

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

REVISION DATE: JULY 1, 2016

CONTENTS

Section B – MFC Facility Description	i
B. MFC FACILITY DESCRIPTION [IDAPA 58.01.05.012; 40 CFR 270.14(b)(1)].....	1
B-1 MFC Site Description [IDAPA 58.01.05.012; 40 CFR 270.14(b)(1)].....	1
B-2 MFC HWMA Unit Overview.....	2
B-2(a) HW/MW Received/Managed and Services Provided at MFC HWMA Units.....	2
B-3 MFC HWMA Unit Facility Descriptions	6
B-3(a) Hot Fuel Examination Facility (HFEF)—Building 785	6
B-3(a)(1) HFEF General Description.....	7
B-3(a)(2) High Bay Area (HBA).....	7
B-3(a)(3) Hot Repair Area (HRA)	7
B-3(a)(4) Decontamination Cell (DC)/Spray Chamber	8
B-3(a)(5) Waste Characterization Chamber (WCC)/Transfer Room (TR)	8
B-3(a)(6) Preparation Room (PR)	9
B-3(a)(7) Truck Lock (Non-HWMA)	10
B-3(a)(8) HFEF Casks/Transporter Staging Area (Non- HWMA)	10
B-3(b) Radioactive Scrap and Waste Facility (RSWF) - Building 771	10
B-3(b)(1) RSWF Staging Area (Non-HWMA).....	12
B-3(b)(2) North Fenced Area (Non-HWMA)	12
B-3(c) Sodium Components Maintenance Shop (SCMS)—Buildings 793, 793C, 793G.....	13
B-3(c)(1) SCMS Building 793—High Bay.....	13
B-3(c)(2) SCMS Building 793—Low Bay	14
B-3(c)(3) SCMS Building 793C.....	15
B-3(c)(4) SCMS Building 793G	15
B-3(d) Sodium Storage Building (SSB)—Building 703	16
B-4 Topographical Map	17
B-4(a) General Requirements [IDAPA 58.01.05.012; 40 CFR 270.14(b)(19)]	17

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)].....17

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)].....17

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)].....18

B-6 Traffic Information [IDAPA 58.01.05.012; 40 CFR 270.14(b)(10)].....18

TABLES

Table B-1. HW/MW processes, waste types, services, and limits provided by MFC HWMA units.....5

ATTACHMENTS

B-1 Schematic Showing MFC Administrative Boundaries

B-2 MFC Plot Plan: Location of HWMA Units

B-3 Location of HWMA Units, Process Codes, and Transfer Routes Between MFC HWMA Units and Off-site

B-4 Photograph of the Exterior HFEF Building 785

B-5 Floor Plans Schematic Showing Facility Arrangement and Maximum Storage Capacity HFEF Building 785

B-6 Photographs of the Interior HFEF Building 785

B-7 Photograph of the Fenced Area RSWF Building 771

B-8 Schematics Showing the RSWF Plot Plan, Liner Configurations, and Cathodic Protection System RSWF Building 771

B-9 Photographs of the Exterior SCMS Buildings 793, 793C, and 793G

B-10 Floor Plans Schematic Showing Facility Arrangement and Maximum Storage Capacity SCMS Buildings 793, 793C, and 793G

B-11 Photographs of the Interiors SCMS Buildings 793, 793C, and 793G

B-12 Photograph of the Exterior SSB Building 703

B-13 Floor Plan Schematic Showing Facility Arrangement and Maximum Storage Capacity SSB Building 703

B-14 Photograph of the Interior SSB Building 703

B-15 MFC Topographical Map

1 **B. MFC FACILITY DESCRIPTION [IDAPA 58.01.05.012; 40 CFR 270.14(b)(1)]**

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

12 In accordance with the requirements of IDAPA 58.01.05.012 and 40 CFR
13 270.14(b), this section of the Materials and Fuels Complex (MFC) HWMA/RCRA
14 Permit Application contains facility description, topography, and traffic-related
15 information for the HWMA/RCRA units (herein referred to as HWMA units) on the
16 MFC site.

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

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

- 27 • Subsection B-1, MFC Facility Description
- 28 • Subsection B-2, MFC HWMA Unit Overview
- 29 • Subsection B-3, MFC HWMA Unit Descriptions
- 30 • Subsection B-4, MFC Topographical Maps
- 31 • Subsection B-5, MFC Traffic Information.

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

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

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

5 **B-2 MFC HWMA Unit Overview**

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

- 8 • Hot Fuel Examination Facility (HFEF)
- 9 • Radioactive Scrap and Waste Facility (RSWF)
- 10 • Sodium Components Maintenance Shop (SCMS)
- 11 • Sodium Storage Building (SSB).

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

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

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

21 The MFC HWMA units will receive/manage solid, liquid, and debris HW/MW, and
22 are used to perform a variety of services for on-Site¹ HW/MW generators and/or
23 owners.

24 Ongoing receipt, management, and processing of on-Site HW/MW will ensure
25 compliance with federal-and state-mandated HW/MW treatment and disposal plans,
26 schedules, and stipulations set forth in the INL Site Treatment Plan (STP), the
27 Federal Facilities Compliance Act (FFCA), and the State of Idaho and DOE
28 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.

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

- 4 • Receive/manage the following HW/MW types:
 - 5 — Ignitable waste (D001)
 - 6 — Corrosive waste (D002)
 - 7 — Reactive waste (D003)
 - 8 — Toxic-metal inorganic waste (D004-D011)
 - 9 — Toxic-metal organic waste (D012-D043)
 - 10 — F-listed waste (nonspecific sources as specified in Part A)
 - 11 — P-listed (commercial chemicals as specified in Part A)
 - 12 — U-listed (commercial chemicals as specified in Part A).

- 13 • Store, verify/sample, repackage and/or treat the following process codes:
 - 14 — Container storage (S01)
 - 15 — Tank storage (S02)
 - 16 — Miscellaneous unit storage (S99)
 - 17 — Container/debris treatment (T04)
 - 18 — Tank treatment (T01).

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

- Solids — Process waste and residuals
 - Laboratory waste
 - Treatment residuals
 - Sludges
- Liquids — Process waste and residuals
 - Laboratory waste
 - Treatment residuals
- Debris² — Metal debris
 - Inorganic/organic debris
 - Paper/plastic/rubber/rags
 - Ceramic/brick
 - Heterogeneous debris.

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

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

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

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

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

Facility		HFEF	RSWF	SCMS	SSB
D001	Ignitable	X	X	X	X
D002	Corrosive	X	—	X	—
D003	Reactive	X	X	X	X
D004-11	Toxicity characteristic (inorganic)	X	X	X	X
D012-43	Toxicity characteristic (organic) (Ref. Part A)	X	—	X	X
F Listed	Non-specific sources (Ref. Part A)	X	—	X	X
P Listed	Commercial chemicals (Ref. Part A)	X	—	—	—
U Listed	Commercial chemicals (Ref. Part A)	X	—	X	X
S01	Container storage ¹	10725	—	24640	48000
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
Liquids		X		X	X
Debris		X	X	X	X
Verification/sampling [solids/liquids/debris]		X	—	X	—
Repackaging [solids/liquids/debris]		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. 2. Maximum treatment amount per day in gal.					

2

1 **B-3 MFC HWMA Unit Facility Descriptions**2 **B-3(a) Hot Fuel Examination Facility (HFEF)—Building 785**

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

8 HWMA Unit Areas

- 9 • High Bay Area (HBA)
- 10 • Hot Repair Area (HRA)
- 11 • Decontamination Cell(DC)/Spray Chamber
- 12 • Miscellaneous Equipment and Storage Area (MESA)
 - 13 — Waste Characterization Chamber (WCC)/Transfer Room(TR),
 - 14 including Sample Preparation (SP) Glovebox and Equipment Repair
 - 15 (ER) Glovebox
 - 16 — Preparation Room (PR)

17 HWMA Unit Support Areas

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

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

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

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

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

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

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

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

15 The HFEF HBA is used to store MW. That portion of the HBA where HW/MW is
16 stored is posted with signs that state: **Danger — Unauthorized Personnel Keep**
17 **Out**. The HBA is 68-ft wide by 154-ft long and extends over the main cell,
18 decontamination cell, and truck lock. It provides access between the truck lock and
19 ports in the cell roof for waste transfer operations. The HBA is serviced by a
20 traveling bridge crane, which traverses the full HBA length and width and provides
21 access to the truck lock through the ceiling hatch. The bridge spans approximately
22 60 ft and the hoist provides a lift capability of approximately 67 ft. The crane has
23 5- and 40-ton hoists.

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

25 The HFEF HRA is a shielded area used to perform HW/MW verification,
26 repackaging and/or container treatment. It is directly above the decontamination
27 cell/spray chamber in the HFEF HBA and is divided into a number of separate
28 rooms. The entire HFEF HRA is designed for effective control of radioactive
29 contamination. The outside dimensions of the HFEF HRA are 45-ft long by 70-ft
30 wide. Hatches and doors provide for the transfer of equipment or personnel between
31 HRA rooms and between the HRA, HBA, and decontamination cell. A concrete-
32 block wall and steel-containment wall separate the Hot Repair Room from the Clean
33 Change Room. The containment wall has removable panels for the insertion of
34 glove ports, tunnel suits, and transfer devices. Repair and Access Room walls have
35 windows. The HRA is used to support the reactor programs by providing a

1 containment enclosure where cell equipment (previously decontaminated and smear
2 surveyed) can be further decontaminated, repaired or modified, and returned to the
3 decontamination or main cell.

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

5 The HFEF DC is used to perform HW/MW verification, repackaging and/or
6 container treatment. The HFEF DC is a heavily shielded cell located directly below
7 the HFEF HRA. It is an extension of the main cell and is separated internally from
8 the main cell by a 48-in. thick concrete shield wall. Internal cell dimensions are 20 x
9 30 x 25 ft high. The walls, floor, and ceiling are 48-in. thick concrete. The cell floor
10 is lined with stainless steel and the walls are lined with carbon steel, which is coated
11 with epoxy paint to a height of 13.5 ft above the cell floor. In-cell work is performed
12 using electromechanical manipulators operated by personnel located outside of the
13 cell walls. One of the work stations along the west wall is equipped with a spray
14 chamber consisting of a 7.75 x 9.5 x 12-ft sealed stainless-steel enclosure fitted with
15 water spraying fixtures normally used for equipment decontamination. When
16 HW/MW verification, container treatment, and/or repackaging activities are being
17 performed in the spray chamber, the water spray system is isolated and tagged out
18 and the drain in the spray-chamber floor (used in routine spray-chamber operations)
19 is blocked off. All HW/MW must be removed from the spray chamber when
20 verification, container treatment, and/or repackaging activities are not being
21 performed.

