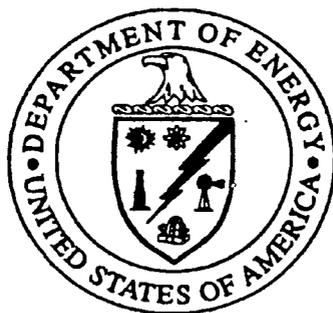


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# RCRA PART B PERMIT APPLICATION

## REVISION 5.0



MAY 1999

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### SECTION G: CONTINGENCY PLAN

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FERNALD ENVIRONMENTAL  
MANAGEMENT PROJECT

U.S. EPA Identification No. OH6890008976  
Ohio EPA Permit No. 05-31-0681

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SECTION G  
Contingency Plan

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**SECTION G - CONTINGENCY PLAN**

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## SECTION G - CONTINGENCY PLAN

### **RCRA Part B Permit Application Fernald Environmental Management Project Fernald, Ohio**

This Contingency Plan is required by Ohio Administrative Code (OAC) 3745-50-44(A)(7) and Title 40 of the Code of Federal Regulations (CFR) 270.14 (b)(7) in order to provide planned procedures to be followed in an emergency at any hazardous waste facility. This information is submitted for the Fernald Environmental Management Project (FEMP), formerly the Feed Materials Production Center (FMPC), in accordance with OAC 3745-54-50 to 56 and 40 CFR 264.50 to 56 as well as other applicable parts of the Ohio Administrative Code. This Contingency Plan addresses the actions to be taken to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

The FEMP manages both hazardous waste and mixed waste. Mixed waste is defined as waste that contains both a hazardous component regulated under RCRA and a radioactive component consisting of source, special nuclear, or by-product material regulated under the Atomic Energy Act. Any information included in this section on the radioactive portion of mixed wastes generated or stored at the FEMP is included for informational purposes only and is not intended to be part of the facility's RCRA permit.

### G-1 GENERAL INFORMATION

The FEMP is a former production facility which produced uranium metal used in the fabrication of fuel cores for nuclear reactors operated by the United States Department of Energy. During production, several types of hazardous wastes were produced from virgin materials, including (but not limited to): toxic halogenated solvents (from parts cleaning), ignitable oil and lubricants (from machining operations), ignitable and metal-bearing paint residues (from drum reconditioning), corrosive acids and alkalis (from metal and ore digestion and extraction), and pyrophoric non-nuclear metals (from foundry

operations). In addition, some non-hazardous materials such as cleaning rags and wastewater sump cakes were contaminated with hazardous wastes, and thus became hazardous wastes themselves.

All production activities at the facility have ended. Current activities include waste management operations, site remediation, environmental response actions, nuclear materials disposition, and miscellaneous operations such as wastewater treatment. More specifically, waste storage operations are allocated as follows:

**HWMU No. 19 (CP Storage Warehouse - Bldg. 56)**

Location: South of 3rd Street; West of B Street

Maximum Capacity: 116,160 gallons / 2,112 drums

Waste Types: Currently not being used for storage of hazardous wastes

**HWMU No.20 (Plant 1 Pad)**

Location: North of 2nd Street; West of B Street

Maximum Capacity: 11,222,200 gallons / 198,000 drums

Waste Types: Various hazard classes (including corrosives in the tension support structures and ignitable waste in the hazardous waste storage lockers. The FEMP will also begin storing ignitables/PCBs in bulk tanks located near the boundary of Plant 1 Pad by September 1999. These tanks are currently located outside of the Plant 6 Warehouse [Bldg. 79].)

**HWMU No.29 (Plant 8 Warehouse/Bldg. 80)**

Location: Corner of A Street and 1st Street

Maximum Capacity: 139,260 gallons / 2532 drums

Waste Types: Various hazard classes (including ignitables)

**HWMU No.33 (Pilot Plant Warehouse/Bldg. 68)**

Location: Southwest corner of production area

Maximum Capacity: 13,200 gallons / 240 drums

Waste Types: Currently not being used for storage of hazardous wastes

**HWMU No.34 (KC-2 Warehouse/Bldg. 63)**

Location: B Street - North of 3rd Street

Maximum Capacity: 200,640 gallons / 3,648 drums

Waste Types: Various hazard classes EXCEPT ignitables

**HWMU No.37 (Plant 6 Warehouse/Bldg. 79)**

Location: E Street between 1st and 2nd Street

Maximum Capacity: 230,780 gallons / 4,196 drums

Waste Types: Combustible and flammable liquids, solids, trash, PCBs

Building 60 (Quonset Hut #1)  
Location: West of B Street; North of 3<sup>rd</sup> Street  
Maximum Capacity: 18,500 gallons/434 containers  
Waste Types: Thorium-contaminated waste

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The FEMP site and mailing addresses are:

**Fernald Environmental Management Project - Site Address**  
7400 Willey Road  
Fernald, Ohio 45030  
(513) 648-3000

**Fernald Office - Mailing Address**  
U. S. Department of Energy  
P.O. Box 538705  
Cincinnati, Ohio 45253-8705  
(513) 648-3000

Operation missions and program direction are administered through the U.S. Department of Energy (DOE) Office of Environmental Restoration and Waste Management (EM). The name, address, and telephone number of this office are:

**U. S. Department of Energy**  
**Office of Environmental Restoration and Waste Management**  
1000 Independence Avenue Southwest  
Washington, D. C. 20585  
(202) 586-5000

This plan describes the actions facility personnel must take in response to a hazardous waste event or emergency such as fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. This plan applies to all areas of the facility where hazardous waste is being handled or stored. Therefore, in addition to the six storage units the FEMP is seeking to permit, all hazardous waste management units are discussed in this plan. The location of the active hazardous waste management units (HWMUs) which the FEMP is seeking to permit as RCRA storage facilities are shown in Figure G-1. A copy of this contingency plan is located at each such unit while it is being used for storage of hazardous waste. The location of all other HWMUs is shown within Attachment G-1 on the inserted map "Location of FEMP Rally Points", located between pages 6 and 7. Since a potential incident could occur at any HWMU,

Attachment G-1 describes evacuation routes for all HWMUs and fire and safety equipment available for HWMUs containing hazardous waste.

**G-1a Emergency Organization**

The Emergency Coordinator/AEDO may request support and allocate resources under the responsibilities of any or all of the Emergency Response Support Organizations discussed in this section. Table G-2 provides a roster of the FEMP Emergency Organization. Figure G-2 provides an organizational chart of the FEMP Emergency Response Organization.

**Fernald Environmental Management Project**

**Emergency Management**

The Emergency Director (the operating contractor President or his designee) has designated an Assistant Emergency Duty Officer (AEDO) who is responsible for emergency responses at the FEMP. The Emergency Coordinator is the primary AEDO.

The Emergency Coordinator/AEDO manages and controls the response to any event at the FEMP. A minimum of one Emergency Coordinator/AEDO is present onsite at all times. Through an extensive Emergency Duty Officer training program assembled by the Emergency Preparedness Department, the Emergency Coordinator/AEDO is knowledgeable of this Contingency Plan, operations and activities at the FEMP, the locations and characteristics of hazardous waste at the facility, the location of records within the FEMP, and the facility layout. Figure G-3.1 illustrates the range of training requirements for the Emergency Coordinator/AEDO.

The Emergency Coordinator/AEDO can activate the FEMP emergency response organizations including, but not limited to, the Emergency Response Team, Monitoring Team, medical staff, security personnel, the Emergency Operations Center, the Joint Information Center, the Triage Center, and the Staging Area. Additional support and mutual aid may be summoned at any time by the Emergency Coordinator/AEDO. The Emergency Coordinator/AEDO establishes a field command post to manage and control all response actions at the incident scene.

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#### **Emergency Response Team**

The Emergency Response Team is responsible for on-scene event mitigation, rescue, damage control, firefighting, environmental monitoring, and medical assistance.

#### **Security Response Organization**

The Security Response Organization maintains the security and integrity of the FEMP. The FEMP security staff consists of qualified security inspectors. The security staff provides surveillance and control at the incident location and the entire facility during an emergency.

#### **Emergency Operations Center (EOC) Staff**

The Emergency Operations Center (EOC) Staff is a functional organization which works with the Emergency Coordinator/AEDO to oversee and direct emergency response actions. The Emergency Operations Center, located in the Administration Building, assesses the incident, coordinates protective actions, and coordinates personnel accountability. The Emergency Operations Center also supports and directs protective actions, allocating additional resources as needed and providing notifications and information to employees, appropriate authorities, and the general public. The EOC Staff is composed of three primary teams, the Policy Team, Operations Team, and the Information Management Team. Primary and alternate staff members have been selected for each position.

#### **Public Information Response**

Public information spokespersons representing the FEMP, Butler and Hamilton counties, and the State of Ohio assemble at the Joint Information Center (JIC). The FEMP provides administrative support and a technical advisor to the JIC Team. Technical advisors from other organizations can be summoned as needed.

#### **Medical Response Organization**

The Medical Response Organization provides treatment and stabilization for injuries. At least two state certified Emergency Medical Technicians are on duty at all times as members of the Emergency Response Team.

#### **Communications Center Staff**

Site-based communications are operated by the FEMP Communications Center. The Communications Center also dispatches ambulance service in response to ambulance calls on-site. The Communications Center provides communication links between the Emergency Coordinator/AEDO and support groups, implements systems instructions, and makes appropriate notifications when instructed.

#### **Monitoring Team**

The FEMP monitoring organization consists of Radiological Safety and Industrial Hygiene Technicians for on-site and off-site monitoring of chemicals and radiological materials.

Monitoring data is provided to the Emergency Coordinator/AEDO. The State of Ohio provides monitoring and assessment support to the counties as requested.

#### **U.S. Department of Energy (DOE)**

##### **DOE-Fernald Environmental Management Project (DOE-FEMP)**

The DOE-Fernald Environmental Management Project (DOE-FEMP) provides oversight, ensures an effective response, conducts investigations, makes appropriate notifications, and coordinates interactions with the media and requests for assistance during an incident. The DOE-FEMP is responsible for notifying state and federal governmental agencies of an incident as necessary.

##### **DOE Headquarters (DOE-HQ)**

DOE Headquarters (DOE-HQ) Office of Environmental Restoration and Waste Management has overall responsibility for emergency operations at the FEMP and designates response authority to the Emergency Coordinator to act as the primary AEDO. The FEMP is delegated specific responsibilities for implementing event response and for notifying the DOE Emergency Operations Center (DOE-HQ EOC).

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State of Ohio

**Ohio Emergency Management Agency (OEMA)**

The Ohio Emergency Management Agency (OEMA) coordinates disaster response for all state agencies. OEMA also procures support and assistance from the Federal government as necessary.

**Butler and Hamilton Counties**

Butler and Hamilton counties may activate their respective Emergency Operations Centers in an emergency. The counties provide emergency medical service and fire protection support through mutual aid agreements. The county law enforcement organizations provide additional support as needed.

G-1b Distribution

Copies of this Contingency Plan and all revisions to this Plan are maintained at the FEMP EOC and submitted to the following off-site organizations via certified mail (return receipt) or overnight delivery service:

- Crosby Township Fire Department
- Hamilton County Emergency Management
- Hamilton County Sheriff
- Mercy Hospital
- Ohio Emergency Management Agency
- Ohio Highway Patrol, Post 9
- Providence Hospital
- American Red Cross Disaster Services
- Butler County Emergency Management Agency
- Butler County Sheriff
- Colerain Township Fire Department
- Ross Township Fire Department
- Ross Township Police Department

- University Hospital
- Ohio EPA
- U.S. EPA

## **G-2 EMERGENCY COORDINATION**

The FEMP Emergency Preparedness staff, headed by the Emergency Services Manager, is in charge of the preparation for an emergency at the FEMP. The Emergency Coordinator/AEDO is in charge of emergency response. Figure G-3 depicts the relationships between the key FEMP Emergency Preparedness Staff. Figure G-3.1 describes the qualifications for the staff.

The Emergency Operation Personnel & Organizations list in Table G-1 provides emergency phone or pager contact information. Individuals or organizations on this list are contacted through the Communications Center as required.

### **FEMP Emergency Preparedness Staff**

#### **Emergency Coordinator/AEDO**

The Emergency Coordinator/AEDO is the Utility Engineer on shift. The Emergency Coordinator/AEDO has authority to initiate all necessary response actions. The Emergency Coordinator/AEDO responds to the event site, assesses and categorizes the event as an emergency or lesser event.

There are currently four personnel assigned to the position of Emergency Coordinator/AEDO. This group works a four-person rotating shift schedule. A status board which lists the Emergency Coordinator/AEDO and Emergency Chief is established for each shift at the Communications Center. At least one Emergency Coordinator/AEDO is on site at all times, who can be reached by pager. If the shift AEDO should be unavailable for duty, an Alternate AEDO will be summoned. The Emergency Chief will act as AEDO until the Alternate AEDO arrives. Table G-1 lists the pertinent contact information for the designated Emergency Coordinator/AEDO.

As stated in Section G-1, the Emergency Coordinator/AEDO is fully knowledgeable of this Contingency Plan, operations and activities at the FEMP, the locations and characteristics of hazardous waste at the facility, the location of records within the FEMP, and the facility layout. In addition to the training

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listed in Figure G-3.1 , the Emergency Coordinator/AEDO job description requires a B.S. degree in a related field plus a minimum of five years of related experience.

The Emergency Coordinator/AEDO has the authority to activate the FEMP Offsite Emergency Warning System at any time. The Emergency Coordinator/AEDO is a representative of the Emergency Operations Center (EOC) staff and may activate the EOC for response support. Mandatory activation of the EOC is required for all emergencies. All EOC staff members are supplied with personal pagers that can be activated by a group page. Off-duty Emergency Coordinator/AEDO, Security Lieutenants, Fire Fighter/Emergency Response Specialists, and Medical personnel may also be summoned in this manner.

#### **Emergency Duty Officer**

The Emergency Duty Officer is the designated, on-call representative of the Emergency Operations Center and senior facility management. The Emergency Duty Officer reviews the emergency assessment with the Emergency Coordinator/AEDO and coordinates the Emergency Operations Center staff in support of the Emergency Coordinator/AEDO. The Emergency Duty Officer is responsible for proper notification of off-site response organizations.

The Emergency Duty Officer is in control of response operations until the Deputy Emergency Director approves and assumes control of the response organization. Designated senior staff managers rotate as the Emergency Duty Officer.

The Emergency Duty Officer may be reached through the 24-hour-staffed FEMP Communications Center by:

- personal digital display pager; or
- conventional telephone service.

