HWMA/RCRA STORAGE and TREATMENT PERMIT

for the

MATERIALS AND FUELS COMPLEX (MFC)

ATTACHMENT 1 – FACILITY DESCRIPTION

Section B – MFC Facility Description
Section B Attachments

EFFECTIVE DATE: OCTOBER 1, 2015
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B. MFC FACILITY DESCRIPTION [IDAPA 58.01.05.012; 40 CFR 270.14(b)(1)]

The Idaho National Laboratory (INL) is owned by the United States Government and is operated by the Department of Energy (DOE). Management and operation of the INL is the responsibility of DOE-designated private contractors working under the direction of DOE Idaho Operations Office (DOE-ID) and the Idaho branch of the Pittsburgh Naval Reactors Office. A general description of the INL, as required by the Idaho Administrative Procedures Act (IDAPA), 58.01.05.012 [Title 40, Code of Federal Regulations (CFR) Part 270.14(b)] is provided in the Hazardous Waste Management Act/Resource Conservation and Recovery Act (HWMA/RCRA) Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131).

In accordance with the requirements of IDAPA 58.01.05.012 and 40 CFR 270.14(b), this section of the Materials and Fuels Complex (MFC) HWMA/RCRA Permit Application contains facility description, topography, and traffic-related information for the HWMA/RCRA units (herein referred to as HWMA units) on the MFC site.

Information on the location of the MFC site on the INL and of each HWMA unit on the MFC site is included in this section (including photographs of the exteriors/interiors of the units, floor plans, and foundation plans) is provided in Subsections B-1 through B-3 and Attachments B-1 through B-15. A brief overview of the types of hazardous waste/mixed waste (HW/MW) received and managed at the HWMA units and the HW/MW services provided is also provided in this section. Detailed information on the types of HW/MW received and managed, and the HW/MW services performed at the HWMA units, is provided in Attachment 2, Section C, Waste Analysis Plan, and Attachment 1, Section D, Process Description.

The information provided in this section is organized by subsection as follows:

- Subsection B-1, MFC Facility Description
- Subsection B-2, MFC HWMA Unit Overview
- Subsection B-3, MFC HWMA Unit Descriptions
- Subsection B-4, MFC Topographical Maps
- Subsection B-5, MFC Traffic Information.

B-1 MFC Site Description [IDAPA 58.01.05.012; 40 CFR 270.14(b)(1)]

The MFC site is located on the southeastern corner of the INL in Bingham County, Idaho. MFC is operated for the United States DOE by the INL through the DOE-ID.

The location of MFC on the INL site and the MFC administrative boundaries are shown in Attachment B-1. Additional detailed MFC facility information regarding the topography of the site, well locations, floodplain, and traffic information is provided in Subsections B-4 and B-5.

B-2 MFC HWMA Unit Overview

This HWMA/RCRA Permit Application includes MFC HWMA units as listed below:

- Hot Fuel Examination Facility (HFEF)
- Radioactive Scrap and Waste Facility (RSWF)
- Sodium Components Maintenance Shop (SCMS)
- Sodium Storage Building (SSB)
- RSWF Staging/Storage Area
- North Fenced Area.

The locations of each of the HWMA units are shown on the MFC Plot Plan in Attachment B-2. The map in Attachment B-3 shows the EPA Process Codes associated with each HWMA unit and the transfer routes between the MFC HWMA units and off-Site.

Brief descriptions of the HW/MW to be received/managed at the HWMA units, and the services (processes) to be performed in each HWMA unit, are provided in Subsections B-2(a) and B-2(b). Detailed descriptions of each of the HWMA units are provided in Subsection B-3.

B-2(a) HW/MW Received/Managed and Services Provided at MFC HWMA Units

The MFC HWMA units will receive/manage solid, liquid, contained gas, and debris HW/MW, and are used to perform a variety of services for on-Site[1] HW/MW generators and/or owners.

Ongoing receipt, management, and processing of on-Site HW/MW will ensure compliance with federal-and state-mandated HW/MW treatment and disposal plans, schedules, and stipulations set forth in the INL Site Treatment Plan (STP), the Federal Facilities Compliance Act (FFCA), and the State of Idaho and DOE Settlement Agreement.

[1] On-Site means HW/MW generated at a facility physically located on the INL site or HW/MW from a generator that is a contractor or subcontractor, physically located on the INL site, of the INL Management and Operations contractor.

MFC HWMA units will be used to store, repackage, and/or treat the following wastes [categorized by EPA processes and shown by waste type and associated hazardous waste numbers (HWNs)]:

- Receive/manage the following HW/MW types:
  - Ignitable waste (D001)
  - Corrosive waste (D002)
  - Reactive waste (D003)
  - Toxic-metal inorganic waste (D004-D011)
  - Toxic-metal organic waste (D012-D043)
  - F-listed waste (nonspecific sources as specified in Part A)
  - P-listed (commercial chemicals as specified in Part A)
  - U-listed (commercial chemicals as specified in Part A).
- Store, verify/sample, repackage and/or treat the following process codes:
  - Container storage (S01)
  - Tank storage (S02)
  - Miscellaneous unit storage (S99)
  - Container/debris treatment (T04)
  - Tank treatment (T01)

The forms of HW/MW to be received/managed at the MFC HWMA units include solids, liquids, contained gases, and/or debris waste that are currently in storage in the HWMA units or that will be received from on-Site facilities. The forms of HW/MW to be received include the following:

- Solids
  - Process waste and residuals
  - Laboratory waste
  - Treatment residuals
  - Sludges
- Liquids
  - Process waste and residuals
  - Laboratory waste
  - Treatment residuals
- Contained Gas
  - Aerosol cans
  - Cylinders (e.g., flammable)
- Debris[2]
  - Metal debris
  - Inorganic/organic debris
  - Paper/plastic/rubber/rags
  - Ceramic/brick
  - Heterogeneous debris.

Facilities that may transfer HW/MW to MFC for storage and treatment include the facilities located at MFC as well as facilities located on the INL.

Estimated maximum storage capacities for each HWMA unit and the annual quantities of the HW/MW to be managed (stored, verified/sampled, repackaged and/or treated) at the HWMA units are provided in Attachment 1, Part A Application.

A matrix of the EPA HWNs that can be received/managed at each HWMA unit, the HW/MW services (processes) performed in each HWMA unit, and the types of HW/MW is provided in Table B-1.

[2] As defined in IDAPA 58.01.05.008 and 40 CFR 268.2(g).

Table B-1. HW/MW processes, waste types, services, and limits provided by MFC HWMA units.

Facility		**HFEF**	**RSWF**	**SCMS**	**SSB**	**RSWF Staging/ Storage Area**	**NFA**
D001	Ignitable	X	X	X	X	X	X
D002	Corrosive	X	—	X	—	—	—
D003	Reactive	X	X	X	X	X	X
D004-11	Toxicity characteristic (inorganic)	X	X	X	X	X	X
D012-43	Toxicity characteristic (organic) (Ref. Part A)	X	—	X	X	X	X
F Listed	Non-specific sources (Ref. Part A)	X	—	X	X	X	X
P Listed	Commercial chemicals (Ref. Part A)	X	—	X	X	X	X
U Listed	Commercial chemicals (Ref. Part A)	X	—	X	X	X	X
S01	Container storage[1]	10725	—	24640	48000	333 m^3 (88000)	333 m^3 (88000)
S02	Tank storage[1]	—	—	390	—	—	—
S99	Miscellaneous unit storage[1]	—	53000	—	—	—	—
T01	Tank treatment[2]	—	—	1187	—	—	—
T04	Container/debris treatment[2]	440	—	880	—	—	—
Solids		X	X	X	X	X	X
Liquids		X	—	X	X	—	—
Contained gases[3]		X	—	X	X	—	—
Debris		X	X	X	X	X	X
Verification/sampling [solids/liquids/debris]		X	—	X	—	—	—
Repackaging	[solids/liquids/debris/contained gases]	X	—	X	—	—	—
Absorption	[free liquids]	X	—	X	—	—	—
Deactivation	[ignitable/reactives/corrosives]	X	—	X	—	—	—
Melt/drain	[reactive metals]	—	—	X	—	—	—
Neutralization	[corrosives]	X	—	X	—	—	—
Solidification	[immobilize liquids/inorganics]	X	—	X	—	—	—
Water washing/spraying [debris surfaces]		—	—	X	—	—	—

1. Maximum storage amount at any time in gal, except as otherwise noted.
2. Maximum treatment amount per day in gal.
3. Contained gas includes gas cylinders that will be stored in storage racks or in a container.

B-3 MFC HWMA Unit Facility Descriptions

B-3(a) Hot Fuel Examination Facility (HFEF)—Building 785

The HFEF, Building 785, consists of one building with five designated HWMA unit areas, one transfer area, and one staging area used to support HWMA unit operations. These designated areas within HFEF are used for HW/MW container storage, verification, and repackaging treatment (S01, T04). The areas within HFEF, Building 785, include:

HWMA Unit Areas

- High Bay Area (HBA) and mezzanine
- Hot Repair Area (HRA)
- Decontamination Cell(DC)/Spray Chamber
- Miscellaneous Equipment and Storage Area (MESA)
  - — Waste Characterization Chamber (WCC)/Transfer Room(TR), including Sample Preparation (SP) Glovebox and Equipment Repair (ER) Glovebox
  - — Preparation Room (PR)

HWMA Unit Support Areas

- Truck Lock Transfer Area (Non-HWMA)
- Casks/Transporter Staging Area (Non-HWMA)

Descriptions of the HFEF HWMA areas in Building 785 are provided below. A number of HFEF photographs, schematics, and drawings are provided as follows:

- Attachment B-4, Photograph of the Exterior, HFEF, Building 785
- Attachment B-5, Floor Plan Schematic Showing Facility Arrangement and Maximum Storage Capacity, HFEF, Building 785
- Attachment B-6, Photograph of the Interior of HFEF, Building 785

The location of the HFEF is shown on the MFC plot plan provided in Attachment B-2.

B-3(a)(1) HFEF General Description

HFEF consists primarily of two adjacent shielded cells (i.e., main cell and decontamination cell), the HRA, and the HBA in a three-story building. Offices, laboratories, and other personnel-related areas are located on the operating floor, which is slightly above grade level. A truck lock at the west end of the cell complex is also at this level. The service floor below contains the subcell tunnels and most of the building support equipment. The second floor contains additional building support equipment and offices.

The HBA, covering the entire cell complex and serviced by a 40-ton bridge crane, provides access to the tops of the cells. This area contains a mezzanine above the HRA as well as the HRA, including repair rooms, change room, and access room, and provides space for clean equipment repair and mockup, and cask storage. The MESA, which includes the WCC/TR, SP glovebox, ER glovebox, and PR, is also located in the HBA.

B-3(a)(2) High Bay Area (HBA)

The HFEF HBA is used to store HW/MW. That portion of the HBA where HW/MW is stored is posted with signs that state: **Danger — Unauthorized Personnel Keep Out.** The HBA is 68-ft wide by 154-ft long and extends over the main cell, decontamination cell, and truck lock. It provides access between the truck lock and ports in the cell roof for waste transfer operations. The HBA is serviced by a traveling bridge crane, which traverses the full HBA length and width and provides access to the truck lock through a ceiling hatch. The bridge spans approximately 60 ft and the hoist provides a lift capability of approximately 67 ft. The crane has 5- and 40-ton hoists.

Located in the HBA is the mezzanine on the roof of the HRA. The mezzanine is approximately 63-ft long by 45-ft wide with an Equipment Room occupying approximately 44-ft by 26-ft of the mezzanine area. The accessible area on the mezzanine is used for storage of HW/MW containers removed from the main cell and decontamination cell areas. HW/MW is typically stored on the mezzanine to provide As Low As Reasonably Achievable (ALARA) for personnel working in the HBA. Containers are added and removed from the mezzanine using a 40-ton bridge crane.

B-3(a)(3) Hot Repair Area (HRA)

The HFEF HRA is a shielded area used to perform HW/MW verification, repackaging and/or container treatment. It is directly above the decontamination cell/spray chamber in the HFEF HBA and is divided into a number of separate rooms. The entire HFEF HRA is designed for effective control of radioactive contamination. The outside dimensions of the HFEF HRA are 45-ft long by 70-ft wide. Hatches and doors provide for the transfer of equipment or personnel between HRA rooms and between the HRA, HBA, and decontamination cell. A concrete-block wall and steel-containment wall separate the Hot Repair Room from the Clean Change Room. The containment wall has removable panels for the insertion of glove ports, tunnel suits, and transfer devices. Repair and Access Room walls have windows. The HRA is used to support the reactor programs by providing a containment enclosure where cell equipment (previously decontaminated and smear surveyed) can be further decontaminated, repaired or modified, and returned to the decontamination or main cell.

A penetration or feedthrough port referred to as a shielded container material transfer station is located on the west side of the HRA, see Figure B-1. The shielded container material transfer station allows for transfer of irradiated fuel samples, metallography mount samples, and other small items into and out of the HFEF HRA via the HFEF hot cells using a shielded container. The opening of the port is approximately 8-in in diameter and is maintained closed, except when transferring fuel samples or material into or out of a shielded container. The shielded container material transfer station has no direct opening outside the HRA. Before the port can be opened a shielded container is connected to the port. The port door must be engaged with a matching port before the door can be opened, which allows a sealed transfer into or out of a shielded container. A moveable shield plug is moved into place when a shielded container is not connected to the port to provide shielding. The largest size sample that is typically transferred through the port is approximately the dimensions of a 500-ml wide-mouth Nalgene bottle (approximate dimensions OD x Height = 3.5-in x 6-in). Manipulators are used to open and shut the port from inside the HRA and to remove or place samples into a shielded container. No hazardous waste/mixed waste is transferred via the shielded container through the port.