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

23 The HFEF WCC/TR is used to perform HW/MW verification, repackaging, and/or
24 container treatment. The HFEF WCC is a metal framed enclosure in the Operations
25 Room and allows personnel access via glove ports around the chamber. The TR is
26 directly below the HFEF WCC to access the bottom of the HFEF WCC for
27 interfacing waste containers. A 42-in. high stainless-steel wainscot is installed on
28 the walls of the TR. The floor is steel beam and covered with 0.375-in. thick sheets
29 of carbon steel. A 2-in. high carbon-steel curb surrounds the room at the walls. The
30 floor and curb are seal-welded at the seams and edges. The HFEF WCC is
31 approximately 16-ft long, 8.5-ft wide, by 8-ft high, and is framed on the outside
32 with 4-in. carbon-steel square tubing. It has an inner surface constructed of
33 304 stainless steel that is 0.135-in. thick on the top and sides, and 0.375-in. thick on
34 the bottom. The WCC has four handling stations on the front surface, each with two
35 glove ports and a window (0.5-in. thick) constructed of Lexan™. Additional
36 windows and glove ports are located on all sides of the HFEF WCC. Portal
37 openings on the bottom surface of the enclosure provide access for waste containers.

1 WCC openings allow container attachment to the ports during handling operations.
2 The HFEF WCC is mounted on a carbon-steel structure that provides approximately
3 7 ft of clearance under the HFEF WCC for handling and transfer operations. HFEF
4 WCC equipment provided for handling material during the waste characterization
5 process includes two hydraulically-driven manipulators and a jib crane. The HFEF
6 WCC ventilation system maintains a minimum negative pressure differential of
7 0.3 in. H₂O inside the HFEF WCC, with respect to the operating area, when
8 HW/MW containers are open. High-efficiency particulate air (HEPA) filters are
9 provided at the HFEF WCC inlet and outlet. The system is designed to
10 automatically ensure adequate inflow of air through a credible breach in the
11 enclosure system.

12 The SP glovebox is located on the east mezzanine of the Operations Room and is
13 connected to a port on the east end of the WCC. It is an L-shaped structure that is
14 approximately 6.7-ft high. The north-south leg of the glovebox is approximately
15 6.25-ft long by 2.8-ft wide, and the east-west leg is approximately 12.2-ft long by
16 2.8- to 4-ft wide. The SP glovebox was designed for sampling, preparation, analysis,
17 and/or transfer of sludge samples. The windows and walls of the glovebox provide
18 the same shielding protection as the WCC. Filtered air from the TR is supplied to
19 the box, and then exhausted to the WCC.

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

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

31 The HFEF PR is used to store HW/MW pending/following performance of
32 HW/MW verification, repackaging, container treatment and/or final disposition. The
33 HFEF PR is approximately 56 x 14 x 17 ft high, is located in the northeastern
34 portion of the HBA, interfaces with the TR, and extends to the east wall of the
35 HBA. The HFEF PR is accessed from the HBA via a double door. The HFEF PR is
36 equipped with a crane for moving containers between the HBA and HFEF PR. A
37 42-in. high stainless-steel wainscot is installed on the walls of the HFEF PR. The

1 floor in the HFEF PR (and TR) accommodates anticipated loading from carts that
2 are used to move containers between the HFEF PR and TR. The floor is steel beam
3 and covered with 0.375-in. thick sheets of carbon steel. A 2-in. high carbon-steel
4 curb surrounds the room at the walls and two exterior doorways. The floor and curb
5 are seal-welded at the seams and edges to form a secondary containment.

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

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

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

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

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

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

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

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

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

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

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

12 The RSWF is designed with a grid of approximately 27 rows, spaced approximately
13 12 ft apart, with approximately 50 storage sites per row. The storage liners are
14 arranged on approximate 6-ft centers in the rows. The volume capacity, based on the
15 size of the waste containers that are placed in storage, is approximately 53,000 gal.
16 This assumes that approximately 1,320 of the liner sites are usable for MW storage.

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

21 • 16-in. diameter liners: The 16-in. diameter standard liners are constructed of
22 either Schedule-10 carbon steel and 12.33 ft long, or Schedule-40 carbon
23 steel and 10 ft long. They have a 19-in. diameter oversized base plate welded
24 to the liner bottom. They are sealed with a concrete shield plug/lid assembly
25 welded into the top of the liner.

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

30 • 26-in. diameter liners: The 26-in. liners are constructed of 0.25-in. thick
31 carbon steel and are 13 ft long. They have a 28-in. diameter base plate and
32 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 Area (Non-HWMA)

The RSWF staging area is used for staging of Interim Storage Containers (ISCs) and Facility Transfer Containers (FTCs) and their transport vehicle for up to 10 days. The RSWF staging area is located before the RSWF main storage area along the southeast side of the main access road. The RSWF staging 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 southwest side, and with its double gates vehicles may also enter or exit onto the main access road at the northeast side.

B-3(b)(2) North Fenced Area (Non-HWMA)

The North Fenced Area (NFA) is used to stage radioactive waste only in ISCs; no HW/MW is allowed. The NFA area is located before the RSWF main storage across from the RSWF staging 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.

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

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

- 5 • Building 793—High Bay and Low Bay
- 6 • Building 793C—Storage Building
- 7 • Building 793G—Storage Building.

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

- 11 • Attachment B-9, Photographs of the Exterior, SCMS Buildings
- 12 • Attachment B-10, Floor Plan Schematic Showing Facility Arrangement and
13 Maximum Storage Capacity, SCMS Buildings 793, 793C and 793G
- 14 • Attachment B-11, Photographs of the Interior of SCMS Buildings.

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

17 **B-3(c)(1) SCMS Building 793—High Bay**

18 The High Bay is used to store, repackage, and/or treat HW/MW. The High Bay is a
19 prefabricated steel frame building with insulated metal siding. It has a reinforced
20 concrete floor that is approximately 39 x 66 ft with a ceiling height of 38 ft. The
21 floor is curbed and sealed with an epoxy coating and is sloped toward floor drains
22 that are routed to the Low Bay Pit (in the Low Bay). The High Bay houses the water
23 wash vessel and its associated ventilation system and Change Room (provides
24 radioactive contamination control); the water wash scrubber; the carbonation vessel;
25 the removable melt, drain, and transfer system; and a work tent (radioactive
26 contamination control).

27 The High Bay is serviced by two 15-ton electrically powered hoists on a single,
28 manually powered 30-ton bridge, and one 5-ton electrically powered bridge crane
29 installed on the building crane rails. The cranes provide the capability to move large
30 components for removal of HW/MW during storage, repackaging, and/or treatment.
31 Vehicle and component access into the High Bay is through doors located on the
32 east and west ends of the building. Four personnel doors are provided on three sides

1 of the High Bay. One door is located on the south end of the high bay, which allows
2 entry into the low bay. Another door is located on the east end, which allows entry
3 into a vestibule and then out of the building. Two additional doors are on the north
4 side of the building, which are used as emergency exits. Lighting intensity is a
5 minimum of 50-ft candles at floor level and the bulbs are enclosed in explosion-
6 proof casings. Electrical outlets and explosion-proof electrical outlets, 120 volts, are
7 provided around the inside periphery of the building. The High Bay is designed to
8 Seismic Zone 3 of the UBC.

9 **B-3(c)(2) SCMS Building 793—Low Bay**

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

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

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

2 Building 793C, located west of the SCMS main building, is used to store,
3 repackaged, and/or treat HW/MW. The building size is 40 × 30 ft with a 16-ft eave
4 height. The floor of the storage building is concrete with a design load of 500 psf,
5 sloping toward the center, with two small concrete sumps designed to remove liquid
6 resulting from precipitation. The floor is painted with an epoxy coating; however,
7 the epoxy floor is not maintained as the secondary containment. HW/MW
8 containing liquids are stored atop spill pallets and non-liquid HW/MW containers
9 are stored on pallets or secondary containment devices. Two 12 × 12-ft roll-up
10 freight doors and two personnel doors are provided. The prefabricated metal
11 building has ridge ventilation and a wall louver to provide gravity ventilation. Two
12 electric heaters with thermostatically controlled fan operation provide heat for the
13 storage building. The building is provided with fluorescent lighting, power outlets
14 (120 volts) for using hand tools, and a welding outlet (480 volts). All roof and wall
15 panel joints are self-sealing to maintain a weather-tight seal. The building is
16 designed to Seismic Zone 2 of the UBC.

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

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

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

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

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

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

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

- 6 • Attachment B-12, Photograph of the Exterior, SSB, Building 703
- 7 • Attachment B-13, Floor Plan Schematic Showing Facility Arrangement and
8 Maximum Storage Capacity, SSB, Building 703
- 9 • Attachment B-14, Photograph of the Interior of SSB, Building 703

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

12 The SSB is a prefabricated steel frame building with uninsulated metal wall and
13 roof panels, as shown in photographs provided in Attachments B-12 and B-14. The
14 wall and roof panels are nestable ribbed-type panels of painted steel. Steel flashing,
15 closures, and trim provide weather-tight construction and finishing to the building.
16 End laps in the roofing and side walls, in addition to all flashing and vertical joints
17 of the siding, are sealed with continuous beads of sealant and/or sealant tape. Ridge
18 vents and wall louvers, providing building passive ventilation, are designed to
19 prevent moisture influx into the building.

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

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

1 **B-4 Topographical Map**

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

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

- 8 • United States Geological Survey (USGS) 7.5 Minute Series Little Butte SW
9 Quadrangle that shows general topography of the MFC site [see Appendix I,
10 Map 8, of INL HWMA/RCRA Permit Application, Volume 3 (General
11 Information for INL Waste Management Units – DOE/ID-10131)]
- 12 • Attachment B-15, MFC site-specific topographical map (1:200 scale) that
13 includes the 40 CFR 270.14(b)(19) required detail
- 14 • MFC wind rose [see Exhibit B-6 of INL HWMA/RCRA Permit Application,
15 Volume 3 (General Information for INL Waste Management Units –
16 DOE/ID-10131)]
- 17 • Flood Insurance Rate Map (FIRM) for Bingham County, Idaho (which
18 details 100-year floodplain areas) [see Appendix II, Maps 01 and 03, of INL
19 HWMA/RCRA Permit Application, Volume 3 (General Information for INL
20 Waste Management Units – DOE/ID-10131)]
- 21 • Map of surrounding land uses [see Exhibit B-9 of INL HWMA/RCRA
22 Permit Application, Volume 3 (General Information for INL Waste
23 Management Units – DOE/ID-10131)]
- 24 • USGS Miscellaneous Investigation Map I-2330, Geologic Map of the Idaho
25 National Engineering Laboratory and Adjoining Areas, Eastern Idaho, 1994
26 [see Exhibit B-10 of INL HWMA/RCRA Permit Application, Volume 3
27 (General Information for INL Waste Management Units – DOE/ID-10131)].

