300 Area Disturbance Report

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Summary

The objective of this study was to define areas of previous disturbance in the 300 Area of the U.S. Department of Energy (DOE) Hanford Site to eliminate these areas from the cultural resource review process, reduce cultural resource monitoring costs, and allow cultural resource specialists to focus on areas where subsurface disturbance is minimal or nonexistent. Research into available sources suggests that impacts from excavations have been significant wherever the following construction activities have occurred: building basements and pits, waste ponds, burial grounds, trenches, installation of subsurface pipelines, power poles, water hydrants, and well construction. Beyond the areas just mentioned, substrates in the 300 Area consist of a complex, multidimensional mosaic composed of undisturbed stratigraphy, backfill, and disturbed sediments.

Four Geographic Information System (GIS) maps were created to display known areas of disturbance in the 300 Area. These maps contain information gleaned from a variety of sources, but the primary sources include the Hanford GIS database system, engineer drawings, and historic maps. In addition to these maps, several assumptions can be made about areas of disturbance in the 300 Area as a result of this study:

- Buried pipelines are not always located where they are mapped. As a result, cultural resource monitors or specialists should not depend on maps depicting subsurface pipelines for accurate locations of previous disturbance.
- Temporary roads built in the early 1940s were placed on layers of sand and gravel 8 to 12 in. thick. Given this information, it is likely that substrates beneath these early roads are only minimally disturbed. Building foundations ranged from concrete slabs no more than 6 to 8 in. thick to deeply excavated pits and basements. Buildings constructed with slab foundations are more numerous than may be expected, and minimally disturbed substrates may be expected in these locations.
- Historic black and white photographs provide a partial record of some excavations, including trenches, building basements, and material lay-down yards. Estimates of excavation depth and width can be made, but these estimates are not accurate enough to pinpoint the exact location where the disturbed/undisturbed interface is located (e.g., camera angles were such that depths and/or widths of excavations could not be accurately determined or estimated). In spite of these limitations, these photographs provide essential information.
- Aerial and historic low-level photographs have captured what appears to be backfill throughout much of the eastern portion of the 300 Area—near the Columbia River shoreline. This layer of fill has likely afforded some protection for the natural landscape buried beneath the fill. This assumption fits nicely with the intermittent and inadvertent discoveries of hearths and stone tools documented through the years in this part of the 300 Area. Conversely, leveling of sand dunes appears to be substantial in the northwestern portion of the 300 Area during the early stages of development.

- Project files and engineer drawings do not contain information on any impromptu but necessary adjustments made on the ground during project implementation—after the design phase. Further, many projects are planned and mapped but never implemented—this information is also not often placed in project files.

Specific recommendations for a 300 Area cultural resource monitoring strategy are contained in the final section of this document. In general, it is recommended that monitoring continue for all projects located within 400 m of the Columbia River. The 400-m zone is culturally sensitive and likely retains some of the most intact buried substrates in the 300 Area.

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1.0 Introduction

Native American people and their ancestors lived in and near the 300 Area from prehistoric times to the recent past (Relander 1986). The physical evidence of the Native American presence and of the EuroAmerican settlers that followed is expressed today as prehistoric and historic archaeological sites. As populations slowly increased, ground disturbing activities—associated with the construction of roads, homesteads and farmsteads, irrigation canals, and towns—began to gradually change the landscape.

By 1930, several farms, a school, irrigation canals, and a small town were present in the area known today as the 300 Area. Following federal acquisition of the land by the Manhattan Project in the early 1940s, the 300 Area became the location of the uranium fuel fabrication plants that manufactured fuel for Hanford reactor operation, the first essential step in the plutonium production process. At that time, the Site's research and development laboratories also were located in the 300 Area.

The industrial development of the 300 Area resulted in substantial changes to the landscape. Construction activities and industrial development have continued through the years to the present time. With each passing phase of new construction, the challenges of repairing, maintaining, and excavating new basements, foundation footings, trenches, and pipelines for water, sewage, and waste transport increased. Not only did draftsmen design new buildings and roads, but they were faced with managing construction activities to avoid (whenever possible) the buried residue of previous land-use activities. Often, the location of buried infrastructure, such as pipelines, was poorly known and/or recorded, resulting in the need to excavate footings, trenches, or holes by hand to ensure, for example, that active or "live" pipes or wires were not severed or damaged.

The subsurface of the 300 Area contains a wealth of information about previous land-use practices, including prehistoric and ethnographic use, historic use and development, and the industrial development associated with the Manhattan Project and the Cold War eras. Although industrial development has slowed in the 300 Area, the need to consider the presence or absence of buried cultural deposits (whether prehistoric or historic in nature) is a primary factor in the success of future planning and in meeting requirements of the National Historic Preservation Act, as amended.

1.1 Objective

The objective of this study was to define areas of previous disturbance in the 300 Area and display these areas of disturbance on Geographic Information System (GIS) maps. Standard research methods were used throughout the study period. A wide range of Hanford Site documents and records were investigated for this project. The sources researched include but are not limited to electronic databases, engineer drawings, historic documents and records, technical reports, project reports, maps, and photographs. Each source was considered for its ability to provide sound quantitative data for the disturbance project. Four GIS maps depicting verifiable areas of disturbance for the 300 Area were developed. These maps can be used to eliminate areas of disturbance from the cultural resource review process, reduce monitoring costs, and allow cultural resource specialists to focus their investigations in the 400-m zone where buried cultural resources are known to exist and where subsurface disturbance is minimal or nonexistent.

1.2 Report Contents

Section 2.0 of this report briefly describes land use patterns through time. This section also discusses cultural resource sites and historic properties known to exist within and adjacent to the 300 Area. Section 3.0 introduces the issues associated with cultural resource monitoring of previously disturbed ground and preservation of unanticipated cultural deposits. Section 4.0 contains information about areas of previous disturbance. These data have been extracted from a variety of sources and provide the baseline data for the GIS disturbance maps and recommendations for further study. Conclusions and recommendations for further study are presented in Section 5.0. Appendices A through E provide supporting information.

2.0 Background

Native American people have been in the 300 Area and surrounding region for thousands of years, as evidenced by archaeological deposits, oral histories, and historic accounts (Relander 1986; Swindell 1942). EuroAmerican resettlement of the Hanford Site began during the 1800s as cattlemen passed through the area with livestock. The settlers that followed built homes and irrigation systems. Communities sprang to life at White Bluffs, Hanford, Richland, and Wahluke. EuroAmerican settlement was coupled with concurrent changes in the Native American lifestyle and subsistence as the non-Indian population increased.

During the 1930s, the lands that would become the 300 Area were characterized by stabilized dunes and sparse vegetation (Figure 2.1). Although some settlement had occurred, only minor modifications had been made to the landscape including a north/south trending irrigation ditch, the fledgling community of Fruitland, agricultural fields, widely scattered structures, and several informal roads (Figure 2.1). Settlement continued into the early 1940s (Figure 2.2), but following federal acquisition of the Hanford Site in 1943, all residents of the Site, including those located near the future 300 Area, were asked to leave. Soon after, the E.I. du Pont de Nemours and Company, Inc., began an assessment of pre-existing conditions and facilities at the future 300 Area (du Pont 1945).

Industrial development in the 300 Area began to take shape April 6, 1943, as site layout work and a preliminary topographic survey began. Originally, the entire 300 Area—from the road to the Columbia River and from the north fence line to the south fence line—comprised approximately 115.25 acres, of which 52.5 acres were fenced (Figure 2.3).

A topographic survey of the proposed 300 Area was completed during the start-up phase of the Manhattan Project. The layout design of temporary and permanent buildings and other facilities such as roads, sewer systems and walkways was completed April 28, 1943. The topographic surface and existing improvements of the 300 Area were ably described in du Pont's Construction Hanford Engineer Works...History of the Project Volume IV (1945):

There was one principal and highly useful facility available in the vicinity of the 300 Area prior to the start of construction. This was the 66 KV, 20,000 KVA, 3 phase, Pacific Power and Light Company's line between Hanford and Pasco, which was used as the source of all power for the Area, both temporary and permanent.

A semi-bituminous two-lane road, which was the main highway between Pasco and Hanford, paralleled the future southern boundary of the Area at a distance of approximately one mile. A narrow, gravel unfaced road extended from the highway to the vicinity of the 300 Area. Vegetation in the Area consisted of the usual desert plants, i.e., sagebrush, greasebushes and cheat grass.

The soil conditions in the 300 Area are in general similar to those encountered in the Richland Area. The land, prior to the start of construction, was fairly level, varying from a high of approximately 400 feet above sea level (in the north and eastern portion of the area) to a low of 388 feet above sea level in the southwestern portion. To the east, outside the fence line, the land gently slopes to the level of the river

Figure 2.1. Black and White Aerial Photograph Taken in 1930 (USGS 1930, A40, 1:22,500) of the Lands that Would Become the 300 Area in 1943

Township 10 N, Range 28 E., Sections 2 and 11
Willamette Meridian

FROM HANFORD ENGINEER WORKS REAL ESTATE MAP, 7/2/43.

Figure 2.2. Landownership as of 1943 Before Government Acquisition (USAEC 1943, Segment "J")

Figure 2.3. 1948 Aerial Photograph (GS-XB 2-21) of the Early 300 Area. (Note the landform morphology in surrounding lands.)

which varied from a height of 333 ft to 348 ft above sea level during 1944. Essentially the soil materials in the 300 Area are the remains of a large sand and gravel bar developed by the waters of the Columbia River as it carried the melted snows from the Cascade Range. The top soil varies in depth from 4 to 12 inches and consists of a grayish sandy loam or a grayish unstable silt loam. Below the top soil is a low clay content stratum of yellow sand varying in thickness from 8 to 24 inches. This layer at certain locations has a uniform size of the sand grains and approximates the size of sugar particles, while at other locations the material contains enough larger particles of graded gravel to be classified as a gravelly sand and is quite a stable material. Where the layer approaches the size and uniformity of sugar the material has very little stability in supporting wheel loads, and cut slopes must be exceedingly gentle to attain a stable angle of repose. Directly underlaying the sand layer is a stratum of gravel varying in particle size from a maximum of 6 to 8 inches in diameter to minute particles and containing some 25% of sand smaller than 1/4 inches. This stratum has an average depth of some 50 to 100 feet. Below the gravel stratum lies the parent material of the Columbia River Valley. This material is a grayish to blue shale.

According to this early description, the "top soil" and "stratum of yellow sand," or Holocene layer, was between 2 to 3 ft deep before leveling activities began. It is this layer that likely contains any physical record of human habitation in the 300 Area. More recent geologic studies suggest that the thickness of the Holocene layer in the 300 Area is variable and considerably deeper than the original topographic survey suggested. According to Schalla (1988), Holocene deposits in the 300 Area are evidenced by a "thin veneer of fine-to-coarse-grained, eolian (wind transported) sand deposits" of varying thicknesses ranging from 0 to 15 ft (Schalla:3.21). Figure 2.4 depicts a generalized stratigraphic profile of 300-Area sediments.

Ongoing industrial development in the 300 Area has meant that much of the surface and portions of the subsurface deposits have been impacted by activities associated with road construction; building and facility development; parking lot paving, basin, pond, and trench excavation; underground tank emplacement; and underground utilities. Ground disturbances associated with these activities are infinitely variable in their depth, width, and length.

2.1 Archaeological Evidence of Past Uses

Five archaeological sites, including cemeteries, campsites, historic debris scatters, farmstead features and agricultural fields, are located at least partially within the 300 Area; many more are located within 1 km² of the 300-Area fence line. One prehistoric archaeological site has been found to be eligible for listing in the National Register of Historic Places (National Register).

The 300 Area was also the location of uranium fuel fabrication plants and contains most of the Site's research and development laboratories. Forty-seven buildings/structures have been determined to be eligible for listing in the National Register as contributing properties (USDOE 1996).

- **HT-97-005.** This is a historic site containing pieces of flat glass, canning jar fragments, ceramic, metal parts, a railroad spike, and rocks cut with a rock saw that were pushed over the bank near the Columbia River.

Not to Scale

Figure 2.4. Generalized Stratigraphic Profile of 300-Area Sediments

- **HI-89-001.** A cryptocrystalline flake was located in a 'blow-out' area in stabilized dunes.
- **HI-91-003.** A single milling stone was encountered in backfill along excavated trenches in the 300 Area. A ground, smooth center on one side of the stone was considered to have been modified by grinding.
- **45BN162.** This archaeological site was first recorded by Rice and was later submitted to the State Historic Preservation Office (SHPO) as part of the Hanford South Archaeological District (1983).¹ In 1996, a buried hearth and/or oven feature was inadvertently impacted during trenching excavations (HCRC #95-300-030) at 45BN162. An organic soil sample from the hearth, processed by Beta Analytic, produced a date of 2540 ± 70 BP (Beta-93433) for the buried feature. The presence of buried, intact cultural features at 45BN162 suggests that the site and its buried components may be eligible for listing in the National Register.

¹ The Hanford South Archaeological District nomination package was drafted but not finalized and was not sent to the Keeper of the National Register. However, due to the significance of the archaeological district, the SHPO placed the Hanford South Archaeological District on the Washington State Register on August 26, 1983.

