OPERATIONS
LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING
UNDERGROUND CHAMBER NO. 2
(HP-6) TA-33
PLOT PLAN & DETAILS
SCALE As Noted
DRAWN BY: D. E. G.
CHKD. BY:
APPVD. BY:
DATE: 7-24-1961
DATE: 7/26/61
DATE: 7-27-62
AS-C16
Job. No 174


LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING — CONSTRUCTION & MAINTENANCE GROUP
TOPO & PLOT PLAN
T.A. 33
AUTHORIZED
HEALTH
SAFETY
FIRE PR.
SEC.
SCALE
APPD. BY
DATE
DWG. NO.
ENG4-R45
REV.



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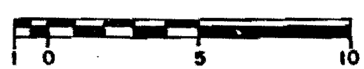


GRAPHIC SCALE

TOTAL SQ. FT. 406

REV.	DATE	REVISION	BY	CKD.	APP.
1	6-8-84	REVISED TO STATUS OF 6-8-84	H&N		

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

FACILITIES ENGINEERING DIVISION

PORTABLE WAREHOUSE
FLOOR PLAN
BLDG. HP-2 TA-33

SEC. CLASSIFICATION
CLASS. U
REVIEWER
DATE 6-11-84

SUBMITTED | RECOMMENDED | APPROVED

DRAWN BREMER
CHECKED H&N
DATE 6-18-64
SHEET NO. 1 of 1
DRAWING NO. ENG-R3018

REC'D LOGGED TO VAULT

NEW MEXICO HISTORIC BUILDING INVENTORY FORM

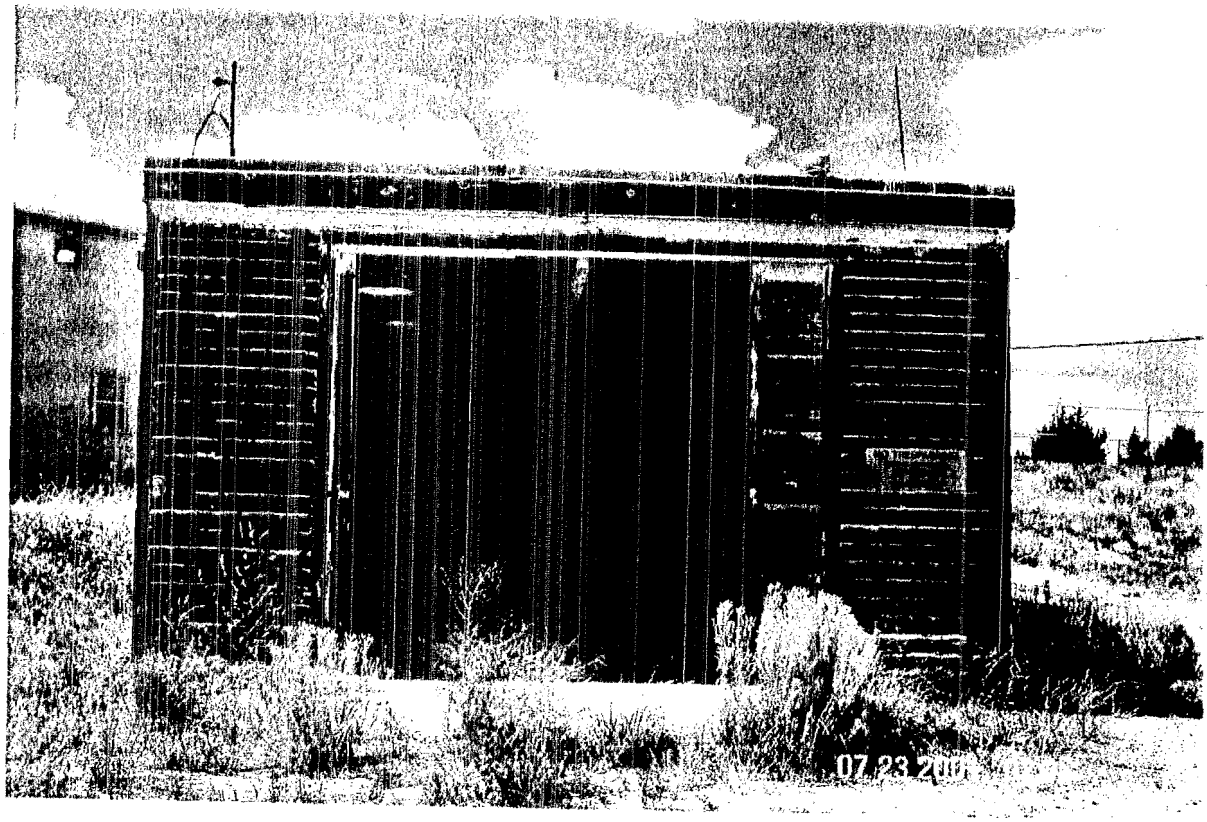
Building threatened? yes	Surveyed date 7/29/2001 by J. Ronquillo and Ken Towery	County Los Alamos	ID no. TA-33-40
Field map Number n/a	UTM reference: Easting 386582 Northing 3960472 Zone 13		
Location description Technical Area (TA) 33, HP (Hot Point) Site, Main Site	City/town Los Alamos Land grant/reservation n/a		
Building name TA-33-40 Original name TA-33-40 (HP-40) Saw Building	Legal description USGS Frijoles 7.5 Series tnsp 19N range 6E sec Unplatted		
Camera name SBSP	Negative nos. 64 - 69	Location of neg. LANL, ESH-20	Date of construction ____ estimate 2/12/51 to 3/23/1951 actual source Facility & Waste Operations Division (FWO) records (LANL).
Style TA-33-40 is a wood frame building with a slanted or shed roof. (see below for more information)	Foundation material Reinforced concrete slab Wall material/surface The exterior walls are constructed of wood siding while the interior wall surface is finished with masonite panels	Use Present residential ✓other According to the MOADS database TA-33-40 is currently being used for general storage. historic residential ✓other TA-33-40 originally housed a slit saw and was called "the Saw Building."	Condition ____ excellent ____good __X__fair ____deteriorating

Degree of remodeling
__X__minor _____ moderate _____major
describe: **TA-33-40 was relocated northeast of building TA-33-39 in 1953 to make room for the Gas Handling Facility, TA-33-86. Heating, plumbing and electrical alterations, including room exhaust modifications were made to accommodate the relocation. A sand bag barricade was constructed around the building to shield a nearby road from possible shrapnel.**

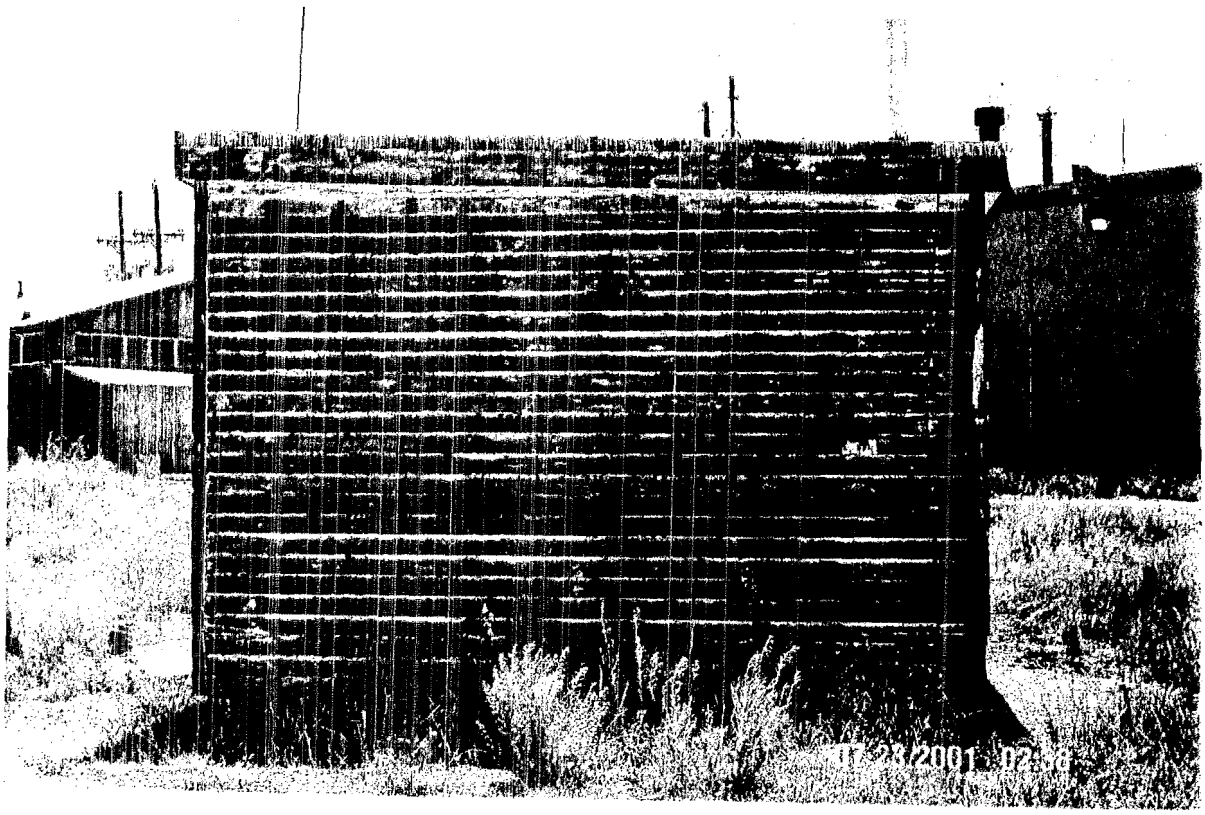
Surroundings	Relationship to surroundings	district potential
Developed Laboratory Technical Area 33	__X__similar ___not similar	___ yes __X__no
Significance __X__Eligible __of interest __none if not eligible, why?	Associated building? __X__yes What type? Industrial laboratory and office buildings If inventoried, list ID nos. TA-33-86, TA-33-19, TA-33-114, and other buildings at the Main Site area of TA-33.	Associated drawings (Photos and copies of the drawings are on following pages.) ENG-C1156 (sheet 1 of 3) Saw Bldg. HP-40, TA-33 Plot Plan & Details December 19, 1950 ENG-C1157 (sheet 2 of 3) Saw Building, HP-40, TA-33 Architectural Plan & Details Heating & Plumbing January 20, 1951