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

30 **B-5(a) Seismic Standard [IDAPA 58.01.05.012 and 58.01.05.008;**
31 **40 CFR 270.14(b)(11)(i) and (ii) and 264.18(a)]**

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

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

5 **B-5(b) Floodplain Standard [IDAPA 58.01.05.012 and 58.01.05.008;**
6 **40 CFR 270.14(b)(11)(iii) and 264.18(b)]**

7 As detailed in the previously referenced FIRM for Bingham County, Idaho
8 [ref. Subsection B-4(a)], the MFC site is entirely located in a Zone-C floodplain
9 area (floods less frequent than every 500 years). The MFC HWMA units are located
10 in the area addressed in Panel 1600 18 0050B; the footnote to the map indicates that
11 this panel is not published, but the area is designated Zone C. Also, for Bingham
12 County, Map Panel No. 25 of 750, section 11, includes a small part of the west side
13 of the MFC area designated as Zone C. The requirements in 40 CFR
14 270.14(b)(11)(iv) and (v) [Subsections B-3(b)(1) through B-3(b)(3) of the EPA
15 RCRA permit application review checklist] are not applicable to this permit
16 application, as MFC is not in a 100-year floodplain.

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

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

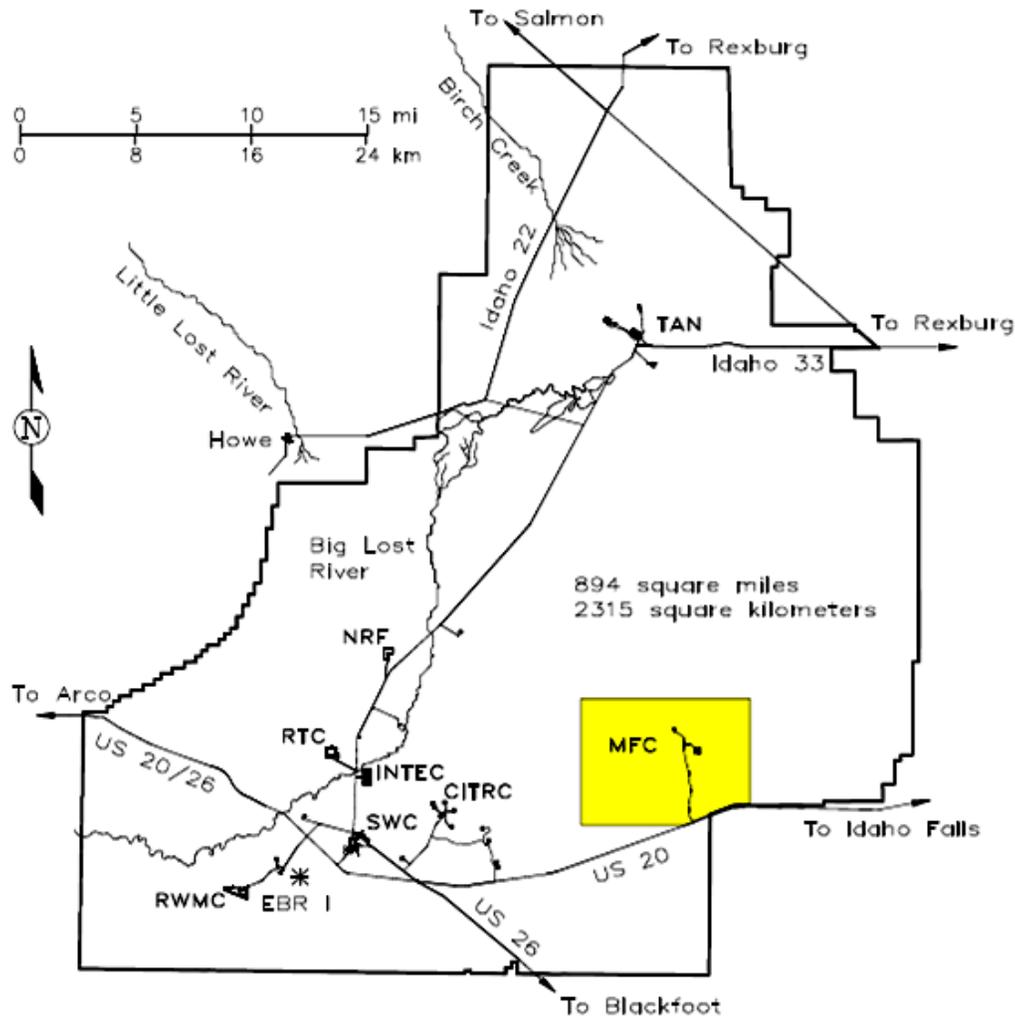
27 MFC access is attained through a security station located at the MFC main entrance.
28 To enter the main MFC fenced area, vehicles must pass through a two-gate
29 arrangement that allows security personnel to conduct thorough inspections. All
30 personnel must pass through the security station to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

1 Access to HWMA units and facilities within MFC is provided by a network of
2 paved and gravel roadways. Any one of these roadways may be used to transport
3 HW/MW among MFC facilities. Transport from MFC facilities to other facilities on
4 the INL site is done via U.S. 20 or the Haul Road (east-west road intersecting
5 Taylor Boulevard between MFC Security Gate 2 and U.S. 20). The roads accessing
6 the MFC are constructed of asphalt, with load-bearing capacities of 68 metric tons
7 (75 tons). The Haul Road has a capacity of 45,000 kg (100,000 lb). Roads within the
8 MFC area, used to transport HW/MW, have been tested to 45,000 kg (100,000 lb)
9 single-axle loading. Traffic is limited inside the MFC fenced area to security-
10 approved vehicles, such as government and construction vehicles, and to a speed
11 limit of 10 mph.

Attachment B-1

Schematic Showing MFC Administrative Boundaries

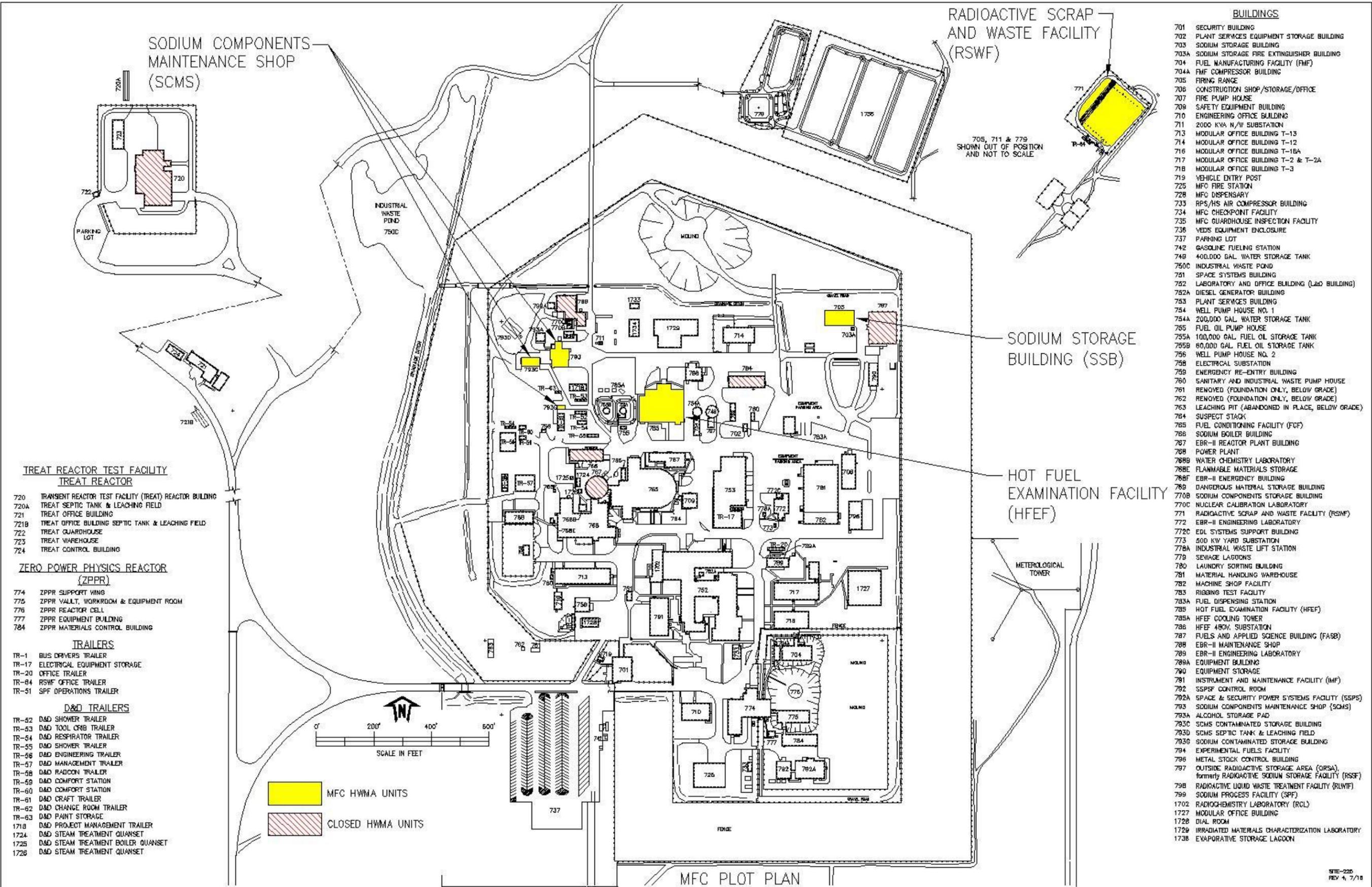
- CITRC Critical Infrastructure Test Range Complex
- * EBR-I Experimental Breeder Reactor I
- INTEC Nuclear Technology & Environmental Center
- MFC Materials and Fuels Complex
- NRF Naval Reactor Facility
- RTC Reactor Technologies Complex
- RWMC Radioactive Waste Management Complex
- SWC Sitewide Complex
- TAN Test Area North
- * National Landmark



LOCATION OF MFC
ON THE INL SITE

Attachment B-2

MFC Plot Plan: Location of HWMA Units



- 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
 - 793E 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
 - 1738 EVAPORATIVE STORAGE LAGOON

- 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 VALLT, 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-84 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 RADDON 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