In addition to the training listed in Figure G-3.1 and Section H, the job description for the Emergency Duty Officer requires a BS degree in a related field plus eight years of related experience that includes three years of management responsibilities.

### Emergency Chief (EC)

The Emergency Chief directs the Emergency Response Team's remedial activities. The Emergency Chief reports directly to the Emergency Coordinator. The Emergency Chief is the Fire Fighter/Emergency Response Specialist on shift. At least one Fire Fighter/Emergency Response Specialist is on site at all times.

The Fire Fighter/Emergency Response Specialist on duty may be reached in the following ways:

- via radio through the 24-hour-staffed FEMP Communications Center (513) 648-4444
- office (513) 648-4298
- mobile vehicle cellular telephone (513) 535-1367 (513) 582-2584
- by personal digital display pager

In addition to the training listed in Table G-3.1 and in Section H, the job description for the Fire Fighter/Emergency Response Specialist requires two years of post high school studies in a related field plus three years of related experience in fire inspection/code enforcement.

### Release Evaluator

A Release Evaluator evaluates regulatory requirements for reporting hazardous waste releases. The Release Evaluator is on call on a 24-hour basis through a personal digital pager and assists the Emergency Coordinator/AEDO and Emergency Duty Officer in determining the need for regulatory reporting and notifications.

### G-3 IMPLEMENTATION

The first step taken during any incident involves its observance by employees and supervisors on the scene. Actions to be taken in reporting an explosion, fire, or release are described in Attachment G-1.

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The Emergency Coordinator/AEDO categorizes the event according to increasing levels of severity as listed below:

- 1) LOGGABLE EVENT
- 2) OFF-NORMAL EVENT
- 3) UNUSUAL OCCURRENCE
- 4) OPERATIONAL EMERGENCY

An event greatest in magnitude is categorized as an Operational Emergency, and determines if the event requires assistance beyond the capabilities of the Emergency Response Team (ERT). Categorization of a hazardous waste incident as an Operational Emergency activates the Emergency Operations Center (EOC) and thereby implements this Contingency Plan.

The following implementation plan is used to respond to a hazardous waste event. Contingency Plan implementation and notification actions are diagramed in Figure G-4. Implementation of the Contingency Plan is initiated for potential or actual events involving hazardous wastes or hazardous waste constituents.

The Emergency Coordinator/AEDO after categorizing an event as an Operational Emergency, begins evaluation and classification of the event per Figure G-5.2, the Emergency Action Level Guide, and advises the Emergency Duty Officer as necessary. By increasing order of severity, the action levels for Operational Emergencies are:

- 4a) ALERT
- 4b) SITE AREA EMERGENCY
- 4c) GENERAL EMERGENCY

The Emergency Coordinator/AEDO or the Emergency Duty Officer activates the Emergency Operations Center as necessary. The emergency action level may be changed by the Emergency Operations Center staff, based on information provided by the Emergency Coordinator/AEDO at the scene and

on an assessment of potential health effects or environmental impacts by the Emergency Operations Center staff.

The Emergency Coordinator/AEDO retains responsibility for directing and coordinating all efforts to resolve the emergency at the field command post with the assistance of the Emergency Operation Center once it is declared operational. Such actions may include, but are not limited to, the following:

- Responding, and assuring the response of others, to all alarms sent over the site-wide alarm system, radiation detection alarm, and emergency message systems;
- Coordinating all emergency response groups;
- Instituting any operational changes necessary to control the emergency, including shut-down of operations as required;
- Directing the Communications Center to send out the necessary alarms and messages for personnel evacuation and accountability;
- Instructing the Communications Center, when necessary, to obtain mutual aid assistance such as rescue and fire fighting equipment and crews.

Assistance may be requested from:

Crosby Township Fire Department

Telephone: 911 or 825-2260 (Hamilton County Communications Center)

Colerain Township Fire Department

Telephone: 911 or 825-2260 (Hamilton County Communications Center)

Ross Township Fire Department

Telephone: 911 or 887-3010 (Butler County Sheriff's Dispatcher)

- Requesting further assistance, as necessary, from the Butler County and the Hamilton County emergency response agencies. Each agency has prepared a "Response Plan for a Hazardous Materials Emergency at the Feed Materials Production Center".

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- Terminating the state of emergency as conditions permit and instructing the Communications Center to sound the appropriate signal.

#### G-4 EMERGENCY RESPONSE PROCEDURES

The following procedures are the responsibility of the Emergency Coordinator/AEDO or his designee whenever the Contingency Plan is implemented.

##### G-4a Notification

##### General Notification Activities

- 1) The Emergency Coordinator/AEDO informs Communications Center that the Contingency Plan has been implemented and is classified as a hazardous waste ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY.
- 2) The Communications Center (or Emergency Coordinator (AEDO)) notifies Emergency Chief (EC) and Emergency Duty Officer (EDO) of the event categorization.
- 3) The Emergency Duty Officer notifies Emergency Director (ED) and DOE Site Manager of the event categorization.
- 4) The Communications Center completes County Event Report<sup>1</sup> as directed by the Emergency Coordinator/AEDO.
- 5) The Communications Center Operator activates site-wide alarm system, the site-wide message system, and/or the off-site Emergency Warning System, as directed.
- 6) The Emergency Coordinator/AEDO begins identification of the character, source, amount, and extent of any released materials by observation, for example hazardous

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1 The County Event Report is an emergency event report form used for making notifications to both Butler and Hamilton Counties for events categorized as Alert or higher.

waste labels on the container, review of facility records, interaction with facility personnel, and if necessary, by chemical analyses.

- 7) Concurrently, the Emergency Coordinator/AEDO assesses possible hazards to human health and/or the environment that may result from the release, fire, or explosion. This assessment will consider both direct and indirect effects of the event.
- 8) The Communications Center Operator in coordination with the Emergency Operations Center completes all required notifications to:
  - DOE-HQ EOC,
  - State of Ohio Emergency Management Agency (OEMA), who then notifies the appropriate offsite agency(ies) listed in Table G-1, according to the type of incident,
  - Butler and Hamilton counties' 24-hour notification points,
  - Director, Ohio Environmental Protection Agency
  - FEMP Release Evaluator,
  - DOE-FEMP Duty Officer,
  - Appropriate local organizations, if not notified by OEMA,
  - Federal and State regulatory agencies, if not notified by OEMA.

The first three agencies listed above are notified within 15 minutes of any hazardous waste emergency.

- 9) The DOE-FEMP Duty Officer provides FEMP Communications Center, as soon as possible, with a written record documenting that the appropriate regulatory agencies have been verbally contacted.
- 10) The DOE-FEMP Duty Officer is responsible for making and verifying any follow-up notifications communicated to them by the FEMP, Emergency Coordinator/AEDO, Emergency Duty Officer or Emergency Operations Center.

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**Initial Oral Notification for Hazardous Waste Emergencies**

The Emergency Coordinator/AEDO or the Emergency Operations Center immediately reports to DOE-HQ when the facility has had a release, fire, or explosion which could threaten human health or the environment.

The FEMP Emergency Operations Center notifies appropriate local authorities to advise whether protective actions are required. The FEMP Emergency Operations Center provides oral notification immediately to the Ohio Emergency Management Agency. The DOE-FEMP Duty Officer will provide oral notification immediately to the Ohio EPA Emergency Response Center.

The verbal report will contain the following information<sup>2</sup>:

- name, address, and telephone number of the reporter;
- name and address of the facility;
- the time and date of the incident;
- type of incident (e.g., fire, spill, etc.);
- identification of material(s) involved to the extent known;
- quantity of each material included;
- extent of injuries, if any;
- potential hazards to human health or the environment, outside of the facility; and
- date and time that call was made and person contacted.

**Local Evacuation Notices**

Local agencies are responsible for protective actions required for the population surrounding the FEMP. The FEMP Communications Center will activate the Off-site Emergency Warning System for emergency events that could have significant off-site impact. The FEMP Off-Site Emergency Warning System is utilized to inform the population within a two-mile radius of the

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<sup>2</sup> Form A (Ohio Hazardous Waste Release Fire, Explosion Report to Ohio EPA) may be used as a guideline to facilitate this verbal reporting.

FEMP to seek shelter and tune to an Emergency Broadcast System Station for further instructions.

**Written Notification**

A written report notifying Ohio EPA that this Contingency Plan was implemented is submitted to the Ohio EPA by DOE within 15 days after an occurrence of an incident that requires implementation of this Contingency Plan. The report will include the following information:

- name, address, and telephone number of the owner or operator of the facility;
- name, address, and telephone number of the facility;
- date of incident;
- time of incident;
- type of incident (e.g. fire, spill);
- type of material(s) involved;
- quantity of material(s) involved;
- the extent of injuries, if any;
- an assessment of actual or potential hazards to human health or the environment, where this is applicable;
- estimated quantity and disposition of recovered material that resulted from the incident; and
- an outline or description of procedures or measures that will be taken to prevent or mitigate such incidents in the future.

**Cessation/Resumption of Activities**

The Emergency Coordinator/AEDO must take the preventive measures described in Section G-4e, if the event causes the affected area of the facility to cease activities.

The equipment in the affected area of the facility will be returned to a clean and serviceable condition after an emergency. Waste generated during spill cleanup will be managed in accordance with all applicable regulatory requirements. Ohio EPA regulatory authorities will

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be notified by the Department of Energy of the readiness to resume hazardous waste activities.

**G-4b Identification of Hazardous Materials**

The Emergency Coordinator/AEDO immediately begins identification of the character, exact source, amount, and extent of the event or release.

The Emergency Coordinator/AEDO will begin identification of the hazardous material by using the following procedure:

- 1) Visual inspection of the container labeling will be the initial identification method. The labeling includes all pertinent waste characterization information.
- 2) If labels are obscured or not easily read, site records such as the Material Movement Record may be used to identify the composition and quantity of stored or released material. A detailed inventory of the location of every drum of hazardous waste is maintained and readily available from the Sitewide Waste Information, Forecasting and Tracking System (SWIFTS) Database.
- 3) Samples will be taken for analysis and characterization if the released material cannot be identified by the above methods.

**G-4c Assessment**

The Emergency Coordinator/AEDO will assess potential hazards to human health or the environment from the incident. The assessment will consider both direct and indirect effects of the release such as the effects of any hazardous fumes released. The Emergency Coordinator (AEDO) assesses the event by evaluating:

- The population at risk (both on- and off-site);
- The environmental conditions contributing to the seriousness of the event such as wind speed and direction, precipitation, ground moisture, and temperature;

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- Potential radionuclide hazards;
- Protective Action Guide (PAG) or Emergency Response Planning Guideline (ERPG) exposure levels; and
- The capabilities of available equipment.

The existing DOE event categorization system used by the FEMP provides a uniform, shared understanding of event severity. The emergency categorization system classifies emergency events based on the potential or actual impact of the event on facility safety, facility personnel health and safety, and on public health and safety. The site Emergency Plan provides for predetermined responses by the Emergency Coordinator/AEDO based upon the incident categorization criteria.

#### Categorization Systems

Events that operationally involve or affect the FEMP are grouped into four categories, by relative ranking of the assessed facility status, to ensure that the urgency of notification is readily identifiable and appropriate response actions are directed immediately. Inputs to the event categorization system include the status of systems, the observation of operating personnel, and the levels of radiological or hazardous materials in areas of the facility or in facility effluent. Incident severity defines the categorization level providing a uniform, shared understanding of event severity common to all involved groups.

The four categories in order of increasing severity are as follows: Loggable Event, Off-Normal Occurrence, Unusual Occurrence, and Operational Emergency. The Operational Emergency level has been further subdivided for hazardous material and radiological events into three classes: Alert, Site Area Emergency, and General Emergency. Each are discussed below with detailed definition, classifications of emergencies, and appropriate emergency responses to be taken provided in DOE 151.1 and in the Emergency Action Levels of the FEMP Emergency Plan.

Operational Emergency Classification

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**Base Program Events**

Operational Emergencies are unplanned significant events or conditions that require time-urgent response from outside the immediate/affected site/facility or area of the incident. Such emergencies are caused by, involve, or affect DOE facilities, sites, or activities and represent, cause, or have the potential to cause the events or conditions describe below. Incidents that can be controlled by employees or maintenance personnel in the immediate/affected facility or area are not Operational Emergencies. Incidents that do not pose a significant hazard to safety, health, and/or the environment and that do not require a time-urgent response are not Operational Emergencies. Note that the initiating events described are not all-inclusive. Other initiating events that warrant categorization as Operational Emergencies shall be included in site/facility-specific procedures. Less severe events are reported through the Unusual Occurrence and Off-Normal Occurrence process.

An **Operational Emergency** for a Base Program Event shall be declared when events that represent a significant degradation in the level of safety at a site/facility and that require time-urgent response efforts from outside the site/facility occur. These events do not require further classification (i.e., as Alert, Site Area Emergency, or General Emergency).

**Hazardous Materials Program Events (Radiological and Non-Radiological)**

Operational Emergencies for a Hazardous Materials Program Event shall be classified as either an Alert, Site Area Emergency, or General Emergency, in order of increasing severity, when events occur that represent a specific threat to workers and the public due to the release or potential release of significant quantities of radiological and non-radiological hazardous materials. Classification aids in the rapid communication of critical information and the initiation of appropriate time-urgent emergency response actions.

Alert (LEPC Level I Emergency Conditional Level): An Alert shall be declared when events are predicted, are in progress, or have occurred that result in one or more of the following:

An actual or potential substantial degradation in the level of control over hazardous materials (radiological and non-radiological).

The radiation dose from any release to the environment of radioactive material or a concentration in air of other hazardous material is expected to exceed either:

- a. The applicable Protective Action Guide or Emergency Response Planning Guideline at or beyond 30 meters from the point of release to the environment or;
- b. a site-specific criterion corresponding to a small fraction of the applicable Protective Action Guide or Emergency Response Planning Guideline at or beyond the facility boundary or exclusion zone boundary.
- c. It is not expected that the applicable Protective Action Guide or Emergency Response Planning Guideline will be exceeded at or beyond the facility boundary or exclusion zone boundary.
- d. An actual or potential substantial degradation in the level of safety or security of a facility or process that could, with further degradation, produce a Site Area Emergency or General Emergency.

Site Area Emergency (LEPC Level II Emergency Condition Level): A Site Area Emergency shall be declared when events are predicted, in progress, or have occurred that result in one or more of the following situations.