		ENG-C1158 (sheet 3 of 3) **Saw Building, HP-40, TA-33** **Electrical Plan & Section** **January 20, 1951** **ENG-C2955 (sheet 1 of 5)** **Relocation of Bldg. #40** **Plot Plan** **Bldg. HP-40, TA-33** **February 4, 1953** **ENG-C2956 (sheet 2 of 5)** **Relocation of Bldg. #40** **Foundation Plan & Sections** **Bldg. HP-40, TA-33** **February 4, 1953** **ENG-C2957 (sheet 3 of 5)** **Relocation of Bldg. #40** **Room Exhaust Modifications-** **Mech. Details** **Bldg. HP-40 (Saw Bldg.) TA-33** **February 17, 1953** **ENG-C2958 (sheet 4 of 5)** **Relocation of Bldg. #40** **Electrical-Plans- Dets.- Notes** **Bldg. HP-40, TA-33** **February 4, 1953** **ENG-C2959 (sheet 5 of 5)** **Relocation of Bldg. 40** **Electrical-Plot Plan- Notes** **Bldg. HP-40, TA-33** **February 4, 1953** **ENG-R3034 (sheet 1 of 1)** **Saw Building** **Floor Plan** **Bldg. HP-40, TA-33** **June 18, 1964** Size **335 gross ft^2** **(285 net ft^2)**

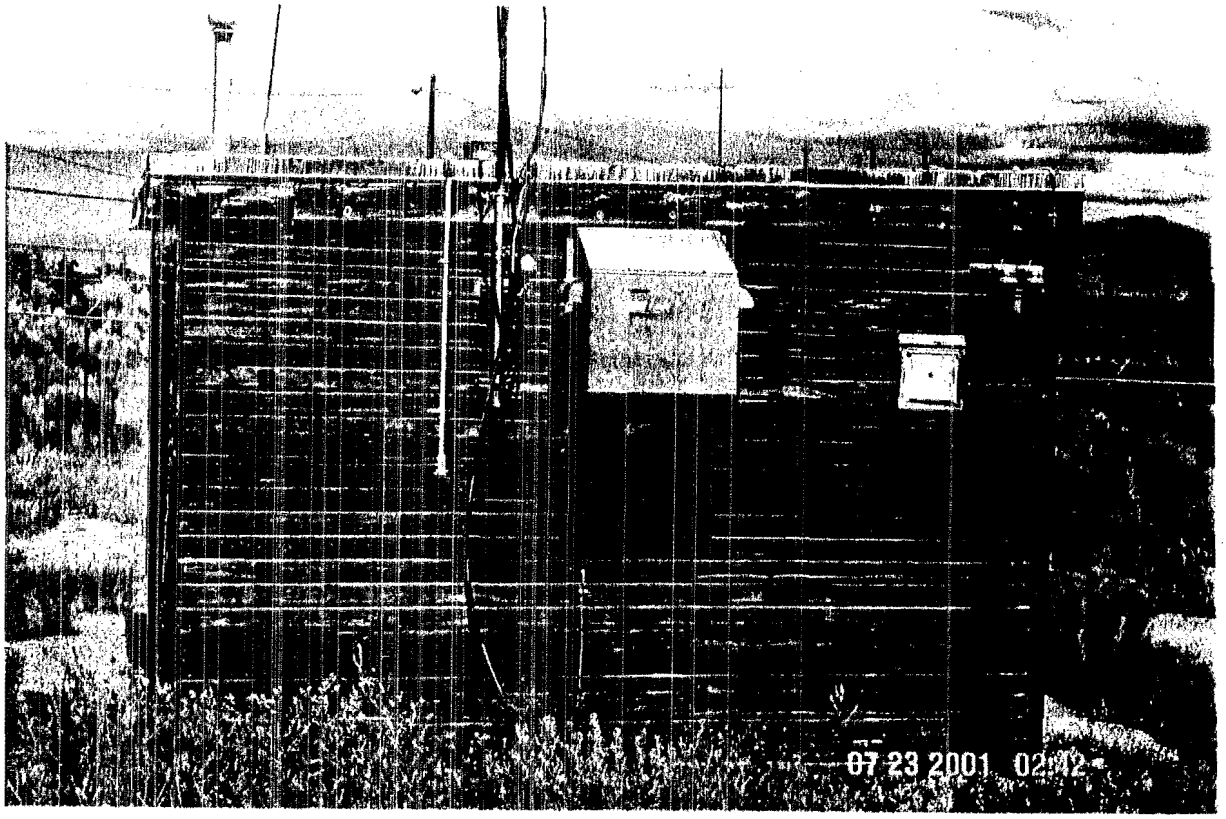
Architectural features	Comments
TA-33-40 is a free standing, windowless, one-story building of approximately 335 gross square feet. It is of wood frame construction and has a slightly pitched, shed-type "built up" roof. The building's exterior is ship-lapped, tongue and groove wood siding that has been painted. TA-33-40 sits on a reinforced concrete slab that ramps to the east of the building. It also has a sliding sectional wood door. The interior walls and ceiling are finished in masonite panels. There are five overhead pendant lights, a corner wall heater, and an overhead hoist inside the building. TA-33-40 originally housed a 24" saw with self-contained coolant. **According to drawing ENG-C2956, a sand bag barricade was situated approximately 4 feet from the building around the east, north and west elevations.**	**Built by the Zia Company. This building was relocated within the Main Site area in 1953 but its original function did not change. A slit saw in the building was used to saw open steel and uranium projectiles after they were retrieved from initiator experiments.** Associated historic theme **Cold War Nuclear Weapons Research and Development (specifically initiator testing)** Property type **Laboratory/Processing** Contamination history **Possible hazardous or radioactive materials used in or near the building include uranium and beryllium. LANL records indicate that a fan was installed in the roof of TA-33-40 because uranium fumes were emanating from saw operations.** Integrity **Fair** Eligibility **Eligible under Criterion A**