3.0 Problem

The National Historic Preservation Act (NHPA) requires that the effect of an undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register must be taken into account. Accordingly, the U.S. Department of Energy, Richland Operations Office (DOE-RL) requires that all proposed projects undergo a cultural resource review to ensure that cultural resources are considered before the project is initiated.

In the 300 Area, much of the landscape is covered with asphalt, fill, trenches, or landscaping (Figure 3.1). In this environment, standard techniques of conducting intensive field surveys to identify and record cultural resources fail to provide the data required to make sound judgments regarding the presence or absence of buried cultural deposits.

The potential for project-driven excavations to impact buried cultural deposits in the 300 Area has long been recognized (Chatters 1989). It is generally recognized that industrial development has extensively impacted the 300 Area, but that pockets of undisturbed sediments remain. Consequently, cultural resource specialists have monitored excavation projects located within 400 m of the Columbia River since 1989.

In 1996, workers hand-digging a trench through previously deposited fill dirt to lay cable between two prefabricated buildings bisected a buried prehistoric hearth or oven feature as they dug through an unexpected pocket of intact stratigraphic deposits in the northeastern corner of the 300 Area. This inadvertent discovery of a near-surface, intact cultural feature in the northeastern corner of the 300 Area heightened concerns among cultural resource specialists, Native Americans, and DOE officials about the unpredictable nature of buried, intact, Holocene and cultural deposits in the 300 Area.

The 1996 incident highlighted the challenges faced by DOE in balancing the need for full-time monitoring of excavation projects with the cost of funding full-time cultural resource monitors on 300 Area excavation projects. The tension between cultural resource protection and costs associated with monitoring created the need to clearly define areas of disturbance within the 300 Area. If areas of disturbance could be spatially defined, they would no longer require cultural resource reviews or monitoring. This process of elimination would effectively reduce costs and enhance long-term cultural resource management and protection in the 300 Area.

Figure 3.1. 1987 Color Aerial Photograph of the 300 Area Industrial Development
(EG & G 5675 148)

4.0 Discussion

To avoid inadvertent impacts to cultural resources located in or near the 300 Area, DOE-RL requires that all proposed projects undergo a cultural resource review and ensures that excavations located within 400 m of the Columbia River are monitored. In addition to these standard operating procedures, DOE-RL has suggested that the "mapping" of previously disturbed areas could potentially eliminate such areas from the cultural resource review process, reduce monitoring costs, and allow cultural resource specialists to focus their investigations in areas where subsurface disturbance is minimal or nonexistent.

Fortunately, a variety of information sources exist about previous excavation projects and activities in the 300 Area. Many of these sources, including the following, were readily available and were inspected during the course of this study: geophysical studies, historic records and photographs, engineer drawings, well logs, and historic maps. Other sources of documents also contain information about past excavations in the 300 Area. Historic documents and files containing paperwork on individual 300 Area projects, bills of lading, or project planning are no longer readily accessible because they are archived and are commonly indexed according to project number. These archived documents were not inspected for this study and remain an excellent resource for future research efforts.

Several historic documents contain information about the construction techniques used and excavation dimensions of buildings, roads, pipelines, fence lines, and trenches constructed during the early days of the 300 Area. Engineer drawings provided the quantitative measurements for building basements, pits, footings, foundations, and slab floors necessary for an estimate of disturbances associated with this type of construction. Other excellent sources of information included low-level flight photographs taken from a variety of angles and heights as well as black and white and color aerial photographs that captured several decades of industrial development.

The following sections discuss a variety of different sources. Each source contains information that has been important in the development of GIS maps showing verifiable areas of disturbance in the 300 Area.

4.1 Remote Sensing Studies

Pacific Northwest National Laboratory (PNNL) conducted ground penetrating radar (GPR) and electromagnetic induction (EMI) surveys at specific locations in the 300 Area in 1991. These studies were funded to "confirm the locations of abandoned process sewers and radioactive liquid waste sewers as shown on existing maps or to otherwise accurately determine their locations, and second, to attempt to identify locations of possible leaks" (Sandness 1991).

The EMI survey results were expected to be poor—and they were. The low spatial resolution of the EMI and the dense complex of subsurface pipelines and cables produced inadequate EMI readings in this study. The GPR data were, on the other hand, consistently accurate and capable of identifying and mapping underground cable and pipe lines—within specific depth ranges. To map the wide depth

range of subsurface pipelines, Sandness (1991) suggested surveying each location with frequency bands centered on 100 MHz, 300 MHz, and 500 MHz. Unfortunately, the project was limited to the 300-MHz frequency band in the 300 Area. As Sandness stated, using a 500-MHz system would have yielded a high-resolution map of shallow pipeline systems, and using a 100-MHz system would have provided shallow pipeline and cable routes.

The use of GPR and EMI equipment to define subsurface pipeline locations resulted in variable findings (Table 4.1). Often, the mapped location of pipelines corresponded with the GPR readings, but not always. Sandness (1991) found that "the complexity of the subsurface environment in the survey areas . . . and the wide depth range at which the pipelines . . . [were] located, made it difficult to obtain the desired, accurate, pipe-location information with . . . one GPR survey" (1991:26). Further, he recommended that additional GPR surveys using three frequency ranges, 100 MHz, 300 MHz, and 500 MHz were necessary to accurately map underground pipelines (see Appendix A for geophysical survey locations).

Although the remote sensing study provided mixed results with regard to defining subsurface pipelines, it is equally as important to note that the mapped locations of pipelines encountered by Sandness did not always correspond to their actual location as defined by the GPR readings.

4.2 Historic Documents

Information gleaned from historic documents provided some information on the physical extent and impact of early construction projects, including roads, buildings, and structures.

4.2.1 Initial Construction: Paved and Gravel Roads

"In the 100, 200 and 300 Process Areas, wider temporary roads were constructed to alleviate congested traffic conditions. Many of these roads were laid out on approximately the center-line locations of permanent intra-area and Plant-wide roads, enabling them to be used later as bases for permanent roads. . . . Temporary roads were constructed of sand and gravel 8" to 12" thick, and varied from 16' to 50' in width. During the summer months, they were sprinkled to eliminate dust. Pit-run sand and gravel, obtained from areas building excavations or local barrow pits, were used for road building and stabilization purposes (du Pont 1945).

4.2.2 Construction: Facility and Structure

The stabilized dunes were leveled in the 300 Area, and supporting facilities such as highways, burrow pits, and waste disposal areas upgraded and created readily visible in black and white aerial photography (Figure 2.3). The layout of 300 Area began April 6, 1943, with the start of the preliminary topographic survey of the area (du Pont 1945:985). Thirty-four permanent buildings, 25 temporary facilities, and approximately 10 temporary offices and craft fabrication shops were constructed in the early years of the Manhattan Project. By 1948, the 300 Area was well established. Expansion continued. By 1987, the original 300 Area was surrounded to the north, east, and south by buildings and facilities, mobile offices and parking lots (Figure 2.4). Initially comprising just 115.5 acres (du Pont 1945:984), the 300 Area has since expanded to 384 acres and approximately 154 buildings and/or structures as of the early 1990s (Cushing 1995).

Table 4.1. Results of 1991 Geophysical Surveys

Survey Area	Features Encountered	Depth of Feature(s)	Comments
3APS01	5 East/West trending pipelines	5' and 6'	Pipelines under Apple Street
3APS02	1 East/West trending pipeline	8'	Abandoned clay tile process sewer that terminates at Pond 1. It passes under railroad track.
3APRS1	4 pipelines; RLW sewer pipeline, 3 retention process sewer lines	2', 3', 4', 5', 6', 8', 10', and 11'	North of 324 Building
3APRS3	Several pipelines including sections of the RLW sewer and process sewer	2' and 6'	Northwest corner of 324 Building
3APRS2	GPR: several underground pipes and possible electrical cables. Area congested - sewer lines may be deeper than the effective detection depth. EMI: no anomalies that could help define pipeline locations	Not Determined	Drawings show abandoned RLW sewers, a retention process sewer, and an active process sewer are all located near/under the east side of 3718-C Building.
SAPRS4	GPR detected the abandoned RLW sewer; process sewer; and retention process sewer; a shallow pipe also was detected. EMI did not provide useful indication of underground pipes.	~8', ~14 to 15'	HEDL Drawing M-3904 provided an assumed location for the abandoned RLW sewer at the 309 Building
SAPRS5	Features assumed to be: segment of active process sewer 128E, 11' deep; abandoned RLW sewer (131E, 4' deep; abandoned PRTR and RLW sewer (134E, 5' deep)	11', 4', 5', 9'	Parts of the south and east sides of the 307 Ponds were surveyed. Some pipelines found by GPR are consistent with Drawing M-3904, others are not.
SARS1 and 3ARS2	Pipeline at expected location of RLW sewer; a second pipeline or cable that could be the retention process sewer but is several feet south of the expected location and is too shallow; third pipeline or cable to south end of survey area.	4', 2', 8' to 10'	Survey areas located to the west and east of the 3762 Building.
618-5 Burial Ground	Man-made material detected along three sides of the burial ground.	2' or less but deeper materials seemed to be present.	Area inside fence not surveyed

Building foundations ranged from simple placement of prefabricated buildings on concrete slabs to the deeply excavated pits for footing and foundation placement. For the most part, the record of this type of disturbance is recorded in drawings and descriptive narratives as buildings and facilities were designed, constructed, and photographed. Information about the structural foundation of buildings in the 300 Area has been consolidated for this report (Appendix A).

4.3 Historic Photographs

Construction of the 300-Area complex has been intermittently documented in black and white photographs currently held in the Photography Building. Although Native Americans and Euro-American settlers had used lands in what would one day be the 300 Area, none of their settlement activities approached the comprehensive ground disturbance of construction activities undertaken during the Manhattan Project and Cold War eras (Appendix B).

Historic photographs of excavations and construction activities are extremely valuable resources. General scales can be developed to estimate the depth and extent of previous excavations by determining the known dimensions of pictured objects such as buildings or vehicles and applying these measurements to pictured excavations.

4.4 Historic Maps

Appendix C of this document contains images of several historic maps that depict the development and expansion of the 300 Area through time. Although these maps do not show excavation locations, they provide a temporal guideline for the sequence of construction activities, particularly as they relate to facility, structure, and road construction.

4.5 Engineer Drawings

The facilities and underground structures in the 300 Area are depicted on engineer drawings and maps intended for use as construction blueprints. These drawings provide essential information about the depth and extent of building foundations, basements, footings, trenches, and pits constructed since initial construction activities began in the 300 Area.

A great deal of information has been gleaned from engineer drawings. Dimensional information about basement and foundation excavations has been consolidated and is presented in Appendix D of this document.

4.6 Water and Monitoring Wells

An important source of information about subsurface deposits in the 300 Area is found in well log records kept during drilling operations. Descriptive records (well logs) of sediments recovered during drilling operations have been kept since 1943 for each well drilled in the 300 Area. Over 60 well logs, most containing detailed notes and measurements, provide important information about subsurface stratigraphy in the 300 Area (Appendix E). Specifics about disturbances associated with well drilling activities are spotty. Two water wells (3905-1/3-6 and 3905-2/3-7) were drilled in 1943 and 1944, respectively. The formation record was captured for these wells (du Pont 1945:986) but

information about activities preceding drilling e.g., pad preparation, surface excavation, etc., were not described. Wells drilled during the mid-1980s were first excavated to 15 ft, then a section of steel casing with drive shoe was placed in the hole, and the hole was backfilled. Well drilling followed site preparation activities (Schalla 1988).

Cross sections of the 300 Area created using the information derived from well logs provide some information regarding the sequence of formations and contact. The Holocene deposits, where the physical evidence of human use is likely to be retained, is displayed as a thin mantle on top of the Hanford formation zones (Figures 4.1, 4.2, and 4.3).

Two water wells were drilled in the 300 Area during the initial layout and construction phases. Basic information was recovered during drilling are shown in Table 4.2 (du Pont 1945).

4.7 Hanford Geographic Information System (GIS) Maps

A substantial amount of information about areas of previous disturbance has been compiled in Hanford's GIS mapping database. Information about building basement construction has been folded into this database as a result of this study. Information about areas of previous disturbance include locations for underground utilities, excavations conducted for utility poles, fire hydrants, and wells.

4.8 Facilities Located Within the 400-m Zone

Eighty-seven numbered facilities, or portions of facilities, are located within the 400-m zone of the 300 Area (Table 4.3). This zone was established by DOE-RL in recognition of the significance and density of cultural resources along the Columbia River. Most of the buildings and structures, with the exception of waste ponds and basins, were constructed after the initial Manhattan Project period. Many of these facilities have substantial basements and/or pits. Basement and pit excavations were often extensive and resulted in severe alteration of the original landscape. Large quantities of backfill were often distributed nearby. Buildings with large and/or deep basements that are located in the 400-m zone include the 331 Building, the process ponds and trenches, the 324 Building, the 337 Building, the 337-B Building, the 338 Building and others (see Appendix D for excavation depths).