1. An actual or potential major failure of functions necessary for the protection of workers or the public. The radiation dose from any release of radioactive

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material or concentration in air from any release of other hazardous material is expected to exceed the applicable Protective Action Guide or Emergency Response Planning Guideline beyond the facility boundary or exclusion zone boundary. The Protective Action Guide or Emergency Response Planning Guideline is not expected to be exceeded at or beyond the site boundary.

2. Actual or potential major degradation in the level of safety or security of a facility or process that could, with further degradation, produce a General Emergency

General Emergency (LEPC III Emergency Condition Level): A General Emergency shall be declared when events are predicted, in progress, or have occurred that result in one or more of the following situations.

Actual or imminent catastrophic reduction of facility safety or security systems with potential for the release of large quantities hazardous materials (radiological or non-radiological) to the environment. The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to exceed the applicable Protective Action Guide or Emergency Response Planning Guideline at or beyond the site boundary.

**G-4d Control Procedures**

Emergencies involving hazardous waste will fall under three general classifications for the purpose of this Contingency Plan:

- explosion
- fire
- spills or material release.

The FEMP Emergency Response Team is prepared for immediate response to fires, explosions, and spills at all times. Personal protective clothing, pumps, generators, and respiratory

equipment are noted in Section G-5; containment supplies and procedures in Section G-5(b); and major self-propelled and other "heavy" equipment in Section G-5(a)(4).

The following Emergency Response Team members respond to fire alarms as needed:

- Emergency Chief with Fire & Rescue service vehicle
- Emergency Coordinator (AEDO) with vehicle
- Emergency Response Team with appropriate emergency apparatus
- Security Officer with vehicle
- Emergency Coordinator/AEDO or Emergency Chief, if required, will request Security to transport a driver from the fire scene to the heavy equipment building to obtain additional equipment (i.e., a second pumper truck).

Rescue of persons from an evacuated building or area will be undertaken only by the Emergency Response Team under the direction of the Emergency Chief.

Response procedures for the Emergency Response Team and other trained personnel are summarized below:

- 1) Immediately notify personnel to evacuate the danger area and activate the local evacuation alarm while taking action to ensure own personal safety.
- 2) Report urgent situations directly to the Communications Center via the Emergency Phone Number 911, pull manual fire alarm, or have the report relayed to the Communications Center over the site-wide FM radio network, if a person with a portable radio is nearby. Otherwise, report information to a local supervisor who will relay the report to the Communications Center or Emergency Coordinator/AEDO.
- 3) Report the following information to the Emergency Coordinator/AEDO:
  - Location;

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- Type of emergency; fire, explosion, chemical release, and personnel, equipment, and chemicals or hazardous wastes involved and amounts if known;
  - The magnitude of the emergency, such as an estimate of the extent, size, quantity, volume, intensity, area, etc.; and
  - Emergency actions taken.
- 4) If possible, the facility personnel encountering the emergency should remain in the vicinity to direct emergency service groups to the scene.
  - 5) Determine need for emergency service groups and summon them by calling 911, pulling manual fire alarms, or relaying the information to the Communications Center via the FM radio network.
  - 6) Shut off all operation equipment, air, water, steam, gas, and electricity.
  - 7) Remove and segregate all non-burning combustible or otherwise hazardous wastes from the vicinity of the incident, depending on the location of the incident.
  - 8) Unlock all doors.
  - 9) Evacuate all personnel in the vicinity of the incident not actively involved in responding to the emergency.
  - 10) Account for all personnel at location or at the Rally Point.
  - 11) Assist the Emergency Coordinator/AEDO if called upon.
  - 12) Assess possible human health and environmental hazards of the event and define or assess the hazard impact including:

- Identify the involved substance and its source;
  - Determine the extent and the amount of materials involved;
- 13) Assess the emergency and establish the initial event categorization;
  - 14) Authorize the request for mutual aid;
  - 15) Notify the EDO of significant actions prior to EOC being declared operational;
  - 16) Set up a field command post to ensure coordination of all EOC instructions. The field command post shall formulate and forward requests for additional resources.
  - 17) Initiate the "All Clear" signal when the emergency is under control and/or resolved;
  - 18) Initiate necessary precautions to ensure that further fires, explosions and releases do not occur, recur or spread to other hazardous waste or materials;
  - 19) Initiate appropriate monitoring for leaks, pressure build up, gas generation or rupture in valves, pipes, or other equipment;
  - 20) Initiate reentry activities including recovery, treatment, storage, and/or disposal of any recovered waste, contaminated soil, surface water, or other materials resulting from the emergency;
  - 21) Ensure that all emergency equipment is returned to normal status when the event has been terminated.

Should the EC or Emergency Coordinator/AEDO determine that a fire is out of control and additional personnel are required, the Emergency Coordinator/AEDO will direct the Communications Operator to initiate the call-in for additional FEMP fire response personnel by activating the Group C pagers.

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Fire fighting support can be requested from surrounding community fire departments. The members of the arriving mutual aid fire department will be met at a staging area or at the gate by FEMP personnel, given any pertinent instructions, supplied with Thermal Luminescent Dosimeter (TLD) badges, and escorted to the location of the fire.

The personnel responding from off-site departments will be under FEMP direction. They will be responsible for their own equipment and to their senior officer who will report to the Emergency Coordinator/AEDO for instructions.

**G-4e Prevention of Recurrence or Spread of Hazardous Waste Fires, Explosions or Releases**

Actions to prevent the recurrence or spread of releases or fires include immediately determining the cause of the incident, stopping of processes and operations where applicable, cleaning up all debris from the incident and maintaining good housekeeping, containing and collecting released waste, recovering and isolating affected containers, ensuring fires are completely extinguished, and decontaminating affected areas and equipment. Procedures and policies will be reviewed and revised as necessary to prevent a recurrence, upon determining the cause of the incident.

**G-4f Storage and Treatment of Released Waste**

The Emergency Coordinator/AEDO or his designee will immediately collect representative samples of all recovered wastes for analysis and characterization after an emergency. Waste will be placed in a compatible container. All waste materials generated during the emergency response will be handled, treated, stored, and/or disposed of in accordance with the applicable hazardous waste regulations.

Methods for containment, cleanup, and decontamination of the affected areas are discussed in Sections G-4i, Container Spills and Leakage, and G-4j, Tank Spills and Leakage.

**G-4g Incompatible Wastes**

Containers and storage bays are marked with Reactivity Group Codes (RGCs) based upon the results of waste characterizations. The RGC chart is readily available in all RCRA storage

units, and is provided as Figure F-2 in Section F, Procedures to Prevent Hazards. Adherence to the codes provides a convenient, reliable system to assure that incompatible wastes will be stored in separately bermed areas or in separate buildings, to prevent mixing in the event of a spill or leak. In addition, since water might commonly be used for flushing or fire suppression, waste material that is incompatible with water is clearly marked as such.

Thus, in the event of (large) spills or leaks, the Emergency Coordinator/AEDO can ensure against the mixing of incompatible substances by maintaining the integrity of the berms, or by creating temporary dikes to divert flow. As necessary, storage unit inventory records will be examined and facility owners consulted to identify released material. As described in Section G-4b, samples will be taken for analysis and characterization if identification proves impossible due to obliterated drum labels or inaccessible site records.

The recovered materials or wastes generated during cleanup will be characterized and stored in accordance with all applicable regulatory requirements.

#### G-4h Post-Emergency Equipment Maintenance

Emergency equipment which has been used in the affected area will be decontaminated, cleaned and readied for its intended use before operations are resumed in the affected area(s) of the FEMP. Depleted stocks of materials will be replenished. Self-contained breathing apparatus, protective clothing, and other emergency equipment which cannot be successfully cleaned, repaired, or decontaminated will be replaced as necessary. An inspection of all safety equipment will be conducted by response personnel before operations are resumed in the affected area(s) of the facility.

The State regulatory authorities shall be notified of the readiness of the facility to resume hazardous waste operations after the equipment is returned to a clean and serviceable condition.

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**G-4i Container Spills and Leakage**

The Emergency Coordinator/AEDO will be contacted immediately, if inspectors during the scheduled weekly container inspections or other FEMP personnel observe spills and/or leakage. The Emergency Coordinator/AEDO will then determine which types of industrial absorbents may be used (if necessary) to stop the spread of the leak or spill. Cleanup residues, along with the original drum's contents, will be overpacked and stored in the same area. For cleanup residues where the identity or waste status is in doubt, all absorbents, washings, etc., will be drummed and transferred to an appropriate temporary holding area, pending analysis, relabeling, and re-storing in accordance with hazardous waste regulations.

Very large spills involving the release of hazardous waste are unlikely in the container storage areas. Secondary containment structures in areas storing hazardous waste with free liquids are capable of holding at least 10% of the maximum volume of hazardous waste stored in that structure. If several drums are spilled simultaneously, the spilled material will be pumped from the containment area and re-containerized to prevent overflow of the containment area before attempting to use absorbent materials. Spilled hazardous waste will be treated, stored, and disposed of in accordance with the appropriate regulatory requirements.

**G-4j Tank Spills and Leakage**

**G-4j(1) Stopping Waste Addition**

Addition of hazardous waste into a tank system or secondary containment system will be stopped immediately once a leak or spill is detected in that system. The system will be inspected to determine the cause of release.

**G-4j(2) Removing Waste**

Hazardous wastes are removed from a tank system by pumping, vacuuming (using a HEPA filter), or absorption using methods and spill response equipment in accordance with documented Emergency Response Team Manual Procedures. The method of removal is determined by the type and amount of hazardous waste spilled, or as

directed by the Emergency Coordinator/AEDO. Removal of hazardous waste will be accomplished within 24 hours or as quickly as possible.

**G-4j(3) Containment of Visible Releases**

Suitable spill cleanup materials are designated for each applicable area. The material used for diking the spill is selected to be compatible with the released hazardous waste. In addition, many large tank systems are located within berms sufficient to contain most of the tanks' contents, and thus allow time for diversion of the spill, or repair and refilling of the tank. Visual examination of the spilled waste will be performed immediately. Based on results of the inspection, the appropriate methods will be selected to prevent further migration of the leak or spill. Visible contamination of soil or surface water will be cleaned up and disposed of in accordance with all applicable regulatory requirements.

**G-4j(4) Notifications, Reports**

All events are properly documented as directed by the Emergency Coordinator/AEDO, and/or Release Evaluator. Further information is provided in Section G-4a. Any release to the environment that exceeds a reportable quantity (RQ) under CERCLA or reported as required per RCRA will be reported to the Director of the Ohio EPA and the Regional Administrator within 24 hours of detection.

**G-4j(5) Provision of Secondary Containment, Repair or Closure**

Spilled hazardous wastes are prevented from entering floor drains or storm sewers by damming the spill. Released waste will be removed and repairs made as necessary before returning the system to service. The material used for diking the spill is selected to be compatible with the released material. The compatibility of the patching material with the waste will be evaluated before patching dikes or tanks.

Secondary containment will be provided if the area is designated as a storage area for hazardous waste with free liquids. Temporary diked areas constructed of Herculite

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material spread over plastic pipes can be used to form an impervious diked area when necessary.

If a leak to the secondary containment system is detected, the primary tank system will be repaired before returning the primary system to service. The released waste will be cleaned up and removed.

If the source of the release was a leak to the environment from a component of a tank system without secondary containment, secondary containment will be provided, unless the leak source is from an aboveground component of the tank that can be visually inspected on a daily basis.

An aboveground component leak source, which can be inspected visually, will not be returned to service without certification by a registered professional engineer that the repaired component will safely handle hazardous wastes without release for the intended life of the system.

Components replaced to comply with this subparagraph will satisfy requirements for new tank systems or components specified in 40 CFR 264.192, 264.193, OAC 3745-55-92, and OAC 3745-55-93. In addition, any portion of a component from which a leak has occurred and is not accessible for visual inspection will be provided with secondary containment for the entire component prior to return to service.

#### **G-5 EMERGENCY SUPPORT AND EQUIPMENT**

The Emergency Coordinator/AEDO when notified of an event involving hazardous waste or hazardous waste constituents, may utilize the emergency resources, support and equipment summarized below. The facilities and equipment available for use in an emergency at the FEMP are the Emergency Operations Center (EOC), a Mobile Operations Center (MOC), the Joint Information Center (JIC) at the DOS Building, and the Communications Center. Supporting equipment and resources include warning systems (on-site and off-site), response vehicles, personnel decontamination equipment, medical support, radiological monitoring, and industrial hygiene monitoring equipment. The FEMP also

maintains mutual aid agreements with local emergency response agencies as described in Section G-6. Copies of Mutual Aid Agreements are maintained as part of the FEMP Operating Records.

#### **Emergency Operations Center (EOC)**

The EOC is located in the FEMP Administration Building. EOC staffing and responsibilities are outlined in Section G-1b. Resources available in the EOC include maps, engineering drawings, and other emergency reference materials. The EOC is equipped with an air-purification system, which can sustain air quality and a backup power generator.

A comprehensive communications system in the EOC includes telephones, telefax, computers, portable radios and a control module for the radio equipment in the Communications Center. The EOC can monitor or augment the FEMP emergency communications control system in the Communications Center. Radio and cellular telephone communications can be utilized as backup communications if telephones are not available. A VHF radio is programmed for various FEMP frequencies. A paging system links response personnel with the Communications Center. All response personnel can be alerted simultaneously or individually, in case of an event.

Computer support systems in the EOC maintain a historical record, perform meteorological and heavy gas modeling, aid in reporting current event status information to local county officials, and aid in drafting and transmitting press releases.

#### **Mobile Operations Center**

The Mobile Operations Center is designed and equipped to serve as a mobile command/communications post in the event that mobile communications are required at the site of an emergency or if the EOC is rendered unusable. The Mobile Operations Center can also be used by other organizations, such as Butler and Hamilton County officials or other DOE sites in the event they have a need for a portable command center.

The Mobile Operations Center is outfitted with similar capabilities as the FEMP-fixed EOC located in the Administrative Building.

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The Mobile Operations Center is equipped with extensive communications capabilities as follows:

- A telephone key system capable of handling a maximum of twelve incoming/outgoing trunk lines and 24 extension lines. There are also provisions for a maximum of 8 external extensions.
- A VHF radio is programmed for various FEMP frequencies.
- A CB radio in the cab intended for maintaining communications with any vehicles that may accompany the Mobile Operations Center during transportation.

The Mobile Operations Center, which seats 12 people, is also equipped with office supplies, computers, FAX machine, copier, refrigerator, respirators, maps, event status pads, white boards, markers, erasers, and other items required to support the personnel responding to an emergency situation. The computer hardware has the capability to allow the FEMP to analyze the plume direction of a chemical release and predict the expected exposure. The MOC is designed to be self-contained with an independent diesel generator, heat pump for heating and cooling and an internal lighting system.