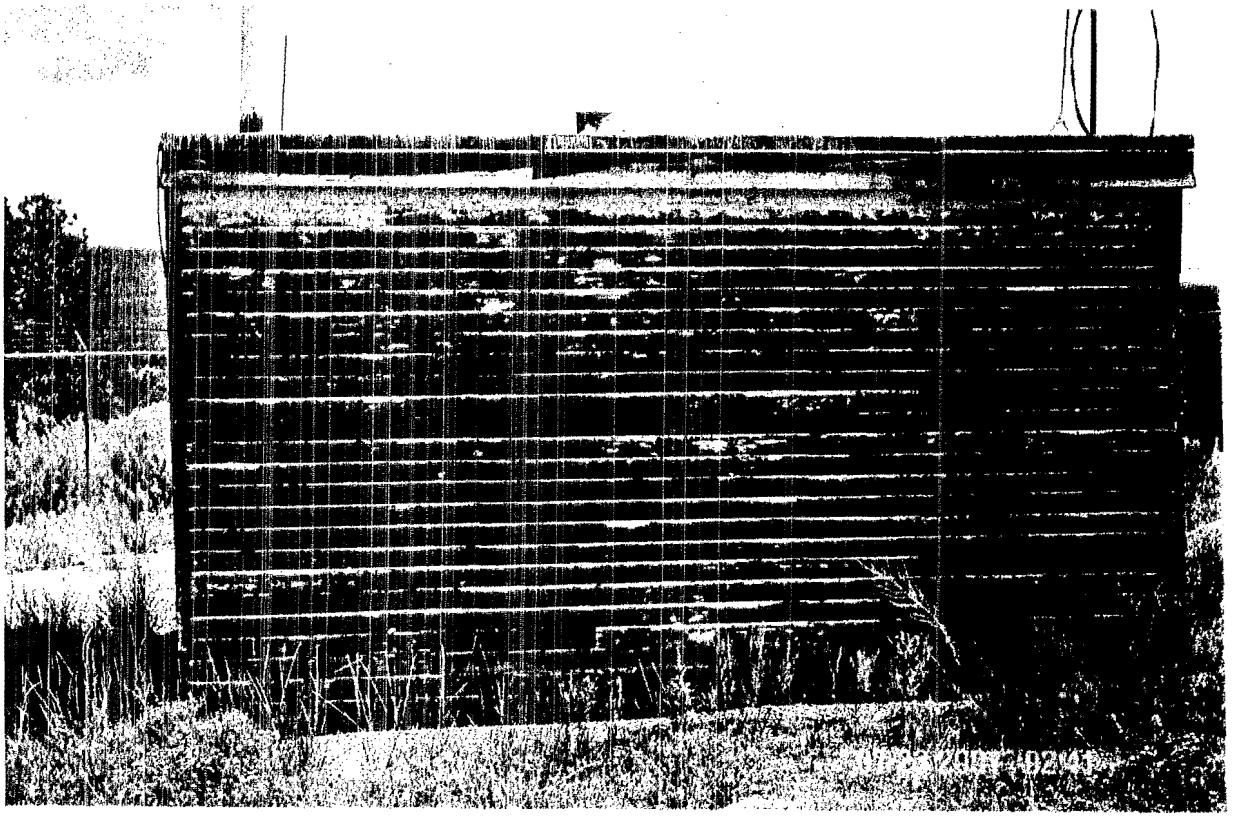
TA-33-40 South Elevation and Interior



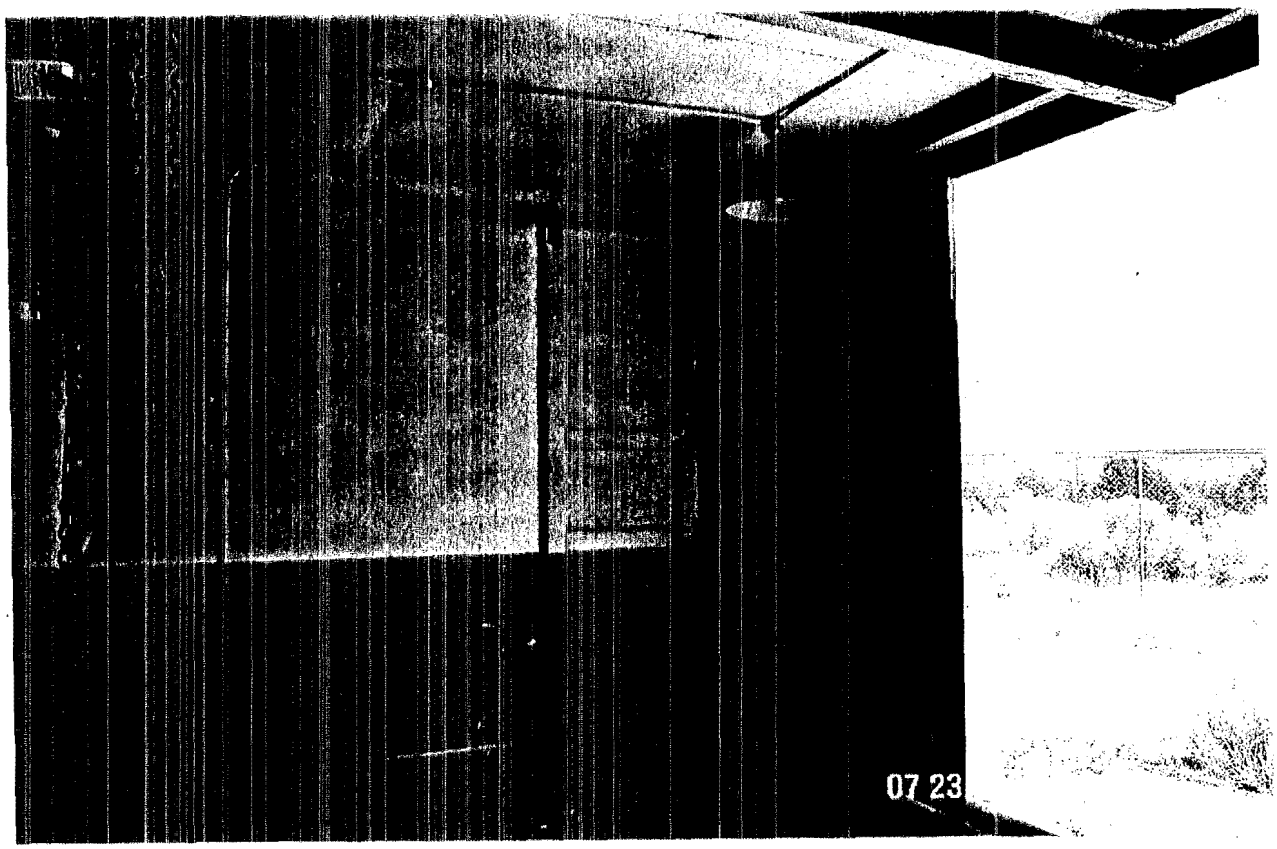
TA-33-40 East Elevation



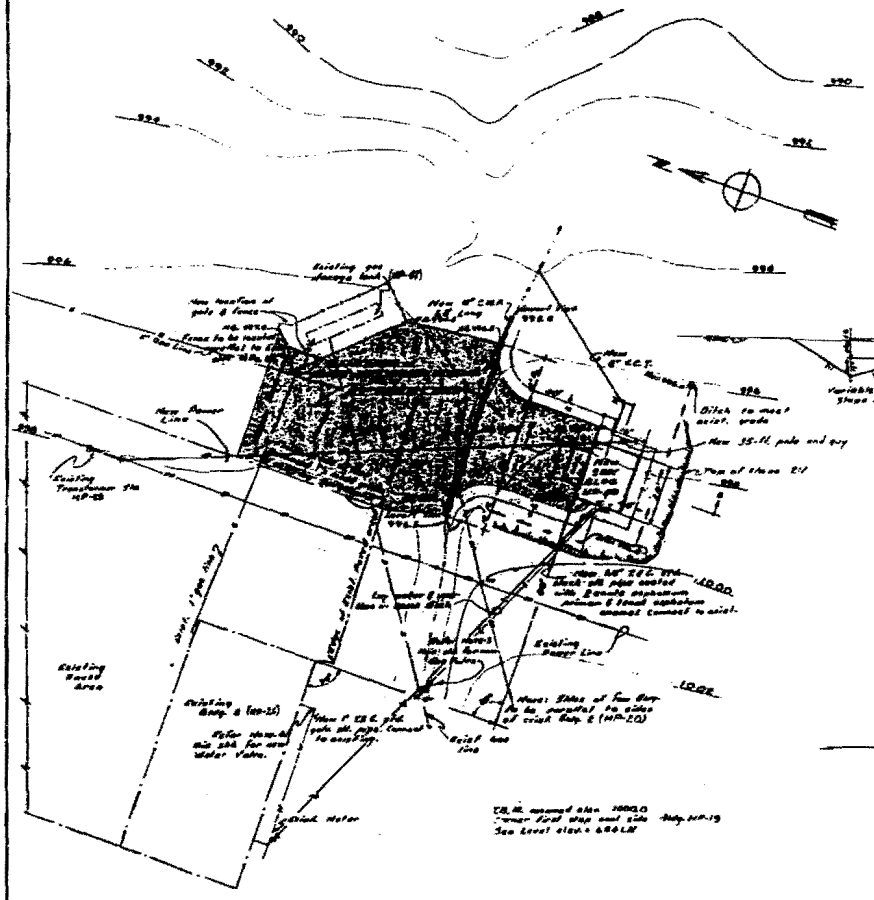
TA-33-40 North Elevation



TA-33-40 West Elevation

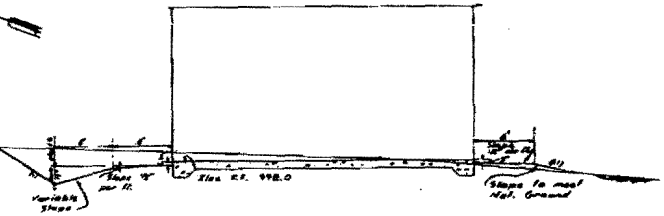


TA-33-40 Interior Sliding Section Door
looking southeast



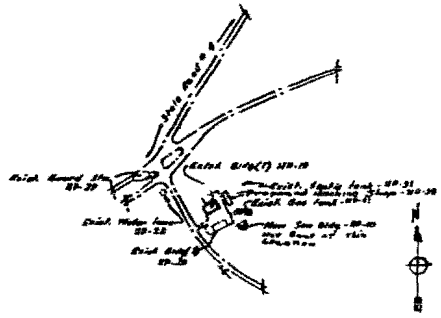
PLOT PLAN

Scale: 1"=20'



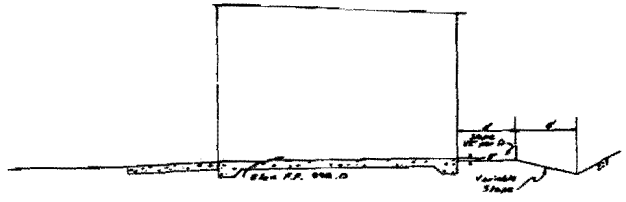
E-W SECTION

Scale 1/8"=1'-0"



LOCATION PLAN

Scale 1"=600'

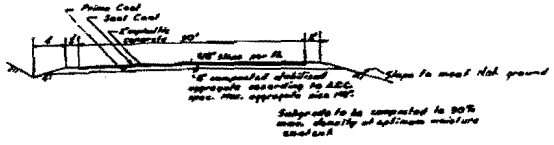


N-S SECTION

Scale 1/8"=1'-0"

NOTES:

1. Test for Gas Line: Compressed air at 15 psi. for 8 hrs. with no pressure drop.
2. Test for Water Line: Compressed air at 100 psi. for 2 hrs. with no pressure drop.
3. Hose gate valve to be 90° standardized service work with extension --bell-end pipe --Reference No. 6041, and Walworth No. 3026 extension service box for std.
4. Hose washer valve to be 6" Spring plug work (Crane body) Walworth No. 6412.
5. Where exact end grades are reqd. by construction indicated, they will be set on EWB-3 Survey Personnel prior to beginning of job.
6. Prime coat to consist of RC-1 cutback asphalt applied at the rate of 0.25 gal. per sq. yd.
7. 2" Hot Mix Asphaltic Concrete to meet A.S.C. specifications. Max. aggregate size ¾".
8. Seal Coat to consist of R.C.-5 applied at the rate of 0.3 gal. per sq. yd. and covered with 6 lb to 10 lb. of stone chips per sq. yd. Max. size of stone chips to be ½".
9. Paving material on driveway shall be delayed until snow weather permits the work to be done.