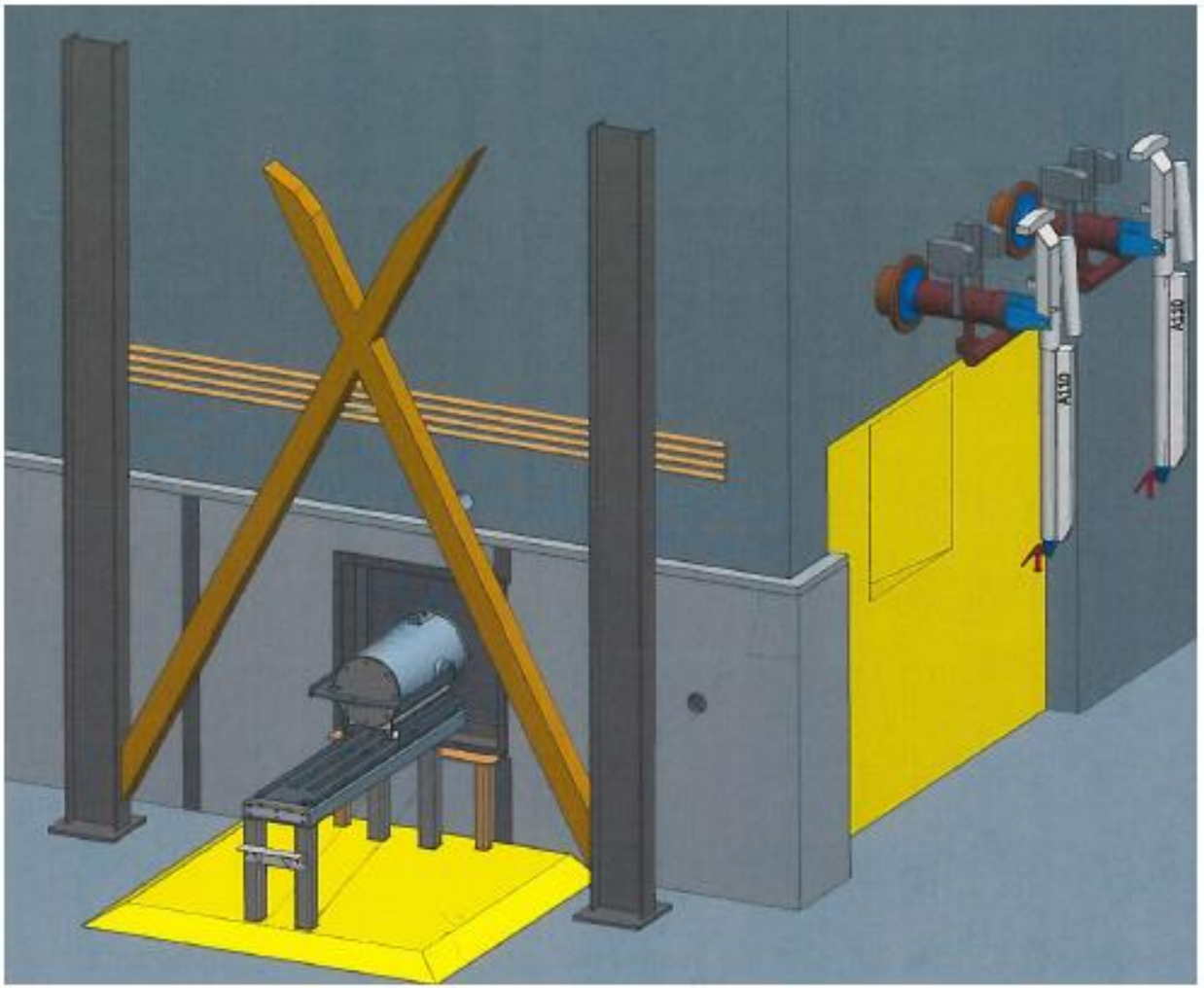


Figure B-1. Illustration of Shielded Container Material Transfer Station HFEF High Bay Area (West End)

B-3(a)(4) Decontamination Cell (DC)/Spray Chamber

The HFEF DC is used to perform HW/MW verification, repackaging and/or container treatment. The HFEF DC is a heavily shielded cell located directly below the HFEF HRA. It is an extension of the main cell and is separated internally from the main cell by a 48-in. thick concrete shield wall. Internal cell dimensions are 20 x 30 x 25 ft high. The walls, floor, and ceiling are 48-in. thick concrete. The cell floor is lined with stainless steel and the walls are lined with carbon steel, which is coated with epoxy paint to a height of 13.5 ft above the cell floor. In-cell work is performed using electromechanical manipulators operated by personnel located outside of the cell walls. One of the work stations along the west wall is equipped with a spray chamber consisting of a 7.75 x 9.5 x 12-ft sealed stainless-steel enclosure fitted with water spraying fixtures normally used for equipment decontamination. When HW/MW verification, container treatment, and/or repackaging activities are being performed in the spray chamber, the water spray system is isolated and tagged out and the drain in the spray-chamber floor (used in routine spray-chamber operations) is blocked off. All HW/MW must be removed from the spray chamber when verification, container treatment, and/or repackaging activities are not being performed.

B-3(a)(5) Waste Characterization Chamber (WCC)/Transfer Room (TR)

The HFEF WCC/TR is used to perform HW/MW verification, repackaging, and/or container treatment. The HFEF WCC is a metal framed enclosure in the Operations Room and allows personnel access via glove ports around the chamber. The TR is directly below the HFEF WCC to access the bottom of the HFEF WCC for interfacing waste containers. A 42-in. high stainless-steel wainscot is installed on the walls of the TR. The floor is steel beam and covered with 0.375-in. thick sheets of carbon steel. A 2-in. high carbon-steel curb surrounds the room at the walls. The floor and curb are seal-welded at the seams and edges. The HFEF WCC is approximately 16-ft long, 8.5-ft wide, by 8-ft high, and is framed on the outside with 4-in. carbon-steel square tubing. It has an inner surface constructed of 304 stainless steel that is 0.135-in. thick on the top and sides, and 0.375-in. thick on the bottom. The WCC has four handling stations on the front surface, each with two glove ports and a window (0.5-in. thick) constructed of Lexan™. Additional windows and glove ports are located on all sides of the HFEF WCC. Portal openings on the bottom surface of the enclosure provide access for waste containers. WCC openings allow container attachment to the ports during handling operations. The HFEF WCC is mounted on a carbon-steel structure that provides approximately 7 ft of clearance under the HFEF WCC for handling and transfer operations. HFEF

WCC equipment provided for handling material during the waste characterization process includes two hydraulically-driven manipulators and a jib crane. The HFEF WCC ventilation system maintains a minimum negative pressure differential of 0.3 in. H_2O inside the HFEF WCC, with respect to the operating area, when HW/MW containers are open. High-efficiency particulate air (HEPA) filters are provided at the HFEF WCC inlet and outlet. The system is designed to automatically ensure adequate inflow of air through a credible breach in the enclosure system.

The SP glovebox is located on the east mezzanine of the Operations Room and is connected to a port on the east end of the WCC. It is an L-shaped structure that is approximately 6.7-ft high. The north-south leg of the glovebox is approximately 6.25-ft long by 2.8-ft wide, and the east-west leg is approximately 12.2-ft long by 2.8- to 4-ft wide. The SP glovebox was designed for sampling, preparation, analysis, and/or transfer of sludge samples. The windows and walls of the glovebox provide the same shielding protection as the WCC. Filtered air from the TR is supplied to the box, and then exhausted to the WCC.

The ER glovebox, connected to a port on the top of the WCC, is located in the Equipment Room on the HRA/Operations Room roof. It is approximately 16-ft long by 3.8-ft wide by 9-ft high. The ER glovebox was designed for the repair of WCC equipment without requiring the equipment to be bagged into and out of the WCC. The ER glovebox includes an electrically-driven hoist and trolley system for transferring equipment to and within the glovebox. Glove ports provide remote manual access to the equipment being repaired. The ER glovebox also includes a hatch to insert/remove large items and internal hydraulic and electrical connections for test purposes. Filtered air from the TR is supplied to the box, then exhausted to the WCC exhaust.

B-3(a)(6) Preparation Room (PR)

The HFEF PR is used to store HW/MW pending/following performance of HW/MW verification, repackaging, container treatment and/or final disposition. The HFEF PR is approximately 56 x 14 x 17 ft high, is located in the northeastern portion of the HBA, interfaces with the TR, and extends to the east wall of the HBA. The HFEF PR is accessed from the HBA via a double door. The HFEF PR is equipped with a crane for moving containers between the HBA and HFEF PR. A 42-in. high stainless-steel wainscot is installed on the walls of the HFEF PR. The floor in the HFEF PR (and TR) accommodates anticipated loading from carts that are used to move containers between the HFEF PR and TR. The floor is steel beam and covered with 0.375-in. thick sheets of carbon steel. A 2-in. high carbon-steel

curb surrounds the room at the walls and two exterior doorways. The floor and curb are seal-welded at the seams and edges to form a secondary containment.

B-3(a)(7) Truck Lock (Non-HWMA)

The HFEF truck lock (which includes the truck lock and front and rear access areas) is located on the west end of HFEF and serves as the facility receiving and dispatching area for trucks and transporters. The truck lock is 87 x 17 ft, with a ceiling height of 27.5 ft. Overhead roll-up doors (approximately 16 x 14 ft) at the north and south ends of the truck lock provide large equipment access. In addition, the truck lock has a ceiling hatch that is 51 x 10-ft wide in the north portion and 13-ft wide in the south portion that provides access to the HBA and high bay crane. HW/MW will be received (i.e., accepted and unloaded) via the HFEF truck lock. HW/MW containers will then be transferred from the truck lock into the HBA using a traveling bridge crane or the freight elevator (in the southwest corner of the HBA). Loaded trucks/transporters may, if necessary, remain in the truck lock area prior to/ following either unloading or shipment to the sender.

B-3(a)(8) HFEF Casks/Transporter Staging Area (Non-HWMA)

The cask and transporter staging area is located outside of HFEF, north of the facility and south of the access road. Loaded casks and/or loaded transporters may, if necessary, be staged in this area for up to 60 days prior to either unloading or shipment to the sender. The HFEF staging area is shown on the Floor Plan Schematic in Attachment B-5.

B-3(b) Radioactive Scrap and Waste Facility (RSWF) - Building 771

The RSWF, Building 771, consists of a fenced area (miscellaneous unit, S99) used for remote handled (RH) (hazardous waste with surface dose readings of 200 mRem or greater) MW storage in subsurface carbon-steel pipes, called liners.

A description of the RSWF, Building 771, is provided below. A number of RSWF photographs, schematics, and drawings are provided as follows:

- Attachment B-7, Photograph of the Fenced Area, RSWF, Building 771
- Attachment B-8, Schematics of RSWF Showing the RSWF Plot Plan, Liner Configurations, and Cathodic Protection System, RSWF, Building 771.

The location of the RSWF is shown on the MFC plot plan provided in Attachment B-2.

The RSWF, established in 1965 for the storage of RH MW, is outdoors. There are no permanent buildings. The facility is approximately 388 x 448 ft (4 acres) and is entirely enclosed by a fence. Sealed carbon-steel liners are buried vertically in the ground in bored holes such that the tops of the liners protrude approximately 4 in. above ground.

In addition to the RH-MW, the RSWF also stores non-waste items including, spent nuclear fuel and accountable nuclear material, some of which may contain sodium. The RSWF also stores some non-hazardous radioactive waste. These materials are stored in separate liners from the RH-MW.

Prior to placing the liners in the storage area, several feet of gravel and soil were placed over the storage area and graded to slope gently from the centerline to the parallel sides, which were banked with gravel. This grade promotes run-off, reducing percolation, and also serves to prevent run-on into the area.

The RSWF is designed with a grid of approximately 27 rows, spaced approximately 12 ft apart, with approximately 50 storage sites per row. The storage liners are arranged on approximate 6-ft centers in the rows. The volume capacity, based on the size of the waste containers that are placed in storage, is approximately 53,000 gal. This assumes that approximately 1,320 of the liner sites are usable for MW storage.

There are three primary sizes of storage liners containing HW/MW currently located in RSWF. They are 16 in., 24 in., and 26 in. in diameter (ref. schematics of the liner sizes in Attachment B-8). Non-standard liners include 48-in., and 60- in. diameter sizes.

- 16-in. diameter liners: The 16-in. diameter standard liners are constructed of either Schedule-10 carbon steel and 12.33 ft long, or Schedule-40 carbon steel and 10 ft long. They have a 19-in. diameter oversized base plate welded to the liner bottom. They are sealed with a concrete shield plug/lid assembly welded into the top of the liner.

- 24-in. diameter liners: The 24-in. liners are constructed of Schedule-10 carbon steel and are 13.67-ft long, with a 26-in. diameter base plate. The 24-in. liners containing MW have a carbon-steel shield plug assembly welded into the top.

- 26-in. diameter liners: The 26-in. liners are constructed of 0.25-in. thick carbon steel and are 13 ft long. They have a 28-in. diameter base plate and are welded closed with a 6-in. carbon-steel plug.

- Non-standard liners: Non-standard liners include one 60-in. diameter by 10.8-ft long liner that stores an EBR-II cold trap, and two 48-in. diameter by 3.81-ft long liners that store EBR-II nuclide traps.

Two other types of liners with diameters of 24 and 30 in. were designed with flanged lids that are gasketed/bolted in place. The flanged 24-in. liners contain non-HW/MW, low level waste only. The 30-in. liners are maintained empty. They were installed to be available as overpacks during previous 24-in. liner relocation activities.

Waste is not placed directly in the carbon steel liners, but rather is placed in containers that are transferred into the liners. Shielding is provided by placing a 30-in. long concrete or 6-in. long steel shield plug in the liner and either welding it to the top of the liner, or fitting the liner with a blind flange, as applicable. The soil surrounding the liners provides additional passive radiation shielding.

The storage liners are protected from corrosion by a cathodic protection system [reference Attachment B-8 and Subsection D-5(d)(4)]. The source of the electrical power for the cathodic protection system is a 480 VAC, 3-phase, direct buried cable from Building MFC-711 to the RSWF.

B-3(b)(1) RSWF Staging/Storage Area

The RSWF staging/storage area is used for the storage of RHMW and HW/MW containers that do not contain free liquids. The RSWF staging/storage area also serves as a transfer facility for loaded transport vehicles typically from or to RSWF.

A description of the RSWF staging/storage area is provided below. A number of photographs, schematics, and drawings are provided as follows:

- Attachment B-9, Photograph of the RSWF Staging/Storage Area
- Attachment B-10, Schematic Showing Typical Facility Arrangement and Maximum Storage Capacity, RSWF Staging/Storage Area

The location of the RSWF staging/storage area is shown on the MFC plot plan provided in Attachment B-2.

The RSWF staging/storage area is located southeast of the RSWF, along the southeast side of the main access road. The RSWF staging/storage area is an asphalt pad measuring approximately 100 x 200 ft. The area is enclosed entirely by a 9-ft chain link fence. A gate off the main access road allows vehicles to enter or exit from the southeast side of the main road, and with its double gates vehicles may also enter or exit onto the main access road from the northeast side.

The RSWF staging/storage area contains various storage containers including 8 ft x 20 ft x 8 ft high metal cargo containers, Interim Storage Containers (ISCs) and DOT type containers. The number of containers located within the fenced facility varies according to the volume of waste requiring storage and will not exceed the storage capacity listed in the Part A.

Cargo containers may contain hazardous or mixed waste. A typical cargo container has a body construction of 14 gauge steel or thicker. The floors are typically made of wood or steel and are elevated to prevent water intrusion through the seam between the floor and the sidewall. Two sets of forklift pockets are provided for moving the cargo containers.

The ISCs are for the storage of RH transuranic mixed waste. The ISCs are lidded waterproof concrete boxes that may vary in size depending on their inner containers. The ISC's may or may not be equipped with a container insert assembly depending upon the size of the container stored within the ISC.

The RSWF staging/storage area can also receive Facility Transfer Containers (FTCs), casks and DOT type containers. The number of containers located within the fenced facility varies according to the volume of waste requiring storage and will not exceed the storage capacity listed in the Part A.

B-3(b)(2) North Fenced Area (NFA)

The North Fenced Area (NFA) is used for the storage of RHMW and HW/MW containers that do not contain free liquids. The facility also provides for the management of radioactive only waste.

A description of the NFA is provided below. A number of photographs, schematics, and drawings are provided as follows:

- Attachment B-11, Photograph of the NFA
- Attachment B-12, Schematic Showing Typical Facility Arrangement and Maximum Storage Capacity, North Fenced Area

The location of the NFA is shown on the MFC plot plan provided in Attachment B-2. Access to the area is by an asphalt paved road to the east end of the area.

The NFA area is located southwest of RSWF, across from the RSWF staging/storage area, along the southwest side of the main access road. The NFA is an asphalt pad measuring approximately 100 x 200 ft. The area is enclosed entirely by a 9-ft chain link fence. Two gates off the main access road allow vehicles to enter or exit from the southwest side of the road.

The NFA contains various storage containers including 8 ft x 20 ft x 8ft high metal cargo containers, ISCs and DOT type containers. The number of containers located within the fenced facility varies according to the volume of waste requiring storage and will not exceed the storage capacity listed in the Part A.

Cargo containers may contain hazardous or mixed waste. A typical cargo container has a body construction of 14 gauge steel or thicker. The floors are typically made of wood or steel and are elevated to prevent water intrusion through the seam between the floor and the sidewall. Two sets of forklift pockets are provided for moving the cargo containers.

The ISCs are for the storage of RHMW. The ISCs are lidded waterproof concrete boxes that may vary in size depending on their inner containers. The ISCs may or may not be equipped with a container insert assembly depending upon the size of the container stored within the ISC.