#### Joint Information Center (JIC)

The Joint Information Center serves as a clearinghouse for information for the FEMP and would become the central contact point for information during an emergency. The Joint Information Center disseminates necessary and relevant information to the public via the news media. The Joint Information Center has a media briefing area, a telephone bank for media inquiries, a telephone bank for concerned citizens' inquiries, and clerical support areas. Telephone lines link the Joint Information Center with Butler County, Hamilton County, and the FEMP EOC.

#### Communications Center/Security

Security maintains the safeguard and integrity of the FEMP and provides communications, as needed in an emergency. The Communications Center is typically the first to be advised of an emergency via plant alarm or personnel.

The Communications Center includes a full complement of one-way and two-way radio communications facilities, including a mobile and portable FM radio network, scanners, special telephone system, and a paging system. Special monitoring systems include a computerized emergency monitoring system.

On-site Security Inspectors are equipped with emergency vehicles with lights and siren, portable communications equipment, a mobile radio-telephone, and a bullhorn.

#### Warning Systems

There are on-site, local building, and off-site warning systems at the FEMP.

#### Facility Alarm System

This system is centered in the Communications Center. Signals from manual fire alarm boxes and automatic fire monitoring and/or extinguishing systems located throughout the plant are transmitted to the Communications Center and monitored by a Honeywell Delta 1000 system. The Communications Technician, using the control panel, activates alarms located throughout the facility.

Each alarm system is tested by safety and fire personnel according to the following schedule, and the results are recorded:

- Manual alarm boxes: Every six months
- Automatic systems: Every two months

#### Emergency Message System

The Emergency Message System is a one-way system used by the Communications Center to transmit verbal instructions and important information to facility personnel following the sounding of a warning signal.

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**Local Evacuation Alarm**

All process areas are linked to a Honeywell Evacuation Alarm (loudspeaker) system. In the event of an emergency in any location, dialing 911 or calling "CONTROL" by radio will alert Emergency Preparedness via the Control Center. Appropriate evacuation and other messages will be broadcast over the loudspeakers in affected and adjacent locations. The speaker system is tested daily.

**Ambulance Alarm**

Primary ERT members are notified from the Communications Center via special Alert Pagers. The pagers alert garage personnel and assigned ERT members that a call has been made for the ambulance.

**Offsite Emergency Warning System**

In emergencies with offsite implications the Offsite Emergency Warning System warns citizens within the 2-mile immediate notification zone surrounding the FEMP. Activating the sirens alerts residents to take shelter immediately, tune to a radio or TV station and listen for an Emergency Broadcast System (EBS) message for information.

The warning system consists of eleven electronic sirens (seven offsite and four onsite) and numerous tone-alert radio receivers. The sirens are located within or just outside the 2-mile immediate notification zone. This system is tested on the first Wednesday of each month at noon.

**Fire and Rescue**

Fire and rescue equipment at the FEMP includes several vehicles with forcible entry tools, communications equipment, electric lights and generators, portable pumps, protective equipment, and heavy equipment.

Fire protection and extinguishing equipment at the FEMP includes building sprinkler systems (both wet-pipe and dry-pipe), fire and smoke alarm systems, hand-held fire extinguishers, and fire hydrants. Detailed information on fire and rescue equipment appears in Section G-5a(4).

### Decontamination Equipment

Decontamination equipment is stored in the mobile emergency spill response vehicle and in Building 46. This equipment consists of brushes, soap, diking devices and recovery containers. All of the equipment is designed to be used in conjunction with a portable water supply or water supplied from emergency equipment (pumpers/tankers). The mobile emergency spill response vehicle is described in further detail in Section G-5a(4).

### Medical

Medical Services, located in Building 53A, is staffed by physicians, nurses, and technicians. Medical vehicles for emergency use include two fully-equipped ambulance vehicles. There are also various pieces of diagnostic equipment, hospital wards, and other equipment. Detailed information on medical equipment appears in Section G-5e.

### Environmental Radiological Monitoring

Environmental radiological monitoring equipment includes dosimeters, stack alarms (laboratory only), friskers, and other radiation survey instruments and monitors. Multimedia baselines are continuously established in all areas using airborne radioactivity air sampling pumps and friskers. Should an incident occur, changing and/or radiologically hazardous conditions can be monitored by direct reading dosimeters, swipes, friskers, and personal contamination monitors. This information can be used to establish boundaries of the contaminated area, and to provide control point monitoring of personnel and equipment involved in the incident.

### Industrial Hygiene Equipment

Industrial hygiene equipment includes devices for detecting multimedia hazardous materials and hazardous conditions. Sampling of large or small air spaces for chemical contaminants is accomplished by means such as: photoionization detector, combustible gas analyzer, oxygen meter, hang-on personal dosimeter (for nitrogen dioxide, sulfur dioxide, carbon monoxide, ammonia), direct-reading colorimetric (Dräger) tubes, and mercury vapor monitors. The output from the first two can be analyzed in the field by a portable gas chromatograph or a MIRAN infrared gas analyzer, the latter of which is also a direct-reading analyzer. Non-chemical hygiene hazards can be detected/determined

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by: sound level meter, microwave survey meter, low-frequency electromagnetic radiation meter, and a light-scattering (airborne) dust monitor.

#### Emergency Power System

Dedicated emergency generators supply emergency power for lighting, communications, and for certain designated facilities. The emergency generators are tested at least once each week by the Emergency Coordinator/AEDO according to established procedures. Records of these tests are maintained at the facility. A portable unit is available when a power failure affects the Communications Center and the emergency generator fails to start.

#### Additional Emergency Equipment

The following additional emergency equipment is maintained at the FEMP:

- Self-contained breathing apparatus (SCBA) and other respiratory equipment
- Chemically resistant clothing, boots, and gloves;
- Showers and eye wash stations in fixed locations, and as portable units as needed, throughout the plant
- Emergency power and lighting equipment, including power-failure lighting
- Submersible electric pumps
- Portable electric generators
- Portable gasoline-powered pumps (to 250 gpm)
- Mobile gasoline-powered pump (trailer-mounted, @ 500 gpm).

A list of FEMP emergency respiratory equipment and their typical applications and limitations is provided in Table G-3. A summary of pressurized fire extinguishers is provided in Table G-4.

#### G-5a Fire Protection Equipment

##### G-5a(1) Plant Water Supplies and Fire Loop Water Supply

The FEMP water systems and related equipment provide the FEMP with the first line of defense in fighting fires and supply the primary means of fire extinguishment.

Water supply storage at the FEMP consists of several ground level and elevated water storage tanks for both fire protection and potable water supply. Fire protection storage tanks consist of one ground level storage tank with a capacity of 300,000 gallons plus one elevated tank of 350,000 gallons, for a total fire protection storage capacity of 650,000 gallons.

Currently, installation of the new Domestic and Fire Water Storage Tank and Booster Station is in progress. This new water storage and pumping station will, over a period of time, replace the existing storage and pumping system. It will be operational in the fourth quarter of FY 1999. This station will consist of one 350,000 gallon storage tank fed from the City Water line with redundant fire water pumping capability of 1,250 gpm at 125 psig discharge pressure. Also, this station will provide the site with domestic water via three domestic water pumps rated from zero to one hundred gpm.

Underground water main systems supply water to hydrants, sprinkler systems, and stand pipes at all major buildings and processing areas of the FEMP. The water main system is a loop therefore no building will have the water supply cut-off under any circumstances. If a leak or plug in a line occurs, the flow to that section of pipe will be cut-off by valves and the water flow to the area rerouted while repair work is in progress.

Low-pressure (60 psi) and high-pressure (120 psi) fire hydrants are located throughout the site; they are listed in Attachment G-2.

**G-5a(2) Automatic Sprinklers**

Automatic sprinklers are an effective means of fire protection, and will extinguish or contain most fires. Major buildings and processing areas are protected by heat-activated automatic sprinkler systems.

The automatic sprinklers release water when heat at the sprinkler head reaches a predetermined temperature. The Emergency Response Team will immediately proceed

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to the area where an automatic sprinkler system is activated and take appropriate actions.

The following buildings are fully sprinkled with dry pipe systems:

- Building 79 Warehouse
- Building 80 Warehouse

The fire suppression system in Building 56 Warehouse is currently out-of-service. This system will be reactivated prior to storing ignitable hazardous wastes in this building.

Dry pipe sprinklers located inside each hazardous waste storage locker on Plant 1 Pad are plumbed to an outside Fire Department connection. The system can be activated by connection to one of the FEMP's fire trucks.

#### G-5a(3) Fire Extinguishers

#### CLASSES OF FIRE EXTINGUISHERS

Fires are placed in one of four classes according to the type of fuel involved. The class of fire determines the method of extinguishment and, for this reason, all fire extinguishers are marked according to class. The various classes of fires are as follows:

- Class A fires involve ordinary combustibles such as wood or paper. These are most readily extinguished by removing the heat. Water extinguishers are best suited here. All-purpose dry chemical extinguishers may also be used.
- Class B fires involve flammable liquids such as gasoline or alcohol. Since these are liquid fires, the application of water may tend to "float" the fire away. The best method of extinguishment here is to remove the oxygen. Carbon dioxide, foam, or dry chemical extinguishers are best suited for Class B fires.

- **Class C** fires involve energized electrical equipment. Since some extinguishing agents conduct electricity and the best method of extinguishment is to remove the oxygen, carbon dioxide and dry chemicals are recommended here. An electrical fire, if the electricity can be turned off, is usually **Class A** and can be easily extinguished.
- **Class D** fires involve certain combustible metals such as magnesium which require specific extinguishing compounds to put them out.

Table G-4, Types of Pressurized Fire Extinguishers, describes the five types of pressurized fire extinguishers used at the FEMP and lists typical applications and limitations for each type of extinguisher.

#### **G-5a(4) FEMP Emergency Response Equipment**

The facility also has emergency response vehicles and equipment in addition to the automatic fire protection already described. The fire trucks and equipment to be used by the Emergency Response Team are properly maintained at all times to ensure readiness in the event of a fire. The fire response vehicles are stocked with standard fire-fighting and fire-related safety equipment, and are equipped with all standard warning devices.

#### **FIRE AND SAFETY VEHICLES**

Fire vehicles are equipped with forcible entry tools, communications equipment, electric lights and generators, portable pumps and protective equipment for the fire fighters including breathing apparatus, resuscitators, smoke ejectors, and protective clothing.

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**FIRE AND SAFETY RESCUE 27**

This unit is a 1993 Ford F-350 service body equipped with a two-way two-channel radio, fire extinguishers, self-contained breathing apparatus, explosimeters, tools, protective clothing, and medical supplies. This vehicle is in daily use for routine purposes and is driven by emergency response personnel.

**SUPPORT 27**

This unit is a 1990 Ford Ranger equipped with manuals, SCBAs, preplans, and a two-way, seven-channel radio.

**TANKER 227**

One Mack 2,600 gallon tanker is available, equipped with a 500-gpm centrifugal pump, two-way 32-channel radio, protective clothing, tools, fire extinguishers, two SCBAs, and hose.

**ENGINE 227**

This 1993 Boardman custom fire truck is fully equipped with a 1,250 gpm single-stage centrifugal water pump, 500-gallon booster tank, two-way 32-channel radio, SCBAs, protective clothing, extension ladders, deluge gun, tools, and hose.

**ENGINE 327**

This is a 1990 Pierce vehicle equipped with 1,250-gpm single-stage centrifugal pump, 500-gallon booster tank, 50-gallon foam tank, two-way 32-channel radio, SCBAs, hose, ladders, and tools.

**AMBULANCES**

Two fully-equipped ambulances meeting federal specifications are operated and maintained onsite.

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**SPILL RESPONSE VEHICLE - HAZ MAT 27**

This Chevrolet 30-Series van, is stocked with a full array of ERT Spill Response Equipment, an on-board communications system. Other types of emergency response equipment stored in this vehicle include:

**Personal Protective Equipment:** a full range of shoe covers, gloves (nitrile, neoprene, latex, leather, etc), chemically-resistant suits (Saranex, Tyvek, etc), cover suits, SCBAs, respirators (with all potentially needed cartridges), hard hats, boots, goggles, ear plugs, confined space entry hardware and supplies;

**Environmental Monitoring Equipment:** Combustible gas monitor, sampling containers, charcoal tubes, pH meter, flashlights;

**Spill Control and Clean-up Materials:** Absorbent pillows, pigs, and pads; wet vacuum, Spill-X spill guns (solvent, acid, caustic), waste storage drum, traffic cones, soap, small tool kit (hammers, wrenches, pliers, etc);

**Communications:** Computer and Printer, fax, cellular phone; and, a set of reference books (ACGIH, NIOSH, etc).

Additionally, the Spill Response Vehicle can pull a trailer, which is equipped with renewal supplies and additional equipment, such as: brushes, mops, shovels; spill stoppers, leak plugs, sponges; decon showers and stations; buckets, overpack drums.

**MOBILE AIR UNIT**

This unit consists of a trailer mounted 9-bottle, high pressure cascade system with air-line capability capable of filling up to 70 low pressure SCBA units or 45 high pressure units.

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### HEAVY EQUIPMENT

The following equipment, although not designated specifically for emergency use, is available to support emergency response activities if needed:

- 2 flatbed trucks
- 2 dump trucks
- 4 tow tractors
- 6 semi-trailers
- 3 semi-tractors
- 1 tank truck
- 32 industrial trucks
- 45 industrial hand stackers
- 1 locomotive engine
- 2 front end loaders
- 4 bulldozers
- 1 road grader
- 2 cranes
- 1 back hoe
- 1 cement mixer
- 1 portable generator
- numerous tractors, pickup trucks, and small vehicles
- 1 vacuum tanker truck, "Super Sucker"

### G-5b Spill Control and Monitoring Equipment

#### Spill Control and Emergency Spill Response Equipment

Spill response equipment is available for use at the FEMP. Stockpiles of absorbent material (such as clay absorbent and spill booms or absorbent pillows called "PIGS") along with shovels and brooms are located at each storage facility and at certain satellite accumulation points. Runoff can be diverted by temporary diking to prevent

entry into the storm sewer. Contents from the storm sewer system can be diverted and held in the Stormwater Retention Basin to control offsite releases.

The FEMP also maintains a mobile emergency spill response vehicle, as described in Section G-5a(4). This vehicle is stocked with appropriate emergency absorbent material and protective equipment.