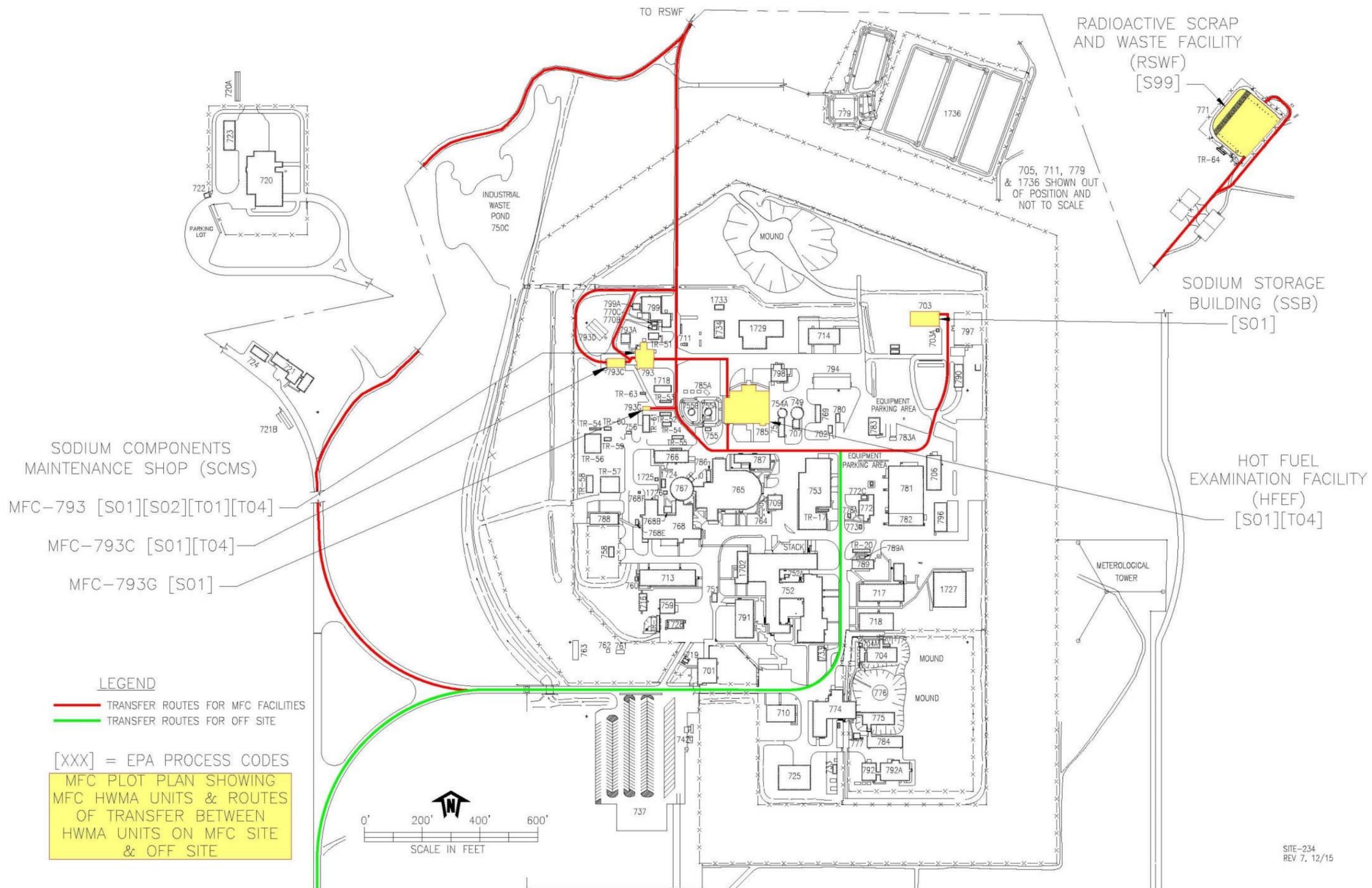
MFC HWMA UNITS
 CLOSED HWMA UNITS



Attachment B-3

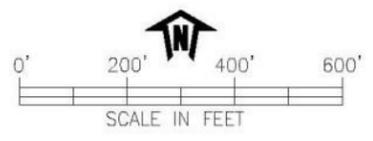
Location of HWMA Units, Process Codes, and Transfer

Routes Between MFC HWMA Units and Off-site



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



Attachment B-4

Photograph of the Exterior

HFEF Building 785



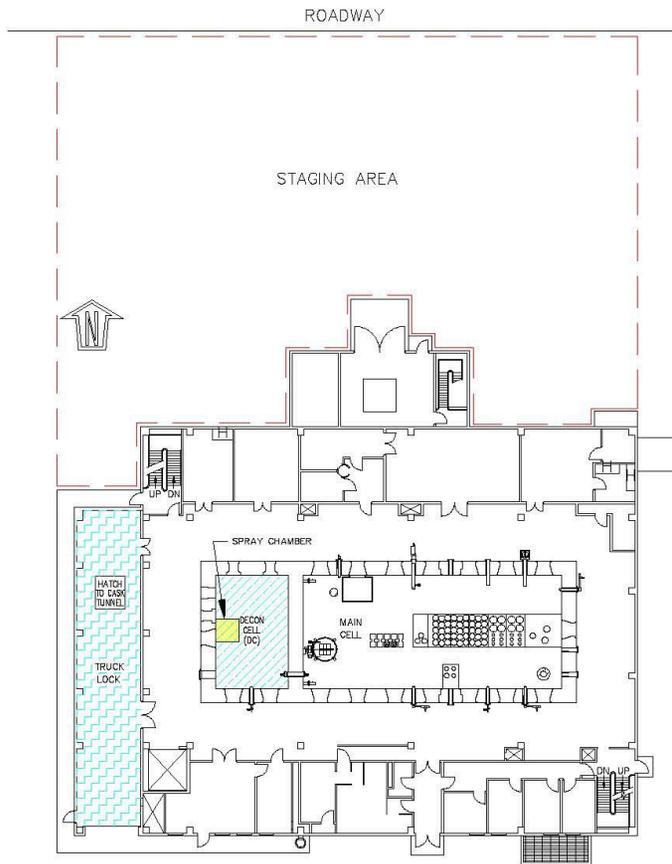
Hot Fuel Examination Facility (HFEE) Building 785, South End
Photo taken January 2015

Attachment B-5

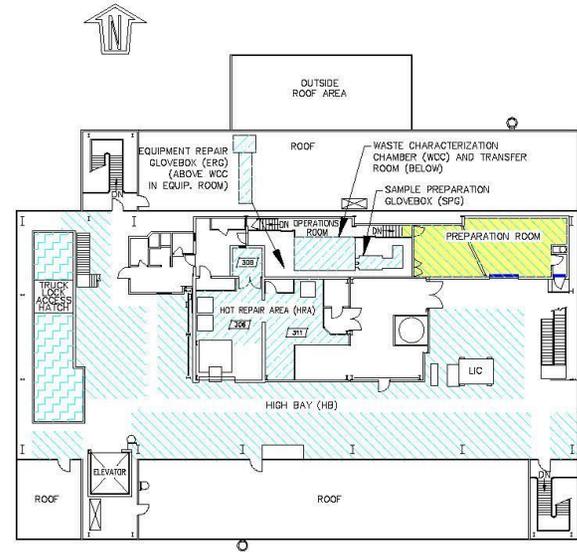
Floor Plans Schematic Showing Facility Arrangement and

Maximum Storage Capacity

HFEF Building 785



1ST FLOOR



HIGH BAY FLOOR

LEGEND

- SEAM WELDED STEEL FLOOR SECONDARY CONTAINMENT
- CURBING
- CONTAINER STORAGE AREA
- CONTAINER TREATMENT AND STORAGE AREA
- TRANSFER/STAGING AREA
- STAGING AREA BOUNDARY

NOTE: MAXIMUM STORAGE CAPACITY-10,725 GAL

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

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



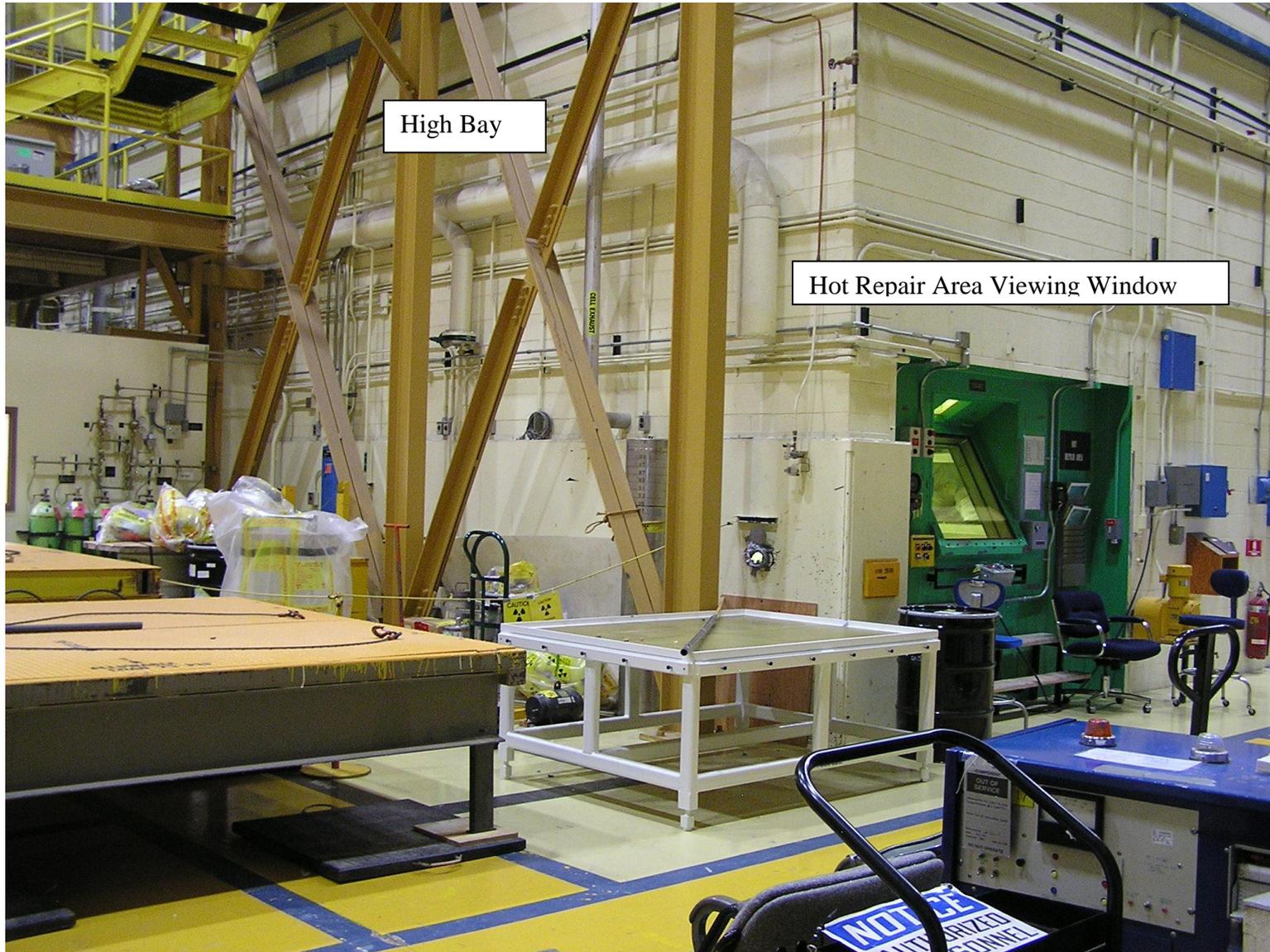
HFEF Waste Characterization Glovebox
Photo taken August 2013