B-3(c) Sodium Components Maintenance Shop (SCMS)—Buildings 793, 793C, 793G

The SCMS consists of three buildings used for HW/MW container and tank storage, repackaging, and treatment (S01, S02, T01, T04). The three buildings include the following:

- Building 793—High Bay and Low Bay
- Building 793C—Storage Building
- Building 793G—Storage Building.

Descriptions of each of the SCMS buildings are provided in the following subsections. A number of SCMS photographs, schematics, and drawings are provided as follows:

- Attachment B-13, Photographs of the Exterior, SCMS Building

- Attachment B-14, Floor Plan Schematic Showing Facility Arrangement and Maximum Storage Capacity, SCMS Buildings 793, 793C and 793G
- Attachment B-15, Photographs of the Interior of SCMS Buildings.

The locations of the SCMS buildings are shown on the MFC plot plan provided in Attachment B-2.

B-3(c)(1) SCMS Building 793—High Bay

The High Bay is used to store, repackage, and/or treat HW/MW. The High Bay is a prefabricated steel frame building with insulated metal siding. It has a reinforced concrete floor that is approximately 39 x 66 ft with a ceiling height of 38 ft. The floor is curbed and sealed with an epoxy coating and is sloped toward floor drains that are routed to the Low Bay Pit (in the Low Bay). The High Bay houses the water wash vessel and its associated ventilation system and Change Room (provides radioactive contamination control); the water wash scrubber; the carbonation vessel; the removable melt, drain, and transfer system; and a work tent (radioactive contamination control). To provide for operational flexibility and waste management needs the work tent may be located inside the building or may be removed altogether.

The High Bay is serviced by two 15-ton electrically powered hoists on a single, manually powered 30-ton bridge, and one 5-ton electrically powered bridge crane installed on the building crane rails. The cranes provide the capability to move large components for removal of HW/MW during storage, repackaging, and/or treatment. Vehicle and component access into the High Bay is through doors located on the east and west ends of the building. Four personnel doors are provided on three sides of the High Bay. One door is located on the south end of the high bay, which allows entry into the low bay. Another door is located on the east end, which allows entry into a vestibule and then out of the building. Two additional doors are on the north side of the building, which are used as emergency exits. Lighting intensity is a minimum of 50-ft candles at floor level and the electrical outlets, 120 volts, are provided around the inside periphery of the building. The High Bay is designed to Seismic Zone 3 of the UBC.

B-3(c)(2) SCMS Building 793—Low Bay

The Low Bay is used to store, repackage, and/or treat HW/MW. It is a self-supporting building with a standard construction reinforced concrete floor 24 x 48 ft and a 14-ft high ceiling on the low side. The walls of the prefabricated steel frame building are insulated. It contains a bank of HEPA filters, an exhaust fan for the ventilation of the High Bay, and power and motor controls for the fixed solidification station.

The Low Bay is serviced by a 1000 lb rated, electrically powered hoist installed on a monorail in the ceiling of the Low Bay. This hoist provides the capability to move containers before and after solidification and to remove large components for maintenance, disassembly and disposal. The Low Bay also has a pit that contains the carbonate retention vessel and the scrubber water tank. The floor inside the Low Bay Pit slopes toward a sump in the northeast corner of the pit floor and is painted with a waste-compatible epoxy coating. The floor of the pit is sloped to drain liquids to the 1.5 × 1.5 × 0.5-ft deep sump. The liquids would be removed by the use of a manual pump that would discharge into containers, as appropriate. The exterior pit walls are coated with waterproofing. The pit is covered by metal grating that allows personnel and equipment movement. At floor level there is a sampling station for the carbonate retention vessel and the scrubber water tank. The Low Bay contains two personnel doors: one going outside on the west end and one into the High Bay. The door on the east end of the building is a double door system that has a large door to accommodate the removal of pallets loaded with drums prior to and following solidification. Lighting intensity and electrical outlets, 120 volts, are of standard construction types. The Low Bay is designed to Seismic Zone 3 of the UBC

B-3(c)(3) SCMS Building 793C

Building 793C, located west of the SCMS main building, is used to store, repackage, and/or treat HW/MW. The building size is 40 × 30 ft with a 16-ft eave height. The floor of the storage building is concrete with a design load of 500 psf, sloping toward the center, with two small concrete sumps designed to remove liquid resulting from precipitation. The floor is painted with an epoxy coating; however, the epoxy floor is not maintained as the secondary containment. HW/MW containing liquids are stored atop spill pallets and non-liquid HW/MW containers are stored on pallets or secondary containment devices. Two 12 × 12-ft roll-up freight doors and two personnel doors are provided. The prefabricated metal building has ridge ventilation and a wall louver to provide gravity ventilation. Two electric heaters with thermostatically controlled fan operation provide heat for the storage building. The building is provided with fluorescent lighting, power outlets (120 volts) for using hand tools, and a welding outlet (480 volts). All roof and wall panel joints are self-sealing to maintain a weather-tight seal. The building is designed to Seismic Zone 2 of the UBC.

A containment enclosure tent may be located inside the building. The containment enclosure tent is a soft-walled enclosure that provides contamination control and containment for opening various radiologically contaminated or mixed waste containers for examination, maintenance, repackaging, or container treatment. The walls of the tent consist of a NFPA-701 compliant fire-retardant or noncombustible material. To provide for operational flexibility and waste management needs, the containment enclosure tent may be removed altogether, or may be installed inside the building.

An 8 × 10 × 20-ft deep storage pit is located inside the building. The pit is constructed of reinforced concrete and includes a sump in the northeast corner of the pit floor (see Attachment B-14). The floor of the pit is sloped to drain any liquids to the 1.5 × 1.5 × 0.5-ft deep sump. An 8-mm thick polyethylene vapor barrier is installed under the pit floor and the exterior pit walls are coated with waterproofing.

B-3(c)(4) SCMS Building 793G

A metal storage building (shed), identified as 793G, is located south of SCMS Building 793C, and is used for the storage of HW/MW. The metal storage shed was built in the late 1980s to house sodium containers. Shed 793G is 13 × 25.5 ft, insulated, and has a personnel door and a large overhead roll-up door. The metal storage shed sits on reinforced concrete and is anchored to ensure the integrity in the wind.

B-3(d) Sodium Storage Building (SSB)—Building 703

The SSB, Building 703, consists of one building used for HW/MW container storage (S01).

A description of the SSB is provided below. A number of SSB photographs, schematics, and drawings are provided as follows:

- Attachment B-16, Photograph of the Exterior, SSB, Building 703
- Attachment B-17, Floor Plan Schematic Showing Facility Arrangement and Maximum Storage Capacity, SSB, Building 703
- Attachment B-18, Photograph of the Interior of SSB, Building 703

The location of the SSB is shown on the MFC plot plan provided in Attachment B-2. Access to the building is by an asphalt paved road to the east end of the building.

The SSB is a prefabricated steel frame building with uninsulated metal wall and roof panels, as shown in photographs provided in Attachments B-16 and B-18. The wall and roof panels are nestable ribbed-type panels of painted steel. Steel flashing, closures, and trim provide weather-tight construction and finishing to the building. End laps in the roofing and side walls, in addition to all flashing and vertical joints of the siding, are sealed with continuous beads of sealant and/or sealant tape. Ridge vents and wall louvers, providing building passive ventilation, are designed to prevent moisture influx into the building.

The SSB is 50 x 100 ft with a nominal eave height of 12 ft (10 ft clear at the inside haunch connection of the structural frame). The building was placed on a 6-in. reinforced-concrete slab, elevated slightly above grade, ensuring that any precipitation drains away from the building. Access into the building is limited to two personnel doors and one 14 × 12-ft overhead door for forklift access on the east end. The doors are maintained closed and locked except when access is necessary for inspection or other routine activities.

The electrical system in the SSB consists of a 480-volt, three-phase power service, transformed to 120/208-volt power for lighting, receptacles, the overhead door motor, and the fire alarm and detection system.

B-4 Topographical Map

B-4(a) General Requirements [IDAPA 58.01.05.012; 40 CFR 270.14(b)(19)]

Topographical maps with informational requirements of this section (i.e., topographical relief of the required interval, date, clearly enunciated map orientation, and locations of access control barriers, buildings, structures, sewers, loading and unloading areas, fire control facilities, flood control or drainage barriers, run-off control systems and HWMA units) are provided as follows:

- United States Geological Survey (USGS) 7.5 Minute Series Little Butte SW Quadrangle that shows general topography of the MFC site [see Appendix I, Map 8, of INL HWMA/RCRA Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131)]
- Attachment B-19, MFC site-specific topographical map (1:200 scale) that includes the 40 CFR 270.14(b)(19) required detail
- MFC wind rose [see Exhibit B-6 of INL HWMA/RCRA Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131)]
- Flood Insurance Rate Map (FIRM) for Bingham County, Idaho (which details 100-year floodplain areas) [see Appendix II, Maps 01 and 03, of INL HWMA/RCRA Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131)]
- Map of surrounding land uses [see Exhibit B-9 of INL HWMA/RCRA Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131)]
- USGS Miscellaneous Investigation Map I-2330, Geologic Map of the Idaho National Engineering Laboratory and Adjoining Areas, Eastern Idaho, 1994 [see Exhibit B-10 of INL HWMA/RCRA Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131)].

B-5 Location [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(11)(i) and (ii) and 264.18(a)]

B-5(a) Seismic Standard [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(11)(i) and (ii) and 264.18(a)]

The MFC site is located in Bingham County, Idaho. Because the county in which the MFC site is located is listed in IDAPA 58.01.05.008 and 40 CFR 264,

Appendix VI, MFC must demonstrate compliance with the seismic standard (ref. IDAPA 58.01.05.008; 40 CFR 264.18). MFC will demonstrate compliance with this standard using USGS data, which indicates there are no faults or other known evidence of Holocene horizon motion within 3,000 ft of the HWMA units.

B-5(b) Floodplain Standard [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(11)(iii) and 264.18(b)]

As detailed in the previously referenced FIRM for Bingham County, Idaho [ref. Subsection B-4(a)], the MFC site is entirely located in a Zone-C floodplain area (floods less frequent than every 500 years). The MFC HWMA units are located in the area addressed in Panel 1600 18 0050B; the footnote to the map indicates that this panel is not published, but the area is designated Zone C. Also, for Bingham County, Map Panel No. 25 of 750, section 11, includes a small part of the west side of the MFC area designated as Zone C. The requirements in 40 CFR 270.14(b)(11)(iv) and (v) [Subsections B-3(b)(1) through B-3(b)(3) of the EPA RCRA permit application review checklist] are not applicable to this permit application, as MFC is not in a 100-year floodplain.

B-6 Traffic Information [IDAPA 58.01.05.012; 40 CFR 270.14(b)(10)]

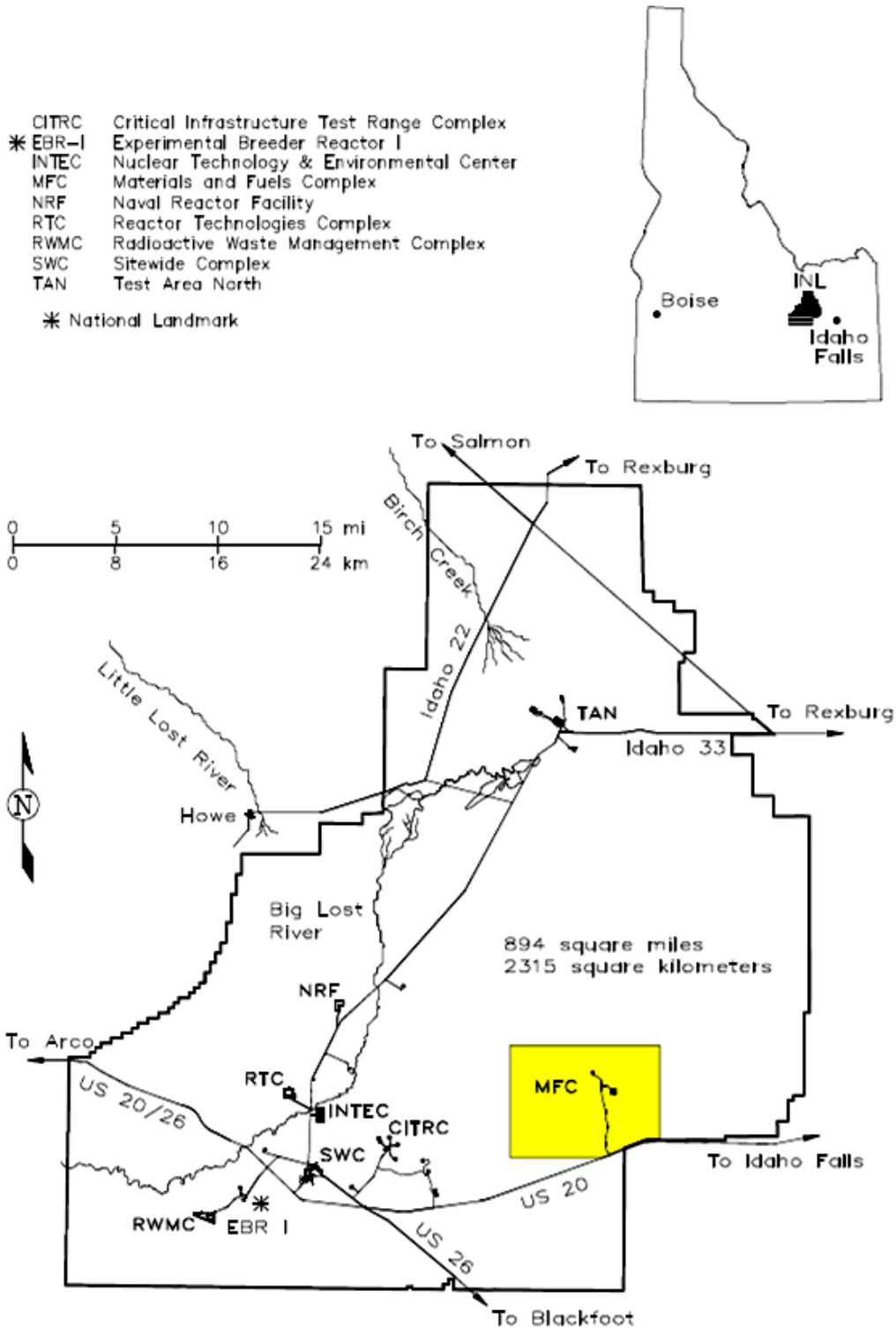
U.S. Route 20 is the general access route for MFC. Taylor Boulevard intersects U.S. 20 south of MFC and is the direct access road leading to the personnel security and control area. Taylor Boulevard is a 5.6-km paved roadway. A right turn off Taylor Boulevard leads to the MFC main entrance. The heaviest traffic on the MFC site roads occurs between 6:00 and 8:30 a.m. and, again, from 4:00 to 6:30 p.m., Monday through Thursday. Traffic consists primarily of site transit buses, employee-driven private vehicles, and government contractor vehicles from various communities near/surrounding the INL. The map provided in Attachment B-2 shows U.S. Route 20 and the roadways to and within the MFC site.

MFC access is attained through a security station located at the MFC main entrance. To enter the main MFC fenced area, vehicles must pass through a two-gate arrangement that allows security personnel to conduct thorough inspections. All personnel must pass through the security station to obtain proper dosimetry and verify they have proper identification and access credentials. Personnel or visitors without the proper credentials are escorted while on the MFC site. Exhibit B-14 of the INL HWMA/RCRA Permit Application, Volume 3 (General Information for INL Waste Management Units – DOE/ID-10131) provides access and traffic control information for the MFC.