#### MONITORING EQUIPMENT

Equipment used to monitor for contamination, explosive atmospheres, and hazardous releases is located on various emergency vehicles and in Building 53. This equipment includes detector tubes, air sampling equipment, explosive gas detectors, chemical analyzers and personal dosimeters.

#### G-5c Alarm and Electronic Monitoring Systems

Descriptions of alarm systems for HWMUs are included in Attachment G-1. Automatic electronic alarm and monitoring systems consist of the Honeywell D-1000 System and the Meteorological Tower Monitors.

#### HONEYWELL D-1000 SYSTEM

This centralized, computer-controlled system has two main parts:

- (A) Multiplex, Digital Alarm System
  - (1) Remotely monitors activation of alarm sensors throughout the plant.
  - (2) Signals are converted by the Delta-1000 microprocessor to plain language messages.
  - (3) The CRT display includes:
    - Alarm type

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- Signal number
- Location
- Action to be taken by Communications Center personnel

(4) Alarm sensors monitor the following:

- Fire alarms
- Sprinkler system
- Intrusion alarm
- Smoke alarms
- Radiation detection alarms
- Supervisory alarms, including tampering, equipment malfunction, and pressure varieties
- Process alarms for temperature and gas detection

(B) Audible Alarm System

- (1) Activated by Communications Center.

**METEOROLOGICAL TOWER MONITORS**

- (A) Meteorological information collected includes wind speed and direction.
- (B) Information is used to calculate plume direction during a radiological or gaseous hazardous materials emergency.
- (C) Monitors displaying near real-time conditions are located in Building 14 along with computer plume models.
- (D) Communications Center personnel can relay the information to the Emergency Coordinator (AEDO). National Weather Service information is available in case back-up data is needed.

#### G-5d Communication System

The FEMP utilizes other special radios, receivers, telephones and monitoring equipment, in addition to the Alarm Systems described in the previous section. The following communications and monitoring equipment is located in the FEMP Communication Center and is operated by Communications Center personnel on duty, seven days a week:

#### TWO-WAY RADIOS

The FEMP utilizes eight separate high-band radio frequencies.

#### RADIO RECEIVERS

These include the following:

- Radio receiver to monitor Crosby Township Fire Department, and
- Radio receiver to monitor Ross Township Fire Department

#### SPECIAL TELEPHONES AND TELEPHONE SERVICE

These include the following:

- Emergency telephone number 911 (also 6511, which is an automatic switch over, when 911 is busy).
- Emergency message system through which the Communications Center furnishes information to onsite personnel relative to emergencies and general information
- Mobile and cellular radio telephones utilized by the Security vehicles.

#### G-5e First Aid and Medical Supplies

##### G-5e(1) Emergency Treatment

Personnel are provided first aid treatment in the emergency treatment room in Building 53A of Medical Services. A doctor is normally on duty and nurses are always on duty during the day shift, Monday through Friday. First aid and/or arrangements for transport of ill or injured for treatment is provided at other times, by safety and fire

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personnel (who are state certified Emergency Medical Technicians). A minimum of two state certified Emergency Medical Technicians are scheduled for each shift. Safety and fire personnel may be summoned by calling the Communications Center in an emergency.

**G-5e(2) Ambulance Service - General**

Injured or ill employees will be transported by FEMP ambulance or through mutual aid equipment to pre-designated area hospitals.

**G-5e(3) Ambulance Service, 2nd and 3rd Shifts, Weekends, Holidays, Vacation Shutdown**

Ambulance service is provided during second and third shifts, weekends, and holidays in the same manner as during regular day shift hours.

**G-6 COORDINATION AGREEMENTS**

The FEMP participates in a mutual aid agreement with other emergency organizations within the FEMP site area and provides assistance to these organizations in the event of a major fire or other serious emergency.

Off-site emergency organizations have signed mutual aid agreements and/or have agreed to provide needed assistance to the FEMP at local, county, state and federal levels. All mutual aid agreements are maintained as part of the FEMP Operating Record. Copies of the current agreements are included as Attachment G-3. A list of participants in mutual aid agreements, prefixed by the acronym "MuAid", is provided in the list of Off-Site Organizations in Table G-1.

Off-site organizations have been provided information of facility layouts, associated hazardous areas, entrances to the facility and primary evacuation routes to facilitate emergency response. Hospitals have been familiarized with the types of injuries and illnesses which may potentially occur at the facility. In addition, off-site responders are provided with annually updated facility layouts, evacuation routes, floor plans, etc., and are invited to participate in joint emergency exercises conducted every three years (more often if changing conditions warrant). Emergency Preparedness holds a monthly

meeting to ensure an adequate level of integrated planning among the FEMP and the off-site emergency organizations.

The Emergency Coordinator/AEDO will request the Communications Center Operator to initiate the call-in of additional mutual aid assistance as needed. Equipment dispatched for such requests operate under the immediate supervision of the responder's senior on-scene official, but under the general direction of the requester's senior on-site official.

The Communications Center Operator, in the event of Contingency Plan Implementation and at the request of the Emergency Coordinator/AEDO, shall request additional assistance by calling one or more of the off-site organizations' telephone numbers listed in Table G-1; see Figure G-7 for interrelationships between these organizations.

## **G-7 EVACUATION PLAN**

### **EVACUATION OF RCRA FACILITIES**

Personnel will respond to voice warnings from a supervisor, audible alarms, or (when alone without supervision) to their own cognition of the events without the benefit of signals.

As determined by the Emergency Coordinator/AEDO, personnel may have to evacuate to their rally point. Personnel will be instructed as to what action to take, if further movement is necessary. A discussion and maps of the evacuation routes and rally points are provided for each HWMU in Attachment G-1.

### **GENERAL EVACUATION**

All major emergencies require prompt and deliberate action. Following an established set of procedures is required, in the event of any major emergency, for the safe evacuation of personnel. In specific emergency situations, however, the Emergency Coordinator/AEDO may deviate from the procedures to provide a more effective plan for bringing the situation under control. The Emergency Coordinator/AEDO is responsible for advising Management of the necessity for any evacuation.

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The following actions, in the event that a facility evacuation is required, will be taken by those present in the Hazardous Waste Management Unit (HWMU) areas:

- (A) The Sitewide Alarm System will be activated at the Communications Center followed by an announcement over the emergency message system.
- (B) Employees shall carry out assigned responsibilities during an emergency shutdown. For example, individuals may have assignments to shut off fuel gas, water, steam, electricity and/or perform other special duties.
- (C) All employees will report to their predetermined rally point for accountability and further instruction. Should the emergency involve a nuclear criticality, all employees will report instead to the specific locations indicated in the Site Criticality Procedure.

#### **G-8 REPORTS**

Certain notifications and reports may be required by the regulatory authorities, in the event of an emergency that requires implementation of the Contingency Plan. Section G-4a describes the oral notifications and written reports required upon the implementation of the Contingency Plan. Any one or more of these reports may be required depending on the nature and extent of the emergency. Current record keeping/reporting procedures are maintained in the Operating Record in Building 53a.

#### **G-8a Required Written Reports**

#### **GENERAL INCIDENT REPORTING**

The FEMP will note in its operating and event reporting records the time, date, and details of any incident that requires implementation of this Contingency Plan. A written report within 15 days after the occurrence of an incident that requires implementation of the Contingency Plan, notifying Ohio EPA that this Contingency Plan has been implemented (Form B Notification to Ohio EPA of Implementation of Contingency Plan) shall be submitted to the Ohio EPA by DOE as outlined in Section G-4a. Form B is shown in Figure G-10.

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**RESUMPTION OF OPERATIONS REPORTING**

The State regulatory authority shall be notified of the readiness to resume hazardous waste operations by using Form C (Written Notice to Ohio EPA and Appropriate Local Authorities of Resumption of Hazardous Waste Operations). Prior to notification the equipment must be returned to a clean and serviceable condition (as described in Section G-4h). An example of Form C is shown in Figure G-11.

**G-9 AMENDING THE CONTINGENCY PLAN**

The regulatory compliance group has the responsibility for amending the plan, and distributing amended copies, when any of the following occur:

- a) The plan fails in an emergency; or,
- b) The list of emergency coordinators changes; or,
- c) The list of emergency equipment changes; or,
- d) Changes in the facility increase the potential for fires, explosions, or releases of hazardous waste, or change the response necessary in an emergency.

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SECTION G  
Tables

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Table G-1

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Emergency Operation Personnel & Organizations

EMERGENCY COORDINATORS - ASSISTANT EMERGENCY DUTY OFFICERS  
(Utility Engineers)

<u>NAME</u>	<u>HOME PAGER*</u>	<u>OFFICE</u>	<u>HOME ADDRESS</u>	<u>TELEPHONE</u>
Rogers, L. **	920-7776	4164	1361 Alberton PL Lebanon, OH 45036	(513) 933-0995
Duckworth, R.	920-7928	4749	208 Etta Ave. Harrison, OH 45030	(812) 367-6859
Bierman, J	920-1197	4749	3750 Brockton Dr. Cincinnati, OH 45219	(513) 385-9739
McCool, D.	920-7813	4749	P.O. Box 14 Lawrenceburg, IN 47025	(812) 537-0670
Stacey, E.	920-7929	4749	7643 Bridgetown Rd. Cincinnati, OH 45248	(513) 941-2284

- The most effective means for reaching the on-site Emergency Coordinator/AEDO is via pager, or Radio # 202. The on duty Emergency Coordinator/AEDO may also be reached by:
  - o radio through the 24-hour-staffed FEMP Communications Center, (513) 648-4444,
  - o office, (513) 648-4749,
  - o portable cellular telephone, (513) 582-2584, or
  - o mobile vehicle cellular telephone, (513) 535-1365

There is an Emergency Coordinator/AEDO on-site at all times, 24 hours per day, 365 days per year. The home addresses and telephone numbers of all Emergency Coordinator/AEDOs (and other Emergency Operations personnel as well) are available on-site from the Communications Center or the Emergency Operations Center, if, for some reason, an off-duty Emergency Coordinator/AEDO would need to be reached.

- \*\* L. Rogers has been designated the Emergency Coordinator. The on-site/on-duty Emergency Coordinator/AEDO at the time of an incident will be the primary incident commander for that incident.

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Table G-1

OTHER

All Emergencies .....	648-6511
FEMP Communications Center .....	648-4444
Security Portable .....	646-5534
	or 532-4092
DOE Site Office .....	648-3155
Utility Engineer/Emergency Coordinator (AEDO) Vehicle .....	535-1365
Emergency Coordinator (AEDO) Portable .....	582-2584
Fire & Safety Vehicle #301 .....	535-1367
Fire & Safety Portable .....	582-2831
Security Vehicle .....	535-1366
Industrial Hygiene Vehicle .....	646-3367
Environment & Radiological Monitoring Techs Portable .....	460-7839
Medical Portable .....	543-0783
Release Evaluators (Office) .....	648-4204
Spradlin, T (Pager) .....	920-5046
Campbell, Greg (Pager) .....	920-7931
US EPA Region 5 .....	(312) 353-2318
USEPA RCRA Hotline .....	(800) 424-9346

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Table G-1

Off-Site Emergency Operation Organizations

OFF-SITE NOTIFICATION

**DEPARTMENT OF ENERGY**

DOE Headquarters, Washington, D.C. . . . . (202) 586-5000  
DOE Headquarters Emergency Operations Center . . . . . (202) 586-8100  
DOE Ohio Field Office . . . . . (513) 865-3020

**STATE OF OHIO**

Ohio Emergency Management Agency . . . . . (614) 889-7150  
Ohio EPA Emergency Response Center . . . . . (800) 282-9378  
Ohio EPA Columbus . . . . . (614) 644-2924  
Ohio EPA Southwest District Office . . . . . (513) 285-6357  
or (800) 686-8930  
Ohio Department of Health . . . . . (614) 466-3543  
Ohio State Highway Patrol . . . . . (513) 863-4606  
ORSANCO . . . . . (513) 421-1151  
Ohio State Fire Marshall . . . . . (800) 686-0736

**HAMILTON COUNTY**

Communications Center (Emergency - 911) . . . . . Non-Emergency (513) 825-2280  
Emergency Management Agency . . . . . (513) 851-7080  
Hamilton Cty. Dept. of Environ. Svces., Air Quality Pgms. . . . . (513) 651-9437  
Southwest Local School District . . . . . (513) 367-4139  
Sheriff's Department . . . . . (513) 825-2280

Table G-1

Off-Site Emergency Operation Organizations

**BUTLER COUNTY**

Sheriff's Office (Emergency - 911) . . . . . Non-Emergency (513) 887-3010  
Emergency Management Agency . . . . . (513) 844-8020

**LOCAL FIRE DEPARTMENTS**

MuAid: Crosby Township . . . . . 911 or (513) 385-8338  
MuAid: Ross Township . . . . . 911 or (513) 867-5700  
MuAid: Colerain Township . . . . . 911 or (513) 825-6143

**LOCAL AMBULANCE**

Butler County . . . . . 911 or (513) 887-3010  
Hamilton County . . . . . 911 or (513) 825-2260  
MuAid: Crosby Township Life Squad Mobile Telephone . . . . . 911 or (513) 977-6337

**LOCAL HOSPITALS**

MuAid: Providence Hospital--Emergency Room . . . . . (513) 853-5222  
MuAid: Mercy Hospital--Emergency Room . . . . . (513) 867-6450  
MuAid: University--Emergency Room . . . . . (513) 558-4571

**EMERGENCY CARE CENTER**

Franciscan Ambulatory Care Unit (Harrison) . . . . . (513) 367-2222

**EMERGENCY HELICOPTER SERVICE**

MuAid: University Air Care . . . . . (800) 826-8100

Chemical Referral Center, CMA . . . . . (800) 262-8200

Coast Guard/DOT National Response Center . . . . . (800) 424-8802

National Weather Service (Cincinnati) . . . . . (937) 383-0228

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Table G-1

Off-Site Emergency Operation Organizations

EPA Chemical Emergency Prep. Hotline ..... (800) 535-0202

American Red Cross ..... (513) 579-3000

Chemtrec ..... (800) 424-9300

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Table G-2

The FEMP Emergency Organization Roster

**EMERGENCY RESPONSE TEAM**

Assistant Emergency Duty Officer  
Emergency Chief  
Firefighters  
Driver-Operators  
Emergency Medical Technicians  
Radiological Safety Technicians  
Industrial Hygiene Technicians