TYPICAL ROAD SECTION

Scale 1/8" = 1'-0"

This Set of Drawings Consists of:

ENG C 1156	Plot Plan & Details
ENG C 1157	Architectural Plan & Details, Heating & Plumbing
ENG C 1158	Electrical Plan & Sections

THIS NOT MUST BE INSPECTED AND ANY CHANGES APPROVED BY GELWICKS

OFFICIAL USE ONLY

RECORD DRAWING - AS BUILT CONSTRUCTION

SUBMITTED	RECOMMENDED	APPROVED
PROJ. ENG. DIV.	Date	ARC

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS, NEW MEXICO

SAW BLDG HP-40
TA-33
PLOT PLAN & DETAILS

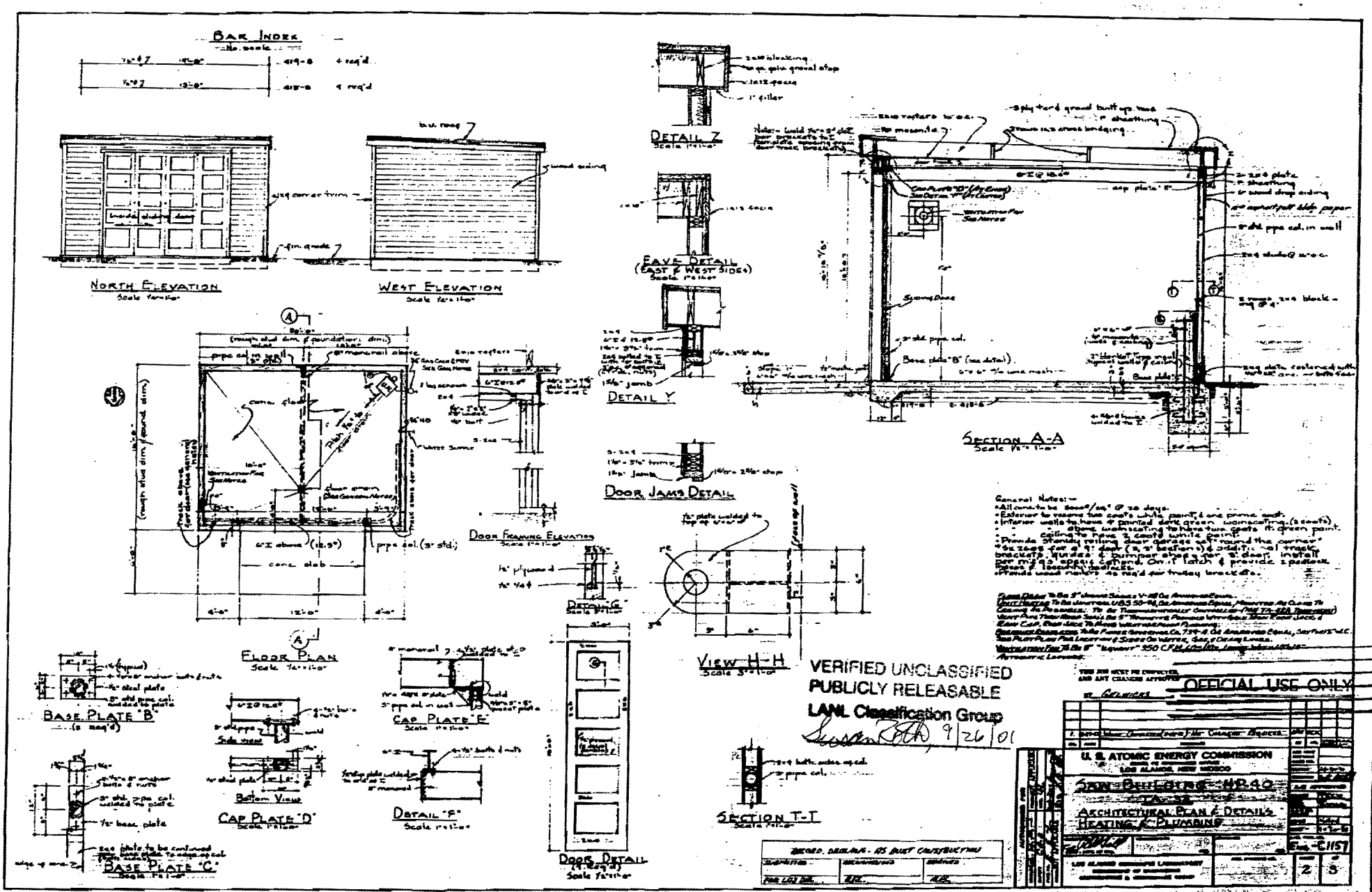
Eng. C 1156

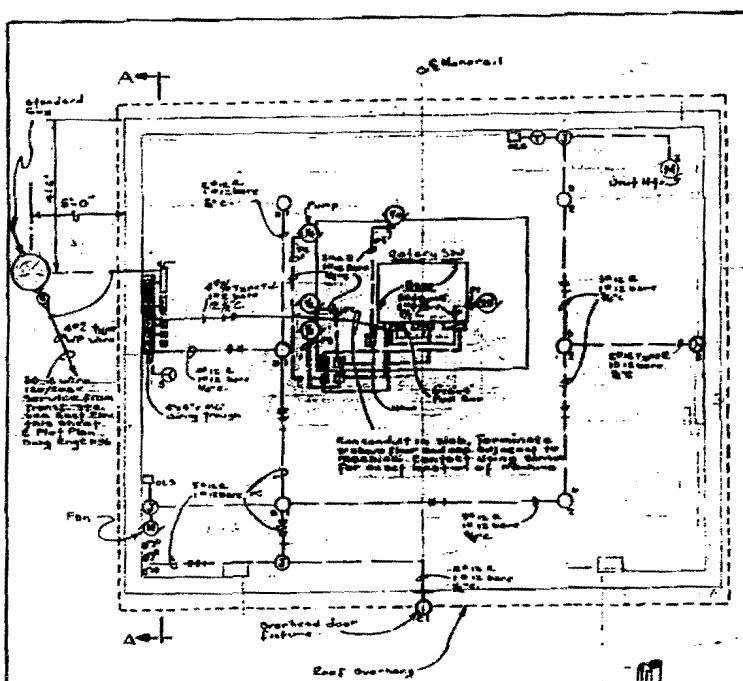
LOS ALAMOS SCIENTIFIC LABORATORY

1 | 3

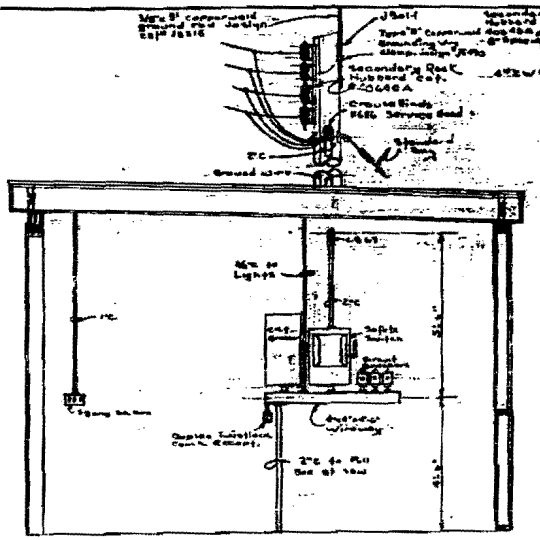
VERIFIED UNCLASSIFIED
PUBLICLY RELEASABLE
LANL Classification Group
Susan Roth, 9/26/01