Access to HWMA units and facilities within MFC is provided by a network of paved and gravel roadways. Any one of these roadways may be used to transport HW/MW among MFC facilities. Transport from MFC facilities to other facilities on the INL site is done via U.S. 20 or the Haul Road (east-west road intersecting Taylor Boulevard between MFC Security Gate 2 and U.S. 20). The roads accessing the MFC are constructed of asphalt, with load-bearing capacities of 68 metric tons (75 tons). The Haul Road has a capacity of 45,000 kg (100,000 lb). Roads within the MFC area, used to transport HW/MW, have been tested to 45,000 kg (100,000 lb) single-axle loading. Traffic is limited inside the MFC fenced area to security-approved vehicles, such as government and construction vehicles, and to a speed limit of 10 mph.

Attachment B-1

Schematic Showing MFC Administrative Boundaries

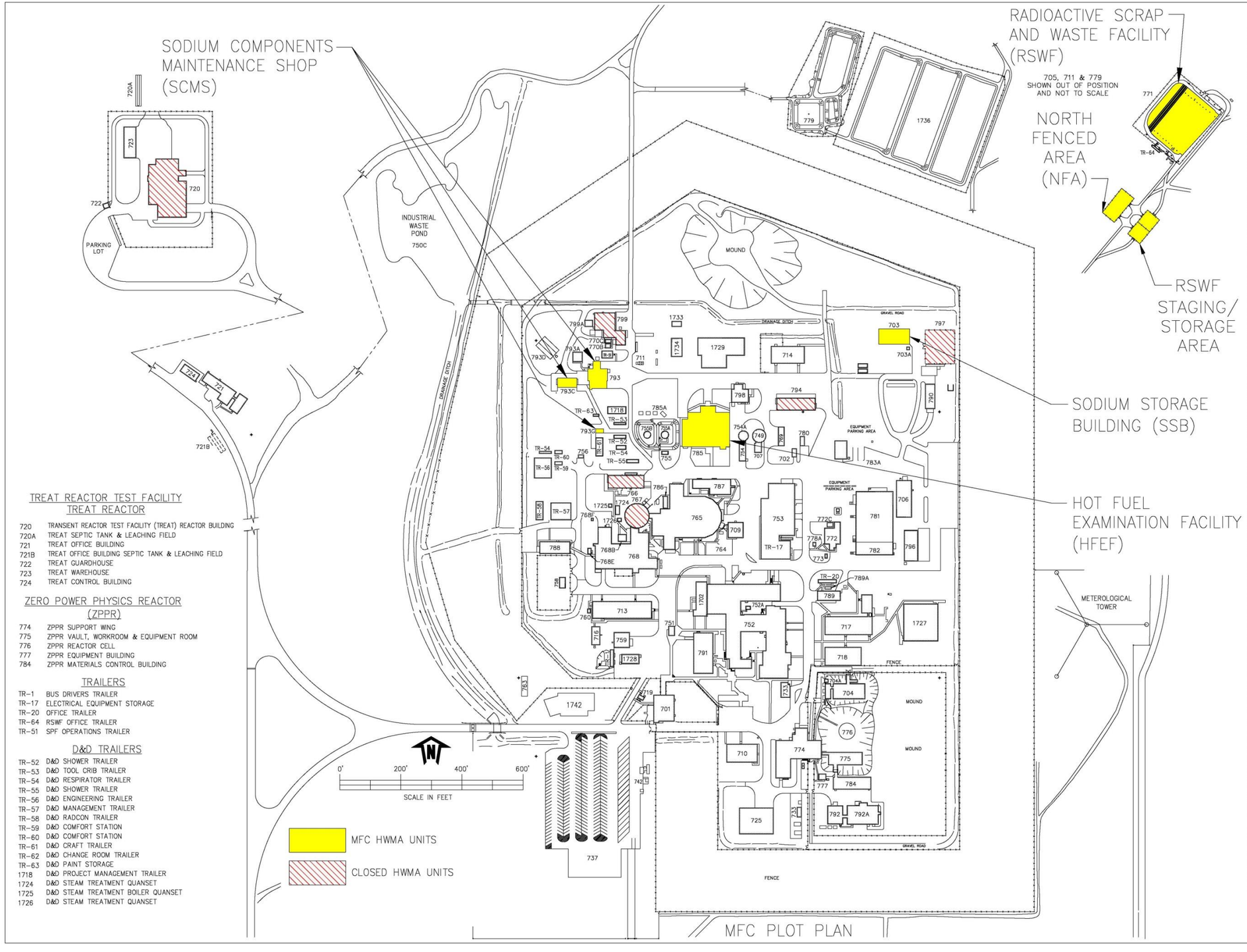


LOCATION OF MFC
ON THE INL SITE

SITE-192r2
8/13

Attachment B-2

MFC Plot Plan: Location of HWMA Units



TREAT REACTOR TEST FACILITY TREAT REACTOR

720	TRANSIENT REACTOR TEST FACILITY (TREAT) REACTOR BUILDING
720A	TREAT SEPTIC TANK & LEACHING FIELD
721	TREAT OFFICE BUILDING
721B	TREAT OFFICE BUILDING SEPTIC TANK & LEACHING FIELD
722	TREAT GUARDHOUSE
723	TREAT WAREHOUSE
724	TREAT CONTROL BUILDING

ZERO POWER PHYSICS REACTOR (ZPPR)

774	ZPPR SUPPORT WING
775	ZPPR VAULT, WORKROOM & EQUIPMENT ROOM
776	ZPPR REACTOR CELL
777	ZPPR EQUIPMENT BUILDING
784	ZPPR MATERIALS CONTROL BUILDING

TRAILERS

TR-1	BUS DRIVERS TRAILER
TR-17	ELECTRICAL EQUIPMENT STORAGE
TR-20	OFFICE TRAILER
TR-64	RSWF OFFICE TRAILER
TR-51	SPF OPERATIONS TRAILER

D&D TRAILERS

TR-52	D&D SHOWER TRAILER
TR-53	D&D TOOL CRIB TRAILER
TR-54	D&D RESPIRATOR TRAILER
TR-55	D&D SHOWER TRAILER
TR-56	D&D ENGINEERING TRAILER
TR-57	D&D MANAGEMENT TRAILER
TR-58	D&D RADCON TRAILER
TR-59	D&D COMFORT STATION
TR-60	D&D COMFORT STATION
TR-61	D&D CRAFT TRAILER
TR-62	D&D CHANGE ROOM TRAILER
TR-63	D&D PAINT STORAGE
1718	D&D PROJECT MANAGEMENT TRAILER
1724	D&D STEAM TREATMENT QUANSET
1725	D&D STEAM TREATMENT BOILER QUANSET
1726	D&D STEAM TREATMENT QUANSET

BUILDINGS

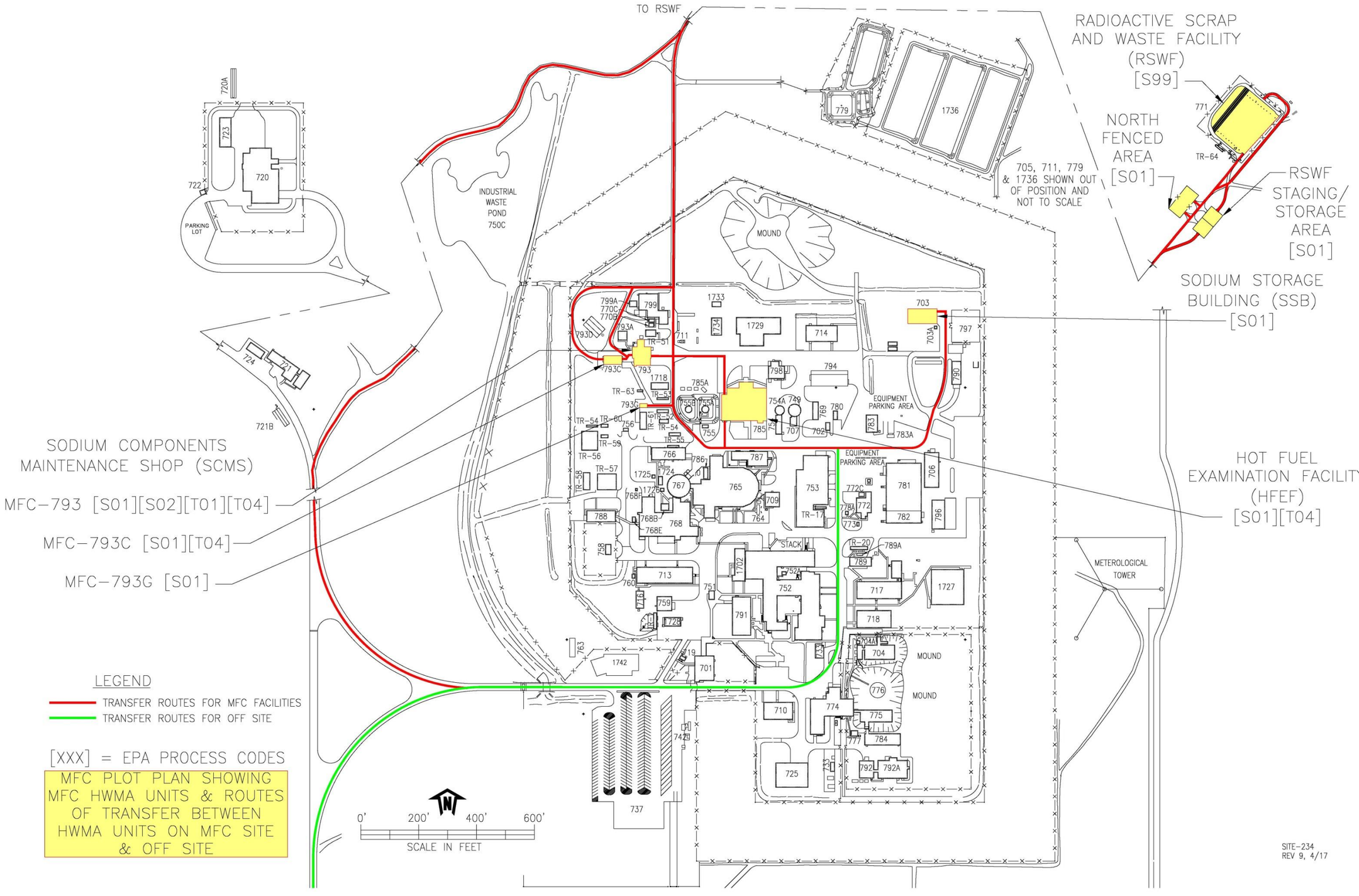
701	SECURITY BUILDING
702	PLANT SERVICES EQUIPMENT STORAGE BUILDING
703	SODIUM STORAGE BUILDING
703A	SODIUM STORAGE FIRE EXTINGUISHER BUILDING
704	FUEL MANUFACTURING FACILITY (FMF)
704A	FMF COMPRESSOR BUILDING
705	FIRING RANGE
706	CONSTRUCTION SHOP/STORAGE/OFFICE
707	FIRE PUMP HOUSE
709	SAFETY EQUIPMENT BUILDING
710	ENGINEERING OFFICE BUILDING
711	2000 KVA N/W SUBSTATION
713	MODULAR OFFICE BUILDING T-13
714	MODULAR OFFICE BUILDING T-12
716	MODULAR OFFICE BUILDING T-16A
717	MODULAR OFFICE BUILDING T-2 & T-2A
718	MODULAR OFFICE BUILDING T-3
719	VEHICLE ENTRY POST
725	MFC FIRE STATION
728	MFC DISPENSARY
733	RPS/HS AIR COMPRESSOR BUILDING
734	MFC CHECKPOINT FACILITY
735	MFC GUARDHOUSE INSPECTION FACILITY
736	VEDS EQUIPMENT ENCLOSURE
737	PARKING LOT
742	GASOLINE FUELING STATION
749	400,000 GAL. WATER STORAGE TANK
750C	INDUSTRIAL WASTE POND
751	SPACE SYSTEMS BUILDING
752	LABORATORY AND OFFICE BUILDING (L&O BUILDING)
752A	DIESEL GENERATOR BUILDING
753	PLANT SERVICES BUILDING
754	WELL PUMP HOUSE NO. 1
754A	200,000 GAL. WATER STORAGE TANK
755	FUEL OIL PUMP HOUSE
755A	100,000 GAL. FUEL OIL STORAGE TANK
755B	60,000 GAL. FUEL OIL STORAGE TANK
756	WELL PUMP HOUSE NO. 2
758	ELECTRICAL SUBSTATION
759	EMERGENCY RE-ENTRY BUILDING
760	SANITARY AND INDUSTRIAL WASTE PUMP HOUSE
761	REMOVED (FOUNDATION ONLY, BELOW GRADE)
762	REMOVED (FOUNDATION ONLY, BELOW GRADE)
763	LEACHING PIT (ABANDONED IN PLACE, BELOW GRADE)
764	SUSPECT STACK
765	FUEL CONDITIONING FACILITY (FCF)
766	SODIUM BOILER BUILDING
767	EBR-II REACTOR PLANT BUILDING
768	POWER PLANT
768B	WATER CHEMISTRY LABORATORY
768E	FLAMMABLE MATERIALS STORAGE
768F	EBR-II EMERGENCY BUILDING
769	DANGEROUS MATERIAL STORAGE BUILDING
770B	SODIUM COMPONENTS STORAGE BUILDING
770C	NUCLEAR CALIBRATION LABORATORY
771	RADIOACTIVE SCRAP AND WASTE FACILITY (RSWF)
772	EBR-II ENGINEERING LABORATORY
772C	EDL SYSTEMS SUPPORT BUILDING
773	500 KW YARD SUBSTATION
778A	INDUSTRIAL WASTE LIFT STATION
779	SEWAGE LAGOONS
780	LAUNDRY SORTING BUILDING
781	MATERIAL HANDLING WAREHOUSE
782	MACHINE SHOP FACILITY
783	RIGGING TEST FACILITY
783A	FUEL DISPENSING STATION
785	HOT FUEL EXAMINATION FACILITY (HFEF)
785A	HFEF COOLING TOWER
786	HFEF 480V. SUBSTATION
787	FUELS AND APPLIED SCIENCE BUILDING (FASB)
788	EBR-II MAINTENANCE SHOP
789	EBR-II ENGINEERING LABORATORY
789A	EQUIPMENT BUILDING
790	EQUIPMENT STORAGE
791	INSTRUMENT AND MAINTENANCE FACILITY (IMF)
792	SSPSF CONTROL ROOM
792A	SPACE & SECURITY POWER SYSTEMS FACILITY (SSPS)
793	SODIUM COMPONENTS MAINTENANCE SHOP (SCMS)
793A	ALCOHOL STORAGE PAD
793C	SCMS CONTAMINATED STORAGE BUILDING
793D	SCMS SEPTIC TANK & LEACHING FIELD
793G	SODIUM CONTAMINATED STORAGE BUILDING
794	EXPERIMENTAL FUELS FACILITY
796	METAL STOCK CONTROL BUILDING
797	OUTSIDE RADIOACTIVE STORAGE AREA (ORSA), formerly RADIOACTIVE SODIUM STORAGE FACILITY (RSSF)
798	RADIOACTIVE LIQUID WASTE TREATMENT FACILITY (RLWTF)
799	SODIUM PROCESS FACILITY (SPF)
1702	RADIOCHEMISTRY LABORATORY (RCL)
1727	MODULAR OFFICE BUILDING
1728	DIAL ROOM
1729	IRRADIATED MATERIALS CHARACTERIZATION LABORATORY
1736	EVAPORATIVE STORAGE LAGOON