**ADDITIONAL FIELD PERSONNEL**

**Operations Response**

Plant Supervisors  
Facility Owner  
Operations Personnel

**Security Response**

Shift Lieutenant  
Security Officers  
Security Support Group

**COMMUNICATIONS CENTER**

Communication Technician  
Honeywell Alarm Technician

**EMERGENCY OPERATIONS CENTER**

Emergency Duty Officer  
DOE Site Manager  
Emergency Director  
Emergency Management Advisor  
Deputy Emergency Director  
Safety and Health Advisor  
Safety and Health Support  
Meteorologist  
Operations Advisor  
Environmental Advisor  
Public Information Advisor  
Public Information Support  
Security Advisor  
DOE Liaison  
Off-site Notification Officer (2)  
Off-site Liaison(2)  
Field Communicator

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The FEMP Emergency Organization Roster  
(continued)

**EMERGENCY OPERATIONS CENTER (Continued)**

Information Plotters  
Runners  
Historian  
Administrative Support

**JOINT INFORMATION CENTER TEAM**

Joint Information Center Manager  
DOE PIO  
FEMP PIO  
FEMP Citizen Hotline Operator  
Butler County PIO  
Butler County Citizen Hotline Operator  
Hamilton County PIO  
Hamilton County Citizen Hotline Operator  
State PIO  
Media Room Duty PIO  
Technical Advisor  
Administrative Support Supervisor  
Media Monitoring Supervisor  
Media Query and Citizen Hotline Telephone Banks  
Supervisor

Table G-3

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Emergency Respiratory Equipment

<u>DESCRIPTION</u>	<u>TYPICAL APPLICATION</u>	<u>LIMITATIONS</u>
<b>Air-purifying full-face MSA Ultravue respirator</b> equipped with chin-mounted canisters approved for HF up to 0.5 percent concentration by volume, radionuclide aerosols not exceeding 100 times DOE limits in DOE Order 5480.1 or other highly toxic particulates.	Environments containing relatively low HF concentrations, radionuclides or other highly toxic particulate contaminants including UF <sub>6</sub> .	Only approved for relatively low concentrations of HF and particulate contaminants. Wearers must be satisfactorily fit-tested prior to use.
<b>Airline half-mask respirator</b> or airline hoods respirator provides head protection.	Environments containing relatively high but not immediately dangerous life and health (IDLH) concentrations of contaminants.	Requires CGA-Grade D breathing air supply. Length of airline hose station and wearer must not exceed 300 feet. May only be used in confined spaces when equipped with 5-minute compressed air escape bottle.
<b>Full-faced self-contained breathing apparatus</b> for corrosive contaminants.	Environments with IDLH or unknown concentrations of air contaminants.	Air supply in compressed air bottle is limited to 30 or 60 minutes. Must be used in 2-man teams. Wearer must be judged physically fit enough to wear 40 pound SCBA and protective clothing. Wearers must also be trained and drilled in use of this equipment.

NOTE: All personnel must be fit-tested for the proper size of respirator before use. A training session must also be attended prior to fit-testing on the types and uses of equipment available.

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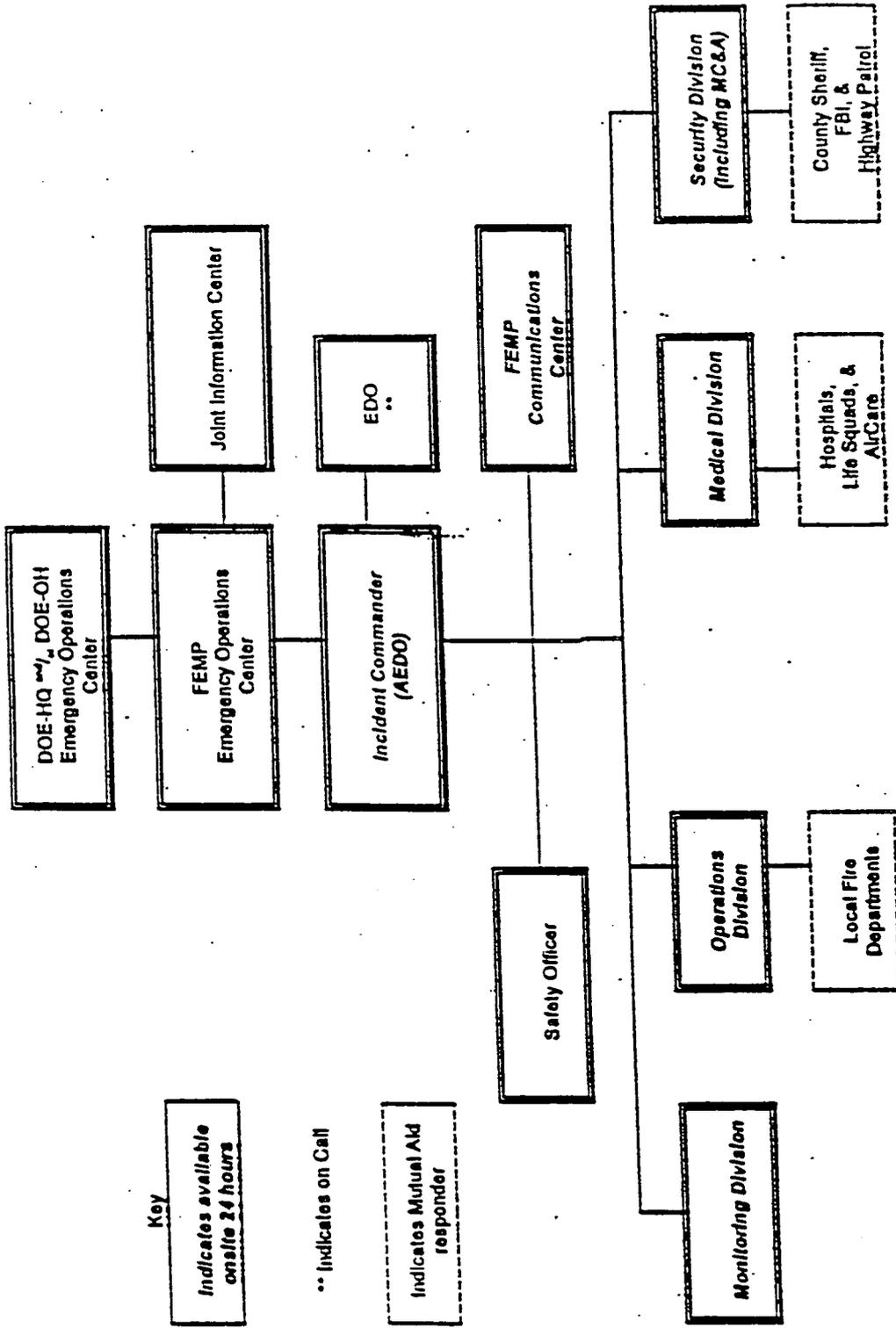
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Table G-4

Types of Pressurized Fire Extinguishers

<u>DESCRIPTION</u>	<u>TYPICAL APPLICATION</u>	<u>LIMITATIONS</u>
Pressurized water (stainless steel).	Class A fires including wood, paper, trash, etc.	Not suitable for flammable liquid (Class B), electrical (Class C), or metal (Class D) fires.
Pressurized CO <sub>2</sub> (red tank)	Flammable liquid (Class B) and electrical (Class C) fires.	Not suitable for Class A or Class D fires.
Pressurized dry chemical (red tank).	Flammable liquid (Class B) and electrical (Class C) fires.	Not suitable for Class A or Class D fires.
Pressurized MetL-X (yellow tank).	Metal (Class D) fires.	For metal fires only.
Pressurized dry chemical (small red tank).	Class A, B, and C fires.	May be used on burning uranium but not on other metal fires.

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**Key**

Indicates available onsite 24 hours

\*\* Indicates on Call

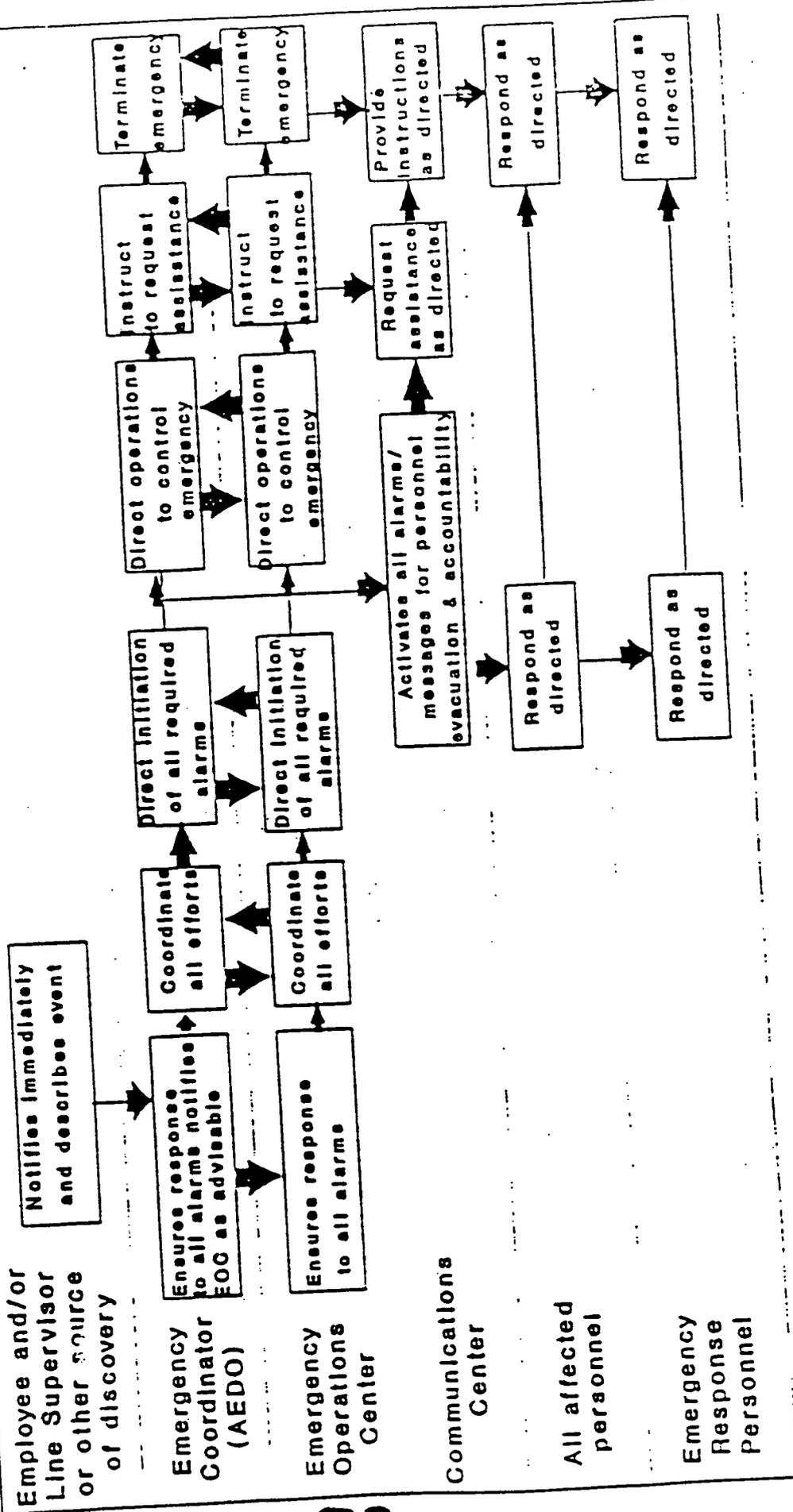
Indicates Mutual Aid responder

The FEMP has an emergency response organization can quickly expand depending on the type and severity of an incident.

FIGURE G-2

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# EMERGENCY COORDINATION FLOW



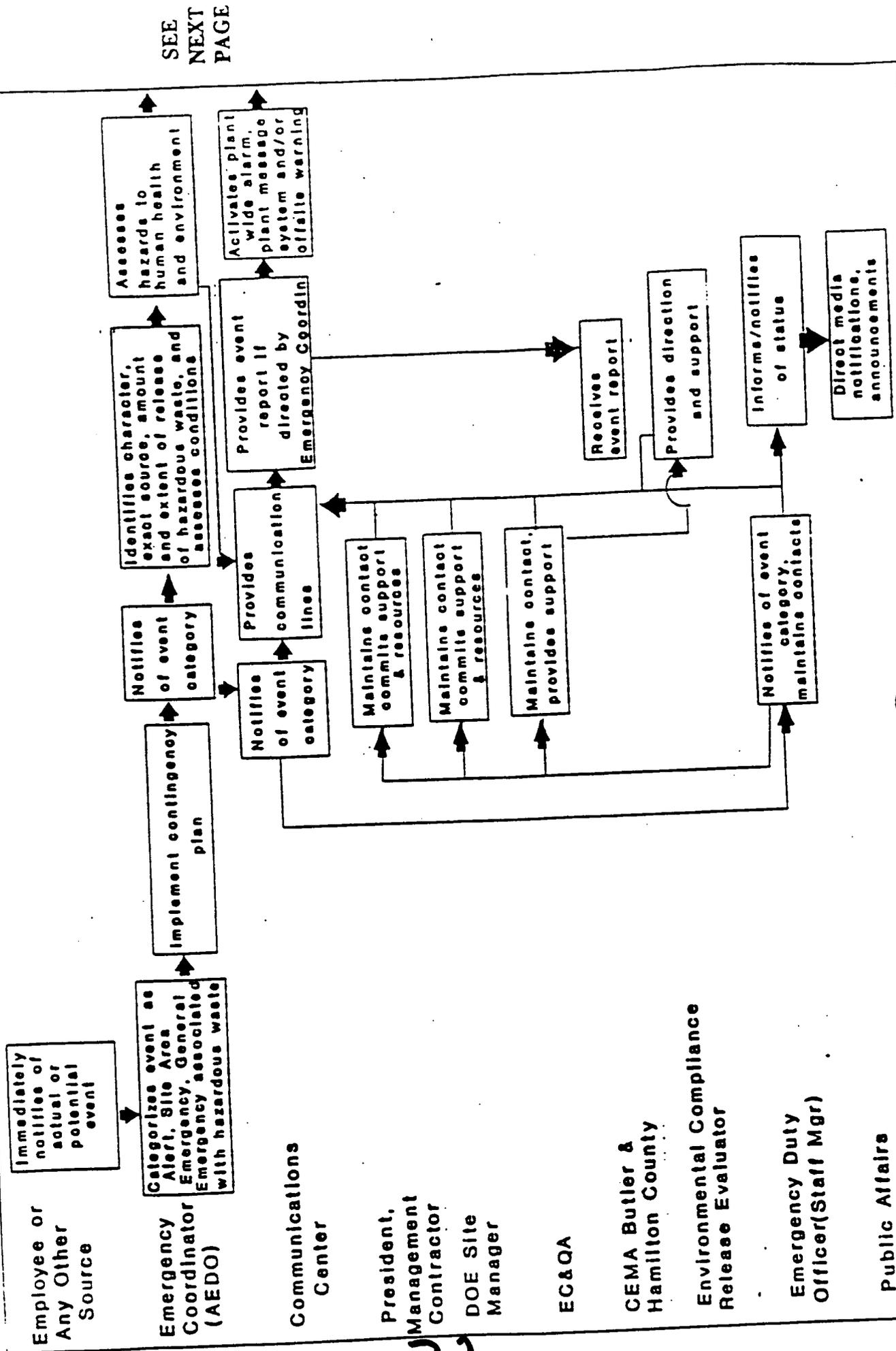
	Drills & Exercises	EMT- State of Ohio	Firefighter-NFPA	HazMat-NFPA	Incident Command-NFPA	GET	EOC Staff Modules	JIC Training
Administrative Support	Full participation req'd					Invited	Invited	
AEDO	Full participation req'd		Some participation	Some participation	Some participation	Invited	Invited	
CommCenter Staff	Full participation req'd					Invited		
Emergency Chief	Full participation req'd	Full participation req'd	Some participation	Some participation	Some participation	Invited	Invited	
Emergency Director	Full participation req'd					Invited	Invited	
Emer. Mgmt Advisor	Full participation req'd					Invited	Invited	
ERT	Full participation req'd		Some participation	Some participation	Some participation	Invited		
Employees	Invited					Invited		
Deputy Emergency	Full participation req'd					Invited	Invited	
DOE-FN Manager	Full participation req'd					Invited	Invited	
DOE Liaison	Full participation req'd					Invited	Invited	
Environmental Advisor	Full participation req'd					Invited	Invited	
EOC (County & State)	Full participation req'd					Invited		Invited
Field Communicator	Full participation req'd					Invited	Invited	
Historian	Full participation req'd					Invited	Invited	
Information Officer	Full participation req'd					Invited	Invited	
JIC Staff	Full participation req'd					Invited		Invited
Medical Staff	Invited					Invited		
Meteorologist	Full participation req'd					Invited	Invited	
Monitoring Teams	Invited					Invited		
Mutual Aid	Full participation req'd	Some participation	Some participation	Some participation	Some participation			
Off site Notification	Full participation req'd					Invited	Invited	
Operations	Full participation req'd					Invited	Invited	
Planner	Full participation req'd					Invited	Invited	
Public Information	Full participation req'd					Invited	Invited	Invited
Safety & Health	Full participation req'd					Invited	Invited	
S & H Support	Full participation req'd					Invited	Invited	
Security	Full participation req'd					Invited	Invited	
Visitors	Invited							
Key	Full participation req'd		Some participation			Invited		Invited