HFEF Equipment Repair Glovebox
Photo taken August 2013



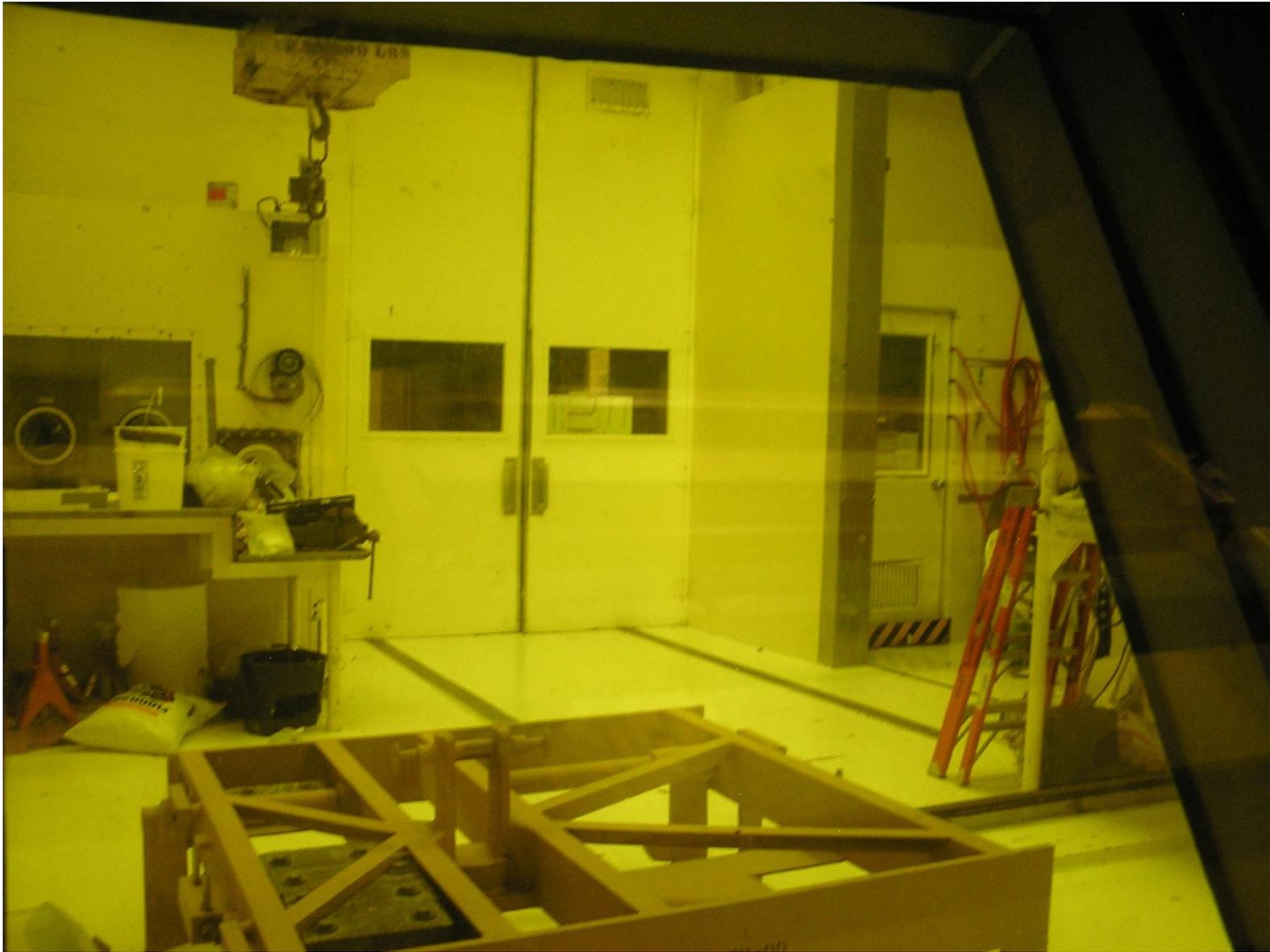
HFEF High Bay Area (looking from East to West)
Photo taken August 2013



High Bay

Hot Repair Area Viewing Window

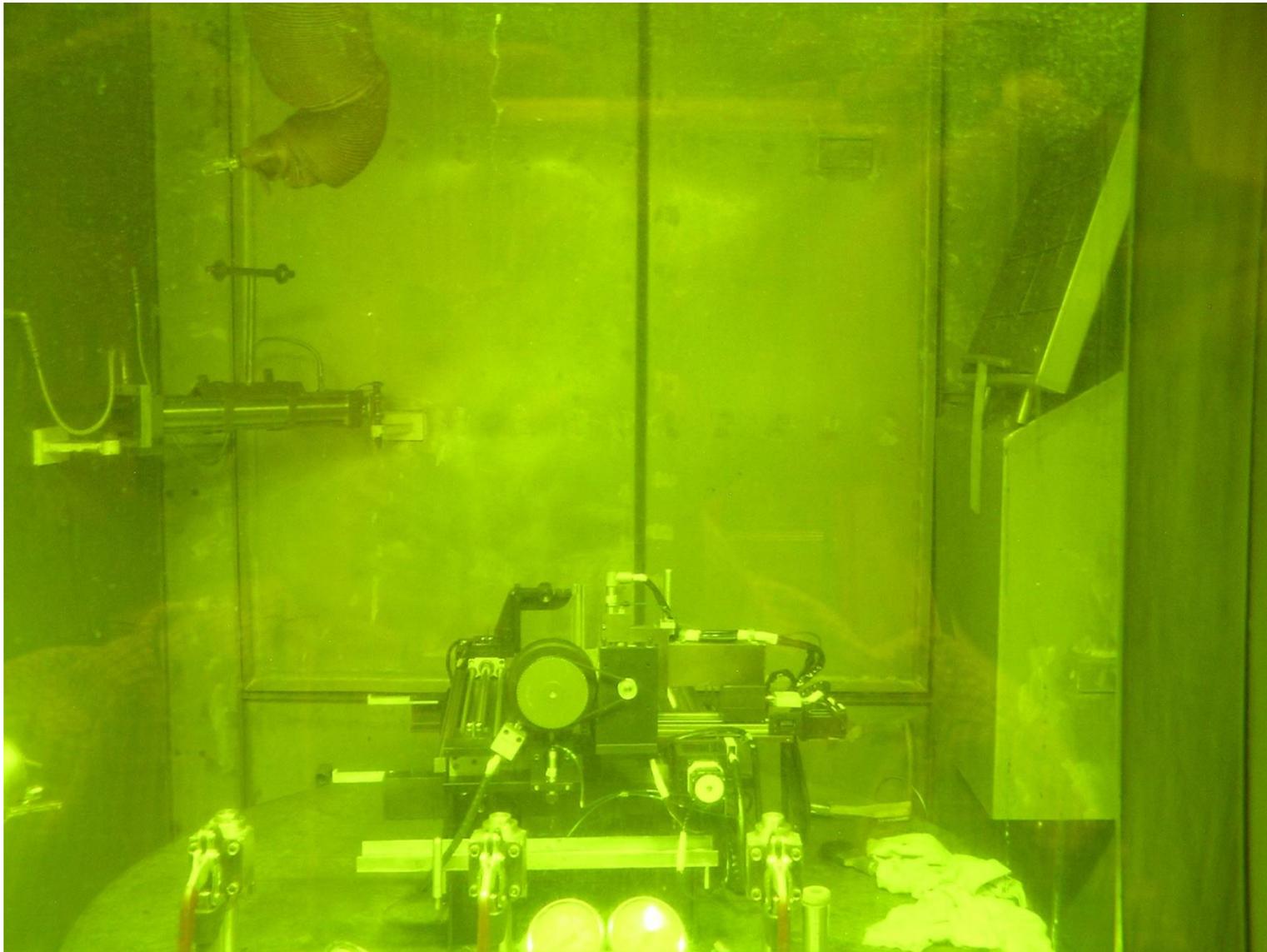
HFEF High Bay Area (West End)
Photo taken August 2013