SITE-225
REV 6, 4/17

Attachment B-3

Location of HWMA Units, Process Codes, and Transfer

Routes Between MFC HWMA Units and Off-site


TO RSWF
RADIOACTIVE SCRAP AND WASTE FACILITY (RSWF) [S99]
NORTH FENCED AREA [S01]
RSWF STAGING/ STORAGE AREA [S01]
705, 711, 779 & 1736 SHOWN OUT OF POSITION AND NOT TO SCALE
SODIUM STORAGE BUILDING (SSB) [S01]
HOT FUEL EXAMINATION FACILITY (HFEF) [S01][T04]
METEROLOGICAL TOWER
INDUSTRIAL WASTE POND 750C
MOUND
PARKING LOT
EQUIPMENT PARKING AREA
STACK
SODIUM COMPONENTS MAINTENANCE SHOP (SCMS)
MFC–793 [S01][S02][T01][T04]
MFC–793C [S01][T04]
MFC–793G [S01]
LEGEND
TRANSFER ROUTES FOR MFC FACILITIES
TRANSFER ROUTES FOR OFF SITE
[XXX] = EPA PROCESS CODES
MFC PLOT PLAN SHOWING MFC HWMA UNITS & ROUTES OF TRANSFER BETWEEN HWMA UNITS ON MFC SITE & OFF SITE
0' 200' 400' 600'
SCALE IN FEET
SITE–234
REV 9, 4/17

Attachment B-4

Photograph of the Exterior

HFEF Building 785

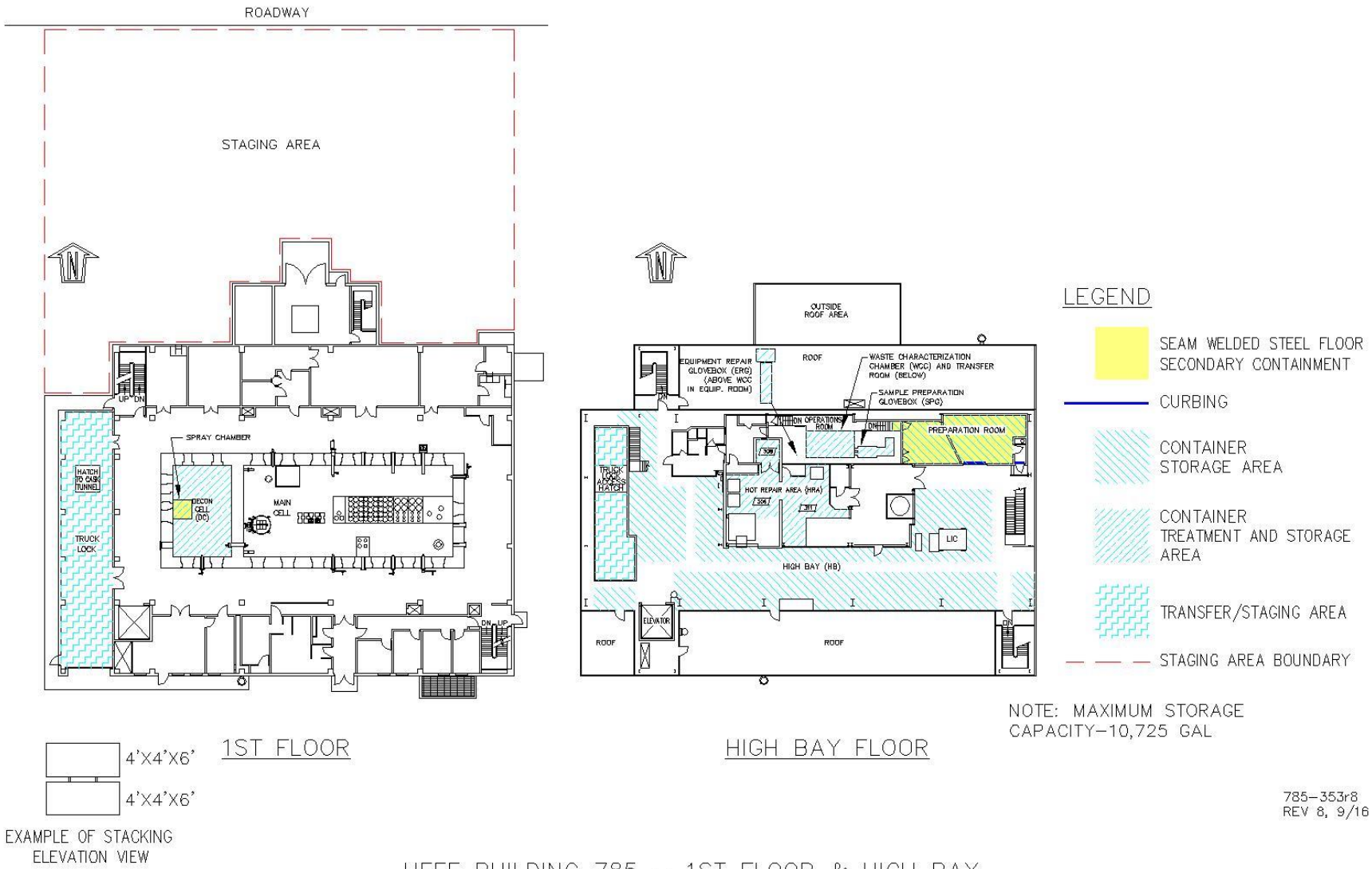
Hot Fuel Examination Facility (HFEF) Building 785, South End
Photo taken January 2015

Attachment B-5

Floor Plans Schematic Showing Facility Arrangement and

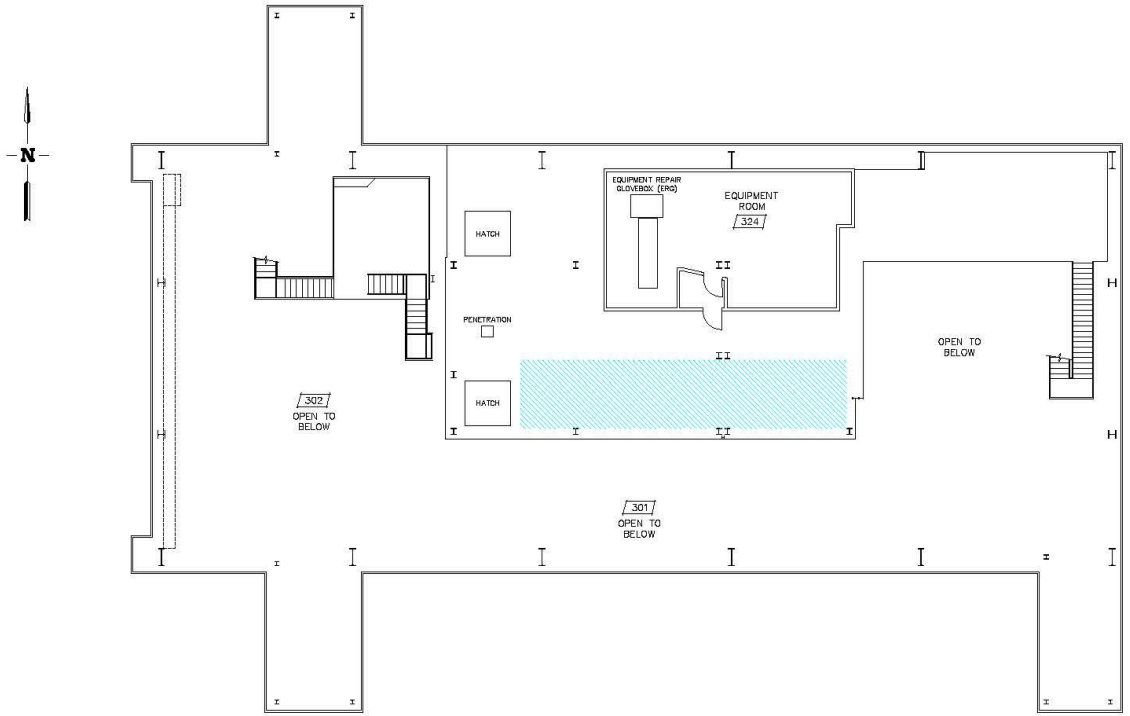
Maximum Storage Capacity

HFEF Building 785



785–353r8
REV 8, 9/16

HFEF BUILDING 785 – 1ST FLOOR & HIGH BAY
FLOOR PLAN SHOWING FACILITY ARRANGEMENT, MAXIMUM STORAGE CAPACITY AND FIXED SECONDARY CONTAINMENT