Figure 4.1. Location Map for Geologic Cross Sections in the 300 Area (after Schalla 1988)

Figure 4.3. Cross Section North of the 300 Area (Cushing 1995 modified from Swanson 1992)

Table 4.2. Information About Stratigraphy in Early 1940s Well Logs

No. 1 Well		No. 2 Well	
Started drilling: 7 - 11 - 43		Started drilling: 1 - 08 - 44	
Finished drilling: 8 - 07 - 43		Finished drilling: 1 - 20 - 43	
Coordinates: N54514/E14608		Coordinates: N54600/E15000	
Formation Record:		Formation Record:	
0' - 1'	Top Soil	0' - 20'	Boulders and Gravel
1' - 4'	Sand and Gravel	20' - 47'	Coarse Gravel
4' - 20'	Cemented Gravel	47' - 60'	Boulders and Gravel
20' - 25'	Washed - Sand and Gravel	60' - 66'	Coarse Gravel
25' - 38'	Cemented Gravel	66' - 81'	Boulders and Sand
38' - 49'	Gravel	81' - 86.7'	Clay
49' - 74'	Washed Sand and Gravel		
74' - 85'	Sand, Gravel and Clay		

Table 4.3. Buildings/Facilities Located Within the 400-Meter Zone of the Columbia River Including Demolished Buildings

308	Plutonium Fuels Pilot Plant
331	Life Sciences Laboratory
331A	Virology Laboratory
331B	Dog Kennel
331E	Greenhouse
331F	Animal Resources Storage Facility
331G	Interim Tissue Repository
331H	Plant Exposure Facility/Aerosol Wind Tunnel
331J	Incinerator
332	Hazardous Waste Interim Holding Facility
335	Fast Reactor Thermal Engineering Facility
335A	Sodium Test Facility
336	Core Segment Development Facility
337	Technical Management Facility
337-B	High Bay Service Wing, High-Temperature Sodium Facility
339A	Computer Facility
340B	Waste Load-Out Facility
352E	Switch Station East Side
3605	Fence (circa 1943)
3607	Sewage Treatment Septic Tank
3607A	Chlorination Facility
3614A	River Monitoring Station
3621D	Emergency Generator Building and Shop
3701S	George Washington Guard Station
3707F	Personnel Survey Building
3717C	Materials Archive Building
3718C	Storage Building
3718E	Storage Building
3718F	Alkali Metal Treatment and Storage Facility
3718G	Storage Building
3718M	Sodium Storage Building
3727	Classified Storage Facility
3728	FFTF Test Article Storage Building/Geotechnical High Bay
3731	Laboratory Equipment Central Pool
3731A	Graphite Machine Shop
3763	Office Building
3764	Office
3765	Office Building
3766	Office
3767	Office
3769	Office
3770	Office
3802A	Steam Prv Station

5.0 Conclusions

A substantial amount of information exists about the excavation activities in the 300 Area. However, this information is not necessarily comprehensive. Historic documents, aerial photographs, and historic maps provide "big picture" information regarding the planning, development, and impacts of construction activities through time in the 300 Area. Location specific documents or studies such as engineer drawings, well logs, and remote sensing studies provide information about the extent of excavations for building foundations and basements, and the presence of Holocene deposits at discrete locations. (Remote sensing studies conducted in the 300 Area have shown that engineer drawings or maps depicting underground features do not always accurately reflect the exact location of buried features or excavations.)

Historic photographs of construction activities provide an avenue to determine the scale of many excavations and often depict secondary or indirect impacts associated with excavations that are often not considered such as impacts associated with equipment parking, covering the original landscape with excavated backfill, or temporary road construction.

5.1 Areas of Disturbance

Four GIS maps were created to display known areas of disturbance in the 300 Area. These maps contain information gleaned from a variety of sources but the primary sources, include the Hanford GIS database system, engineer drawings, and historic maps (Figures 5.1 through 5.4).

In addition to these maps, several assumptions can be made about areas of disturbance in the 300 Area as a result of this study:

- Buried pipelines are not always located where they are mapped. As a result, cultural resource monitors or specialists should not depend on maps depicting subsurface pipelines for accurate locations of previous disturbance (Sandness 1991).
- Temporary roads built in the early 1940s were placed on layers of sand and gravel 8 to 12 in. thick. Given this information, it is likely that substrates beneath these early roads are only minimally disturbed.
- Building foundations ranged from concrete slabs no more than 6 to 8 in. thick to deeply excavated pits and basements. Buildings constructed with slab foundations are more numerous than may be expected, and minimally disturbed substrates may be expected in these locations.
- Historic black and white photographs provide a partial record of some excavations, including trenches, building basements, and material lay-down yards. Estimates of excavation depth and width can be made, but these estimates are not accurate enough to pinpoint the exact location where the disturbed/undisturbed interface is located (e.g., camera angles were such that depths and/or widths of excavations could not be determined or estimated). In spite of these limitations, these photographs provide essential information.

Figure 5.1. Buildings and Their Patterns of Disturbance in the 300 Area

Figure 5.2. The Modern Topography of the General 300 Area as Recorded in the Sitewide GIS Database

Figure 5.3. Underground Facilities as Recorded in the Sitewide GIS Database

Figure 5.4. Areas of Discrete Disturbance Throughout the 300 Area as Recorded in the Sitewide GIS Database

- Aerial and historic low-level photographs have captured what appears to be backfill throughout much of the eastern portion of the 300 Area—near the Columbia River shoreline. This layer of fill has likely afforded some protection for the natural landscape buried beneath the fill. This assumption fits nicely with the intermittent and inadvertent discoveries of hearths and stone tools documented through the years in this part of the 300 Area. Conversely, leveling of sand dunes appears to be substantial in the northwestern portion of the 300 Area during the early stages of development.
- Project files and engineer drawings do not contain information on any impromptu but necessary adjustments made on the ground during project implementation—after the design phase. Further, many projects are planned and mapped but never implemented—this information is also not often placed in project files.

5.2 Recommendations For Future Study

Several actions can be taken to refine our knowledge about previously disturbed areas located in the 300 Area, as outlined below.

- Initiate research into previous project files from the early 1940s to the present time to define excavation dimensions for all 300 Area projects.
- Take GPS (differentially corrected) points of previous disturbance encountered in ongoing excavations as evidenced by inspection of trench walls.
- Record the dimensional extent and location of monitored excavations in the 300 Area.

In addition to refining our knowledge about areas of previous disturbance in the 300 Area, we can use existing data to provide guidelines for the creation of a cost-effective monitoring program for cultural resources. Specific areas of disturbance can be clearly defined for the following: building footprints, roads, railroad grades, pipelines, utility poles, wells, and fire hydrants. It is suggested that monitoring is not necessary in these areas of previous disturbance when they are located outside the 400-m zone located along the Columbia River. Specific monitoring recommendations are identified in Table 5.1.

Table 5.1. Monitoring Recommendations for Excavation Activities in Specific Areas

GIS Map	Map Feature	Monitoring Recommendations
Figure 5.1 300 Area Buildings	Building Footprint with Sub-grade Disturbance	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Building Footprint on Concrete Slab or Footing	Monitoring Required Inside 400-m Zone. Intermittent Monitoring Outside 400-m Zone.
	Demolished Building Footprint with Sub-grade Disturbance	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Demolished Building Footprint on Concrete Slab or Footing	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.

Table 5.1. (contd)

GIS Map	Map Feature	Monitoring Recommendations
Figure 5.1 300 Area Buildings	Paved Road	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Unpaved Road	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Railroad	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	400 m Zone	Monitoring Required.
	White Areas of Map	Monitoring To Be Determined on a Case-By-Case Basis.
Figure 5.3 300 Area Underground Utilities	Sidewalk	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Miscellaneous Pipeline	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	300 RLWS (Contaminated)	To Be Determined.
	300 RRLWS (Contaminated)	To Be Determined.
	300-15 (Contaminated)	To Be Determined.
	300-28 (Contaminated)	To Be Determined.
	Well	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Waste Site Point	To Be Determined.
	Contamination Zones	To Be Determined.
	400 m Zone	Monitoring Required.
	White Areas of Map	Monitoring To Be Determined on a Case-By-Case Basis.
Figure 5.4 300 Area Discrete Disturbances	Utility Pole	Monitoring not Required in Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Removed Utility Pole	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Well	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	Fire Hydrant	Monitoring not Required In Disturbance Footprint Outside 400-m Zone. Monitoring Required Inside 400-m Zone.
	White Areas of Map	Monitoring To Be Determined on a Case-By-Case Basis.

6.0 References

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Appendix A

300 Area: Geophysical Survey Maps

009513

LEGEND
 ○ MANHOLE
 — SURVEY LINE
 — PIPES/CABLES DETECTED BY GPR

N54400

MAP DETAILS BASED ON
 HEDL DRAWING NUMBER
 H3904, SHEET 3.

DATE	JAN 16, 1991	PACIFIC NORTHWEST LABORATORY OPERATED BY BATTTELLE MEMORIAL INSTITUTE	
DRAWN BY	E. V. ALLEN	UNDERGROUND PIPES NEAR THE 307 POND AS DETECTED BY GPR	
SCALE	1 INCH = 20 FEET		
MAP NO.	300 FF1.B9-11	OPERABLE UNIT	300 - FF1
		SITE	3APRS5

LEGEND

- SURVEY LINE
- PIPES/CABLES DETECTED BY GPR

DATE	JAN. 18, 1991	PACIFIC NORTHWEST LABORATORY OPERATED BY BATELLE MEMORIAL INSTITUTE
DRAWN BY	E. V. ALLEN	UNDERGROUND PIPES AND POSSIBLE ELECTRICAL CABLES DETECTED BY GPR NEAR THE 3762 BLDG.
SCALE	1 INCH = 20 FEET	
MAP NO.		

MAP DETAILS BASED ON
HEDL DRAWING NUMBER
H-3904, SHEET 3

Appendix B

300 Area: Photographs

Photograph B.1. This Photograph Taken in 1944 of the 300 Area Shows a Leveled Sandy Area with Many Recently Constructed Manhattan Project Facilities. Many of these buildings were built on concrete slabs. The slogan on the water tower states "Silence Means Security" (Negative No. 64279).

Photograph B.2. The Buildings in the Lower Right Hand Corner of This 1944 Photograph were Temporary Storage Sheds Used During Construction of the 300 Area (No. 90092011).

Photograph B.3. This 1944 Aerial View of the 300 Area Includes Several Manhattan Project Buildings Including the 301, 303-A Through 303-J, 305, 313, 314, 384, 3706, 3707-A, 3713, 3717, 3720, and 3722. Most surfaces, particularly areas with some vegetation, appear to be coated with newly blown sand deposits (left-hand corner of the photograph). Much of the 300 Area has been leveled. A small portion of vegetation is growing southeast of the 384 Building, suggesting that this area was only minimally disturbed (Negative No. 90091801).

Photograph B.4. May 24, 1948; Aluminum Scrap from the 313 Building was Loaded in the Area North of the 300 Area. The photograph provides a unique view of the northeasterly trending stabilized dunes surrounding the 300 Area. An irrigation canal trends southerly from 300 Area. While pre-Manhattan Project roads can be recognized by their appearance as faint white lines, recently constructed roads are associated with sandy blowouts and open unvegetated areas (Negative No. 90070235-1).

Photograph B.5. Building 329, in the Foreground of this 1951 Photograph, Depicts Construction Techniques for Foundation Footings. In the background, the 328 Building provides a view of foundation footings and framing techniques. The first floor of the 328 Building was reinforced concrete on-grade (Negative No. 90061562-2).

Photograph B.6. Taken in January of 1952, the 329 Building is Located in the Photo Center, the 326 Building is Under Construction North of the 329 Building and the Foundation for the 325 Building may be Seen to the Immediate Right of the Photo Center. In the foreground (now a large parking lot), vehicle tracks, grading and shallow trenching have all impacted the surface (Negative No. 377).

Photograph B.7. The Southeastern Corner of the 300 Area was Under Construction in 1952. The newly excavated 307 Trenches are visible in the photos upper left-hand corner. The 325 Building stands in the upper center of the photo, framed. Construction of the 326 Building shows extensive stockpiling of sediments removed from the foundation interior and from the foundation exterior walls. The 3760 Building construction (right-hand corner of the photograph) was completed without a basement. To the photo right, the large leveled area is today a parking lot (Negative No. 400).

Photograph B.8. May, 1952 Viewing the 300 Area in a Westerly Direction, this Photograph Captures the Excavation and Construction Activities Undertaken for the 307/340 Complex. The old Radioactive Liquid Waste Sewer Line is visible just below the rail cars. Construction for the 325 and 326 Buildings has advanced with sediment stockpiles reburied near the 326 Building foundation walls. Construction of the 327 Building (partial basement) is underway to the right of the photo center (Negative No. 420).

Photograph B.9. June 1953. Construction Appears to have Stabilized. This aerial view looking easterly to the Columbia River shows a complex industrial development just 10 years old (Negative No. 2052).

Photograph B.10. March 1954. Burial Grounds are Being Covered. The concrete foundation in the photo foreground is for the 306-W Building, small trenches located between the foundation and the railway may provide underground utilities (Negative No. 2530).