J.O. No. 78062

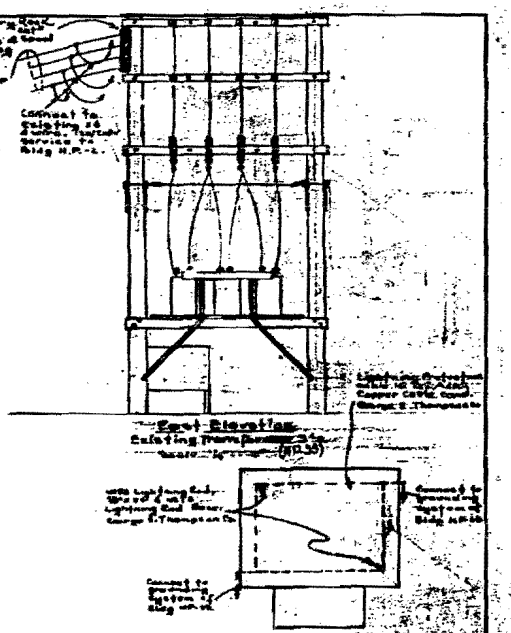

BAR INDEX
NORTH ELEVATION
WEST ELEVATION
DETAIL Z
EAVE DETAIL (EAST & WEST SIDES)
DETAIL Y
SECTION A-A
DOOR JAMB DETAIL
DOOR FRAMING ELEVATION
FLOOR PLAN
DETAIL G
VIEW H-H
BASE PLATE "B"
CAP PLATE "E"
CAP PLATE "D"
DETAIL "F"
BASE PLATE "C"
DOOR DETAIL
SECTION T-T
VERIFIED UNCLASSIFIED
PUBLICLY RELEASABLE
LANL Classification Group
9/26/01
OFFICIAL USE ONLY
U. S. ATOMIC ENERGY COMMISSION
GUN BUILDING #8940
ARCHITECTURAL PLAN & DETAILS
HEATING & PLUMBING
Dwg. C1157



Plan HP-40
Scale 1/4"=1'-0"

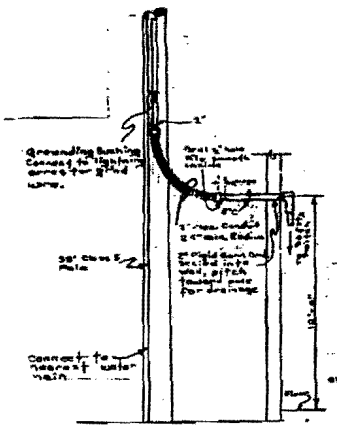


Section "A-A" HP-40
Scale 1/4"=1'-0"

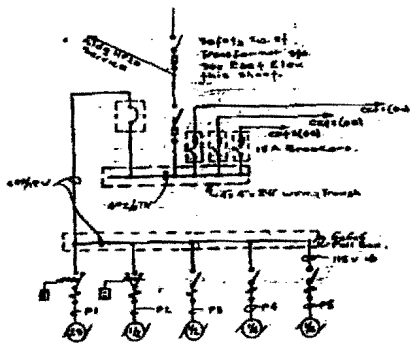


East Elevation
Existing Trans. Bank (HP-39)
Scale 1/4"=1'-0"

Lighting Panel (LP-1) Plan
Scale 1/4"=1'-0" HP-40



Pole Detail
Scale 1/4"=1'-0"



One Line Wiring Diagram

Symbols

- Single Pole Switch Hubbell cat# 1221
- ELM Standard Dome Reflector with 300W pendant type Mogul Benjamin cat# 7644. Fixtures to be suspended from Crossbrace Type 6 Conduit C Type 65 Bar Hanger picture Hangers (Typ.)
- ELM Standard dome Reflector with 200W Angle head. Benjamin cat# 3648.
- Duplex "Tuslock" Comb. Receptacle grounded, 125V; Hubbell cat# 5266
- Manual Thermal overload Switch - G.E. cat# CR101-H161
- Motor (Number denotes H.P.)
- Magnetic Starter (Existing)
- Magnetic Reversing Starter (Existing)
- Fused Safety Switch, 3 Pole 100A; Westinghouse cat# Br 325
- Push Button Switch 22... cat# CR10021M-2A (Non)
- Circuit Breaker 125V., 15A. Heinemann cat# 5031
- Air Circuit Breaker 100A. 6 frame, interchangeable trip units 3 pole 600V. 100 A. Frame, Westinghouse cat# DB 3221

General Notes.

1. The Complete electrical installation shall be installed in accordance with the current rules of the N.E.C.
2. All catalog numbers are given for reference only; substitutions may be made provided prior approval is obtained from the Engineering Department.
3. Flexible Safety Switch shall be provided with cartridge fuses of the time delay type, capable of holding 50% load for 10 sec. as made by Gould-Shawmut Mfg Co.
4. The contractor shall thoroughly check all apparatus, standard & associated equipment for damage and/or missing parts and shall make any repairs or additions necessary for first class operation.
5. All conduit shall be galvanized rigid steel of approved type and manufacture & shall not be less than 3/4" dia. No wire shall be smaller than #12 AWG for any branch circuit.
6. Provide and main grounding conductors to enclosures or frames of all electrical apparatus & equipment. Conductors shall be of same sect. & mat. as circuit conductors & shall be in accordance with the current rules of the N.E.C.

RECORD DRAWING - AS BUILT CONSTRUCTION

U. S. ATOMIC ENERGY COMMISSION
LOS ALAMOS, NEW MEXICO

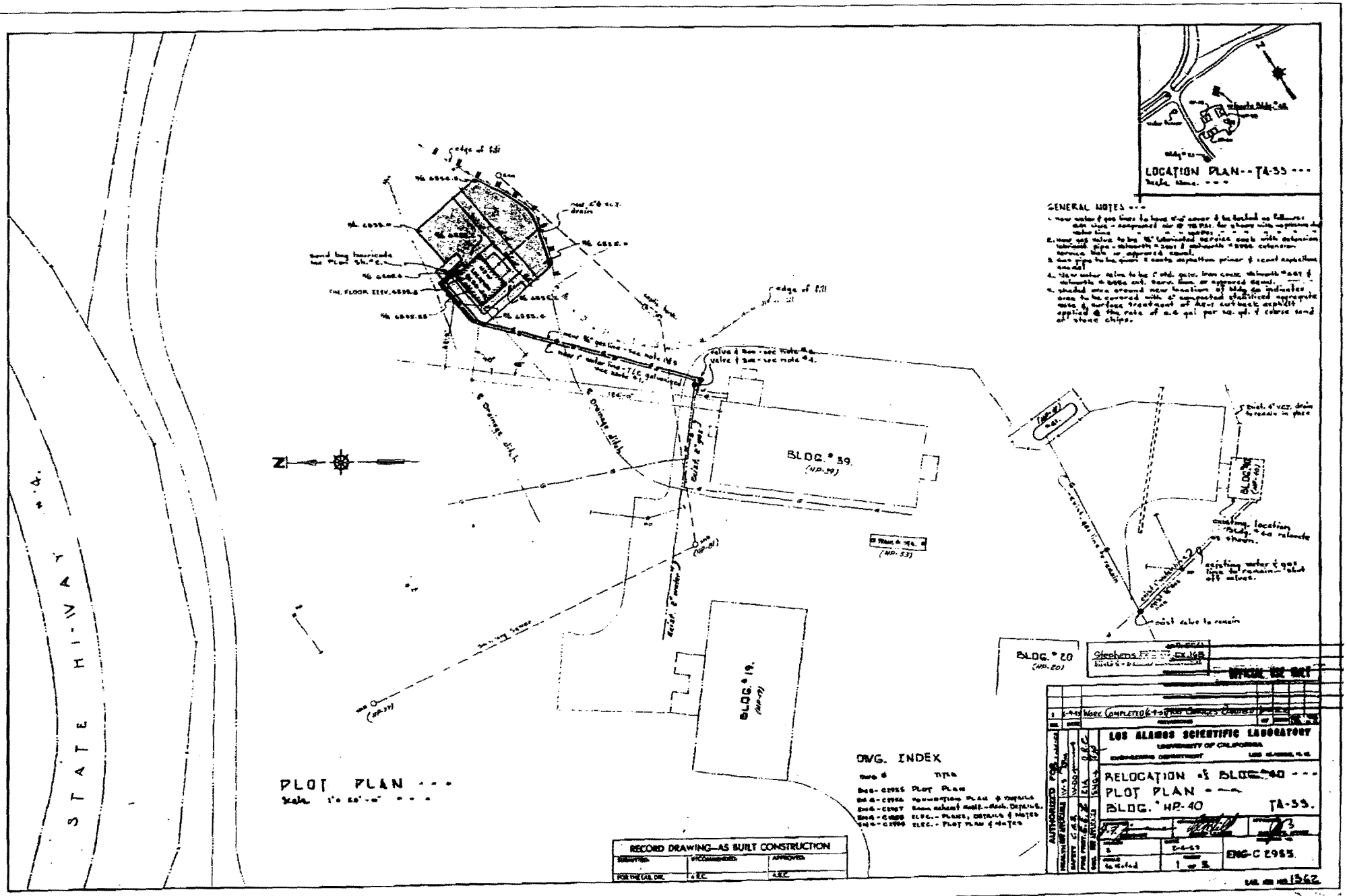
SAN BUILDING - HP-40
TA-33
ELECTRICAL PLAN & SECTION