HFEF BUILDING 785 – THIRD FLOOR PLAN SHOWING CONTAINER STORAGE LOCATION FOR MEZZANINE

THIRD FLOOR MEZZANINE

HFEF HB MEZZ
REV 0, 5/18

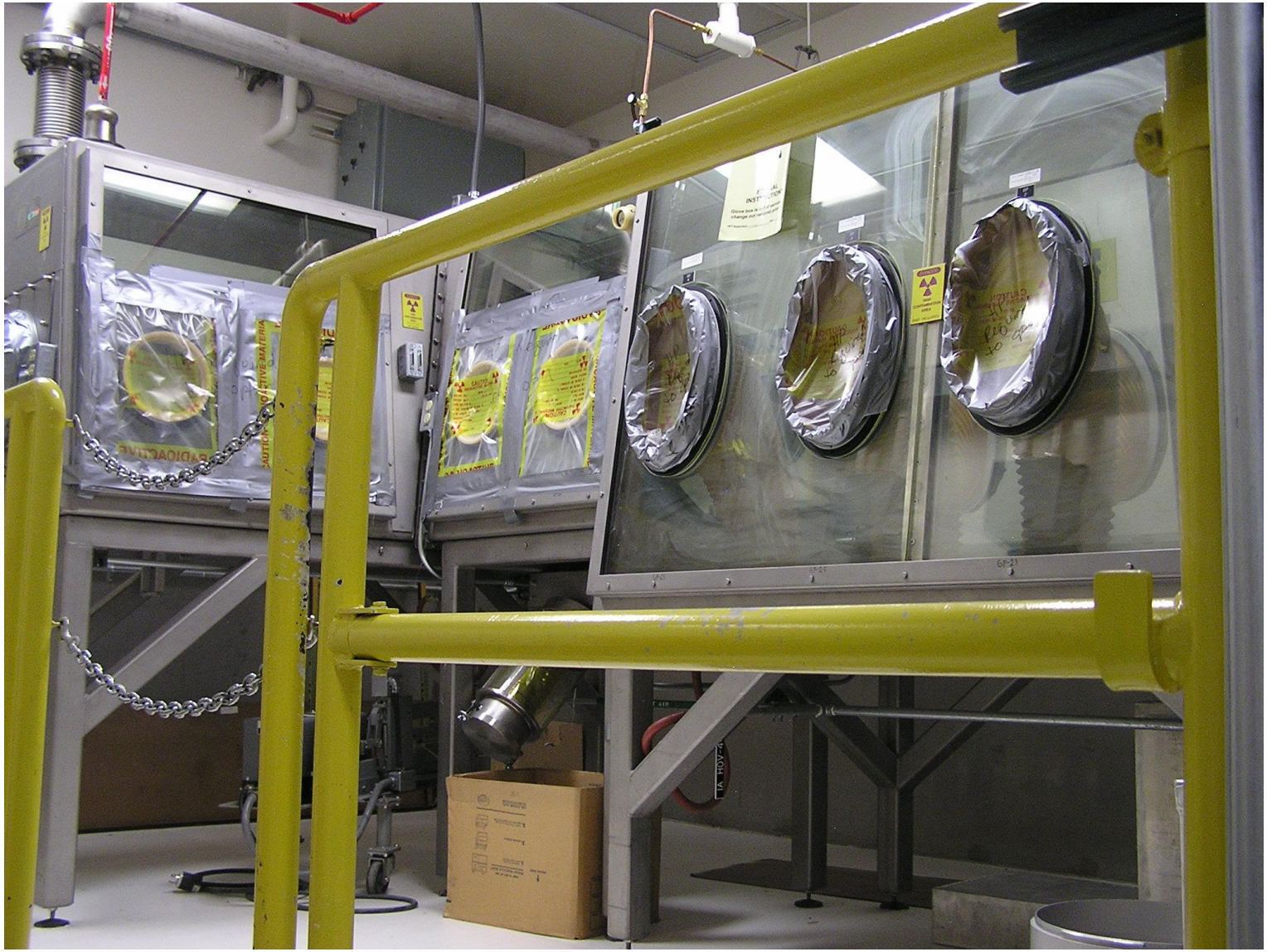
Attachment B-6

Photographs of the Interior

HFEF Building 785

HFEF Preparation Room
Photo taken August 2013

HFEF Transfer Room
Photo taken August 2013

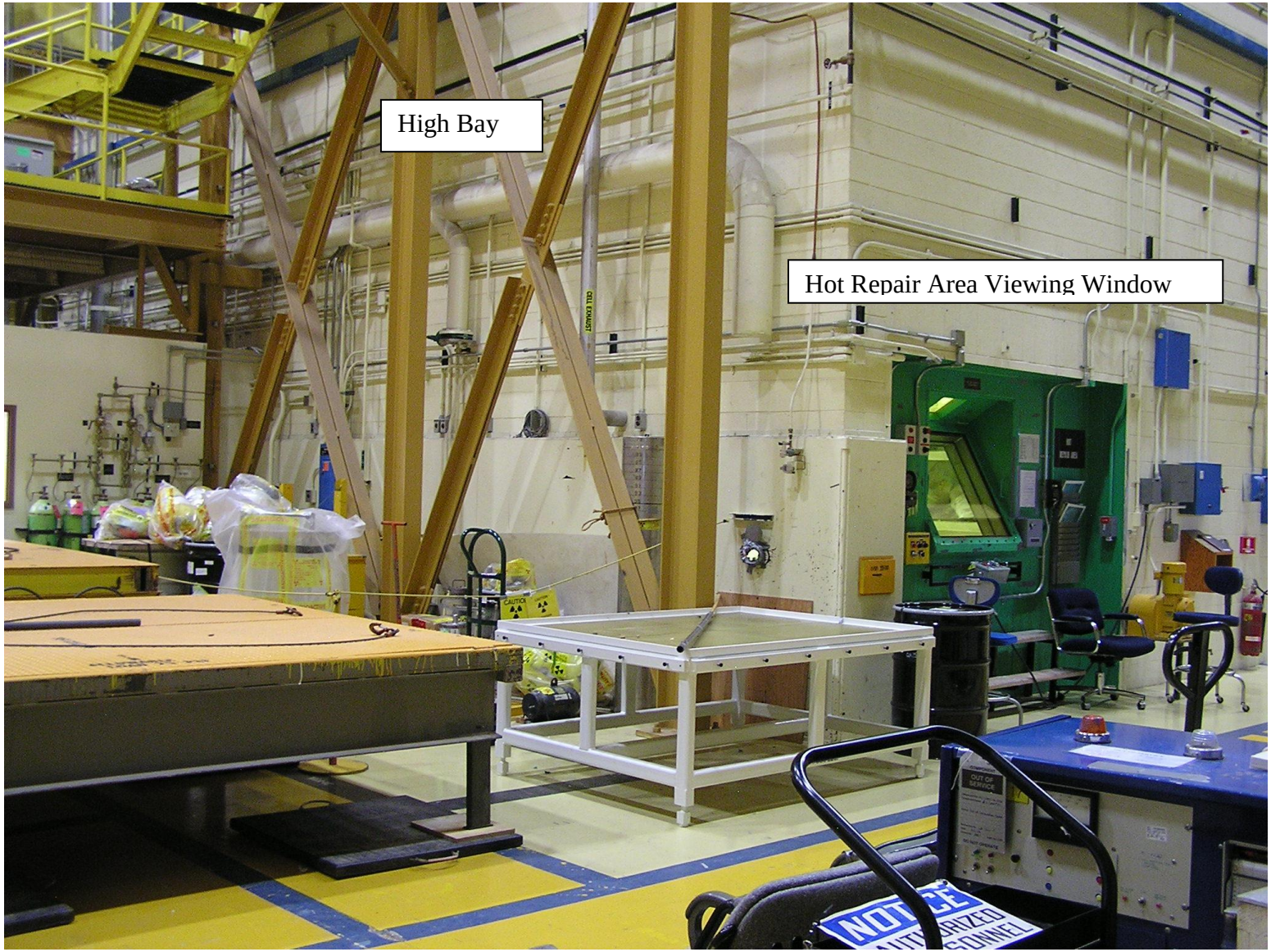


HFEF Sample Preparation Glovebox
Photo taken August 2013

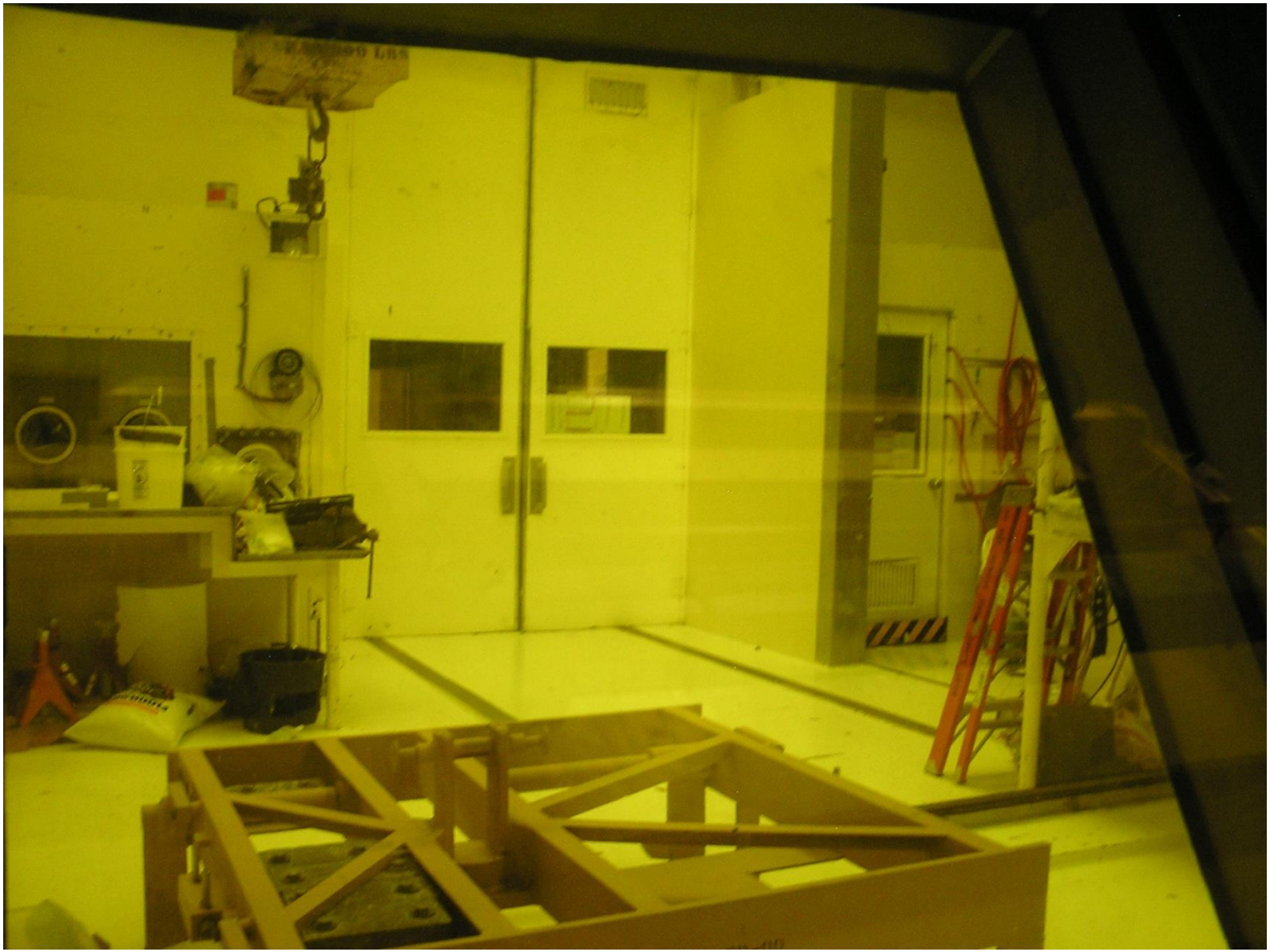
HFEF Waste Characterization Glovebox
Photo taken August 2013

HFEF Equipment Repair Glovebox
Photo taken August 2013

HFEF High Bay Area (looking from East to West)
Photo taken August 2013

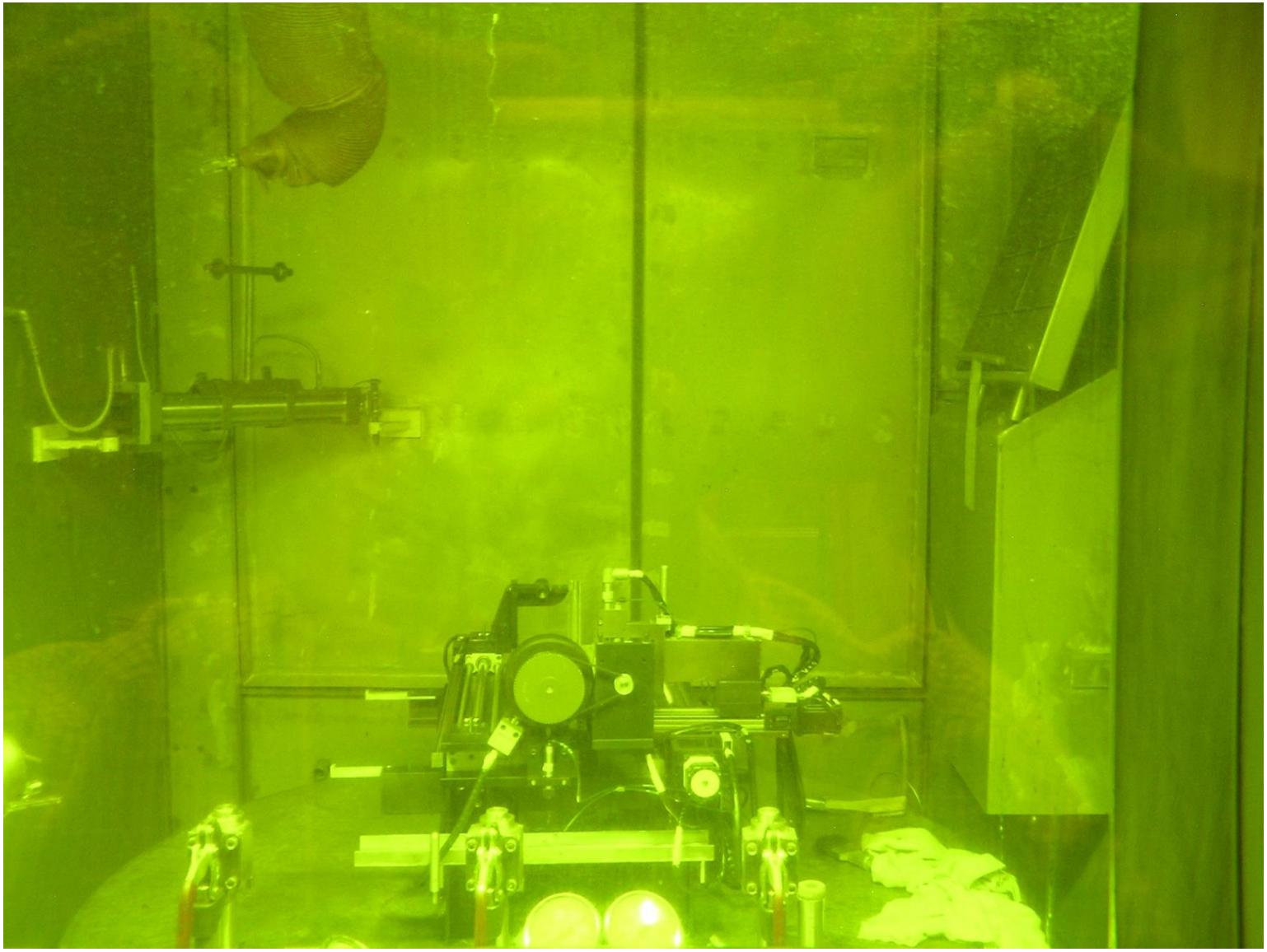


HFEF High Bay Area (West End)
Photo taken August 2013



HFEF Hot Repair Area
Photo taken August 2013

HFEF Decon Cell
Photo taken August 2013



HFEF Spray Chamber
Photo taken August 2013

HFEF Mezzanine (looking from west to east)
Photo taken January 2018

HFEF Mezzanine (looking from east to west)
Photo taken January 2018

Attachment B-7

Photograph of the Fenced Area

RSWF Building 771

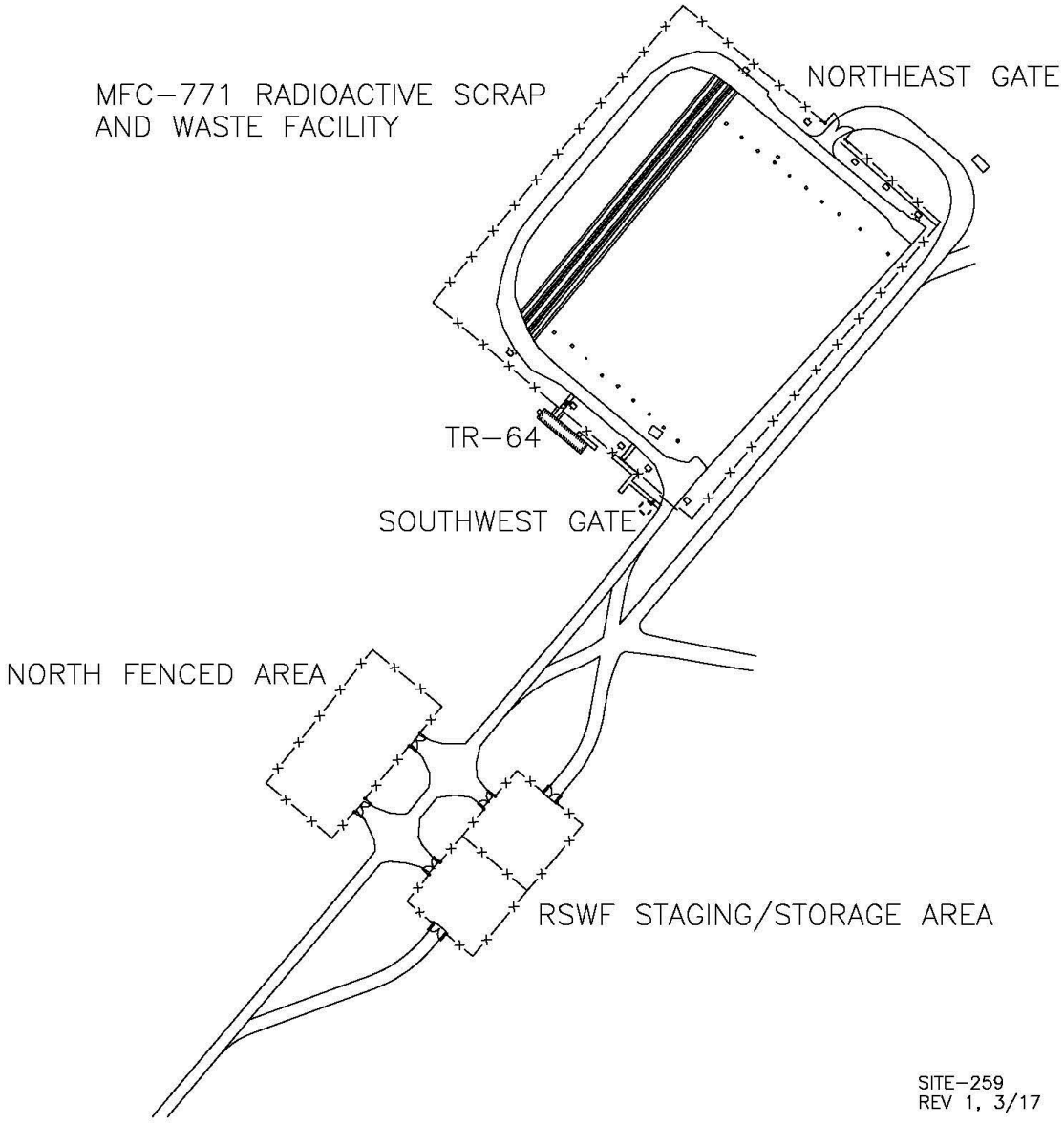
Radioactive Scrap and Waste Facility (RSWF) Building 771
Photo taken April 2014

Attachment B-8

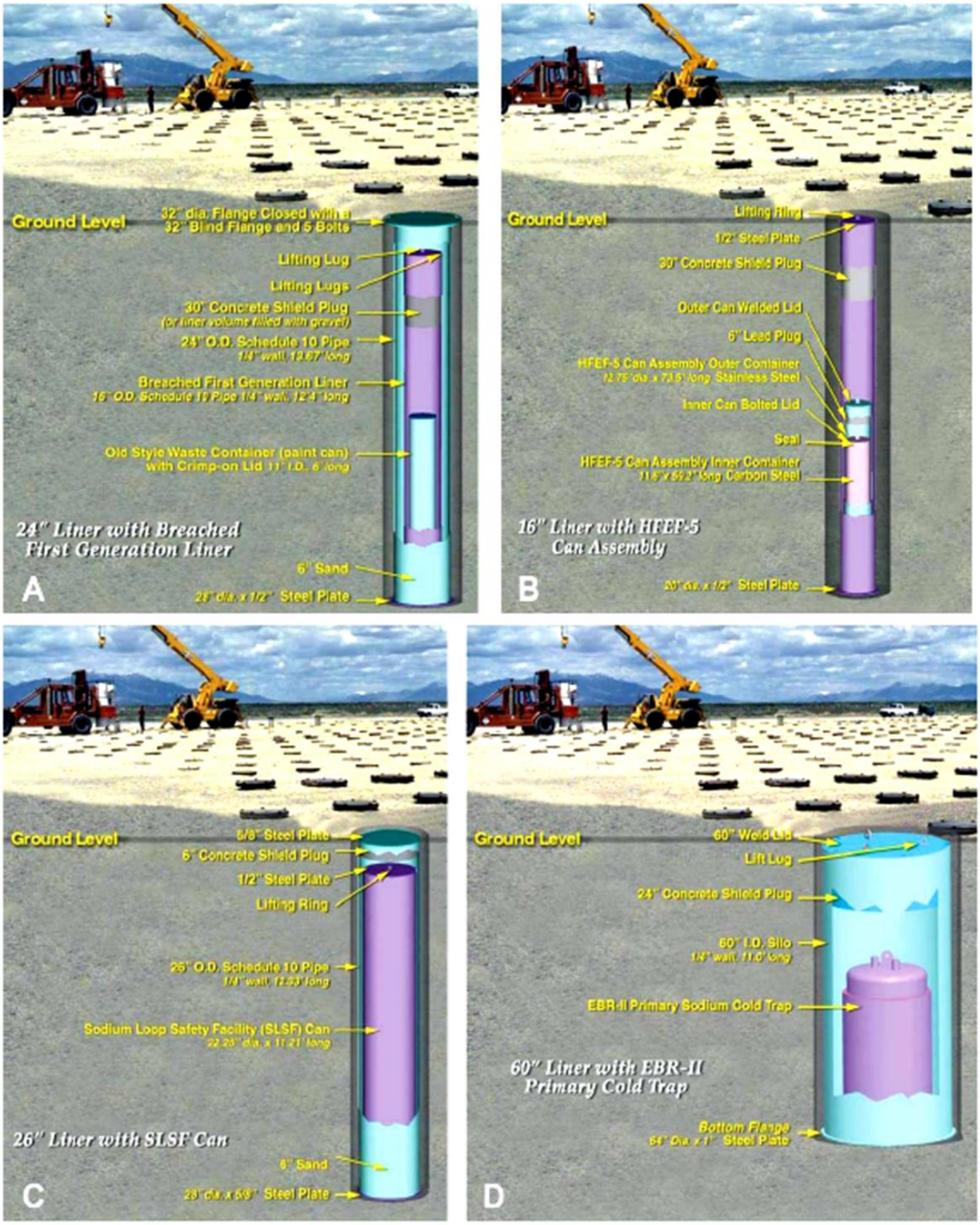
Schematics Showing the RSWF Plot Plan, Liner Configurations, and