HFEF Hot Repair Area
Photo taken August 2013



HFEF Decon Cell
Photo taken August 2013



HFEF Spray Chamber
Photo taken August 2013

Attachment B-7

Photograph of the Fenced Area

RSWF Building 771



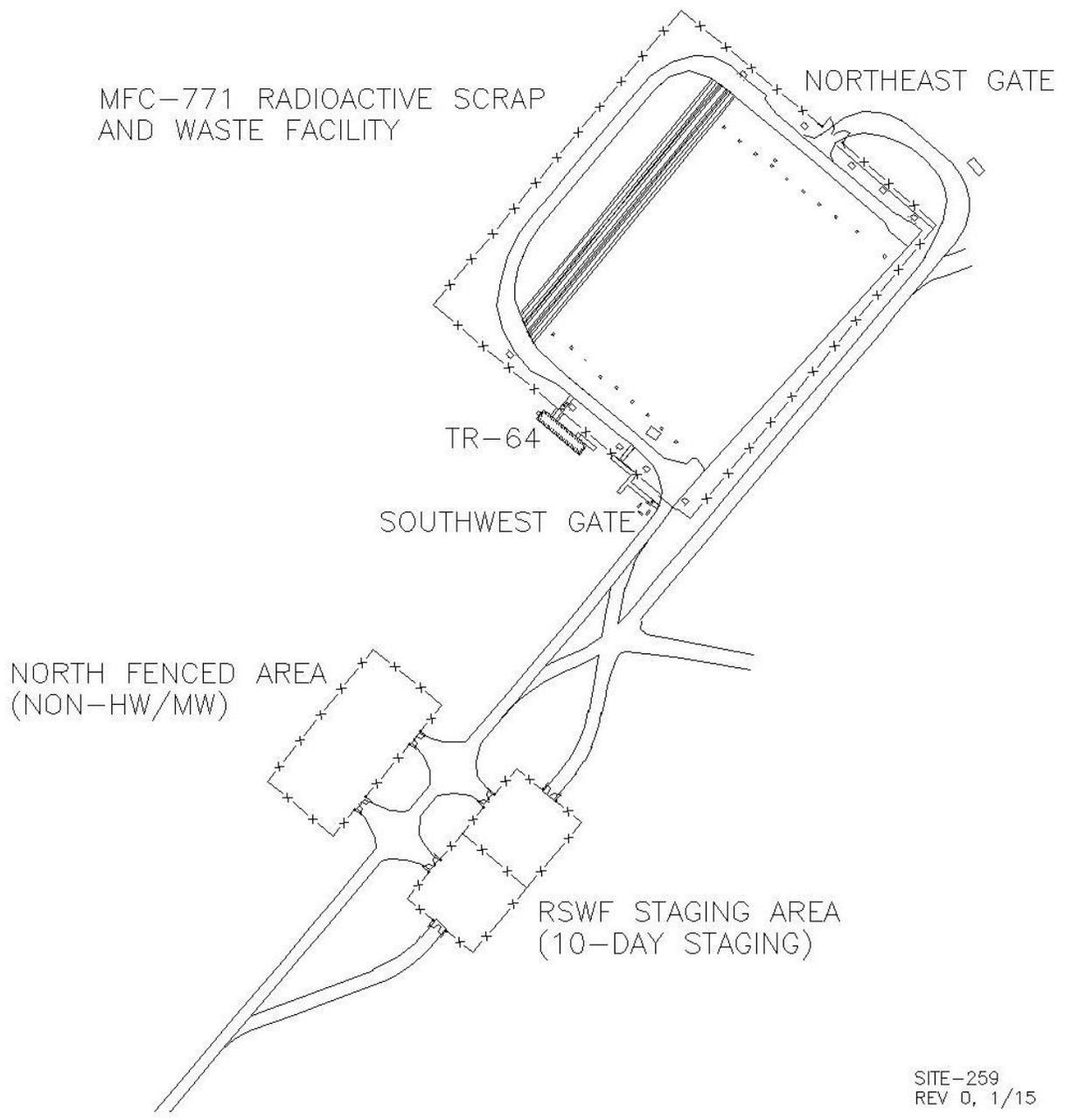
Radioactive Scrap and Waste Facility (RSWF) Building 771
Photo taken April 2014

Attachment B-8

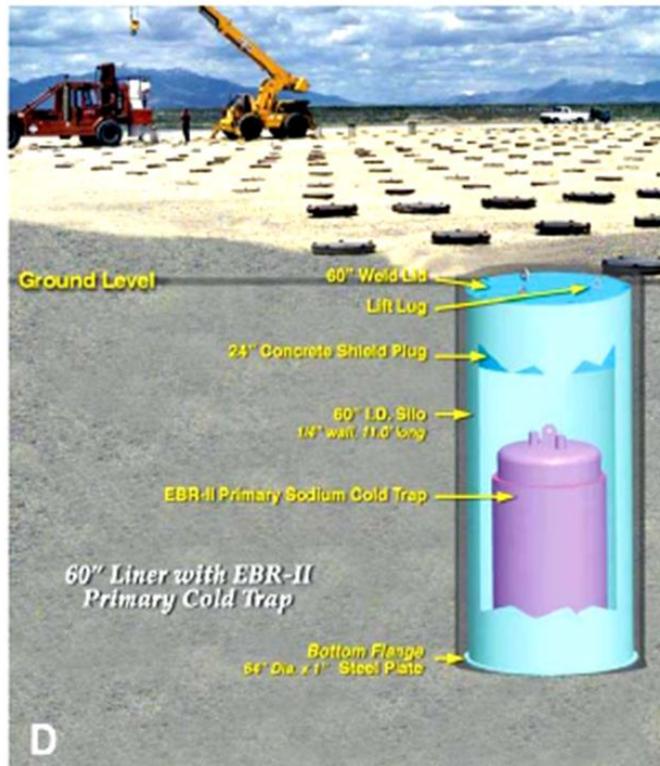
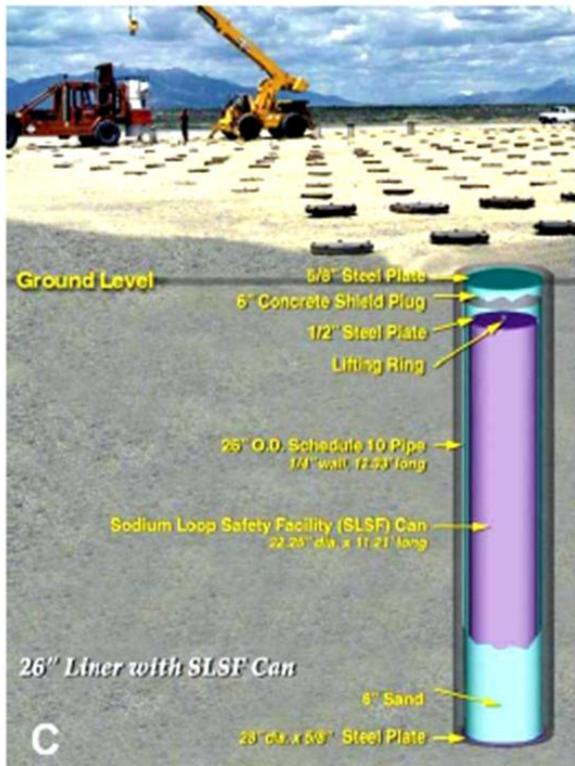
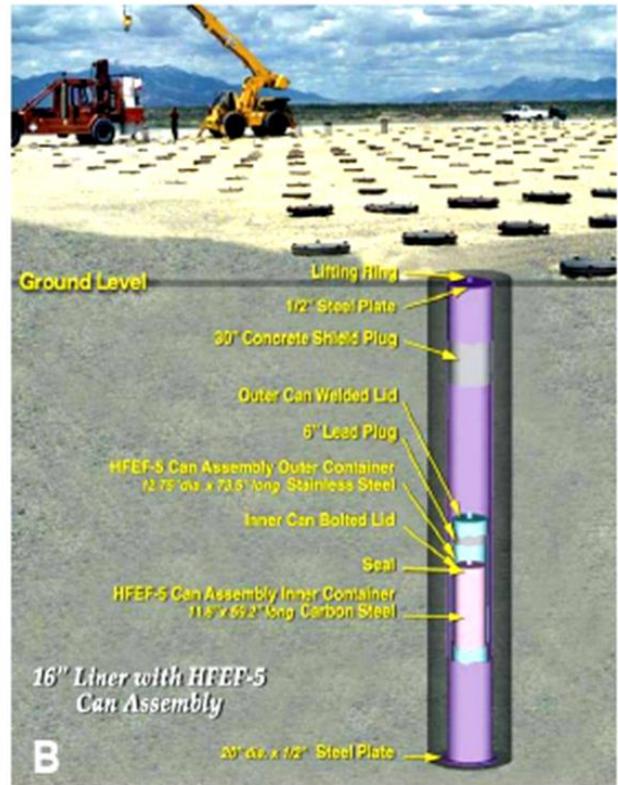
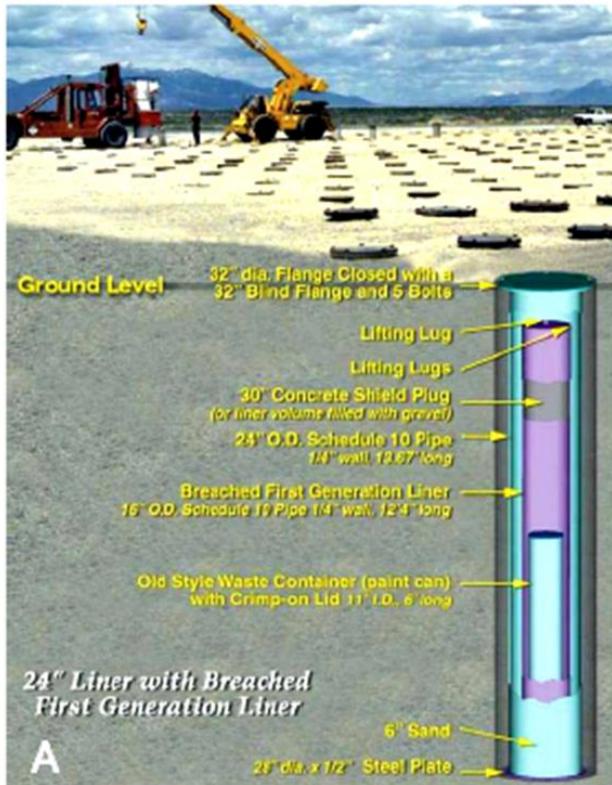
Schematics Showing the RSWF Plot Plan, Liner Configurations, and