Training and Participation Requirements  
 Figure IS NOT intended to be inclusive of all training that may be required for each position.

FIGURE G-3.1

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# IMPLEMENTATION AND NOTIFICATION



SEE NEXT PAGE

Employee or Any Other Source

Emergency Coordinator (AEDO)

Communications Center

President, Management Contractor

DOE Site Manager

EC&QA

CEMA Butler & Hamilton County

Environmental Compliance Release Evaluator

Emergency Duty Officer (Staff Mgr)

Public Affairs

Communications

FIG. G-4



FIGURE G-5.2

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EMERGENCY ACTION LEVEL GUIDE

Radiological Events	Alert	Site Area	General
Criteria	Loss of accountable special nuclear material  Unplanned release of radioactive material projected to result in an exposure at the facility boundary $\geq 100$ mrem TEDE but $< 1$ rem TEDE	Unplanned release of radioactive material projected to result in an exposure at the facility boundary $\geq 1$ rem TEDE	Unplanned release of radioactive material projected to result in an exposure at the site boundary $\geq 1$ rem TEDE or $\geq 5$ rem thyroid.

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FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

Radiological Events	Alert	Site Area	General
Onsite - Protective Actions	Shelter in place if possible, evacuate immediate danger area Rally point accountability Employee announcement Bioassay at termination		
Offsite - Protective Actions	Update counties and state regularly Monitoring onsite and/or offsite		Activate offsite warning system Issue Protective Active Recommendations Implement RCRA plan applicable
Event Mitigation Actions	Contain event Isolate area Terminate release Monitor onsite/offsite Clean up		
Response Groups	Emergency Duty Officers Emergency Operations Center Joint Information Center (JIC) Monitoring teams Security (Recall) Medical (Recall) Emergency Response Team (Recall) Mutual Aid (as needed)		

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FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

Hazardous Material Events	Alert	Site Area	General
<p><b>Criteria</b></p>	<p>Unplanned release of a hazardous substance resulting in a projected airborne concentration at the facility boundary <math>\geq</math> ERPG-1 and <math>&lt;</math> ERPG-2. If ERPG values are not available, projected airborne concentration at the facility boundary <math>\geq</math> PEL-STEL and <math>&lt;</math> EPA LOC values.</p>	<p>Unplanned release from one 150 pound cylinder of chlorine resulting in an airborne concentration <math>\geq</math> 3 ppm (ERPG-2) at the facility boundary but <math>&lt;</math> 3 ppm at the site boundary.</p> <p>Unplanned release from an indoor tank containing 58,928 pounds of sulfuric acid resulting in an airborne concentration of <math>&gt;</math> 10 mg/m<sup>3</sup> (ERPG-2) at the facility boundary but <math>&lt;</math> 10 mg/m<sup>3</sup> at the site boundary.</p>	<p>Unplanned release from one 150 pound cylinder of chlorine resulting in detection of an airborne concentration of <math>&gt;</math> 3 ppm (ERPG-2) chlorine at the site boundary.</p> <p>Unplanned release from an indoor tank containing 58,928 pounds of sulfuric acid resulting in an airborne concentration of <math>\geq</math> 10 mg/m<sup>3</sup> (ERPG-2) at the site boundary.</p> <p>Unplanned release from a tank containing 334,905 pounds of nitric acid resulting in an airborne concentration of <math>&gt;</math> 10 ppm (EPA LOC) at the site boundary.</p>

NOTE: for hazardous material events:

Site Area Emergency -

Unplanned release of a hazardous substance resulting in a projected airborne concentration between the facility boundary and the site boundary is  $\geq$  ERPG-2. If ERPG values are not available,  $\geq$  EPA Level of Concern (LOC).

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**General Emergency -** Unplanned release of a hazardous substance resulting in a projected airborne concentration at the site boundary is  $\geq$  ERPG-2. If ERPG values are not available,  $\geq$  EPA LOC.

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FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

Hazardous Material Events	Alert	Site Area	General
Onsite - Protective Actions	Shelter in place if possible, evacuate immediate danger area. Rally point accountability. Employee announcement. Bioassay at termination.		
Offsite - Protective Actions	Update counties and state regularly. Monitoring onsite and/or offsite.		Activate offsite warning system. Issue Protective Active Recommendations.
Event Mitigation Actions	Contain event. Isolate area. Terminate release. Monitor onsite/offsite. Implement RCRA plan applicable. Clean up.		
Response Groups	Emergency Duty Officers Emergency Operations Center Joint Information Center (JIC) Monitoring teams Security (Recall) Medical (Recall) Emergency Response Team (Recall) Mutual Aid (as needed)		

FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

<b>Health &amp; Safety</b>	<b>Operational Emergency</b>
<b>Criteria</b>	<p>The following events or conditions represent, cause, or have the potential to cause serious health and safety impacts to workers or members of the public.</p> <p>Radioactive or other hazardous material contamination that is causing or may reasonably be expected to cause uncontrolled personnel exposures exceeding protective action criteria.</p> <p>An offsite hazardous material event not associated with DOE operations that is observed to have or is predicted to have an impact on a DOE site such that protective actions are required for onsite DOE workers.</p> <p>An occurrence that causes or can reasonably be expected to cause significant structural damage to DOE facilities, with confirmed or suspected personnel injury or death or substantial degradation of health and safety.</p> <p>Any facility evacuation in response to an actual occurrence that requires time-urgent response by specialist personnel, such as hazardous material responders or mutual aid groups not normally assigned to the affected facility.</p> <p>An unplanned nuclear criticality resulting in actual or potential facility damage and/or release of radioactive material to the environment.</p> <p>Any non-transportation-related mass casualty event.</p>

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FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

Health & Safety	Operational Emergency	
Onsite - Protective Actions	Shelter in place if possible, evacuate immediate danger area Rally point accountability Employee announcement Bioassay at termination	
Offsite - Protective Actions	Update counties and state regularly Monitoring onsite and/or offsite	Activate offsite warning system Issue Protective Active Recommendations Implement RCRA plan applicable
Event Mitigation Actions	Contain event Isolate area Terminate release Monitor onsite/offsite Clean up	
Response Groups	Emergency Duty Officers Emergency Operations Center Joint Information Center (JIC) Monitoring teams Security (Recall) Medical (Recall) Emergency Response Team (Recall) Mutual Aid (as needed)	

FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

Environmental	Operational Emergency
<p><b>Criteria</b></p>	<p>The following events or conditions represent, cause, or have the potential to cause serious detrimental effects on the environment.</p> <p>Any actual or potential release of dispersable hazardous material or regulated pollutant to the environment, in a quantity greater than five times the Reportable Quantity (RQ) specified for such material in 40 CFR 302, that could result in significant offsite consequences such as major wildlife kills, wetland degradation, aquifer contamination, or the need to secure downstream water supply intakes.</p> <p>Any release of greater than 1,000 gallons (24 barrels) of oil to inland waters; greater than 10,000 gallons (238 barrels) of oil to coastal waters; or a quantity of oil that could result in significant off-site consequences (e.g., need to relocate people, major wildlife kills, wet-land degradation, aquifer contamination, need to secure downstream water supply intakes, etc.) [Oil as defined by the Clean Water Act (33 U.S.C. 1321) means any kind of oil and includes petroleum.].</p>

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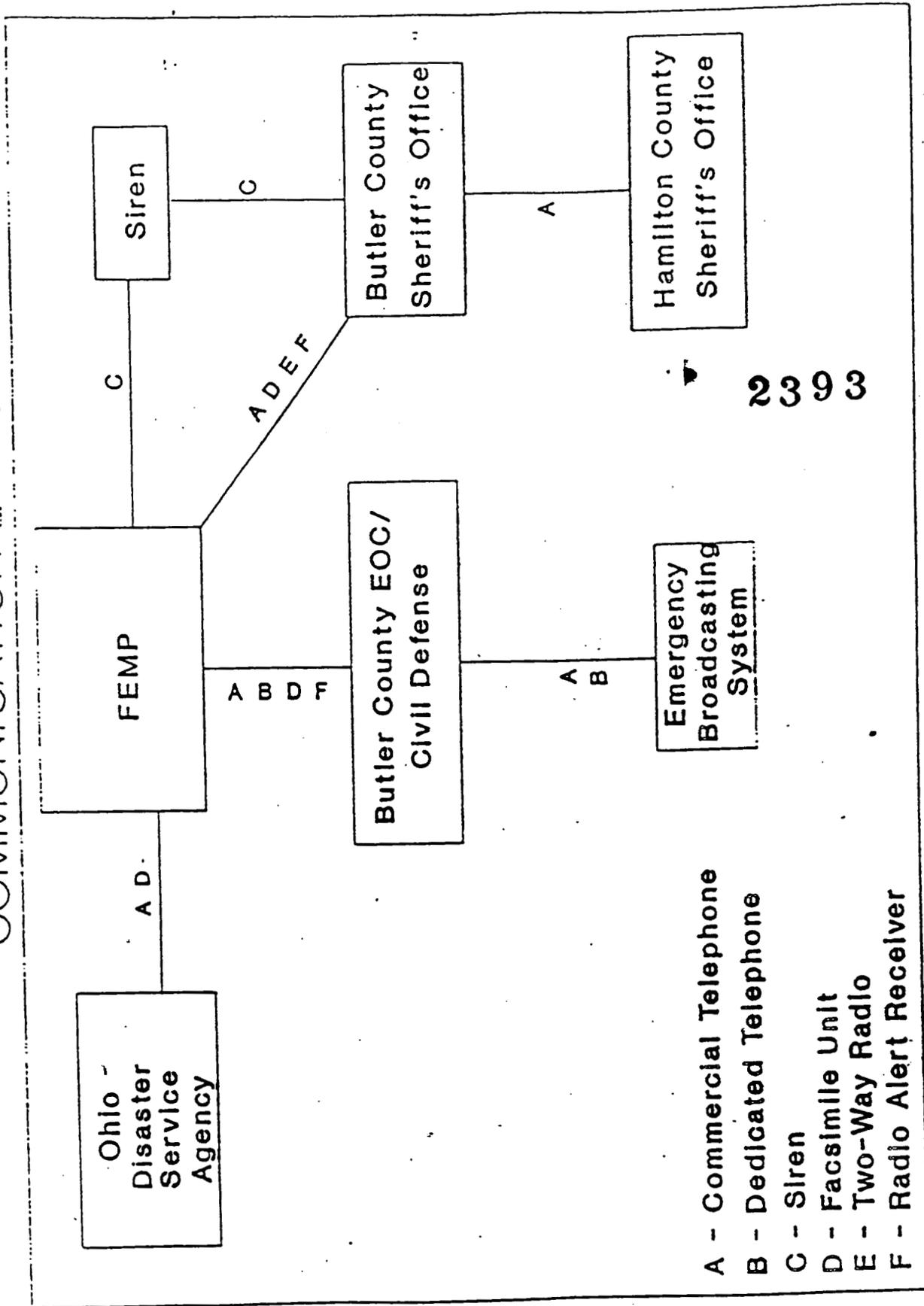
FIGURE G-5.2

EMERGENCY ACTION LEVEL GUIDE

Environmental	Operational Emergency	
Onsite - Protective Actions	Shelter in place if possible, evacuate immediate danger area Rally point accountability Employee announcement Bioassay at termination	
Offsite - Protective Actions	Update counties and state regularly Monitoring onsite and/or offsite	Activate offsite warning system Issue Protective Active Recommendations Implement RCRA plan applicable
Event Mitigation Actions	Contain event Isolate area Terminate release Monitor onsite/offsite Clean up	
Response Groups	Emergency Duty Officers Emergency Operations Center Joint Information Center (JIC) Monitoring teams Security (Recall) Medical (Recall) Emergency Response Team (Recall) Mutual Aid (as needed)	