Cathodic Protection System

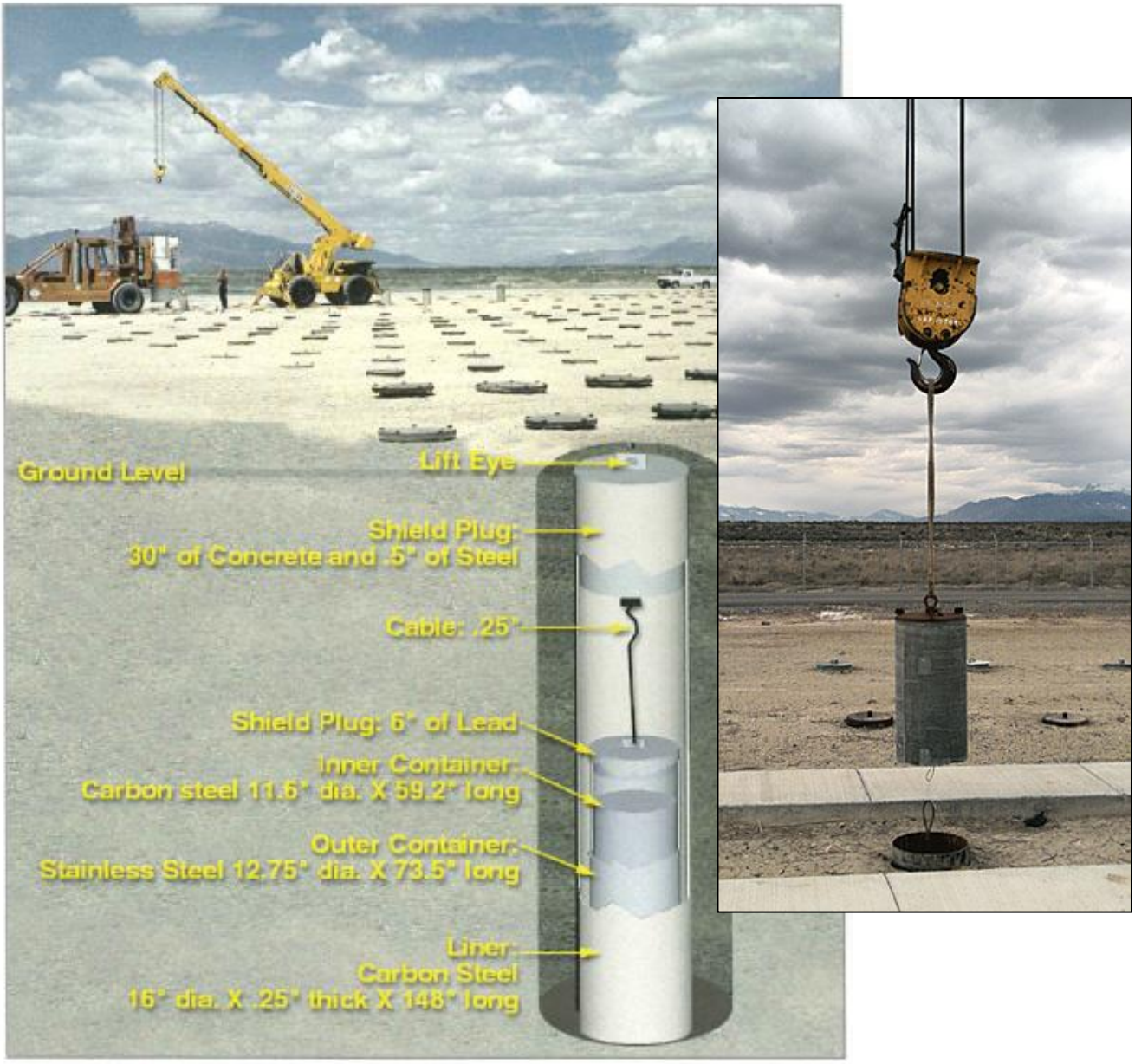
RSWF Building 771



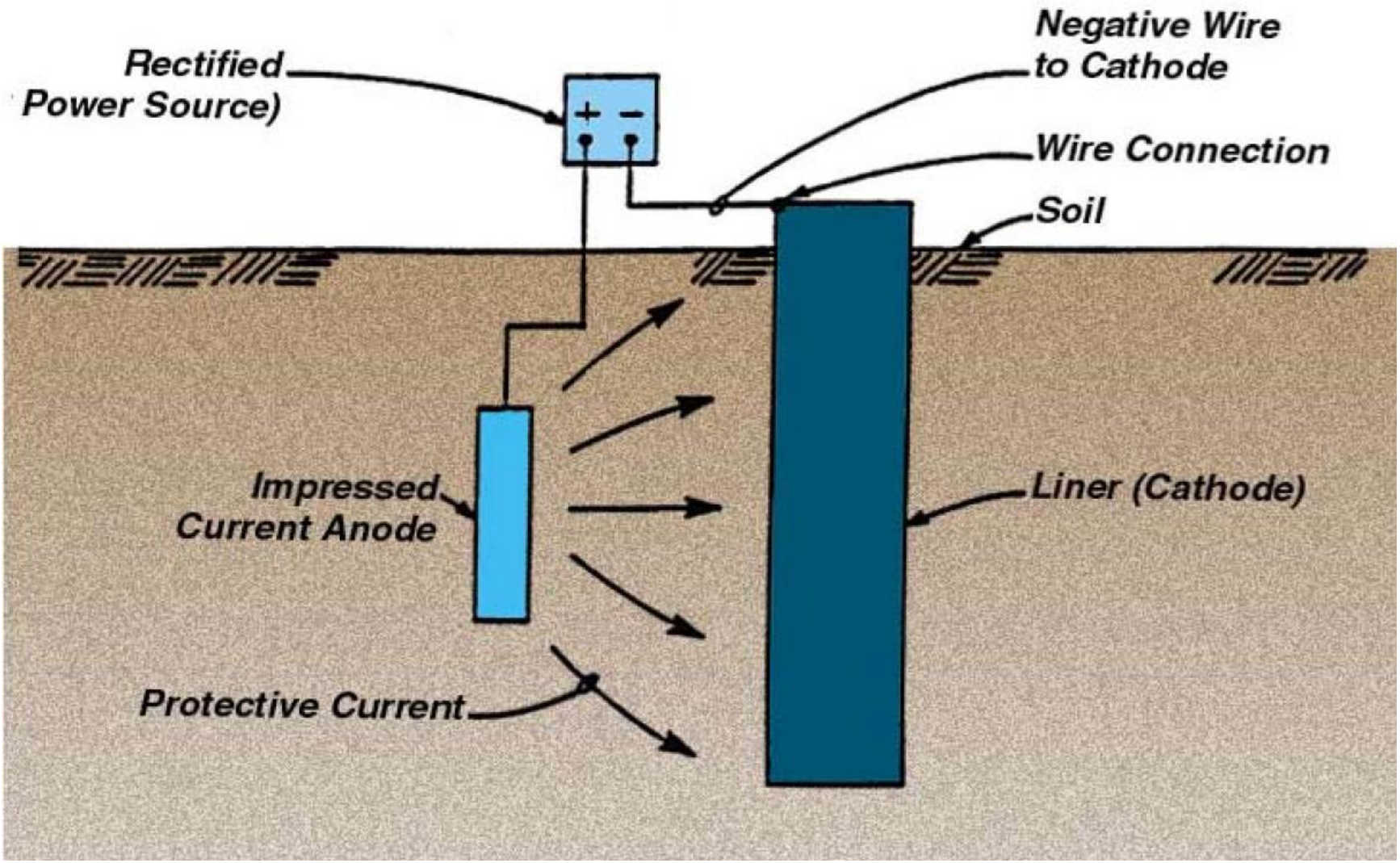
RSWF PLOT PLAN



RSWF Liner Configurations



RSWF Container Lifting



RSWF Cathodic Protection System

Attachment B-9

Photographs of the RSWF Staging/Storage Area

RSWF Staging/Storage Area Looking South
Photo taken April 2017

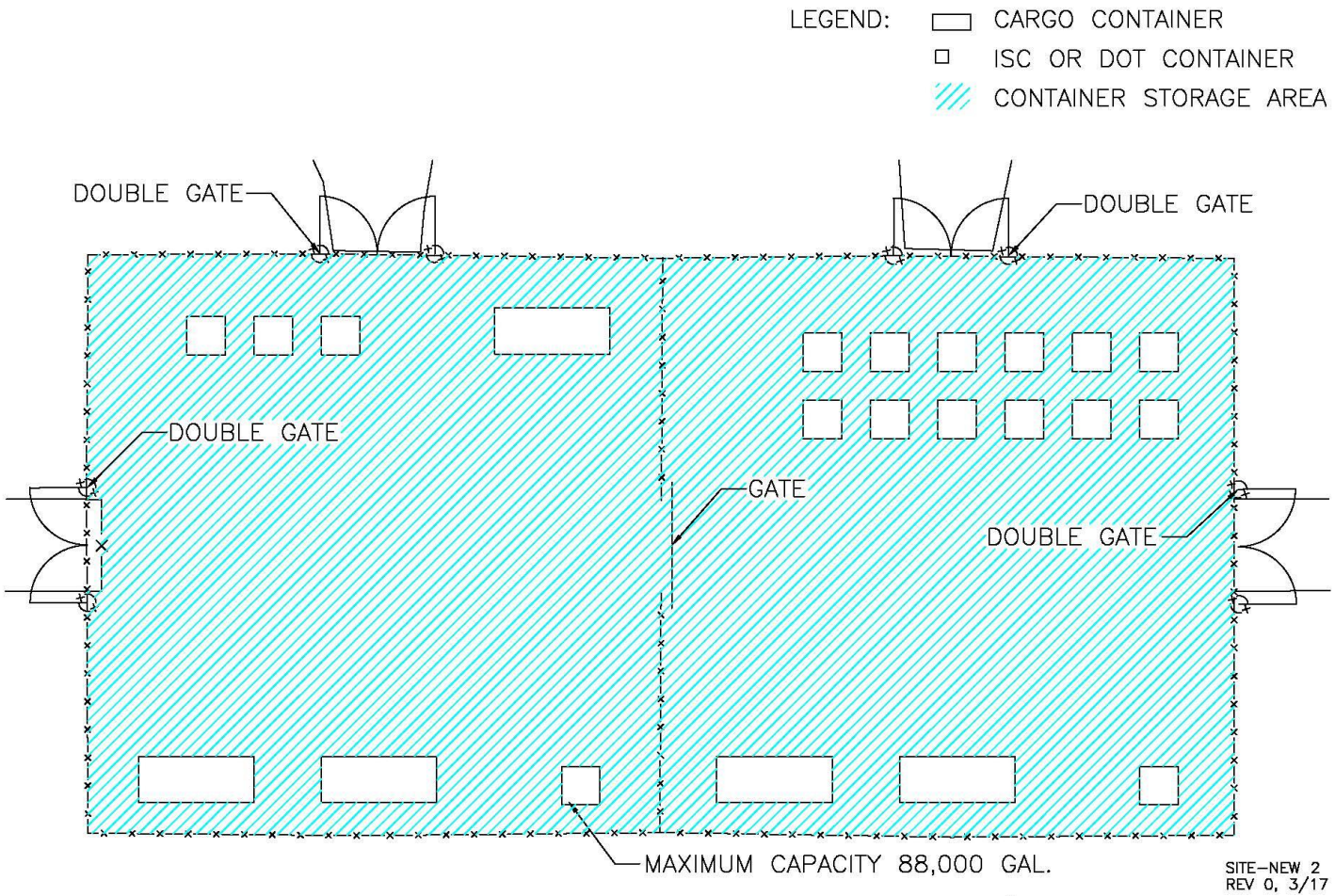
RSWF Staging/Storage Area Looking North
Photo taken April 2017

Attachment B-10

Schematic Showing Typical Facility Arrangement and

Maximum Storage Capacity

RSWF Staging/Storage Area



RSWF STAGING/STORAGE AREA SHOWING
TYPICAL FACILITY ARRANGEMENT
AND MAXIMUM STORAGE CAPACITY

Attachment B-11

Photographs of the North Fenced Area

North Fenced Area Looking North
Photo taken April 2017

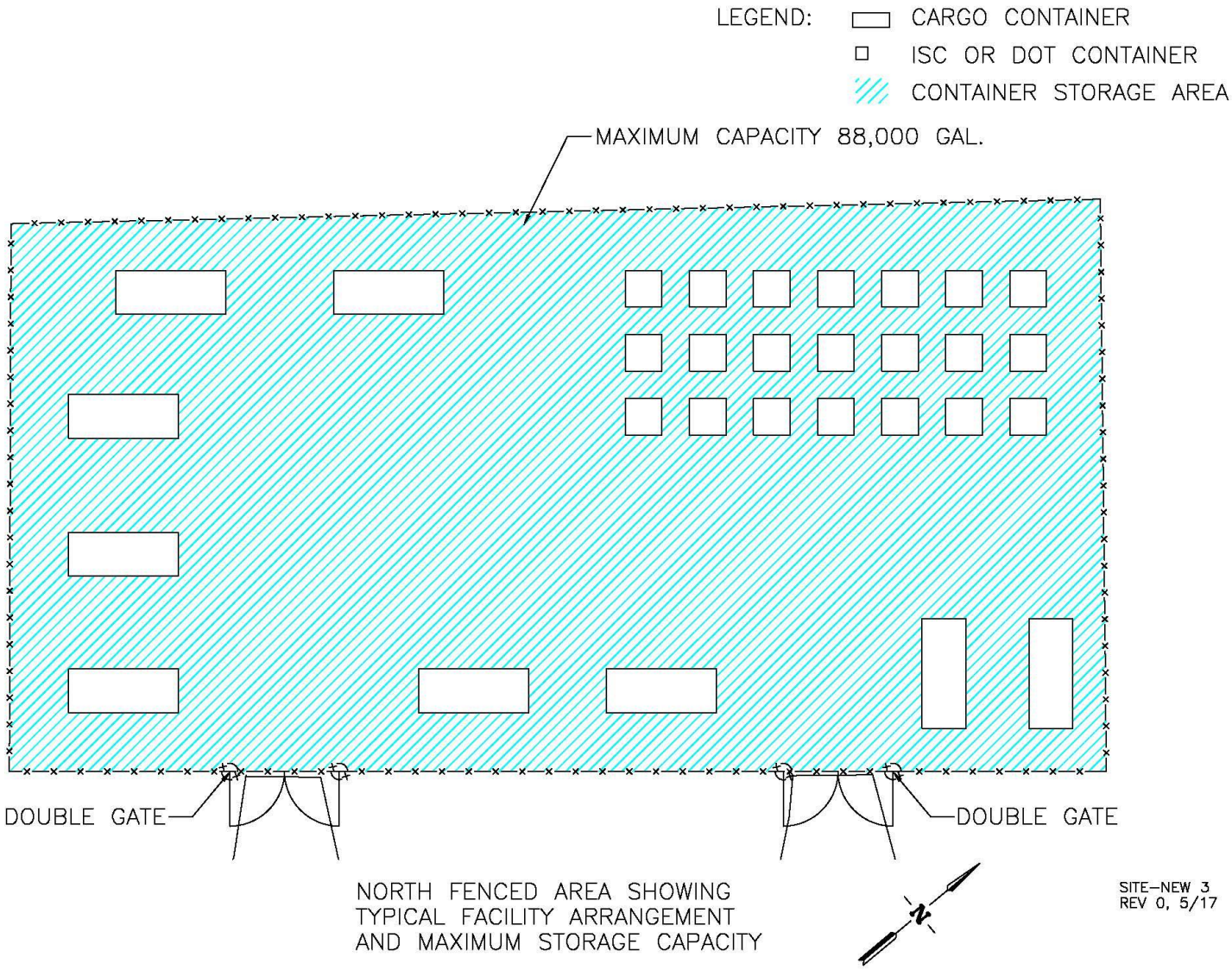
North Fenced Area Looking South
Photo taken April 2017