Cathodic Protection System

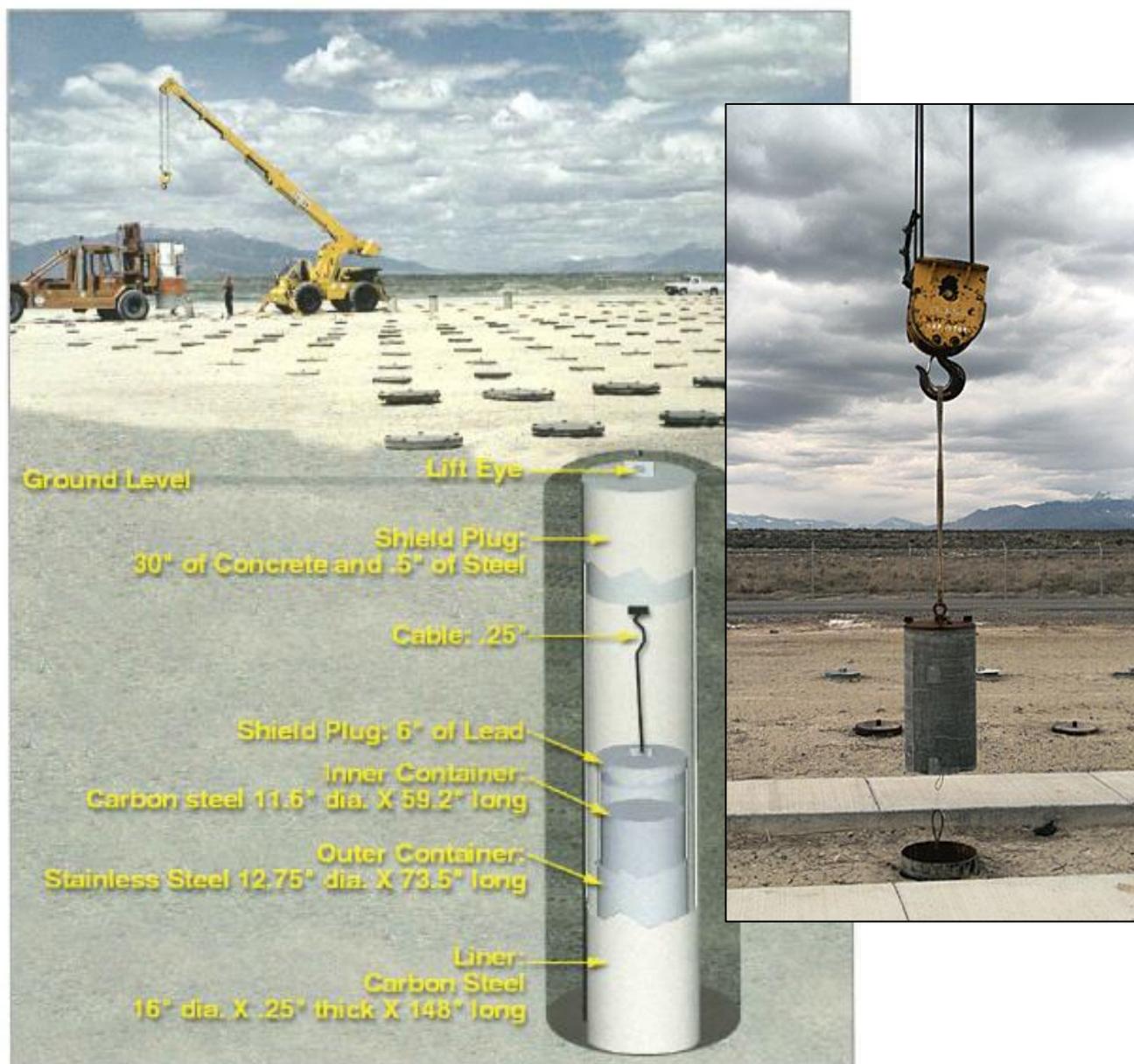
RSWF Building 771



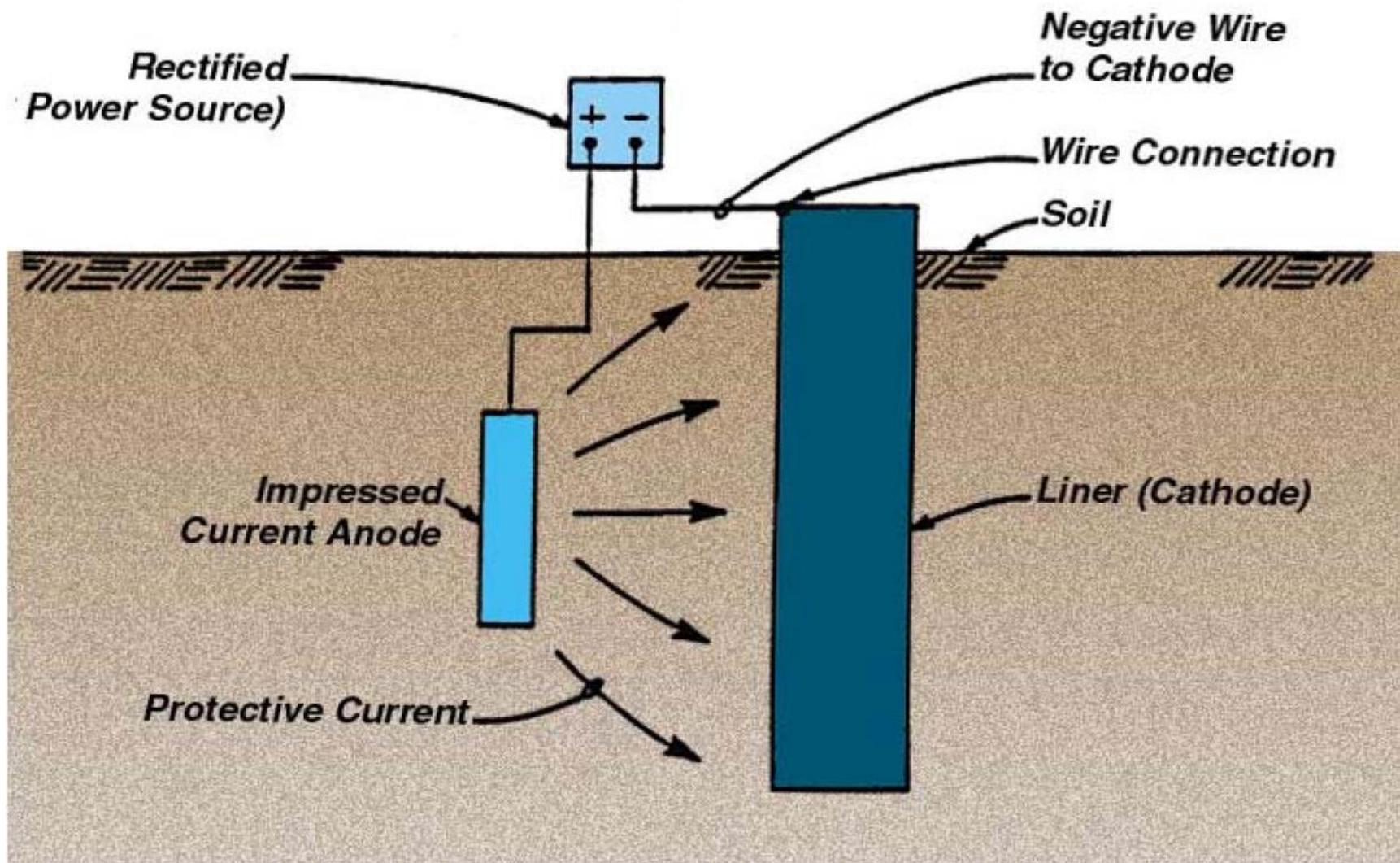
RSWF Plot Plan



RSWF Liner Configurations



RSWF Container Lifting



RSWF Cathodic Protection System

Attachment B-9

Photographs of the 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



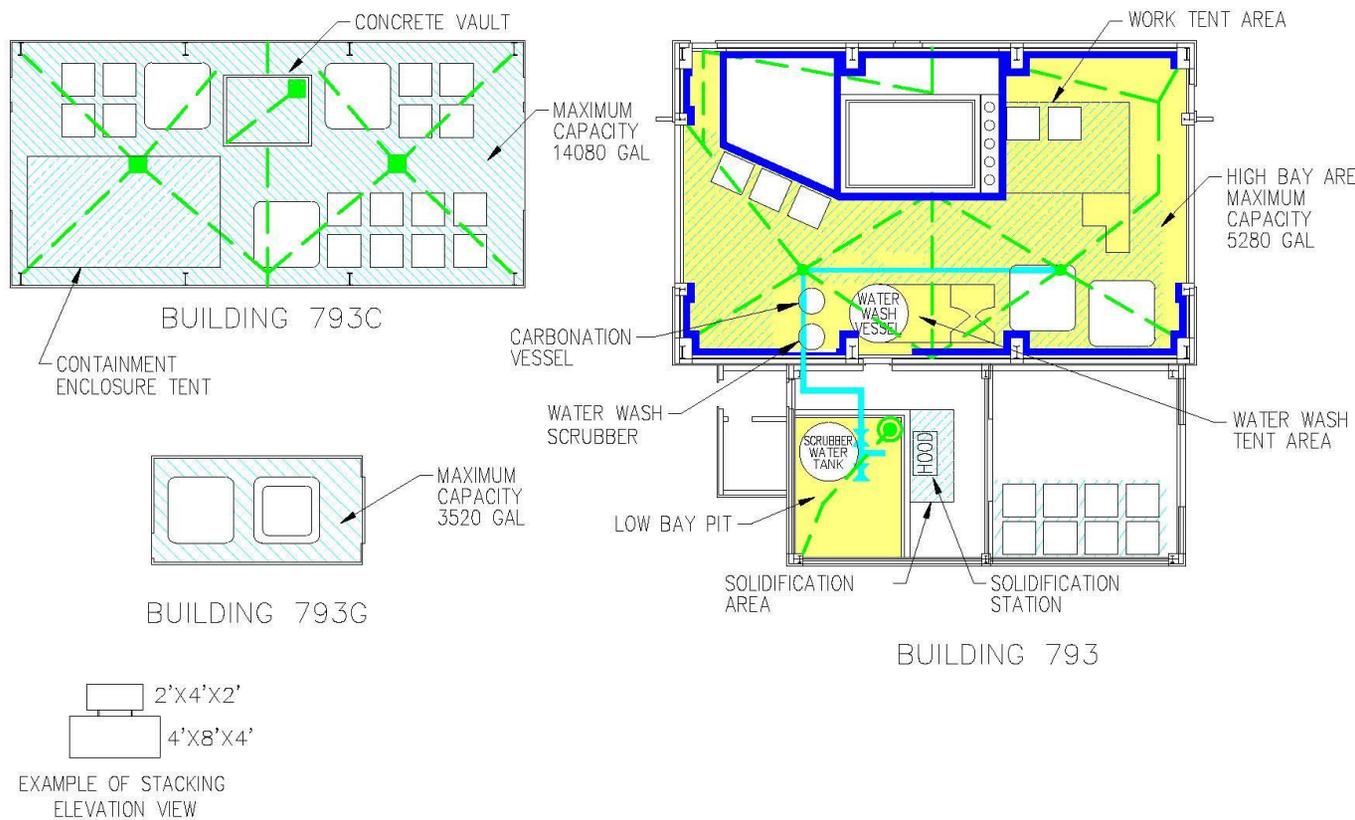
Sodium Components Maintenance Shop (SCMS) Building 793G
Photo taken August 2013