Photograph B.11. April 1955. This Photograph Depicts a Well-Established 300 Area with Construction for the 325, 326, and 327 Buildings Complete. In the lower right-hand portion of the photo, leveling in the area of the future 308 and 309 Buildings is well underway. Extensive disturbance of the surface is visible to the north and east of the 300 Area fence as well.

Photograph B.12. April 1958. View Southerly (photo background) with Preparations for the Construction of the 308 and 309 Buildings Underway. The trench shown in the left-hand portion of the photo was excavated for the Radioactive Liquid Waste Sewer Line, the trench shown in the right-hand portion of the photo is the Retention Process Sewer for the 308 Building. The foundation in the lower center of the photo depicts the techniques underway to move the prefabricated building in the photo center onto its foundation. One such building is already in place. Fill dirt is being pushed between the foundations. These prefabricated buildings are the 3718-A and 3718-B Buildings (Negative No. 5146).

Photograph B.13. September 1958. This Photograph Provides a Glimpse of the Original Landform Immediately East of the 300 Area. Under construction is the reactor vessel for the 309 Building, the substantial disturbance at this construction site reveals deep sandy deposits. Fill from the excavation has been spread to the east. To the center right of the photo, construction of the 308 Building foundation walls and at least three small pits with stockpiled sediments are visible. A burial pit for construction debris, located in front of the 325 Building, is estimated to be approximately 25 m (82 ft) in length and approximately 12 m (40 ft) wide. The trench in the lower right-hand portion of the photo is located in the eastern one-third of the 300 Area's southernmost parking lot. All sediments appear to be primarily sand (Negative No. 5342).

Photograph B.14. 1963. This View, Taken Westerly, Captures the Southern Extent of the 300 Area. The 309 Building construction has been completed at this point in time. Construction for the 324 Building is underway with foundation walls in place and exposed. A wide trench excavated to the immediate north of the 324 Building reveals deep sandy deposits. An exposed pipeline trench extends west from the 324 Building to the 308 Building. Two other small excavation sites are also captured in this photograph; south of the 307 Trenches and across the street from the 3726 Building (right-hand, upper center of photo) (Negative No. 34631-3).

Photograph B.15. February 1971. Construction for the 337-B High Bay Building Appears to Measure Approximately 36 m (120 ft) by Approximately 55 m (180 ft) and Approximately 6 m (20 ft) Deep. A road located in the upper left-hand corner of the photo background depicts a graded surface that may have been cut through a stabilized dune (54372-1).

Photograph B.16. Circa 1971. The Construction Site for the 337 Building has Been Graded in this Photograph. To the north, deep excavations surround the concrete foundations for the 315 Building (Negative No. 96120031-4).

Photograph B.17. Circa 1971. This Photograph Depicts the Early Stages of Construction for the 337 Building. A trench, estimated to be 20 m (65 ft) long, approximately 3 m (10 ft) wide and 1 (3 ft) meter deep is visible between the foundation. Fill has been placed around the outside of the foundation walls in the photo foreground. In the photo background, the abrupt drop to the Columbia River suggests that fill dirt was pushed away from the building site and over the Sediments are primarily sand with some cobbles evident in the photo foreground (right-hand side) bank (Negative No. 56696-5).

Photograph B.18. August 1971. The Entire Area for the 337 Building was Graded Down to an *In-Situ* Cobble Layer as Shown in this Photograph (337-B stands in the photo background). Freshly poured concrete foundation walls and footings extend deeper into the cobble layer. The sand and cobble strata are visible in the excavated banks below the crane (Negative No. 55663).

Photograph B.19. Circa August 1971. Construction of the 337 Building Foundation Walls Provides an Excellent View of the Cobble Layer Underlying the Sand in this Portion of the 300 Area (Negative No. 55755-4).

Photograph B.20. August 1971. In this Southeasterly View of the 337-B High Bay Building and the 337 Building Construction Site, Backfill Appears to have Been Spread Near the River Shoreline (Negative No. 55755-3).

Photograph B.21. Circa 1972. Construction of the 337 Building is Well Underway in this Photograph. Deep excavations are visible at the eastern end of the 337 Building. The original shoreline appears to be buried under fill in the right-hand portion of the photograph (Negative No. 57463).

Photograph B.22. Deep Excavations Remain Around the Exterior Foundation Walls of the 337-B High Bay Building
(Negative No. 57463-19).

Photograph B.23. March 1972. The Extensive Excavation that Occurred During Construction of the 337 Building is Readily Visible in this Westerly View of the Southern Portion of the 300 Area.

Photograph B.24. August 1971. The Excavation for the HTSM Building Foundation was Extensive. The contact between the cobble layer and sand layer is visible in the middle right-hand portion of the photograph. The cobble layer appears to be approximately 80 cm (2.5 ft) below the surface (55708-14).

Photograph B.25. The Excavated Trench Visible in the Left-Hand Portion of this Photograph Appears to be Approximately 120 m (400 ft) Long and 5 m (16 ft) Wide and 4 m (13 ft) Deep (Negative No. 58875).

Photograph B.26. 1981. The Excavated Basin in this Photograph is Approximately 83 m Wide (270 ft), 100 m (330 ft), and 5 m (16 ft) Deep. The surrounding area appears to have been leveled and graded (Negative No. 94719-8).

Photograph B.27. 1980. The Excavation Trench in the Upper Left-Hand Side of the Photograph is Estimated to be Approximately 40 m (130 ft) Long and Approximately 5 m (16 ft) Wide. It is located at the corner of George Washington Way and Cypress Streets (Negative No. 092782).

Photograph B.28. 1979. This Aerial View of the 300 Area Provides a Look at the Overburden of Fill Along the Shoreline of the Columbia River. A trench, located near the 3770 Building, was excavated for a new 12-inch sanitary water line. The depression located to the west of the trench was excavated to provide fill dirt for the 337 and 338 Buildings. Piles of concrete and construction rubble then were used to fill in the depression leaving a single large mound there today (Negative No. 85668-11).

Photograph B.29. 1976. This Aerial View Provides a Look at the Large Flat Area Near the Columbia River (photo lower central foreground) Where the 3770 Building is Now Located. This area appears to have been leveled with fill being pushed over the bank of the Columbia River (Negative No. 71655).

B.30

Photograph B.30. This Photograph, Taken Before 1960, Provides a View of the Leveling Techniques Used in the Southern Portion of the 300 Area. In the lower half of the photograph, it appears that fill deposits were being pushed and/or dropped over the surface in the southeastern portion of present-day 300 Area. The area directly south of the original 300 Area appears to have been leveled through grading. However, much of this area was not severely impacted. Today, this area is under a parking lot.

Appendix C

300 Area: Historic Maps

Pasco, Wash. Quadrangle 1917 Reprinted 1951 15 Minute

Figure C.1. Pre-Manhattan Project Landscape Where the Future 300 Area Would be Constructed

Richland, Wash. Quadrangle 1951 15 Minute

Figure C.2. Pre-Manhattan Project Landscape Where the Future 300 Area Would be Constructed

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Figure C.3. Early Map of the 300 Area Adapted from E. I. Du Pont De Nemours & Company, Inc. Map August 1945

Figure C.4. 1991 Map of the 300 Area Showing a Majority of the 300 Area Buildings and Facilities (adapted from CadFile: 300AREA1:2/8/91)

Figure C.5. 1991 Map of the 300 Area Showing a Majority of the 300 Area Buildings and Facilities (adapted from CadFile: 300AREA1:2/8/91)

Appendix D

300 Area: Facilities Evaluation of Disturbance

Appendix D. 300 Area Facilities: Evaluation of Disturbance

Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
#12652	Office/Lunch Room	n/a		n/a		n/a
#15021	Storage	n/a		n/a		n/a
#15023	Storage	n/a		n/a		n/a
#15024	Storage	n/a		n/a		n/a
#15025	Storage	n/a		n/a		n/a
#15340	Storage	n/a		n/a		n/a
#15347	A&B Management Offices	n/a		n/a		n/a
#15348	Office	n/a		n/a		n/a
#301	Storage and Fabrication Building Equipment Storage Warehouse	02/3/44	•	One story wood frame structure built on concrete slab on grade. "...has a 5" reinforced concrete floor supported by reinforced concrete walls, piers and well-tamped earth."		H-3-71699, H-3-39846
#301A	Paint Shop	02/03/44		Temporary Construction		n/a
#303A	Magazine Product Storage Building Storage Building	04/15/44		"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		H-3-55543, HW-69534
#303B	Magazine Product Storage Building Storage Building	04/15/44		"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		W-69534 (1170)
#303C	Materials Evaluation Laboratory Materials Evaluation Facility	04/15/45		"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		W-69534 (1170)
#303D	Fresh Metal Storage	04/15/46	•	"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		n/a
#303E	Fresh Metals Storage Building Storage Building Essential Materials Storage Building	04/15/47		Concrete block structure with concrete foundation and floor. "5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		W-69534(1170)
#303F	Chemical Storage and Dispersal Building Fresh Metals Storage Building	04/15/48		"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		H-3-10037 (1288), H-3-48826 (1186)
#303G	Fresh Metals Storage Building Storage Building Essential Materials Storage Building	04/15/49		"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		W-69534(1170)
#303J	Fresh Metals Storage Building Material Storage Building Material Storage - Wood Frame	02/10/44		One story wood frame structure built on concrete foundation and floor slab. "5" reinforced concrete floor slab, 6" above grade, supported by well-tamped earth, and reinforced concrete foundation walls with spread footings."		H-3-25616 (0180)

Appendix D. 300 Area Facilities: Evaluation of Disturbance

Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
#303K	Decontamination and Battery Charge Building Waste and Material Storage Building Contaminated Waste Storage Facility	4/15/49		"...5" reinforced concrete slab floor, 6 inches above grade, supported by well-tamped earth and reinforced concrete foundation walls."		W-69534 (1170)
#303L	Uranium Scrap Calcination Building	00/00/44	~1976	...concrete foundation and floor...		n/a
#303M	Uranium Oxide Facility	00/00/83		"precast concrete structure with concrete foundation and floor". 303M Building constructed on same site as 303-L (a small sheet metal building emplaced on a concrete slab over the 618-1 Burial Ground"		H-3-48831 (0883)
#303/311	Tunnel - 303F-303G	00/00/00		Underground Structure		n/a
#304	Sodium Storage Building	04/04/44	1944	concrete block structure		H-3-31764 (0682)
#304	Uranium Scrap Concrete Storage Uranium Concretion Facility	00/00/52		building rested on a concrete pad; steel framed		n/a
#304A	Concretion Facility and Storage Area Uranium Concretion Change Room Uranium Concretion Laboratory	00/00/78				n/a
#305	Test Reactor and Hot Cell Verification Facility Test Pile Building Engineering Testing Facility Hot Cell Virification	00/00/44		"...8" reinforced concrete throughout, set on concrete wall foundations and concrete wall foundations and concrete piers w/spread footings...Instrument room has 4" concrete floor on 1" Celotax". A 15 foot pit under building.	H-3-34291 (0780), H-3-34781 (0881)	
#305A	Electrician and Pipefitter Shop Pipefitter/Electrician Shop Storage Building	00/00/48		One story wood frame structure built on concrete slab floor.		H-3-852 (0865)
#305AA	1251 Yard Shed Craft Storage Building	00/00/79	•			n/a
#305B	Physics Test Reactor Building/Engineering Development Laboratory Annex	1952 - 1955		...underground part has concrete walls and roof. Basement once had two reactor rooms		H-3-41907 (0790)
#305AB	Tool Storage	00/00/00	•			n/a
#306	Metallurgical Semi-works Building	00/00/56		Modified to become 306E and 306W. ...two stories high with no basement.		H-3-8216 (0778), H-3-12773 (1060), H-3-2575 (0665)
#306E	Metal Fabrication Development Laboratory Metallurgical Semi-Works Development, Fabrication & Test Laboratory	00/00/56		Originally 306 Building.		H-3-33997 (1277)
#306W	Metal Fabrication Development Laboratory Metallurgical Semi-Works Materials Development Laboratory	00/00/54		Originally 306 Building. "...two-story building bolted steel frame with no basement...first floor is reinforced concrete.		H-3-56597 (0688), H-3-32503
#306W TRL2	Office	00/00/78				n/a
#306E TRL5	Office	00/00/73				n/a
#306E TRL6	Office	00/00/78				n/a
#307	Retention Basins	00/00/53			•	H-4-50286 (0161)