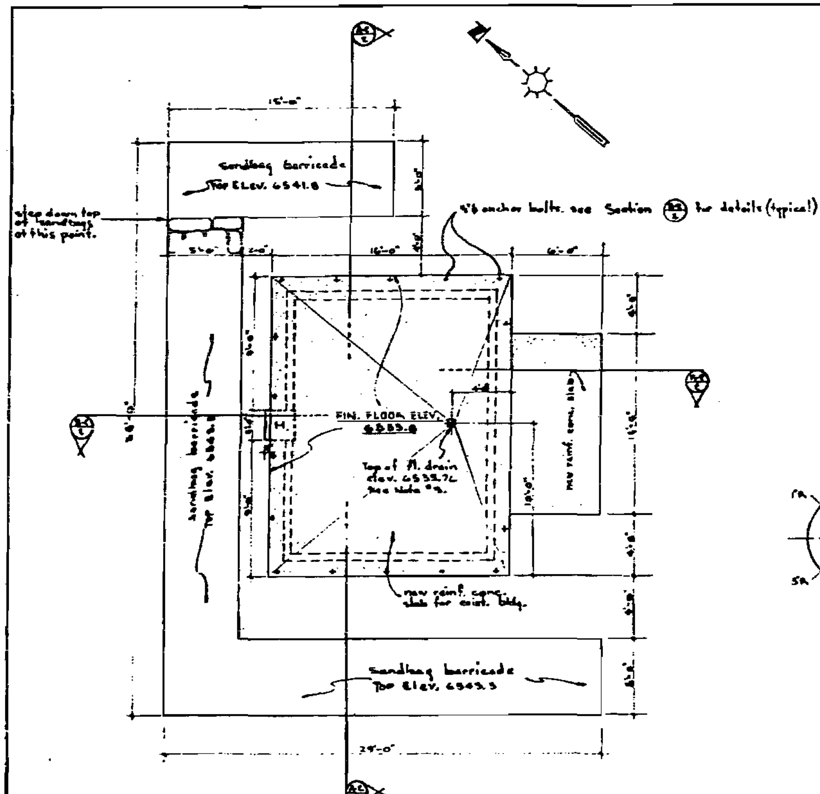
ENG-C1139

3 | 3

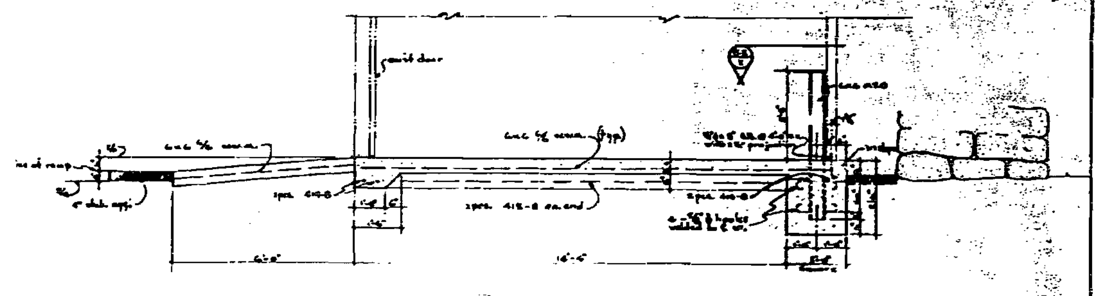
OFFICIAL USE ONLY

VERIFIED UNCLASSIFIED
PUBLICLY RELEASABLE
LANL Classification Group
Susan Roth, 9/26/01

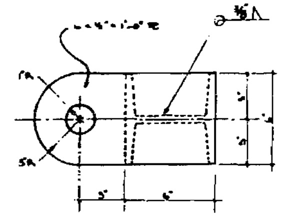

STATE HIGHWAY
BLDG. # 39.
(HP-39)
BLDG. # 19.
(HP-19)
BLDG. # 20
(HP-20)
PLOT PLAN ---
LOCATION PLAN -- TA-55 ---
GENERAL NOTES ---
OWG. INDEX
RECORD DRAWING—AS BUILT CONSTRUCTION
LOS ALAMOS SCIENTIFIC LABORATORY
RELOCATION of BLDG. #40 ---
PLOT PLAN ---
BLDG. # HP-40
TA-55.
ENG-C 2965.



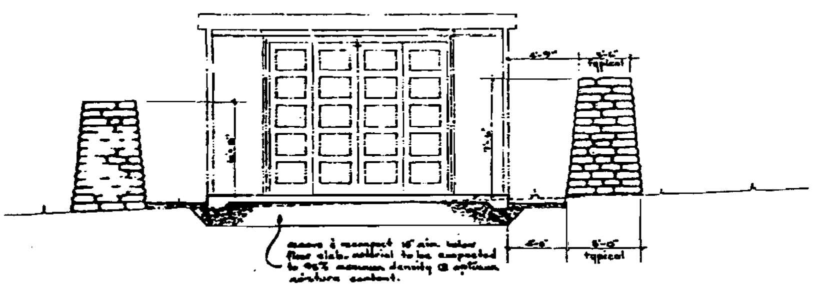
FOUNDATION PLAN - - -
Scale ¼" = 1'-0" - - -



SECTION (B-2) - - -
Scale ½" = 1'-0" - - -



SECTION (C-2) - - -
Scale 3" = 1'-0" - - -



SECTION (A-2) - - -
Scale ¼" = 1'-0" - - -

GENERAL NOTES:

1. All concrete to be class "A" 3000 psi @ 28 days.
2. Relocate Bldg. #40 as shown on sh. #1.
3. Floor drain to be 3" Josam series [illegible] or approved equal.
4. Sand bags to be filled with clay loam with a maximum particle size of ¾"

BAR INDEX - - -

Bar designation	type	size	length	no. Reqd.
416-B	str.	#4	16'-0"	4
419-B	str.	#4	15'-6"	4

RECORD DRAWING—AS BUILT CONSTRUCTION

SUBMITTED	RECOMMENDED	APPROVED
FOR THE LAB. DIR.	A.E.C.	A.E.C.

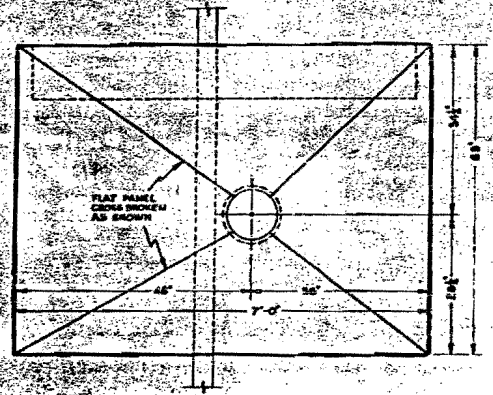
Stephens PHONE 7-5561

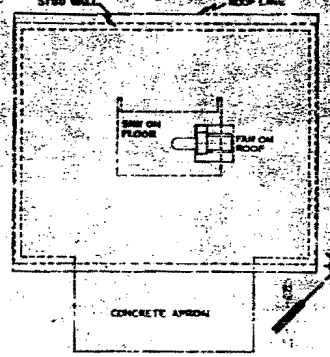
1 | Work Completed (as-is) No Changes Required

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N. M.

RELOCATION OF BLDG. #40 - - -
FOUNDATION PLAN & SECTIONS -
BLDG. #HP-40 TA-33.

Scale: as noted.
2 of 3
ENG-C2956

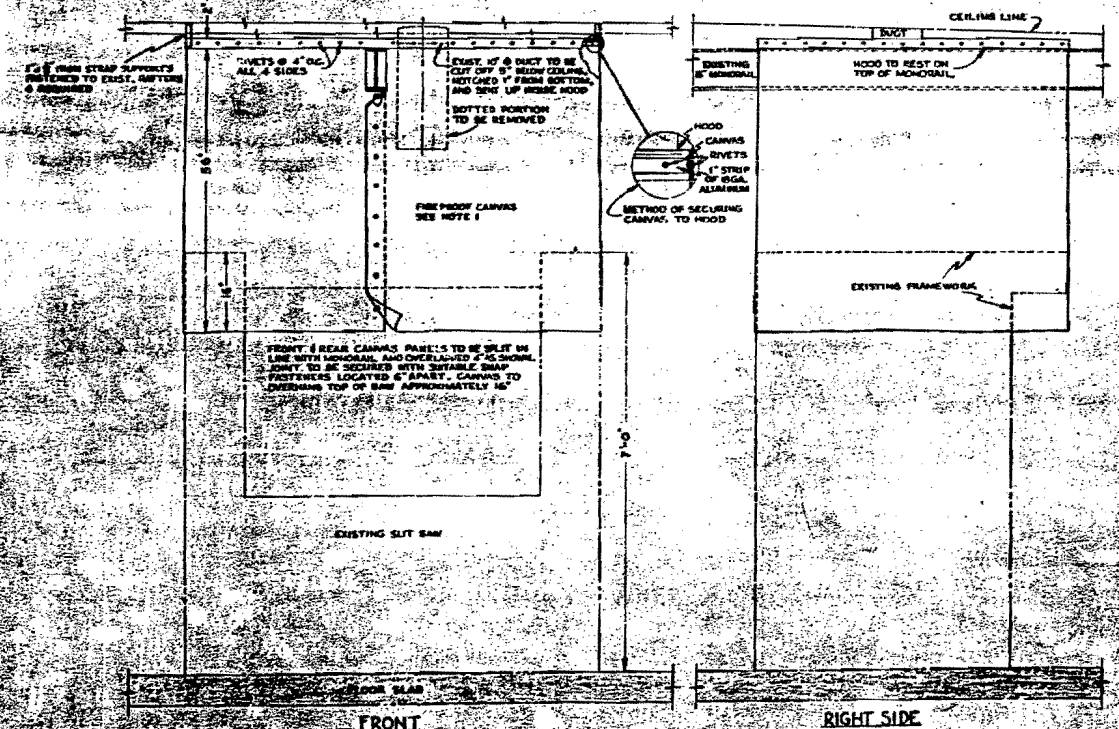




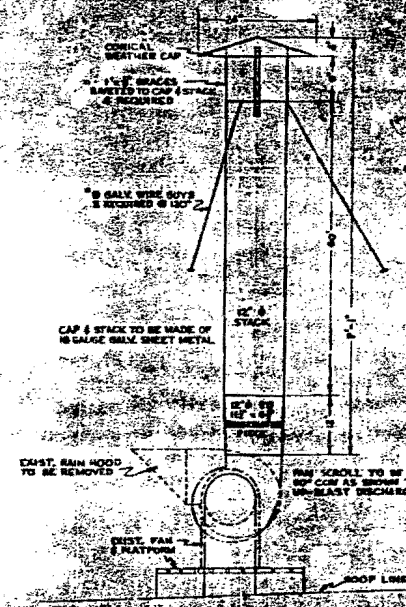
ROOF & FLOOR PLAN
SHOWING LOCATION OF EXIST. EQUIPMENT
SCALE 1/4"-1'-0"