Attachment B-10

Floor Plans Schematic Showing Facility Arrangement and

Maximum Storage Capacity

SCMS Buildings 793, 793C, and 793G



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

793-047
 REV 5, 12/15

Attachment B-11

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



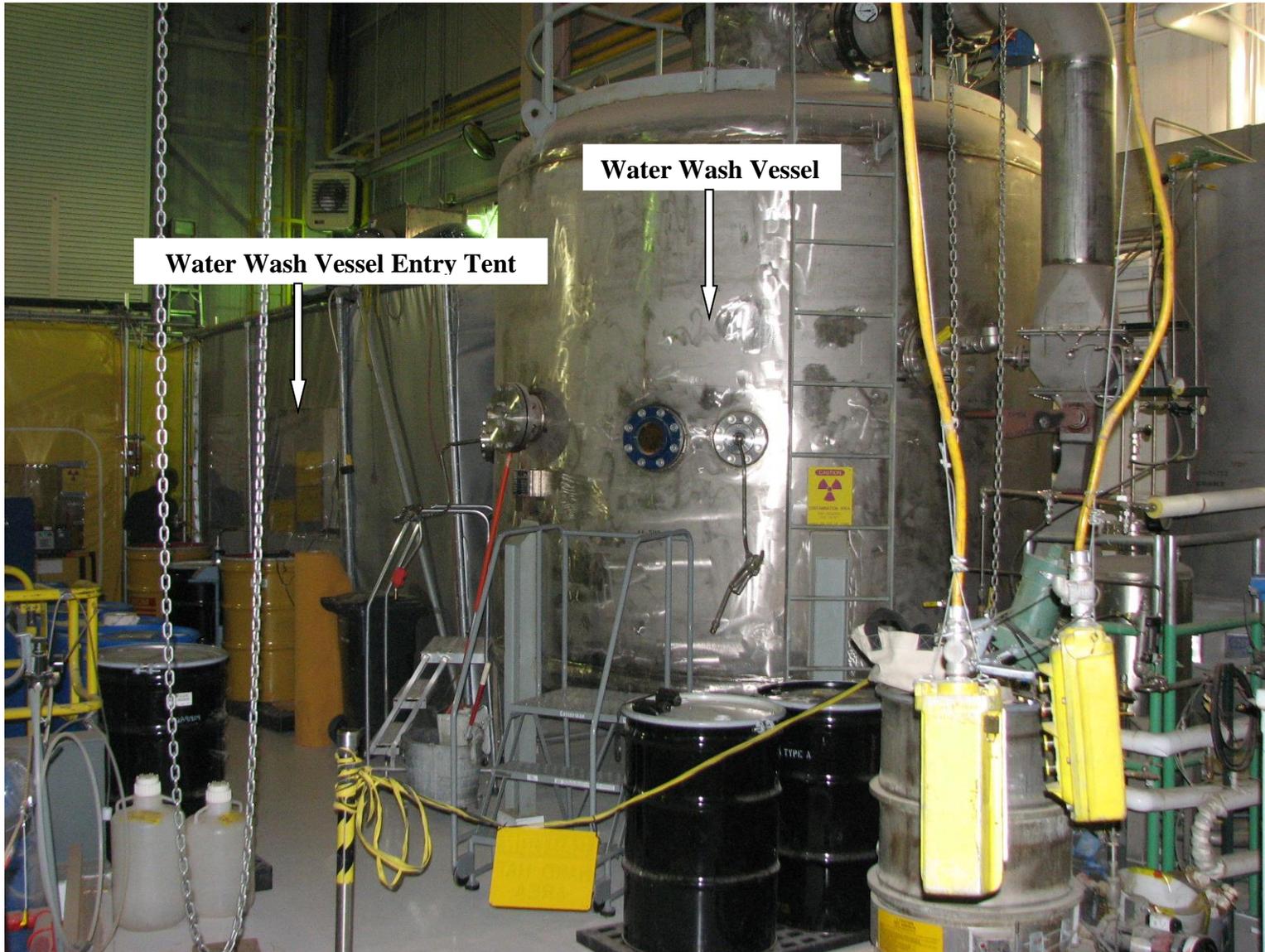
SCMS Building 793G Storage Area
Photo taken August 2013



SCMS Low Bay Entrance Area
Photo taken August 2013



SCMS Solidification Station
Photo taken August 2013



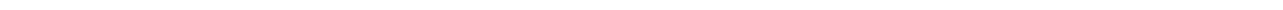
SCMS Water Wash Vessel and Entrance Tent
Photo taken August 2013



SCMS

Work Tent
Photo taken August 2013

Attachment B-12
Photograph of the Exterior
SSB Building 703

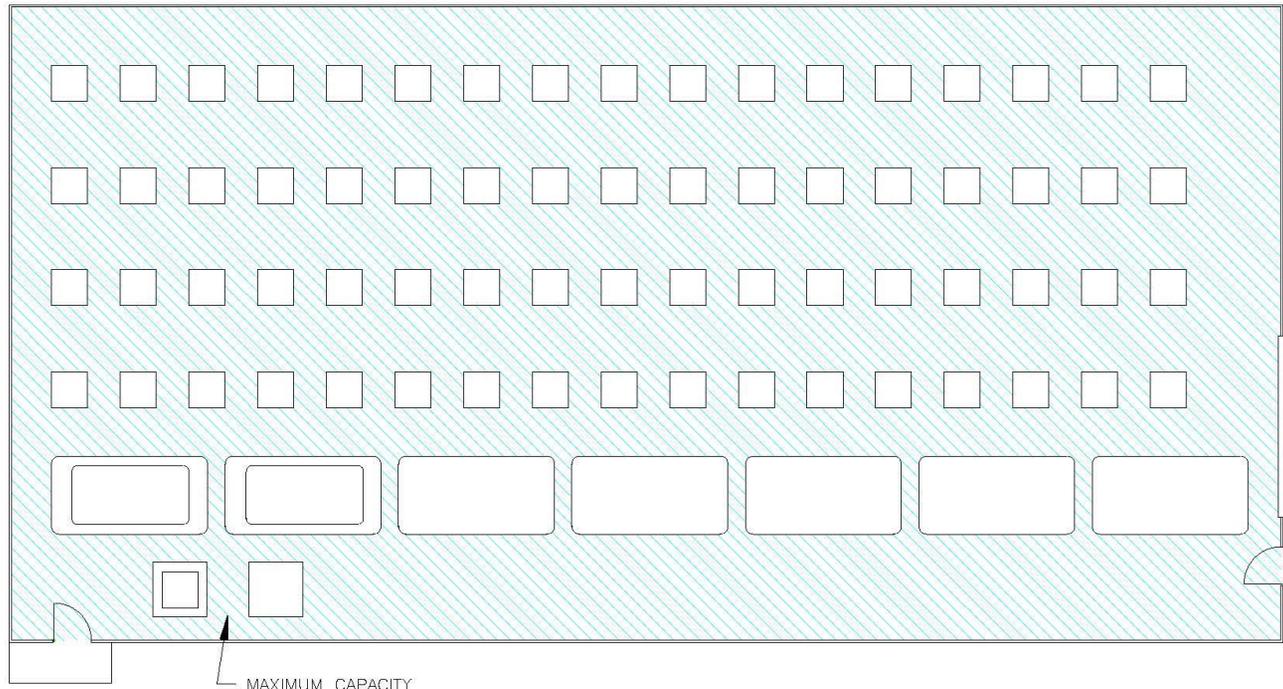




Sodium Storage Building (SSB)
Photo taken February 2015

Attachment B-13

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



MAXIMUM CAPACITY
48,000 GAL.

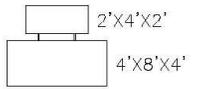
LEGEND

 DRUM STORAGE

 BOX STORAGE

 MISCELLANEOUS
CONTAINER STORAGE

 CONTAINER
STORAGE AREA


EXAMPLE OF STACKING
ELEVATION VIEW

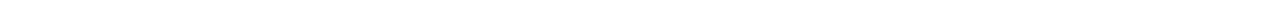
ROLL-UP DOORS



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

703-010r2
REV 2, 2/16

Attachment B-14
Photograph of the Interior
SSB Building 703

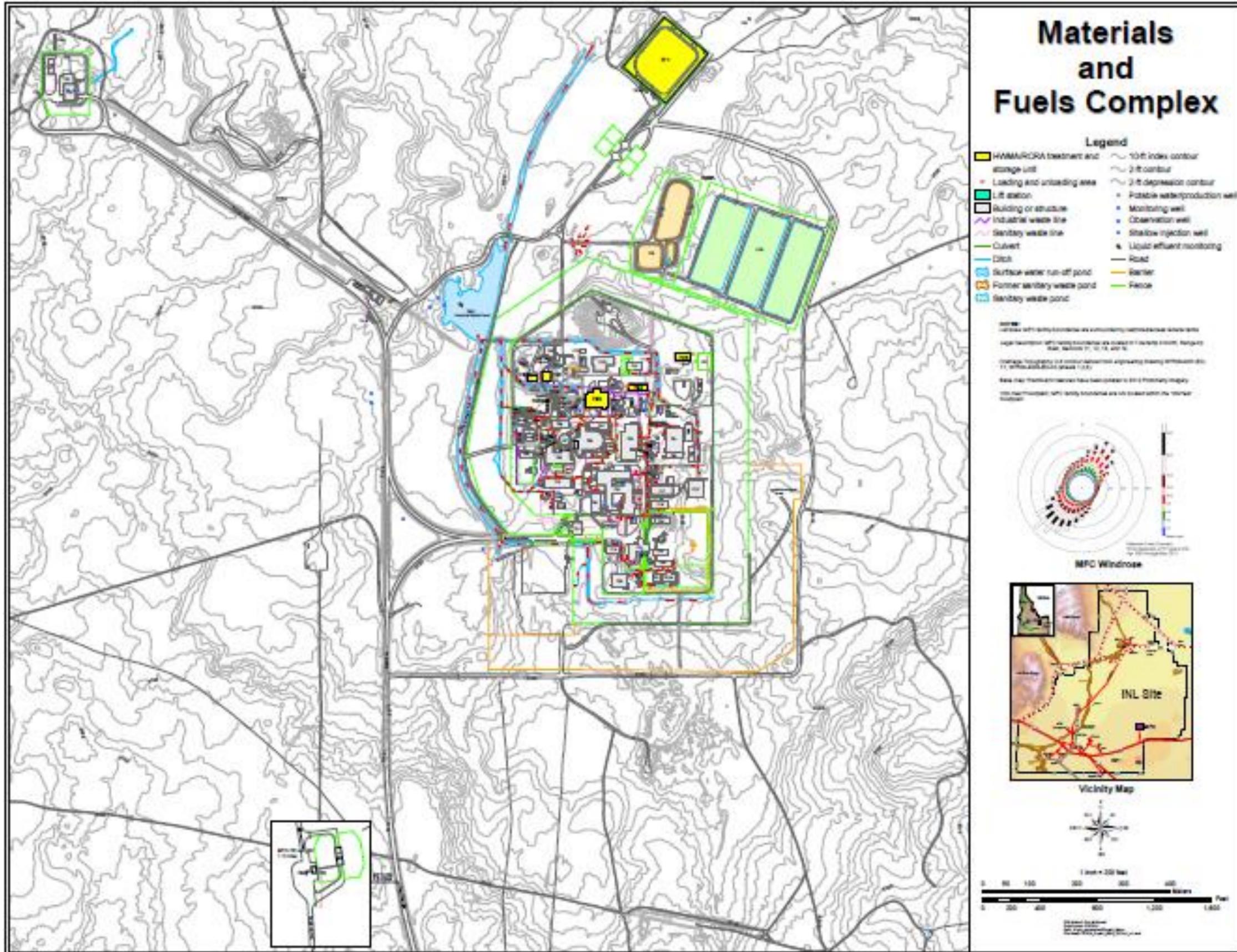




Sodium Storage Building (SSB) Building 703
Photo taken February 2015

Attachment B-15

MFC Topographical Map



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