Appendix D. 300 Area Facilities: Evaluation of Disturbance

Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
#307D	Unknown Facility	00/00/00		Northwest of 3764 Building	H-3-14189 (0363)
#308	Plutonium Fuels Pilot Plant/Fuels Development Laboratory	00/00/60		"The first floor north and south exterior walls of the main building are constructed of 9 inch thick reinforced concrete."	H-3-12047 (0658), H-3-12035 (0160), H-3-28649 (0371), H-3-15368 (0373), H-3-15489 (1076), H-3-15442 (1076), H-3-40695 (0577), H-3-42933 (0977), H-3-15499 (0178), H-3-15519 (0579), H-3-44145 (1080)
#308A	Fuels Development Laboratory	00/00/81		constructed of cement block	H-3-12001
#308E	Storage Emergency Storage Building	00/00/00		part of 308 Building	n/a
#309	Plutonium Recycle Test Reactor SP-100 GES Test Facility Offices and Shops	1958 - 1960		"main building was 80' by 100', with the reactor located below grade..."	H-3-13507 (1061), H-3-11044 (0162), H-3-11026 (0162), H-3-13805 (0262), H-3-13806 (0262), H-3-11164 (0364), H-3-14942 (0866)
#309A	Unknown Facility	00/00/00			n/a
#309E	Emergency Storage, part of 309 Building Emergency Storage	00/00/66		poured concrete foundation (HPIF) - structure rests on concrete slab	n/a
#309M	Unknown Building	00/00/00			n/a
#309TW1	Storage Tank	00/00/00		Underground Structure	n/a
#309TW2	Storage Tank	00/00/00		Underground Structure	n/a
#309TW3	Storage Tank	00/00/00		Underground Structure	n/a
#310	TEDF	00/00/94		North of 300 Area (not all numbered facilities included here)	H-3-71821 (1094)
#311	Methanol Still House	00/00/00	1989		n/a
#311	Neutralized Waste Tanks (2 Tanks)	00/00/00	1989		n/a
#311A	Tank Farm			Underground Structure	
#312	River Pumphouse	00/00/00		Underground Structure	H-3-11680 (0362)
#313	N Fuel Manufacturing Support Facility Metal Fabrication Facility Reactor Fuel Manufacturing Building	01/01/44		The foundation is concrete and the floor is concrete on grade. "...4" reinforced concrete slab floor supported on reinforced concrete foundation"	H-3-100008 (1156), H-3-21333 (1163), SK-3-20865 (0284), H-3-22809 (1285), H-3-22809 (0786), H-3-100009 (1188), H-3-70047 (0889), H-3-70048 (0889)
#314	Engineering Development Laboratory Press Building	01/01/45		Floor is reinforced concrete "...supported on reinforced concrete foundation walls and piers" with test pits, and a basement room at the west end.	H-3-54651 (0487)
#314A	Unknown Facility	00/00/00			n/a
#314B	Stress Rupture Test Facility	00/00/67		North of 314 Building	n/a
#315	Filter Water Plant Building Filter Plant Building	1962		poured concrete foundation (HPIF)	H-3-33936 (1177)

Appendix D. 300 Area Facilities: Evaluation of Disturbance

Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
#315A	Backwash Disposal Pond	00/00/00		Excavated Surface Facility		n/a
#315B	Chlorine Storage Facility	00/00/00		Concrete structure		n/a
#316	Disposal Ground Thorium Waste Pit	01/01/45		Underground Structure		n/a
#316	Process Waste Disposal Trench	00/00/00		Process waste burial ground: open trench; 16' V-bottom ditch 8' deep and 200' long		n/a
#316-1	South Process Pond	00/00/00		Abandoned		n/a
#316-2	North Process Pond	00/00/00		Abandoned		n/a
#316-3	307 Trenches	00/00/53		Excavated Surface Facility		n/a
#316-5	307 Process Trenches	~00/00/75		Excavated Surface Facility		n/a
#317	Calibration and Standards Facility	00/00/00				SK-3-20734 (0380)
#318	HTL TR Building/Radiological Calibrations and Development Laboratory	1966 - 1967		original building " ...consists of a basement with concrete foundation walls		H-3-54264 (0390)
#318A	Unknown Facility	00/00/00				n/a
#318B	HTL TR Stack	00/00/00				n/a
#318C	HTL TR Filter Facility	00/00/00				H-3-25033 (0866)
#318 TRL 1	Filter House					
#318 TRL 1	Mobile Office	00/00/00				n/a
#318 TRL 5	Mobile Office	00/00/78				n/a
#319 A	Unknown Facility	00/00/00				n/a
#320	Low-Level Radiochemistry Building	00/00/66		basement ~10 feet deep		H-3-56676
#320 TRL 1	Physical Sciences Laboratory					
#320 TRL 1	Office	00/00/67				n/a
#321	Cold Chemical Semi-Works Engineering Development Lab Hydromechanical/Seismic Facility Separations Building	12/01/44		Full basement 12 feet below ground. "...foundations...composed of reinforced concrete walls w/spread footings and support reinforced concrete slab floors varying from 4' to 12' in thickness."		H-3-52804 (0783), H-3-73697 (0744), H-3-52804 (0848), H-3-5314 (0848)
#321	Cribs	00/00/48		Underground Structure		
#321A	Cold Chemical Semi-Works Engineering Development Laboratory Hydromechanical Building/Separations Building	00/00/00		321A Rectangular one-story building, north 26 ft on grade and south end 5 ft below grade.		n/a
#321B	Model Heat Loop, part of 321 Building Model Test Loop	00/00/00		one story concrete structure		SK-3-13449 (0569), H-3-4058, H-3-5764, H-3-5690
#321C	Core Pump Shelter, part of 321 Building	00/00/00				n/a
#321D	Core Pump Shelter Seismic Testing Facility, part of 321 Building	00/00/00		on story concrete structure		n/a
#321 TRL2	Mobile Office	00/00/00				n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
#322	Unknown Facility	00/00/00			SK-3-21011 (0186), H-3-34689 (1280)
#323	Metals Creep Laboratory	00/00/59		"building foundation is raised about 2' above surface (HPIF)	H-3-5662 (0273)
#323 TRL1	Mechanical Properties Building	00/00/00			n/a
#323T2	Office	00/00/00			n/a
#324	Chemical Handling Facility Chemical Engineering Building Chemical Materials Engineering Lab	1964 -1966		Waste Support Addition (WSA) 4" concrete floor slab with 4' footings. Building has a basement	H-3-56538 (0887), H-3-20193 (0266), H-3-20194 (0266), H-3-20195 (0266), H-3-20196 (0466), H-3-20197 (0492), H-3-34262 (0188), H-3-41715 (0183), H-3-266-8 (Sheets 1&2)
#324A	Chemical Engineering Building	00/00/00		concrete masonry blocks on concrete slab	n/a
#324B	Chemical Engineering Laboratory Exhaust Stack	00/00/00			n/a
#324C	Experimental Lithium Enclosure	00/00/00			H-3-43994 (1080)
#324E	Unknown Facility	00/00/00			H-3-304379 (0395) Sheet 1 and 2
#324D	Exhaust Stack Sampling Facility	00/00/93			n/a
#324S	Concrete Basin	00/00/00		Underground Structure	n/a
#324 TRL2	Office	00/00/00			n/a
#324 TRL11	Office	00/00/00			n/a
#324 TRL14	Office	00/00/00			n/a
#325	Radiochemistry Laboratory Waste Treatment Facility Radiochemistry Building	00/00/53		basement; "...building...erected on reinforced concrete footings, walls, and slabs."	H-3-22657 (0180), H-4-50044 (0885), H-3-32508 (Sheets 1-3)
#325A	Cesium Recovery Fac., part of 325 Building, PNNL Occ. Cesium Recovery	00/00/00			H-3-43481 (1177)
#325B	Shielded Lab. Annex, part of 325 Building	00/00/00			H-3-40035 (0277), H-3-19174 (1062)
#325C	Fluorine Gas Storage, part of 325 Building	00/00/67		foundation is a part of 325 Building	H-3-22503 (0670)
#325D	Maintenance Shop Addition, part of 325 Building	00/00/00			n/a
#325E	Stack Monitoring Fire Riser and Backflow Preventor	00/00/00			n/a
#325 TRL2	Office	00/00/00			n/a
#325 TRL3	Office	00/00/00			n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
#326	Physics and Metallurgy Building Pile Technology Building Material Science Laboratory	00/00/53		basement is high density concrete		H-3-22552 (0371)
#327	Radiometallurgy Building Post Irradiation Test Laboratory	00/00/53		...has one story and basement... "One-story welded steel framework with a partial basement"		H-4-12952 (0161), H-3-22113 (0266)
#327E	Maintenance Building	00/00/00				n/a
#328	Engineering Management & Technical Shops Mechanical & Development Building Eng. Service & Safety Bldg Plant Operations Bldg	00/00/52		...gabled steel building on grade... "The first floor is reinforced concrete". Built to replace 3717 building and 2 3722 shops...		H-4-50438 (0952), H-3-25886 (1266)
#328A	Sheet Metal Shop	00/00/61				n/a
#329	Biophysics Laboratory Chemical Sciences Laboratory	00/00/53		...rectangular with partial second story and basement.		H-3-34079 (0278), H-3-34577 (1081), H-3-70586 (0395), H-3-307112 (1096), H-3-307113 (1096)
#329 TRL2	Neutron Multiplier Facility Office	00/00/00				n/a
#330	Stress Rupture Test Facility	00/00/74				n/a
#331	Life Sciences Laboratory	00/00/00		Built to replace Hanford Works' 108-F Building		n/a
#331A	Fuels Manufacturing Bldg Coextrusion Shop Fuel Cladding Facility Virology Lab	00/00/68		"...building erected on concrete footings and a slab on-grade concrete floor."		n/a
#331B	Dog Kennel	00/00/68		one story concrete block structure		H-3-25798
#331C	Animal Care Storage Facility Prefab Animal Care Facility	00/00/72		"...erected on a concrete slab"		H-3-32888(0480)
#331D	Sewage Treatment Facility Biomagnetic Effects Laboratory Biomagnetic Laboratory	00/00/73		"...erected on a concrete slab"		H-3-33678, H-3-41900(0184)
#331E	Greenhouse	00/00/75				H-3-32975
#331F	Animal Resources Storage Facility	00/00/75		"...previously the 142-F structure" "...a one-story building erected on a concrete slab"		H-3-41156(0487)
#331G	Interim Tissue Repository Farrowing Facility	00/00/75		"...a concrete block building built on a concrete slab."		H-3-41153
#331H	Plant Exposure Facility	00/00/79		"...a one-story concrete block structure erected on concrete foundations and a concrete slab on-grade"		H-3-34950
#331 HB1	Aerosol Wind Tunnel Research Facility Hog Barns, 331HB1 through 331HB12	00/00/75		"...erected in pairs on concrete pads..."		n/a
#331HB2	Hog House	00/00/75		"...erected in pairs on concrete pads..."		n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
#331 HB3	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB4	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB5	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB6	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB7	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB8	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB9	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB10	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB11	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331 HB12	Hog House	00/00/75	•	"...erected in pairs on concrete pads..."	n/a
#331J	Incinerator	1980 or 1984	•	concrete floor slab with footings to 2'6"	n/a
#331TRL1	Hay Storage Barn	00/00/00		minimal disturbance; underground utility connections and tie-downs	n/a
#331TRL5	Mobil Office	00/00/80		minimal disturbance; underground utility connections and tie-downs	n/a
#332	Hazardous Waste Interim Holding Facility	00/00/83		"metal building erected on concrete footings and a slab"	H-3-54573
#333	Packaging Test Facility	1960		"The foundation and ground floor are concrete"	H-3-18450, H-3-3499 (0884) and (1284)
#334	New Fuel Cladding Facility	00/00/61		building is on a reinforced concrete slab on-grade	H-3-31492 Sheets 1 (0477) and 2 (0875)
#334A	Chemical Handling Facility & Tank Farm	00/00/59		"...the portion below grade contained three tanks seated in a reinforced concrete pit 18.5 feet by 18.3 feet by 10 feet (deep)." "Foundation and floor are concrete"	H-3-31429 (1184)
#335	Waste Acid Storage Building				
#335	Chemical Waste Receiving	00/00/68		"...metal sheathed facility on a cement slab"	H-3-28585 (0270), H-3-28761 (0672), H-3-28583, H-3-30301
#335A	Sodium Test Facility				
#335A	Sodium Test Building	00/00/68	•	"...metal sheathed facility on cement slab"	H-3-28757, H-3-28758, H-3-28764, H-3-28766, H-3-38769
#336	Fast Reactor Thermal Engineering Facility	00/00/69		"reinforced concrete floor and corrugated steel sides."	SK-3-28819 (0991), H-3-30313 (0390)
#337	Core Segment Development Facility				
#337	High Bay Testing Facility	1970 - 1972		a caisson was built in the high bay area, beginning 20' below grade and extending 60' below grade.	H-3-30532 (0373), H-3-30534 (0373), H-3-30533 (0373)
#337	Technical Management Facility				
#337	Sodium Test Facility				
#337B	337B High Bay and Service Wing	00/00/72		steel caisson with 25' inside diameter - 40' deep. 25' diameter hole; unlined 8' diameter concrete pit - 15' deep with 2' shaft to 13'	n/a
#337B	High Temperature Sodium Facility				