NOTES

1. FIREPROOF CANVAS TO BE OBTAINED FROM STEINBACH'S SAFETY SUPPLY, 500 ELLICOTT ST., BUFFALO 3, N.Y., OR APPROVED EQUAL.
2. OVERALL SAW DIMENSIONS SHOWN ARE APPROXIMATE.



SLIT SAW EXHAUST HOOD
SCALE 1"=1'-0"

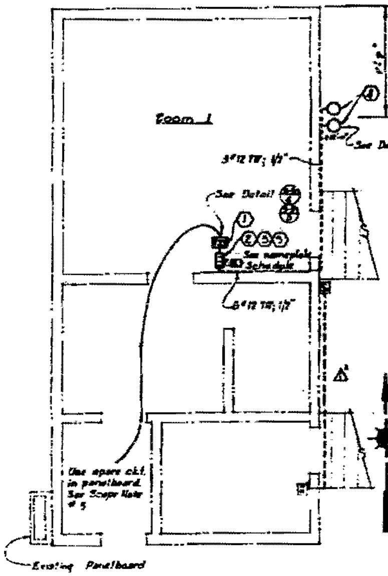


NEW EXHAUST STACK - EAST SIDE
SCALE 1"=1'-0"

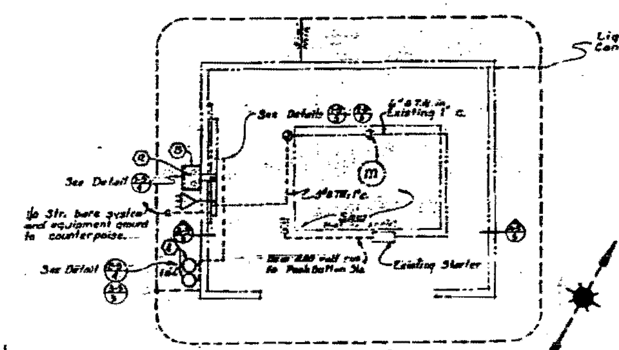
RECORD DRAWING - AS BUILT CONSTRUCTION

LOS ALAMOS SCIENTIFIC LABORATORY

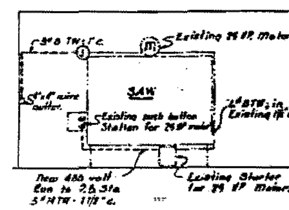
RELOCATION OF BLDG. 40
ROOM EXHAUST MODIFICATIONS - MECH. DETAILS
BLDG. 40 (SAW BLDG.) TA-33



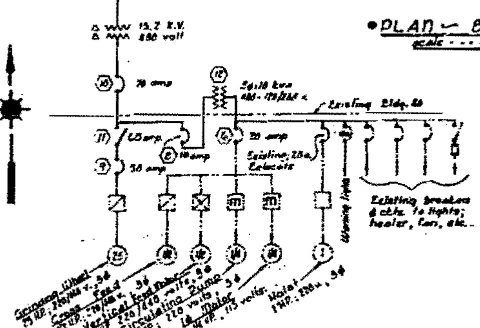
• PLAN — BLDG. #3 (TA-33-21) •
(HP-21)
scale: ..... 1/4" - 1'-0"



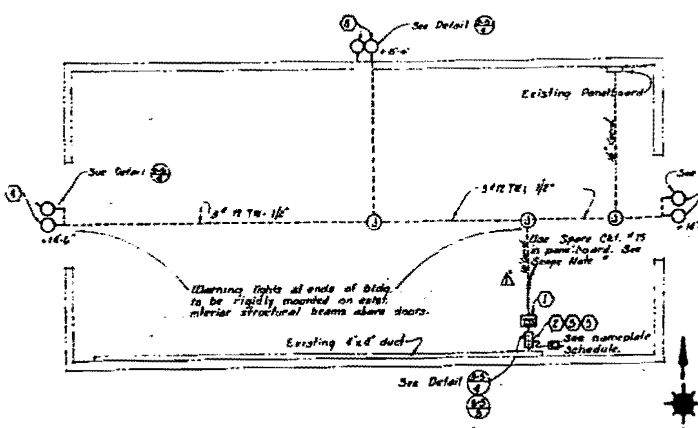
• PLAN — BLDG. #40 •
(HP-40)
scale ..... 1/4" - 1'-0"



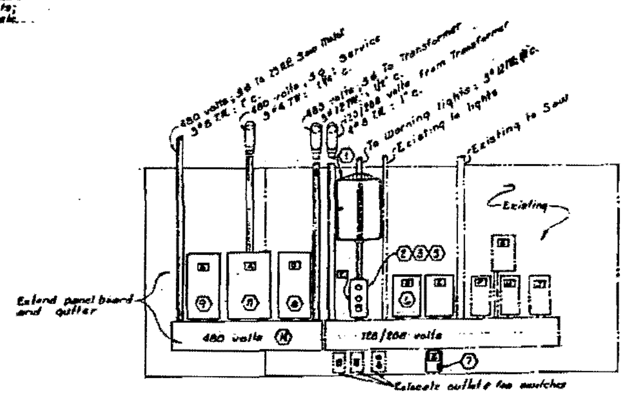
• ELEVATION — •
scale ... none



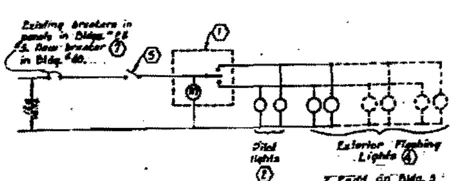
• DETAIL — •



• PLAN — BLDG. #2 (TA-33-20) •
(HP-20)
scale ...... 1/8" - 1'-0"



• DETAIL — •



• DETAIL — •
no scale

• BILL OF MATERIALS •

The Bill of Material is intended only as an aid in estimating and material take-off, and does not necessarily all materials required. Except where noted, catalog numbers are given as reference only; equal approved substitutions may be made.

Item No.	Description	Mfr. & Catalog No.	No. Req'd
1	Switch; Motor Flashing: 20 to 30 flashes per min. 1000 watt; 11 amp. 115 volts; 60 cycle; 2 circuit with filter; double contact.	Crouse-Hinds #TS5 70 4.5 (in Zia Stock)	3
2	Pilot lights with transformer and 6-8 volt bulb. 110 volt, 60 cycle	Square D Class 9001 Type TP1E	6
3	Enclosures, Surface mounting. (If not available, fabricate encl. from 4"x4" duct.)	Square D Class 9001 Type TY-30	3
4	Lighting Fixtures: Vaportight, with guard and red glass globe, 100 w.	Crouse-Hinds #V11799	10
5	Selector Switch; S.P.D.T.; nameplate OFF-ON.	Square D Class 9001 Type T31A	3
6	Circuit Breaker: 3 pole, 20 amp. 240 volts.	Heinemann #8863 01	1
7	Circuit Breaker: 1 pole; 15 amp. 115 volts.	Heinemann #5011	1
8	Circuit Breaker; 3 pole; 15 amp. 460 volts. (Zia Stock #[illegible])	Heinemann #5044	1
9	Circuit Breaker; 3 pole; 50 amp. 600 volts; general purpose enclosure.	Heinemann #5044	1
10	Circuit Breaker; 3 pole; 70 amp. 600 volts; Water & dust tight enclosure.	Trumbull #AT63L678C	1
11	Safety Switch; 3 pole; 60 amp. 575 volts; non-fusible; NEMA-1. enclosure; Type "C"	Square D #C41542	1
12	Transformer; 480-120/208 volts; 3ɸ; 10 KVA.	Burton Style #1101 Serial #3140 Zia Stock #1726310184	1
13	Enclosure; 14 ga. galv. Sh. metal (for transformer) See Detail		1
14	Wire Gutter; 14 ga. Sheet metal 4"x4" x 2'-6" (Approx.)		1

NAMEPLATE SCHEDULE

[illegible]	Main Disconnect: 480 volts: 3ɸ
[illegible]	Saw; 480 volts: 3ɸ
[illegible]	Transformer: 480-120/208 volts
[illegible]	Saw: 120/208 volts: 3ɸ
[illegible]	Hoist
[illegible]	Lights
[illegible]	Exhaust Fan
[illegible]	Lights
[illegible]	Heater
[illegible]	Warning Lights

RECORD DRAWING—AS BUILT CONSTRUCTION

SUBMITTED	RECOMMENDED	APPROVED
FOR THE LAB. DIR.	A.E.C.	A.E.C.