Attachment B-12

Schematic Showing Typical Facility Arrangement and

Maximum Storage Capacity

North Fenced Area


LEGEND:
CARGO CONTAINER
ISC OR DOT CONTAINER
CONTAINER STORAGE AREA
MAXIMUM CAPACITY 88,000 GAL.
DOUBLE GATE
DOUBLE GATE
N
NORTH FENCED AREA SHOWING
TYPICAL FACILITY ARRANGEMENT
AND MAXIMUM STORAGE CAPACITY
SITE–NEW 3
REV 0, 5/17

Attachment B-13

Photographs of the Exteriors

SCMS Buildings 793, 793C, and 793G

Sodium Components Maintenance Shop (SCMS) Building 793
Photo taken August 2013

Sodium Components Maintenance Shop (SCMS) Building 793C
Photo taken August 2013

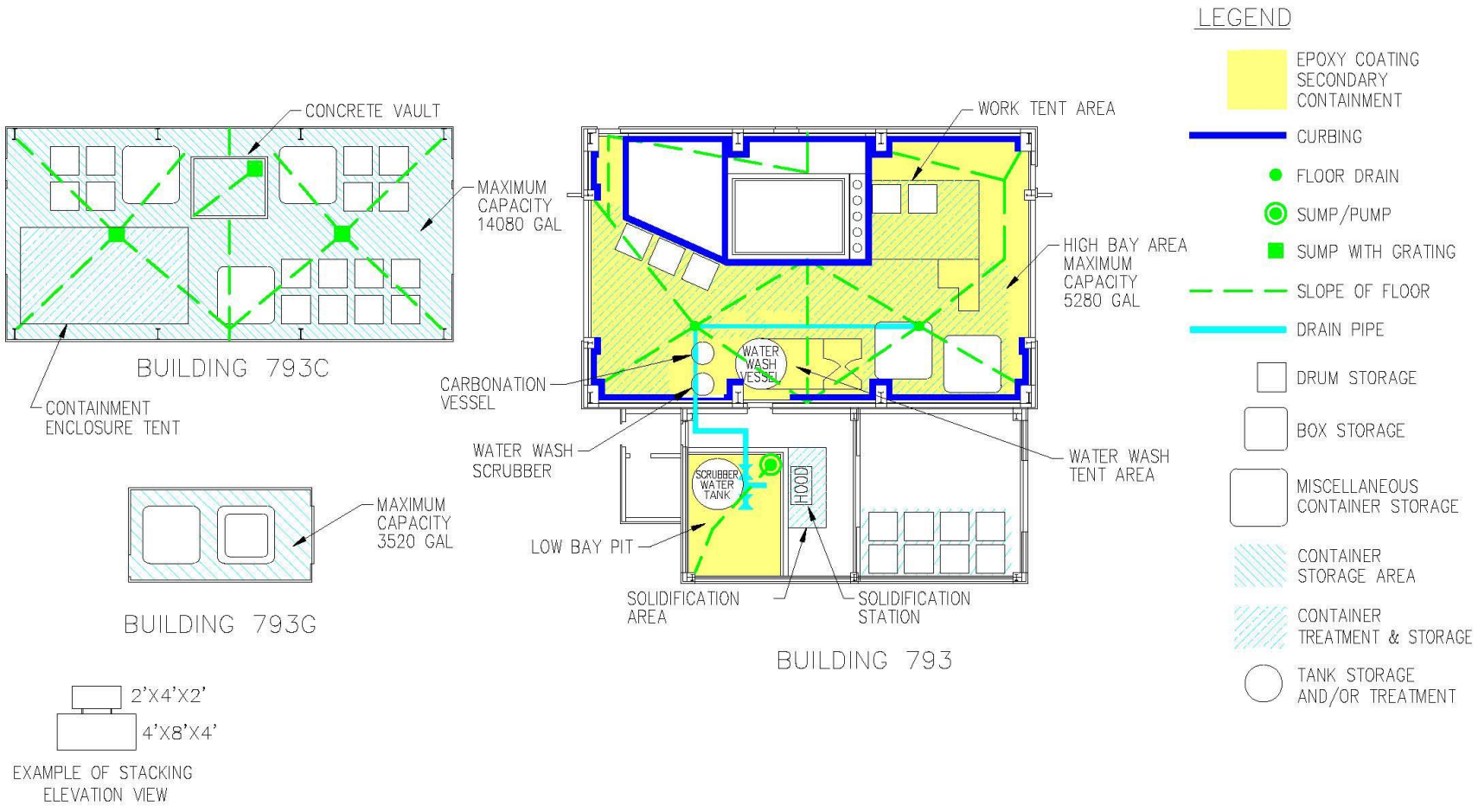
Sodium Components Maintenance Shop (SCMS) Building 793G
Photo taken August 2013

Attachment B-14

Floor Plans Schematic Showing Facility Arrangement and

Maximum Storage Capacity

SCMS Buildings 793, 793C, and 793G



793-047
REV 5, 12/15

SCMS BUILDINGS MFC-793, 793C, 793G
FLOOR PLANS SHOWING FACILITY ARRANGEMENTS, MAXIMUM STORAGE CAPACITY
AND FIXED SECONDARY CONTAINMENT

Attachment B-15

Photographs of the Interiors

SCMS Buildings 793, 793C, and 793G

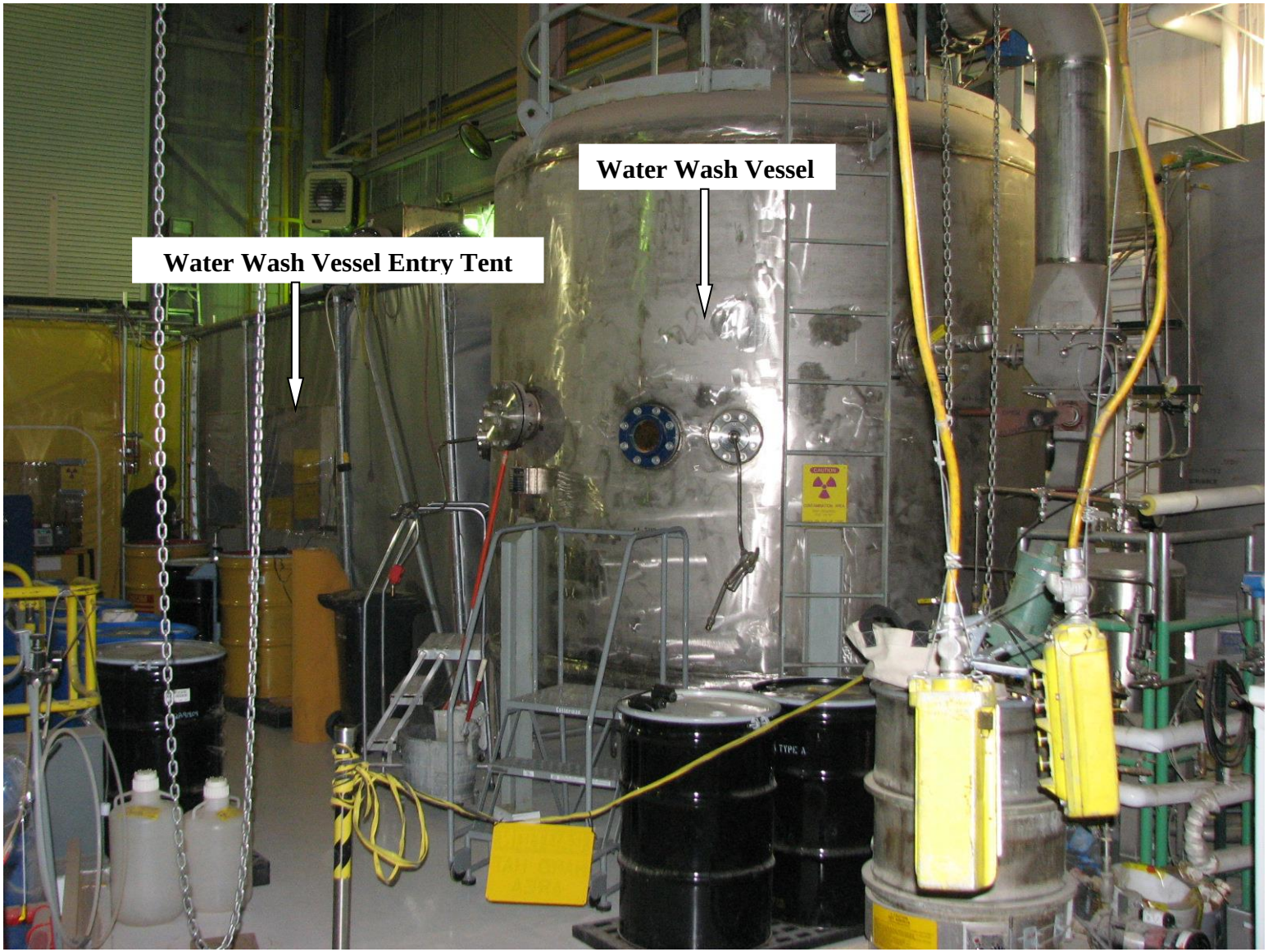
SCMS Building 793 Scrubber Water Tank
Photo taken August 2013

SCMS Building 793C from East Roll-up Door
Photo taken August 2013

SCMS Building 793G Storage Area
Photo taken August 2013

SCMS Low Bay Entrance Area
Photo taken August 2013

SCMS Solidification Station
Photo taken August 2013



SCMS Water Wash Vessel and Entrance Tent
Photo taken August 2013

SCMS Work Tent
Photo taken August 2013

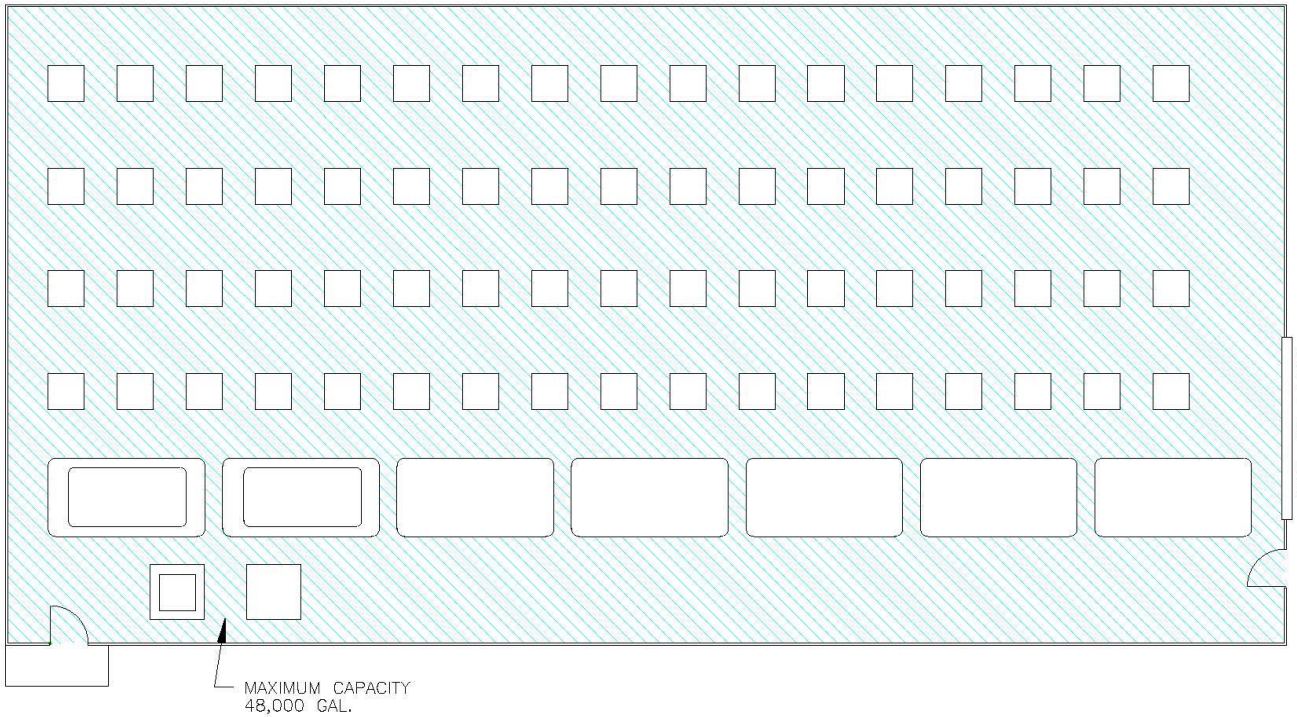
Attachment B-16

Photograph of the Exterior
SSB Building 703

Sodium Storage Building (SSB)
Photo taken February 2015

Attachment B-17

Floor Plan Schematic Showing Facility Arrangement and
Maximum Storage Capacity
SSB Building 703



LEGEND

DRUM STORAGE

BOX STORAGE

MISCELLANEOUS CONTAINER STORAGE

CONTAINER STORAGE AREA

2'X4'X2'

4'X8'X4'

EXAMPLE OF STACKING ELEVATION VIEW

N

703-010r2
REV 2, 2/16

SODIUM STORAGE BUILDING – BUILDING 703
FLOOR PLAN SHOWING FACILITY ARRANGEMENT AND MAXIMUM STORAGE CAPACITY

Attachment B-18

Photograph of the Interior
SSB Building 703

Sodium Storage Building (SSB) Building 703
Photo taken February 2015

Attachment B-19

MFC Topographical Map

Materials and Fuels Complex

Legend

- HWMA/RCRA treatment and storage unit
- Loading and unloading area
- Lift station
- Building or structure
- Industrial waste line
- Sanitary waste line
- Rerouted industrial waste water underground pipe
- Abandoned industrial waste water underground pipe
- Culvert
- Ditch
- Disposal pond
- Sewage lagoon
- Former sewage lagoon
- 10-ft index contour
- 2-ft contour
- 2-ft depression contour
- Potable water/production well
- Monitoring well
- Observation well
- Shallow injection well
- Liquid effluent monitoring
- Road
- Barrier
- Fence
- Proposed new security fence (June 2017)
- Remove existing security fence (June 2017)
- Proposed new building

NOTES:

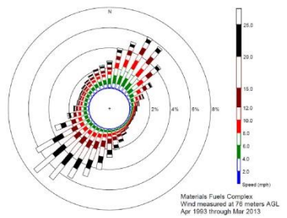
Landuse: MFC facility boundaries are surrounded by restricted-access federal lands.

Legal Description: MFC facility boundaries are located in Township 3 North, Range 32 East, Sections 11, 12, 13, and 14.

Drainage Topography: 2-ft contour derived from engineering drawing W7500-4001-ED-17, W7500-4008-ED-02 (sheets 1,2,3).

Base map: Planimetric features have been updated to 2012 Pictometry imagery.

100-Year Floodplain; MFC facility boundaries are not located within the 100-Year floodplain.



MFC Windrose

Vicinity Map

1 inch = 200 feet

0 50 100 200 300 400 Meters

0 200 400 800 1,200 1,600 Feet

GIS Analyst: Dan Mahnami
Date Drawn: 4/20/2017
Path: X:\gis_projects\arcmf\Permit_Maps
File Name: RCRA_Permit_BEA_2017-el_v1.mxd

<This sheet will be replaced with a full-size, folded map in a sleeve.>