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
#338	Components Mockup Facility Maintenance Building Mock-up Maintenance Building	00/00/61		Building moved to 300 Area from 100-F Area in 1971. Building contains a 33' pit. "main floor is a painted concrete slab...a concrete-lined pit covered by a truss-supported steel plate floor...in the north end of building	H-3-33226 (0772), H-3-33224
#338T	Unknown Facility	00/00/00			n/a
#339	Unknown Facility	00/00/00			n/a
#339A	Classified Computer Facility Computer Facility	00/00/86		Prestressed concrete - no windows	H-3-22926 (1088), H-3-22923
#339B	Unknown Facility	00/00/00			n/a
#340	Retention and Neutralization Complex Waste Neutralization Facility	00/00/53		Main building contains a concrete pit area... "37' x 25' x 21' deep, for two 15,000 gallon neutralization tanks"	H-3-34184 (0578)
#340A	Waste Retention Facility Building 340 Annex	00/00/61		...concrete floor 3 ft below grade and concrete walls to grade...	H-3-34431 (0784), H-3-9389 (0561)
#340B	Waste Load-Out Facility RR Loadout Building	00/00/68		"could accommodate two 20,000-gallon rail tank cars at once. Metal building set on a reinforced concrete slab on-grade	H-3-25431 (0190), H-3-34432 (0491)
#340G	Unknown Facility	00/00/00			n/a
#340 TRL 1	Mobile Office	00/00/00			n/a
#341	Unknown Facility	00/00/00			SK-3-20778 (0281), SK-3-20779 (0281)
#350	Plant Operations & Maintenance Facility Craft Operations	00/00/80		"floors are slab-on-grade reinforced concrete"	H-3-302805 (1295), H-3-54046
#350A	Paint Shop	00/00/80		"building secured to a cement pad"	H-3-34838 (0283)
#350B	Warehouse	00/00/80			H-3-34838 (0283)
350C	Storage Building	00/00/82		"metal building erected on concrete foundations and a concrete floor slab"	H-3-54046
350D	Oil Storage Building	00/00/87		"Prefabricated metal set on a concrete pad"	H-3-48982 (0390)
351	Electrical Substation	00/00/71		originally known as 351-B	n/a
351A	Primary Substation	09/03/43		"...gravel surfaced area 70' long by 37 1/2' wide... no switch house provided...concrete pads are provided for the transformers" "...single story building constructed of metal and sheetrock on a concrete floor"	H-3-9043 (1058), H-3-33765 (0377), H-3-9425 (0267)
351A	Primary Substation Station Meter and Testing Building Electrical Substation	00/00/52		"...single story building constructed of metal and sheetrock on a concrete floor" Two cable pits under building	n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
351B	Primary Substation Electrical Substation Station Meter Testing & Switchgear Facility, B3S4	00/00/44		"...6" reinforced concrete slab floor supported on concrete foundation walls...and "...a wooden fenced, gravel surfaced area 63' x 58'." and "a wooden fenced, gravel surface area 63' x 58'		H-3-71386 (1043), H-3-28572 (0770)
351B	Switchgear/Substation F255568	00/00/70				
351C	FMIT Master Substation	00/00/00				n/a
352	Unknown Facility	00/00/00				n/a
352A	Unknown Facility	00/00/00				n/a
352B	Unknown Facility	00/00/00				H-3-439 (0449)
352C	Ground Detector	00/00/00		Located west of 37187A Building		n/a
352D	Switchgear Building Electrical Substation	00/00/69		"single story metal building on concrete"		n/a
352E	Switch Station East Side, F261175	00/00/72		"single story metal building on concrete"	•	H-3-30980 (0273)
352F	Electrical Substation 2.4 KV, F261547	00/00/78		single story ... on a concrete floor		H-3-34033 (1275), H-3-48888 (1285)
352H	Motor Control Center Building	00/00/00				H-3-300938 (0794)
362K		00/00/00				n/a
#360	Sanitary Sewer Control Building	00/00/00				H-3-57848 (0890), H-3-57849 (0890), H-3-57850 (0890), H-3-57851 (0890), H-3-57852 (0890)
360A	Sanitary Sewer Lift Station	00/00/00				H-3-57857 (0890)
#363	Transfer Platform	02/10/44		"...6" deep reinforced concrete wall with wing walls. The top of the wall is flush with the roadway on the north side...cut away to a depth of 3'-9" on the south side."		n/a
#366	Fuel Oil Bunker Concrete Tank	00/00/00		Underground Structure		H-3-21824 (0266)
366A	Underground Fuel Oil Bunker 300,000 Gal Oil Storage Tank	00/00/00		Underground Structure		H-3-33608 (1075), H-3-33609 (1075), SK-3-18067 (0273)
#372	Unknown Facility	00/00/00				n/a
#377	Geotechnical Engineering Laboratory Steam Generator Examination Facility	00/00/80				H-3-42093 (0182), H-3-42083
377TRL2	Office	00/00/00				n/a
#382	Pump House Building and Reservoir	02/26/44		"...pumphouse has 4" reinforced concrete slab floor supported by concrete foundation walls		W-3-69821 (0966)
#382A	Water Tank, 200,000 Gallon	00/00/44		"...circular tank with 4" thick base is located 2' below grade."		H-3-16925 (0876), H-3-43859 (0280)

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
#382B	Water Tank, 225,000 Gallon	00/00/00				
#382B	Fire Pump House	00/00/93				H-3-49840 (0792)
	Fire Pump Station 382B					
	Water Tank					
#382C	Sanitary Water Storage Tank, 900,000 Gallon	00/00/00				H-3-43859 (0280)
	Water Tank					
#382D	Sanitary Water Reservoir 382D	00/00/00		Underground Structure		H-3-49840 (0192)
#384	Power House Building	02/10/44		"...foundation is of reinforced concrete extending some 4' to 5' below ground level and supports a 6" reinforced concrete floor."		H-11-3200 (0158), H-11-3204 (0158), H-3-52106 (1086), H-3-52130 (1086), H-3-49970 (0895), H-3-30716 (0274), H-3-21821 (0266), H-3-52132-35 (1086), W-70286 (1057), W-69723 (1057), H-3-12723 (0259), H-3-9486 (0162), H-3-27094 (0667)
	Steam Power House Building					
	Heating Plant					
#384A	Exhaust Structure	00/00/00				n/a
#384B	Unknown Facility	00/00/00				n/a
#3100	Hazardous Waste Facility	00/00/00				SK-3-21114 (0289)
#3190	Unknown Facility	00/00/00				n/a
#3220	U.S. West Communications Building	00/00/88				n/a
	Telephone Exchange					
#3288	Unknown Facility	00/00/00				n/a
#3331	Unknown Facility	00/00/00				n/a
#3408	FMIT Cooling Tower	00/00/00				n/a
#3425	Unknown Facility	00/00/00				n/a
#3501	Fence and Road Lighting	12/20/43		"lighting was provided at all main road intersections...inmost cases road and street lighting...supported on area power distribution poles."		n/a
#3503	Outside Transmission Lines Wood Poles, Lines, and Hardware	10/21/44		"fir and cedar poles...substations were supplied with 115-kV and 66-kV lines"		H-3-29022 (0869)
3503A	Electrical Cable Pit No. 2	00/00/00				n/a
3503B	Electrical Cable Pit No. 3	00/00/00				H-3-18269 (0469)
3505	Fire Alarm System	05/1/44		"6 fire alarm boxes were mounted on existing power poles"		n/a
#3506	Communications System, Includes Fire Alarms Telephone System	12/01/44		telephone system included an aerial cable or a multicircuit line that ran from the switchboard to each respective building		n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
3506A	Telephone Exchange Building	00/00/44		"...concrete block building...on a concrete slab"	H-3-53164
3506B	Powerhouse Maintenance Shop	00/00/44			n/a
	Power House Inst.				
	Maintenance Shop				
	Utilities Maintenance Shop				
3506B	Electrician/Tech Shop	00/00/75		"concrete slab floor	n/a
#3507	Microwave Tower and Building	00/00/85		metal building painted concrete floor	H-3-863 (0284)
#3601	Railroad System	04/01/44		"standard gauge single-rail track" extended into the 300 Area. Site-wide there were 123.3 miles of track.	H-3-30651 (0273), H-3-30652 (0273), H-3-30653 (0273), H-3-30654 (0273), H-3-33547 (0273), H-3-24094
#3602	Standard Gauge Railroad Track				
	Standard Gauge Rolling Stock	00/00/00		...rolling stock included locomotives, a variety of rail cars, trailers, jacks, cranes, and rail drills...	n/a
#3603	Roads, Walks, Bridges, Culverts	09/01/44		most HEW roads were constructed of a 5" gravel base covered by a bituminous road mix mat. Three major roads: Rt 4 (HEW construction), Cold Creek Road (pre-site), and the Richland to Hanford road.	H-4-63863 (0180), SK-3 20101 (1178), SK-3-20102 (1178), H-3-56617 (0488), H-4-50290 (1267)
3605	Fence Including 4 Guard Towers	11/00/43		Fence Type 1 and 2 used. Type 1 placed on fence posts 4"x4" in holes a minimum of 29" deep. Type 2 placed on posts 4"x4" buried ~ 2 deep... Guard Towers were mounted on 4 posts...	H-3-4326(0551) Void 011459
3606	Unknown Facility	00/00/00			n/a
3606A	Unknown Facility	00/00/00			n/a
#3607	Sewage Treatment Septic Tank, 90 Ft. Below Ground/Septic Tank	11/00/43		One tank; 11' - 6" x 25' x 13'. Serves 305, 313, 314, 321, 384, 3701, 3704, 3706, 3707 A-B, 3709, 3717, 3719, 3745, and 3746 buildings	H-3-23619 (1066)
3607A	Pumphouse Facility	00/00/00			H-3-36829 (0874)
3607B	Chlorine Feed Piping	00/00/00			H-3-37562 (0574)
3607C	Field	00/00/00			n/a
3612	Open Drainage Ditch	00/00/00		500' long and 30" wide	n/a
#3613	Parking Area	11/14/43		"usually located just outside area fences near the Gate Houses and Clock Alleys...they were constructed of water-bound sand and gravel and stabilized with a hot mix bituminous gravel surfacing...most approximately 40,000 ft ² ."	n/a
#3614	General Monitoring Station	03/00/44		"...4" concrete floor slab"	n/a
3614A	River Monitoring Station	00/00/44		"concrete block structure on concrete slab"	H-3-27969 (1277)

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
3614B	Process Water Trenches	00/00/00		Excavated Surface Facility	H-3-33841 (1176), SK-3-18157 (1176), H-3-33841 (1176)
3621A	Emergency Elec. Generator Station	04/01/44		8" concrete curtain wall foundations; concrete pad equipment foundations; 6" cinder floor...	n/a
3621B	Emergency Elec. Generator Station	04/01/44	•	8" concrete curtain wall foundations; concrete pad equipment foundations; 6" cinder floor...	H-3-49965 (0595)
3621C	Emergency Elec. Generator Station	04/01/44	•	8" concrete curtain wall foundations; concrete pad equipment foundations; 6" cinder floor...	H-3-49965 (0595), H-3-18267, H-3-18269, H-3-23488
3621D	Emergency Generator Building and Shop	00/00/74		"...steel structure on concrete slab"	H-3-33622 (1274)
3621E	Uninterruptible Power Supply Building	00/00/00			n/a
3622	Unknown Facility	00/00/00		North of 3701R Building	n/a
#3701	Gate House and Clock Alley	04/00/44		"...4" reinforced concrete slab floor resting on concrete foundations" ...an outside stairway rests on a concrete base	H-3-4031 (0249)
#3701	Personnel Accountability Building	00/00/64	•		n/a
3701A	Apple Street Guard Station	00/00/81	•	"Concrete masonry block building... on a concrete slab"	H-3-45202 (1182)
3701B	Sentry Station, 337 Building	00/00/00			n/a
3701C	Protected Area Guard Station	00/00/00			n/a
3701D	Patrol Headquarters	00/00/81		"single-story structure with basement"	H-3-45137 (0990)
3701L	Benton County Sheriff Headquarters				
3701N	Wisconsin St. Guard Station/ Badge House	00/00/82	•	concrete floor on grade	H-3-8263 (1254)
3701N	North Badge House	00/00/65	•	"concrete block structure with a concrete foundation"	n/a
3701R	Cypress St. Guard Station	00/00/82	•	structure sits on a concrete pad	n/a
3701S	George Washington Guard Station	00/00/82	•	structure sits on a concrete pad	H-3-45168 (1182)
3701T	Emergency Staging Building	00/00/72	•	building was on concrete slab	n/a
3701TR	Security Office Building	00/00/00	•		n/a
3701U	Protected Area Guard Station	00/00/79			H-3-34246 (0279), H-3-34244
3701Z	Office Building	00/00/00		concrete pad	n/a
#3702	Accounting and Administration	00/00/44	•	The floor framing is supported on posts from concrete footings... a concrete block wall supports the perimeter of the building	H-3-7300 (047), H-3-693 (0858)
#3703	Office Building	00/00/44	•	...wood frame structure set on concrete block foundation.	H-3-23424
3703A	Production Fuels Administration Building	00/00/00			n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
3704/TC-36	Supervisor's Office Construction Storage Building Insulators Storage	00/00/44		Foundation is concrete block and concrete piers. Floor is wooden	n/a
3704A	Unknown Facility	00/00/00			H-3-45173 (1182)
3704S	Unknown Facility	00/00/00			n/a
#3705	Photography Building Personnel Meters and Records Building	00/00/50		"...one-story concrete block building erected on concrete footings and a slab-on-grade concrete floor."	H-11-4366 (0159)
#3706	Radiochemistry Laboratory Information Services Building General Services Building Supervisor's Office	11/00/44		"concrete floor with mastic tile supported by concrete foundation walls" "...concrete block structure with concrete floor and foundation ..."	W-72462 (0244), W-69724 (1143), W-69722 (1143), H-3-499 (0647)
3706A	Air Conditioning Equipment Building	00/00/44		"...4" concrete slab floor not reinforced which is supported by concrete foundation walls"	W-73558 (0344)
3706B	Custodial Service	00/00/44			n/a
3706E	Unknown Facility	00/00/00			n/a
#3706 TRL	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs	n/a
#3707	Septic Tank N55423, E15349 Electrical Substation	00/00/00			n/a
3707A	Change House and Patrol Headquarters Maintenance Office Building	11/00/43	•	"...4" reinforced concrete slab floor supported by concrete block foundation walls with spread footings."	n/a
3707B	Change Room Janitor Services Building Powerhouse Offices	03/01/44	•	"...concrete block walls set on plain spread footings. Floor slabs are 4" plain concrete haunched under partitions."	n/a
3707C	Change Room/Computer Laboratory	00/00/50	•	"on-grade concrete floor, raised concrete foundation, concrete block exterior walls"	H-3-26617
3707D	Hanford Patrol Headquarters Badge and Change House Information Services Building Powerhouse Offices	00/00/53		"concrete foundation and concrete slab floor."	H-3-8025 (0856)
3707E	Construction Storage Building J.A. Jones, Subcontractors Office Building	00/00/44		Foundation is concrete block. Building is wooden frame and floor.	n/a
3707EA	Paint Storage Building	00/00/00	•		n/a
3707F	Radiation Monitoring Building Personnel Survey Building	00/00/63		"structure erected on a concrete slab"	H-3-21549 (1163)
3707G	Change House	00/00/67		"concrete foundation and floor"	H-3-27483
3707H	Change House	00/00/75		Building sits on "a reinforced concrete wall footing"	SK-3-2128