Stephens T-5561 Ex. 168

OFFICIAL USE ONLY

As Built Status – Blanked, 2" Cond. & Added Flasher Lights

REVISIONS

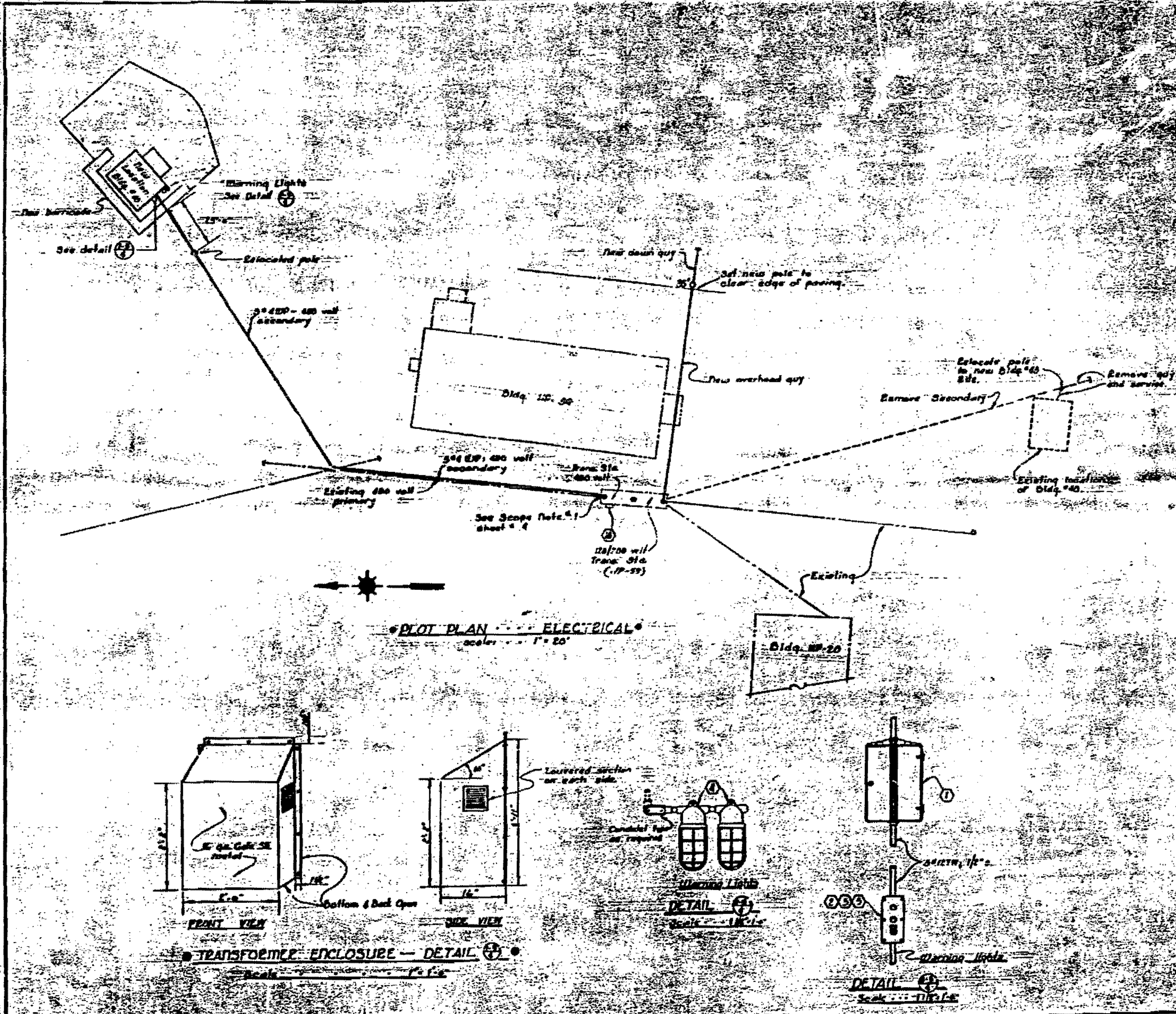
AUTHORIZED FOR

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

RELOCATION OF BLDG. #40
ELECTRICAL — PLANS — DETS. — NOTES
BLDG. HP-40 — TA-33

DRAWN: SF
DATE: 3-4-53
SCALE: as noted
SHEET: 4 of 5
ENG-C 2958

LAB. JOB NO. 1362



• SCOPE OF WORK •

1. Relocate 13.8 K.V. primary [illegible] 480 volt transformer station [illegible] new 480 volt secondary. This will require relocation of 3 primary [illegible] to match primary of 120/208 volt transformer station. [illegible] new 70 amp circuit breaker [illegible] 480 volt transformer [illegible] Ref. Elec. Plot Plan.
2. Install new 4 wire, 3 wire, 480 volt secondary to relocated Bldg. #40. [illegible]
3. Revise service and power distribution panel at relocated Bldg. 40 for 480 volt service in accordance with drawings. This will include installation of [illegible] 480–120/208 volt dry transformer in a weatherproof box on exterior of bldg. Ground secondary [illegible]. Ref. Floor Plan [illegible] & Dets.
4. Re-connect [illegible] H.P. [illegible] motor and starter for 480 volt operation. Provide separate conduit run for 480 volt circuit. Ref. Floor Plan [illegible]
5. Provide and install warning light systems at Bldgs. [illegible] & 40 in accordance with drawings. Handles of all circuit breakers supplying warning lights to be painted red. Ref. Floor Plan & Details

• GENERAL NOTES •

1. The entire installation to be made in accordance with the current rules of the N.E.C.
2. All raceway and the frames and enclosures of all motors, breakers, switches, and other electrical equipment to be effectively grounded.
3. All branch circuits to be identified at panels; all individual circuit breakers, motor starters, and contactors to be identified by means of engraved laminated bakelite name plates, except where function is obvious.
4. Conduit runs shall be routed to suit equipment and building structure.
5. Holes made in exterior walls of buildings, for electrical conduit, to be sealed.
6. Reconnect exhaust fan on roof, to existing circuit.

RECORD DRAWING—AS BUILT CONSTRUCTION

A.E.C. | A.E.C.

Stephens [illegible]

OFFICIAL USE ONLY

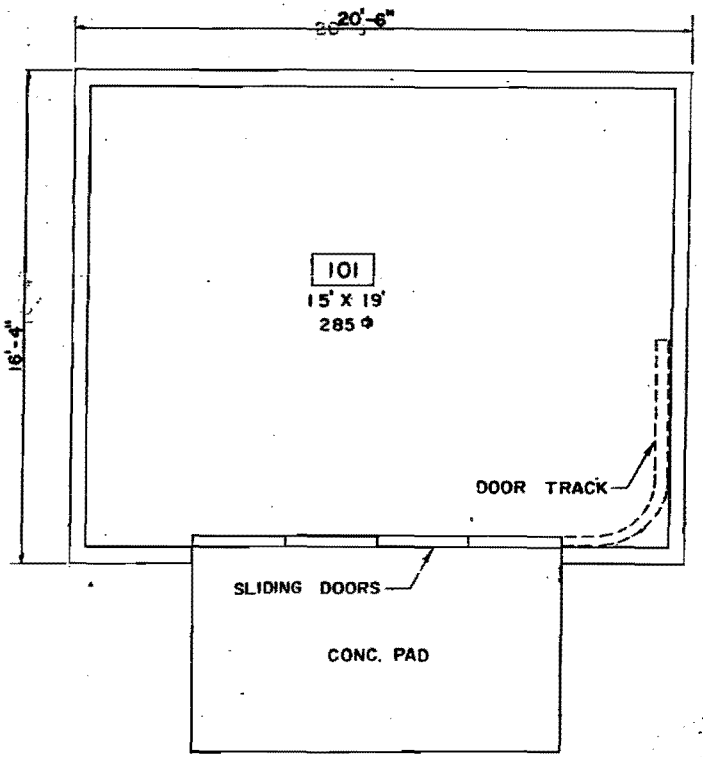
[illegible] Work Completed (6-9-[illegible]) No Changes Required

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N.M.

RELOCATION OF BLDG 40
ELECTRICAL — PLOT PLAN — NOTES
BLDG. HP-40

as noted

ENG-C 29[illegible]



(1/4"=1'-0")

1 0 5 10

GRAPHIC SCALE

TOTAL SQ. FT. 285

REV.	DATE	REVISION	BY	CHK.	APP.
1	6-8-84	REVISED TO STATUS OF 6-8-84	HBM		

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

FACILITIES ENGINEERING DIVISION

SAW BUILDING FLOOR PLAN

BLDG. HP-40 TA-33

DRAWN	BREMER	DATE	6-16-64
CHECKED	HBM	SHEET NO.	1 OF 1
		DRAWING NO.	ENG-R3034

REC'D ___ LOGGED ✓ TO VAULT 7/1/84

REC'D 7/1/84 LOGGED 7/1/84 TO VAULT 7/1/84