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
#3708	Radioanalytical Laboratory	00/00/48		on grade with concrete foundation and concrete slab floor.	H-3-761 (1055), H-3-32676
#3709	Electrical and Optical Shops				
	Fire Headquarters	04/00/44		...4" reinforced concrete slab floor with 6" curbing is supported on concrete foundations.	H-3-7536, W-72922
	Paint Shop				
3709A	Fire Station	00/00/64		"masonry exterior walls on a concrete slab"	H-6-316 (0964)
3709B	Fire Station Storage Building	00/00/77			n/a
#3710	Solvent and Grease Storage Building	00/00/00	•		n/a
3710A	Oil and Solvent Storage	00/00/61		"concrete foundation and floor"	
3710B	Flammable Storage	00/00/00	•		H-3-44984 (0679)
#3711	Maintenance Storage Building			Foundation is concrete block and floor is slab concrete.	H-3-39846
	J. A. Jones, Construction Shop	00/00/74			
#3712	Fuels Warehouse	00/00/61		Concrete floor and foundation	H-3-9686 (0162), H-3-9690 (0761)
#3713	Receiving Storeroom	11/00/43		"...4" reinforced concrete slab floor supported by concrete block foundation walls with concrete spread footings."	n/a
	Maintenance Shops				
	Storage Building				
	Carpenter Shop				
#3714	Organic Chemistry Laboratory	00/00/55		"one story building has reinforced concrete walls, roof, and floor..."	H-3-8280 (0853)
#3715	Storage Building	00/00/59		"Building is single story corrugated sheet metal structure on a concrete slab..."	H-3-23426
3716/TC-36	Manufacturing Operations Warehouse				
	Metallurgical Development Laboratory	11/01/43		concrete wall with concrete floor slab on grade. "Structure mounted 4 feet above grade on concrete wall with concrete floor slab on grade"	H-3-18366 (0464)
	Automotive Repair Shop				
	Storage Building				
	Fuel Pump				
#3717	Sheet Metal & Engineering Building	00/00/44		"...4" reinforced concrete slab floor, with 6" concrete curbing, supported by concrete foundation walls."	H-3-526 (0747), HW-69303, H-3-55761, H-3-7606
	Spare Parts Warehouse				
3717B	Warehouse Building	00/00/44			
	Standards Laboratory				
3717C	Instrument Shop	00/00/70		"...sheet metal building with concrete floor"	H-3-300101 (1194), H-3-4346 (0968)
	Materials Archive Building				
#3718	Office	00/00/62			H-3-35261 (1272), H-3-36497
	Shop Storage Building				
	R + U Services			"Prefabricated metal storage-type structure set on a concrete floor with stub wall and gable roof"	AEC-3A-1235 Sheet 1, H-3-26620
3718A	Laboratory Equipment Central Pool Building	00/00/52			
3718B	Laboratory Equipment Central Pool Building	00/00/52		prefab set on concrete floor	SK-3-26283 (1187) SK-3-26283 (1187)

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
3718C	Storage Building	00/00/54		"on a concrete floor w/a 4 foot high concrete block wall"	SK-3-10933 (0964)
3718D	Storage Building	00/00/00			n/a
3718E	Storage Building	00/00/64	•	building erected on concrete foundation and slab	H-3-27097 (0467)
3718F	Sodium Storage Building	00/00/62	•	"The floor is concrete pad"	H-3-39844 (1076)
3718G	Alkali Metal Treatment and Storage Facility	00/00/78		"building constructed on concrete foundation and a slab on grade"	H-3-22669 (0792)
3718H	Unknown Facility	00/00/00			n/a
3718J	Storage Building	00/00/00			n/a
3718K	Unknown Facility	00/00/00			n/a
3718M	Sodium Storage Building	00/00/73		two levels below grade "half the building is below grade"	H-3-30879 (0876)
3718N	Insulation Shop	00/00/71		"...installed on a concrete slab floor"	H-3-39252 (0975)
3718O	Storage Building	00/00/67	•	"building erected on concrete foundations and slab"	H-3-58468 (0190)
3718S	HEPA Filter Storage	00/00/00			H-3-39252 (0975)
#3719	Storage Building	00/00/00		"...4" reinforced concrete slab floor supported by concrete foundation walls and well-tamped earth."	H-3-37642 (0574)
#3719	Photo. Proc. Shop	04/15/44			
#3719	Fire Protection Hdqrs				
#3719	First Aid Bldg				
#3719	Computer Facility	00/00/79		"modular construction with a poured concrete slab foundation"	SK-19592
#3719A	Unknown Facility	00/00/00			n/a
#3720	Environmental Sciences Laboratory	00/00/66		"...all metal frame structure erected on concrete foundation footings and floor slab." "main building...contains a 24 foot wide and 109 foot long basement area	H-3-21353 (1165), H-3-34166 (0880)
#3721	Chemistry and Metal Sciences Laboratory				
#3721	Incinerator	00/00/65		"Concrete block with a concrete floor"	H-3-21835 (0765)
#3722	Construction Shop				
#3722	Area Shop/303[sic] Area Maintenance Shop	10/04/44		concrete foundation and 4 " reinforced concrete floor on grade supported by well tamped earth	n/a
3722A/TC-36	Two Area Shops				
3722A/TC-36	Area Shop	10/06/43		temporary construction	n/a
#3723	Solvent/Acid Storage Building	00/00/72		"...constructed of concrete block placed on concrete footings and a concrete pad on grade	n/a
#3726	Propane Gas Storage	07/14/44		"...wooden frame... supported by six wooden posts resting on concrete piers."	H-3-779 (0257)

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
3726A	Emergency Air Bottle Building (attached to 3701D)	00/00/00	•		n/a
#3727	Classified Storage Facility	00/00/75		"...concrete block with a concrete floor"	• H-3-15465 (1175), SK-3-18363 (1074)
#3728	FFTF Test Article Storage Building	00/00/80		"...structure with a concrete foundation and floor"	• H-3-44396 (0880), H-3-44597
#3730	Geotechnical High-Bay	1950/1949		entire building is on a concrete pad. "...water-filled pit beneath the building..."	H-3-8401 (0271), H-3-34125 (1176)
#3731	Graphite Laboratory & Shop	00/00/67		...set on a concrete pad...	• H-3-2739
3731A	Laboratory Equipment Central Pool	00/00/67		"cement block masonry structure constructed on a concrete pad"	• H-3-2739
#3732	Graphite Machine Shop	00/00/67		concrete foundation and concrete floor on grade	H-3-4108 (0360)
#3734	Process Equipment Development Laboratory	00/00/49			
#3734	Cylinder Storage Warehouse	12/09/43	•	"concrete curtain walls upon well-tamped earth..." "one-story building...resting on a 4" concrete slab..." "concrete foundation and floor"	W-69304
3734A	Two Cylinder Storages	10/18/44	•	"...4" reinforced concrete slab floor 3'4" above grade ...supported by concrete foundation walls with spread footings and a well-tamped gravel fill. * "concrete foundation w/floor 3'6" above grade"	AEC 3A-1267, H-3-1091
#3741	Maintenance Storage Building	12/20/44		"4" reinforced concrete slab floor supported by concrete foundation walls with spread footings and well-tamped earth"	n/a
#3745	Cylinder Storage Warehouse	1956		"...floor of this structure is of reinforced concrete supported by concrete foundation walls and well-tamped earth. "...concrete vault in southwest corner"	H-3-6488 (0375)
3745A	Paint and Solvent Storage	00/00/48		concrete slab floor on grade	H-3-686 (0858)
3745B	Box Storage	00/00/53		concrete floor and concrete walls "...there is a pit area"	H-3-8157 (0791)
3745 TRL1	Radiological Calibrations and Standards Building	00/00/00			n/a
3745 TRL3	Electron Accelerator Building	00/00/78			n/a
#3746	Positive Ion Accelerator Building	09/01/44		"...4" reinforced concrete slab floor with mastic tile covering is supported by reinforced concrete foundation walls and well-tamped earth."	SK-3-21033 (0186)
3746A	Irradiation Physics Laboratory	00/00/48		concrete foundation with an on-grade concrete floor slab"	H-3-47563 (0282), H-3-39710
3746D	Radiation Protection Administration	00/00/48		"the floor is slab on grade concrete..."	H-3-27953
	Control Building				
	Radiological Physics Laboratory				
	Craft Training Hutment				
	Photography Annex				
	Technical Service Annex				

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
#3747	Unknown Facility	00/00/00				SK-3-16596 (0977), SK-3-16597 (0977)
#3760	Technical Library	00/00/52		no basement; first floor is reinforced concrete		H-3-4674 (0991)
3760 TRL1	Laboratory Management and Technical Information					
Office		00/00/74		minimal disturbance; underground utility connections and tie-downs		n/a
3760 TRL2	Office	00/00/79		minimal disturbance; underground utility connections and tie-downs		n/a
3760 TRL3	Office	00/00/77		minimal disturbance; underground utility connections and tie-downs		n/a
#3762	Dormitory	00/00/44		"..two-story wood frame...concrete block foundation walls..." wood flooring		H-3-28736 (0393)
Technical Security						
#3763	Office Building	00/00/71		"single-story concrete block structure with a concrete floor covered with carpets and tile"	•	H-3-30665 (0271)
3763TRL1	Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
#3764	Dormitory	00/00/44		"..two-story wood frame structure with drop siding, concrete footings, concrete block foundation and walls..."	•	H-3-35226 (0876)
Office						
#3765	Engineering Office Building	00/00/55		"concrete and steel frame structure...and a concrete foundation and floor"	•	SK-3-17916
Office Building						
3765TRL1	Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
3765TRL2	Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
#3766	Office Building	00/00/75		Portable-prefabricated steel structure		SK-3-19157
#3767	Office Building	00/00/75		Portable-prefabricated steel structure		H-3-39290
#3768	Office Building	00/00/76		Portable-prefabricated steel structure	•	H-3-39290
#3769	Office Building	00/00/76		Portable-prefabricated steel structure	•	H-3-39290
#3770	Office Building	00/00/76		Portable-prefabricated steel structure	•	H-3-39290
#3771	Office Building	00/00/00				n/a
#3772	Office Building	00/00/00				n/a
#3773	Multiprogram Support Technical Center	00/00/00				n/a
#3780	National Security Technology Center	00/00/00				n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
#3790	Safeguards & Security Building Security Office Building	00/00/82		"single-story structure with a basement...[of] reinforced concrete"	H-3-45185 (1182)
#3801	Outside Overhead Pipe Supports	12/27/43		Two types used; single and/or double pole set in concrete.	n/a
#3802	Outside Overhead Steam Lines	02/01/44		Carried overhead	n/a
#3802	Process Sewer System	00/00/00		Underground Structure	SK-3-18038 (0779), H-3-33546 (0779)
#3802A	Steam Prv Station	00/00/65			H-3-14900 (0869)
#3802B		00/00/00			n/a
#3803	Outside Overhead Air Lines	02/01/44		"...carried overhead"	n/a
#3901	Water Lines	00/00/00		"...buried at least 4 ft below grade...surrounded by concrete kicker blocks at connections with sharp bends..."	n/a
#3902	Outside Underground Fire Lines and D.M. Tank	06/30/43		"water supply was independent & emanated from 2 wells in the SE corner of the area ...distributed...via two...piping loops that ran from the wells to various buildings...75,000 elevated water tank...connected to this system for fire protection"	H-11-2127 (0679), H-11-2128 (0779)
#3902A	Water Tower, 75,000 Gallon	00/00/43		water tower on 4 legs anchored in concrete footing	n/a
#3902B	Water Tower, 100,000 Gallon	00/00/49		water tower on 4 legs anchored in concrete footing	H-3-14900 (0849)
#3903	Outside Underground Sanitary Sewers Process Sewer System	12/15/43		...concrete or vitrified clay pipe w/concrete joints. Piping in congested areas & under roads & railroads...encased in concrete. Brick manholes...access to piping & drainfields... & vitrified clay piping w/open joints...constructed around...septic tanks"	SK-3-18896(0277)H-3-34228 (0478), H-3-34094 (0478)
#3904	Outside Underground Process Sewers Process Sewer System Outfall Structure	08/07/44		"...laterals connected to a main 18-in. vitrified clay pipe eastward through the area to a settling basin about 800 ft east of the boundary fence...the Process Pond"	n/a
3905-1	Water Supply Well No. 1	00/00/43			W-17695 (0144), H-11-3230 (1058)
3905-2	Water Supply Well No. 2	00/00/44			W-17695 (0144), H-11-3230 (1058)
3905-3	Water Supply Well No. 3	00/00/00			n/a
3905-4	Water Supply Well No. 4	00/00/00			n/a
#3906	Sanitary and Process Lift Station Sanitary and Process Lift Building	00/00/00			H-3-38082 (0874), H-3-30833 (0376), H-3-35828 (0975)
ERDS -3	ERDS Building 3	00/00/86			
Sewer/Diversion	Diversion Sewer Lines	00/00/00		Underground structure	

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Drawing Number for Foundation Design/ Construction Details
Sewer/RLWS	Rad Liquid Wast Sewer	00/00/00		Underground Structure	
	Ice Storage House	1943-44?	?	No description Found	n/a
	Grounds - General	00/00/00			n/a
	Pasture	00/00/00			H-3-32956 (1178)
	Steam System Generation and Distribution	00/00/00			H-3-10279 (0167)
	Water System Pumping and Distribution	00/00/00			H-3-23700 (1185), H-3-23700 (0376)
	Wells - monitoring	00/00/00		Many	n/a
	300 Area Storage Yard	00/00/00			n/a
MO003	Mobile Office 329 T.2	00/00/74		minimal disturbance; underground utility connections and tie-downs	n/a
MO004	Mobile Office 329 T.1	00/00/74	•	minimal disturbance; underground utility connections and tie-downs	n/a
MO006	Office Trailer 377/T1	00/00/74		minimal disturbance; underground utility connections and tie-downs	n/a
MO007	Mobile Office 3760 T.1	00/00/77	•	minimal disturbance; underground utility connections and tie-downs	n/a
MO009	Mobile Office 3745/T1	00/00/77		minimal disturbance; underground utility connections and tie-downs	n/a
MO010	Mobile Office 3745 T.3	00/00/78	•	minimal disturbance; underground utility connections and tie-downs	n/a
MO011	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs	n/a
MO022	Mobile Office 326 T.2	00/00/77	•	minimal disturbance; underground utility connections and tie-downs	n/a
MO024	Mobile Office 306W T.2	00/00/86	•	minimal disturbance; underground utility connections and tie-downs	n/a
MO025	Mobile Office 328 T.5	00/00/78	•	minimal disturbance; underground utility connections and tie-downs	n/a
MO026	Mobile Office 3705 TRL 1	00/00/78		minimal disturbance; underground utility connections and tie-downs	n/a
MO029	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs	n/a
MO035	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs	n/a
MO036	Mobile Office 340#1	00/00/79		minimal disturbance; underground utility connections and tie-downs	n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
MO044	Mobile Office 3760 T.2	00/00/79		minimal disturbance; underground utility connections and tie-downs		n/a
MO046	Office Trailer 318/T3	00/00/79		minimal disturbance; underground utility connections and tie-downs		n/a
MO049	Mobile Office 331 T.5	00/00/84	•	minimal disturbance; underground utility connections and tie-downs	•	n/a
MO051	Mobile Office 323#2	00/00/81	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO052	Mobile Office (331 TRL 1)	00/00/60		minimal disturbance; underground utility connections and tie-downs		n/a
MO057	Mobile Office 306W T.6	00/00/78	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO059	Office Trailer @ 306E/T4	00/00/77	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO103	Mobile Office @ 3770#2	00/00/78		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO105	Mobile Office 3770#1	00/00/78		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO110	Mobile Office	00/00/78		minimal disturbance; underground utility connections and tie-downs		n/a
MO111	Mobile Office 318 T.2	00/00/78	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO226	Mobile Office 318 T.4	00/00/82		minimal disturbance; underground utility connections and tie-downs		n/a
MO258	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO259	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO260	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO261	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO262	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO263	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO264	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
MO265	Mobile Office @ FMIT	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO270	Mobile Office 3764 T.1	00/00/00		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO271	Mobile Office @ 3764 T.2	00/00/00		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO274	Mobile Office @ 324 T.1	00/00/00		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO275	Mobile Office @ 324	00/00/00		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO305	Mobile Office 325 T.1	00/00/77	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO307	Mobile Office 320 T.2	00/00/78		minimal disturbance; underground utility connections and tie-downs		n/a
MO326	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO335	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs	•	n/a
MO350	323#4 Change Trailer	00/00/80		minimal disturbance; underground utility connections and tie-downs		n/a
MO359	Mobile Office @ 331	00/00/77		minimal disturbance; underground utility connections and tie-downs		n/a
MO369	Office Trailer	00/00/79		minimal disturbance; underground utility connections and tie-downs		n/a
MO394	Mobile Office FMIT 3	00/00/82	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO395	Mobile Office FMIT 5	00/00/82	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO396	Mobile Restroom Near FMIT	00/00/79		minimal disturbance; underground utility connections and tie-downs		n/a
MO422	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO440	Mobile Office Near 3711	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO443	Mobile Office 310	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO531	Men's Restroom	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a

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Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
MO543	Mobile Changeroom	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO557	CF Mobile Office (Formerly TRLR A)	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO558	CM Mobile Office (Formerly TRLR A)	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO559	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO565	Mobile Office (3703)	00/00/00	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO656	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO659	Mobile Office 320 TRL 1 to be excessed 7/94	00/00/67	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO709	Office Trailer 377/T3	00/00/69	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO711	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO741	HPT Office @ 340	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO736	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO744	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO745	Mobile Office	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO830	Pipefitters Lunchroom TRLR	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO836	Change Trailer @ 1240 Building	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO842	Electricians Lunchroom TRLR	00/00/00		minimal disturbance; underground utility connections and tie-downs		n/a
MO861	Mobile Office 306W T.5	00/00/73	•	minimal disturbance; underground utility connections and tie-downs	•	n/a
MO902	Mobile Office FMIT 306E/7	00/00/76	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO903	Mobile Office FMIT 9	00/00/76	•	minimal disturbance; underground utility connections and tie-downs		n/a

Appendix D. 300 Area Facilities: Evaluation of Disturbance

Building Number	Name	Construction Date	Demolished	Depth/Extent of Construction Excavation	Inside 400 m Zone	Drawing Number for Foundation Design/ Construction Details
MO904	Mobile Office FMIT TRL 8	00/00/76	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO914	Mobile Office 329 T.5	00/00/76		minimal disturbance; underground utility connections and tie-downs		n/a
MO915	Mobile Office 326 T.1	00/00/76	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO918	Mobile Office 329 T.4	00/00/76		minimal disturbance; underground utility connections and tie-downs		n/a
MO926	Mobile Office FMIT 4	00/00/76	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO929	Mobile Office 3700 T.3	00/00/00	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO933	Mobile Office FMIT 10	00/00/77	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO935	Mobile Office (3763 TRL 1)	00/00/77	•	minimal disturbance; underground utility connections and tie-downs		n/a
MO937	Mobile Office 329 T.6	00/00/77		minimal disturbance; underground utility connections and tie-downs		n/a
MO950	Mobil Office 331 T.1	00/00/77	•	minimal disturbance; underground utility connections and tie-downs	•	n/a

Appendix E

300 Area: Well Log Deposit Records

Well No.	Year Constructed	Confidence Level	Fill Deposits	Eolian and/or Sand Deposits	Deposits Below Eolian/Sand	Comments
1-1	1948			0?	0-5' rocks and boulders	
1-2	1950	Good		0-7'	gravel, boulders, sand, silt & boulders	
1-3	1950	Good		0-8'	boulders	
1-4	1950	Good		0-6'	gravel, sand and silt	at 5' blow sand and silt
1-5	1975	Good	0-3'?	3-6'?	sand, gravel, cobble	0-3' sand and gravel; 3-6' sand
1-6	1975	Good		0-4'	sand, gravel (50%)	
1-7	1985	Good	0-10'		sand, cobbles, boulders	silt lens at 13'
1-8	1985	Good	0-5'		cobbles, coarse brown sand	
1-9	1986	Good	yes		pebble, cobble, sand	built on gravel pad
1-10A	1986	Good		0-6'	sandy gravel	
1-11	1986	Good	0-6'		sandy gravel	
1-12	1986	Good		0-15'	gravelly sand	
1-13A	1986	Good		<9'	gravelly sand	
1-14A	1986	Good			sandy, silt, gravel	
1-15	1986	Good		<10'	silty sand and gravel	
1-16A	1986	Good			sandy gravel	
1-16B	1986	Good			sandy gravel	
1-16C	1987	Good	0-5'	5 1/2 - 6'	silty gravelly sand	5 1/2 - 6' sand lens, cross-bedding
1-16D	1986	Good			sandy gravel/boulders	10-12' sand, silt, clay
1-17A	1986	Good			sandy gravel	paleosol
1-17B	1986	Good		0-3'	silty sandy gravel	
1-17C	1986	Good		0-4'	sandy gravel	
1-18A	1986	Good		0-13'	gravelly sand	
1-18B	1986	Good		0-11'	sandy gravel	
1-18C	1986	Good		0-8'	gravelly sand	
2-1	1948				boulders, rocks, gravel at 3'	
2-2	1976			0?	"a lot of boulders here"	
2-3	1976			?	sand, boulders [sic]	

Well No.	Year Constructed	Confidence Level	Fill Deposits	Eolian and/or Sand Deposits	Deposits Below Eolian/Sand	Comments
3-1	1948	Good		0?	0-5' fine black and white sand [Hanford Formation?]	
3-2	1947			?	sand at 5', sand and gravel at 10'	
3-3	1947			?	sand to 13', sand and gravel below	
3-4A	1951	Good		0-6'	sand and gravel	
3-4B	1951	Good		<5'	0-5' boulders and some blow sand	
3-5	1951	Good	0-5'	0?	5-18' black and white sand [Hanford Formation?]	
3-6	1943	Good		0-1'	sand and gravel	
3-7	1943	Good		0	boulder and gravel	
3-8	1970			?	sand, silt, gravel at 6'; 6-14' sand, silt; cobbles at 14'	
3-9	1976	Good	0-15'	?	sand, gravel, some coal - disturbed. At 20' silt, sand, and gravel	
3-10	1976			?	0-5' sand, gravel, cobble, boulders	
3-11	1976			?	0-18' "sand cobbles"	
3-12	1980			?	0-4' large cobbles, gravel	
4-1	1951	Good		0-1'	boulders and gravel	
4-2	1951	Good	0-8"	8"-6'	sand & gravel	
4-3a	1958			-0-10'	gravel & cobbles	
4-3b	1958			?	cobbles and sand at 5'	
4-4	1958			-	boulder & cobble gravel 0-3'	
4-5	1958			?	sand & cobble gravel at 3'	
4-6	1958					no information
4-7	1961			0 to between 5' and 10'	gray sand & cobble	
4-8	1971			?	0-15' sand with some silt, boulders and gravel	
4-9	1976			?	0-5' sand, cobbles and boulders	
4-10	1976			?	0-5' sand, some gravel	
4-11	1986	Good		0-8	Gravelly sand with caliche coating clasts	

Well No.	Year Constructed	Confidence Level	Fill Deposits	Eolian and/or Sand Deposits	Deposits Below Eolian/Sand	Comments
5-1	1951	Good		0-2	boulders, silt, and sand	
5-2	1951	Good		0-3	boulders, sand and gravel	
5-3	1951			?	sand and gravel all the way down to 36'	
6-1	1950	Good		1-5'	large boulders, sand and silt	
8-1	1950	Good		0-10'	gravel	
8-2	1950	Good		0-2'	gravel, sand, silt	
8-3	1951	Good		0-6'	boulders, sand and gravel	
8-4	1979	Good		rocks at 5'		
S19-E13	1971	Good		0-16'	sandy gravel	
S27/E14	1948	Good		<10'	gravel and sand	5' top soil, brown blow sand; 10' gravels and sand

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