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# COMMUNICATION LINKS



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- A - Commercial Telephone
- B - Dedicated Telephone
- C - Siren
- D - Facsimile Unit
- E - Two-Way Radio
- F - Radio Alert Receiver

FIGURE G-6

## Chapter 1 - Emergency Response Organization

Emergency Response Organization Elements	Pager Group (s)	Activation Method		Approximate Response Time	
		Primary	Backup	Onsite	Offsite
AEDO	All	ERT Pager or radio	Pager, EMS or telephone	Immediate upon notification	Variable, < 45 minutes
EDO	1 & 2	Pager	Telephone		
EOC Staff	1 and/or 2				
Emergency Response Team	3	ERT Pager or radio	Pager, EMS, or telephone		
Medical	3				
Security and Accountability	4				
Monitoring Team	5	Pager	Telephone		
Release Evaluator	None				
Public Affairs	1 & 2	Pager	Telephone		
Mutual Aid	N.A.	Crosby Twp. pager otherwise telephone request	Radio request	Onsite in 10 to 30 minutes	

- An activation methods for all elements of the Emergency Response Organization

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OHIO HAZARDOUS WASTE RELEASE  
FIRE, EXPLOSION REPORT TO OHIO EPA  
OAC 3745-54-56(D)(2)

Ohio EPA 800-282-9378

- 1. Name of Reporter \_\_\_\_\_
- 2. Telephone Number of Reporter \_\_\_\_\_
- 3. Date of Incident \_\_\_\_\_
- 4. Time of Incident \_\_\_\_\_
- 5. Type of Incident \_\_\_\_\_
- 6. Name of Materials to Extent Known \_\_\_\_\_
- 7. Quantity of Materials to Extent Known \_\_\_\_\_
- 8. Extent of Injuries, If Any \_\_\_\_\_
- 9. Possible Hazards to Human Health or the Environment Outside Facility \_\_\_\_\_

EXAMPLE

DATE AND TIME OF CALL AND PERSON RECEIVING CALL

Ohio EPA

Date \_\_\_\_\_ Time \_\_\_\_\_ Person \_\_\_\_\_

NOTIFICATION OF OHIO EPA OF IMPLEMENTATION OF CONTINGENCY PLAN  
OAC 3745-54-56(J)

2393

(Date)

, Director  
Ohio EPA  
1800 WaterMark Drive  
P. O. Box 1049  
Columbus, Ohio 43266-0149

SUBJECT: NOTIFICATION OF IMPLEMENTATION OF FEMP OHIO HAZARDOUS  
WASTE CONTINGENCY PLAN - OAC 3745-54-56(J)

Dear :

The following information is being submitted by the U.S. Department of Energy (DOE) pursuant to OAC 3745-54-56(J). On \_\_\_\_\_, an incident occurred at the Fernald Environmental Management Project (FEMP) which required the implementation of the site's Ohio Hazardous Waste Contingency Plan. The contents of this notice are based on the best available information known at this time.

1. Name, Address, Telephone Number of Owner

U. S. Department of Energy  
Office of Environmental Restoration and Waste Management  
1000 Independence Avenue Southwest  
Washington, D. C. 20585  
(202) 586-5000

2. Name, Address, Telephone Number of Facility

Fernald Environmental Management Project - Site Address  
7400 Willey Road  
Fernald, Ohio 45030  
(513) 738-6200

Fernald Office - Mailing Address  
U. S. Department of Energy  
P.O. BOX 398705  
Cincinnati, Ohio 45239-8705  
(513) 738-6200

3. Date of Incident \_\_\_\_\_

4. Time of Incident \_\_\_\_\_

- 5. Type of Incident \_\_\_\_\_
- 6. Name of Materials Involved \_\_\_\_\_  
\_\_\_\_\_
- 7. Quantity of Materials Involved \_\_\_\_\_
- 8. Extent of Injuries, If Any \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 9. Assessment of Actual or Potential Hazards to Human Health or the Environment, If Applicable  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 10. Estimated Quantity and Disposition of Recovered Material that Resulted from the Incident  
**EXAMPLE**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature

Title

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WRITTEN NOTICE TO OHIO EPA AND APPROPRIATE LOCAL AUTHORITIES  
OF RESUMPTION OF HAZARDOUS WASTE OPERATIONS  
OAC 3745-54-56(F)

(Date)

(Ohio EPA, Hamilton & Butler County Planning Committees)

SUBJECT: NOTIFICATION OF RESUMPTION OF HAZARDOUS WASTE  
OPERATIONS - OAC 3745-5456(F)

This notice is being made to comply with the requirements of OAC 3745-54-56(F).  
On \_\_\_\_\_, there was an OAC 3745-54-56 Emergency Incident at the Fernald  
Environmental Management Project (FEMP) site. The U.S. Department of Energy  
(DOE) expects to resume operation in the affected areas of the facility on  
\_\_\_\_\_.

No waste which was incompatible with the released materials was treated, stored,  
or disposed of until clean-up procedures were completed. All emergency equipment  
used in the affected area listed in the contingency plan has been cleaned and is  
fit for its intended use.

Signature

Title

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**ATTACHMENT G-1**

**Emergency Procedures, Site Layout and Equipment Information**

Attachment G-1 contains the description of evacuation procedures, a listing of safety and emergency equipment and site layouts of the hazardous waste management units (HWMUs). Hazardous Waste Management Units for which information is presented are listed below. The listing is followed by a description of the general procedures to be implemented by FEMP personnel in the event of an explosion, fire or spill. The remainder of Attachment G-1 describes the evacuation routes from individual units to Rally Points, and safety and emergency equipment for each HWMU, Quonset Hut #1 (Building 60), the Liquid Mixed Waste Project Bulk Tanks, and the 90 Day Hazardous Waste Storage Locker.

**90 Day Hazardous Waste Storage Locker**

The 90 Day Hazardous Waste Storage Locker is used to store hazardous wastes in containers 90 days or less. Fire and safety equipment allocated to this area is described in the following pages.

**Hazardous Waste Management Units**

The following HWMUs are storage units for which a permit is being applied for and that have fire and safety and emergency equipment provided at each unit:

- HWMU No. 20 - Plant 1 Pad
- HWMU No. 29 - Plant 8 Warehouse (Building 80)
- HWMU No. 34 - KC-2 Warehouse (Building 63)
- HWMU No. 37 - Plant 6 Warehouse (Building 79)

The Pilot Plant Warehouse (Building 68) and CP Storage Warehouse (Butler Building, Building 56) are also included in the permit application for the storage of containers of hazardous waste. These units are currently not being used for hazardous waste storage so that there is no safety/emergency equipment identified with these units.

The following HWMUs are units for which a permit is not being sought. They are included here to present a complete picture of all HWMUs, as discussed on page G-3. Existing fire and safety equipment is listed as available but may not be applicable to each HWMU due to the lack of hazardous waste currently in the area:

- HWMU No. 1 - Fire Training Facility
- HWMU No. 4 - Drum Storage Area Near Loading Dock (Lab Bldg)
- HWMU No. 5 - Drum Storage Area South of W-26 (Lab Bldg)
- HWMU No. 10 - NAR System Components
- HWMU No. 11 - Tank Farm Sump
- HWMU No. 14 - Box Furnace
- HWMU No. 15 - Oxidation Furnace #1
- HWMU No. 17 - Plant 8 East Drum Storage Pad
- HWMU No. 18 - Plant 8 West Drum Storage Pad
- HWMU No. 22 - Abandoned Sump West of Pilot Plant
- HWMU No. 27 - Waste Pit No. 4
- HWMU No. 28 - Trane Thermal Liquid Incinerator
- HWMU No. 36 - Storage Pad North of Plant 6
- HWMU No. 41 - Sludge Drying Beds
- HWMU No. 42 - Waste Pit No. 5
- HWMU No. 46 - Uranyl Nitrate Tanks (NFS Storage Area)
- HWMU No. 47 - Uranyl Nitrate Tanks (North of Plant 2)
- HWMU No. 48 - Uranyl Nitrate Tanks (Southeast of Plant 2)
- HWMU No. 49 - Uranyl Nitrate Tanks (Digestion Area)
- HWMU No. 50 - Uranyl Nitrate Tanks (Raffinate Building)

#### **General Information**

Hazardous Waste Management Unit (HWMU), Quonset Hut #1 (Building 60), the Liquid Mixed Waste Project Bulk Tanks, and the 90-Day Hazardous Waste Storage Locker emergency procedures are described specifically in this section. Responses to an event are identical for each unit and the details are given for the response to the three types of events:

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- 1) an explosion;
- 2) a fire; or
- 3) a spill of hazardous waste

A response involves the action that endangered personnel must take when encountering an actual or potential explosion, fire, or spill. Personnel may have the knowledge and judgement to discern the severity of the situation. Personnel lacking knowledge sufficient to discern the severity of the situation should immediately move to a safe location and contact the Emergency Coordinator/AEDO. The categorization level of an EVENT may not reach an OPERATIONAL EMERGENCY level, and thus will not cause the implementation of this Contingency Plan. The situation may nevertheless warrant a protective and remediation response. For example, an incident that does not involve the Emergency Response Team may be handled by personnel properly trained under the RCRA training curriculum; small spills or fires may be handled by immediate action of the individuals discovering the event. Even events that involve response by the Emergency Response Team, if the Emergency Coordinator/AEDO so determines, may not require implementation of this Contingency Plan. See Section G-3 and G-4c for guidelines the Emergency Coordinator/AEDO uses in determining implementation of this Contingency Plan. See Section G-4 of this Contingency Plan for general emergency response procedures.

#### **EVACUATION & SAFETY PLAN FOR FEMP HAZARDOUS WASTE MANAGEMENT UNITS (HWMUs)**

##### **1. Purpose and Scope of the Contingency Plan**

To protect the lives and property of all personnel inside and in the vicinity of an event at the FEMP, and the prevention of environmental damage.

##### **2. Reason for Activating the Contingency Plan**

###### **2.1 Explosion**

- 2.1.1** Any employee who detects an actual or potential explosive situation in the vicinity should immediately alert all nearby workers unless the situation is self evident.
- 2.1.2** Pull the nearest fire alarm. Report the exact location of the fire to the Communication Center by two-way radio or telephone, if an alarm box is not near.
- 2.1.3** Leave the area promptly by the least dangerous and most direct or designated route. Continue the escape by evacuating to the designated rally point (Figure G-1) before trying to make a radio report to summon the Emergency Response Team (ERT).
- 2.1.4** Using nearby emergency equipment may not be possible if it is in what appears to be the danger zone.
- 2.1.5** Report the nature of the problem and exact location to the Communication Center by two-way radio or telephone and wait for assistance from the ERT.
- 2.1.6** Supervisor or senior person in charge should take account of all personnel and summon immediate medical attention to seriously injured personnel.
- 2.1.7** Continue evacuation to the next safe rally point before taking account of all personnel, if it is evident that the explosion poses a threat to the designated Rally Point or if this rally point is downwind in the path of smoke or vapors.
- 2.1.8** Use any available and appropriate emergency equipment such as eyewash and shower, if exposed to fumes, smoke, or other hazardous physical irritations. Notify your supervisor and report to medical personnel in Building 53A immediately. Anyone who is aware of any exposure to a fellow worker should request immediate medical help for that person.

**2.2 FIRE**

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- 2.2.1** Any employee who detects an actual or potential fire situation in the vicinity should immediately alert all nearby workers.
- 2.2.2** Pull the nearest fire alarm. Report the exact location of the fire to the Communication Center by two-way radio or telephone, if an alarm box is not near.
- 2.2.3** Use available fire fighting equipment to fight the fire until the ERT arrives if there is no immediate danger involved and you have proper training.
- 2.2.4** Immediately use available emergency equipment to provide first aid for burns and other minor injuries.
- 2.2.5** Supervisor or senior person in charge should take account of all personnel and summon immediate medical attention to seriously injured personnel.
- 2.2.6** Leave the building quickly and calmly by the least dangerous and most direct or designated route.
- 2.2.7** Evacuate to the designated rally point. Supervisor or senior person in charge should take account of all personnel.
- 2.2.8** Continue evacuation to the next safe rally point, if this rally point is downwind in the path of smoke or fumes, before taking account of all of the personnel.
- 2.2.9** Use any available and appropriate emergency equipment such as eyewash and shower, if exposed to vapors, smoke, or other hazardous physical irritations. Notify your supervisor and report to medical personnel in Building 53A as soon as possible. Anyone who is aware of any exposure to a fellow worker should see that medical help is provided to that person.

## **2.3 HAZARDOUS WASTE SPILL**

**2.3.1** Any employee who detects an actual or potential hazardous waste spill situation in the vicinity should immediately alert all nearby workers.

**2.3.2** Quickly leave the immediate area of the spill in the event of a spill or leak. Alert all other individuals in the area and summon the ERT by pulling the nearest fire alarm. Report the situation and details to the Communication Center by two-way radio or telephone, if an alarm box is not near.

**2.3.3** Obtain protection from spills and vapors by using the appropriate, available emergency equipment. If no immediate danger is involved and you have proper hazardous waste training and certification, use available spill control material and equipment to contain the spill until the ERT arrives. Also shut off any equipment that does not serve to control the spill. Ventilation should be left on unless a fire or electrical sparking poses a fire hazard in the building.

**NOTE:** Only trained personnel equipped with proper respiratory and skin/eye protection should attempt to contain extensive spills.

**2.3.4** Immediately use available emergency equipment to provide first aid for bodily contact with leaked materials and minor injuries.

**2.3.5** Supervisor or senior person in charge should take account of all personnel and summon immediate medical attention for seriously injured personnel.

**2.3.6** Leave the area promptly by the least dangerous and most direct or designated route to the designated rally point, if there is an immediate danger involved or it is evident that the spill cannot be controlled by local action.

**2.3.7** Continue evacuation to the next safe rally point before taking account of all personnel, if this rally point is in the path of spillage or downwind in the path of vapors.

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- 2.3.8 Use any available and appropriate emergency equipment such as eyewash and shower, if exposed to contact with waste materials or other hazardous physical irritations. Notify supervisor and report to medical personnel in Building 53A as soon as possible. Anyone who is aware of any exposure to a fellow worker should see to it that medical help is provided to that person.

**SAFETY EQUIPMENT**

HWMUs are supplied with varying levels and amounts of safety equipment depending upon the use, occupancy, and contents of the unit. The remainder of Attachment G-1 lists the locations of safety and emergency equipment designated for each HWMU. Only personnel with the appropriate training and experience shall utilize the specified safety equipment: fire extinguishers, respirators and protective clothing, and spill clean-up equipment.

**QUONSET HUT #1 (BUILDING 60)**

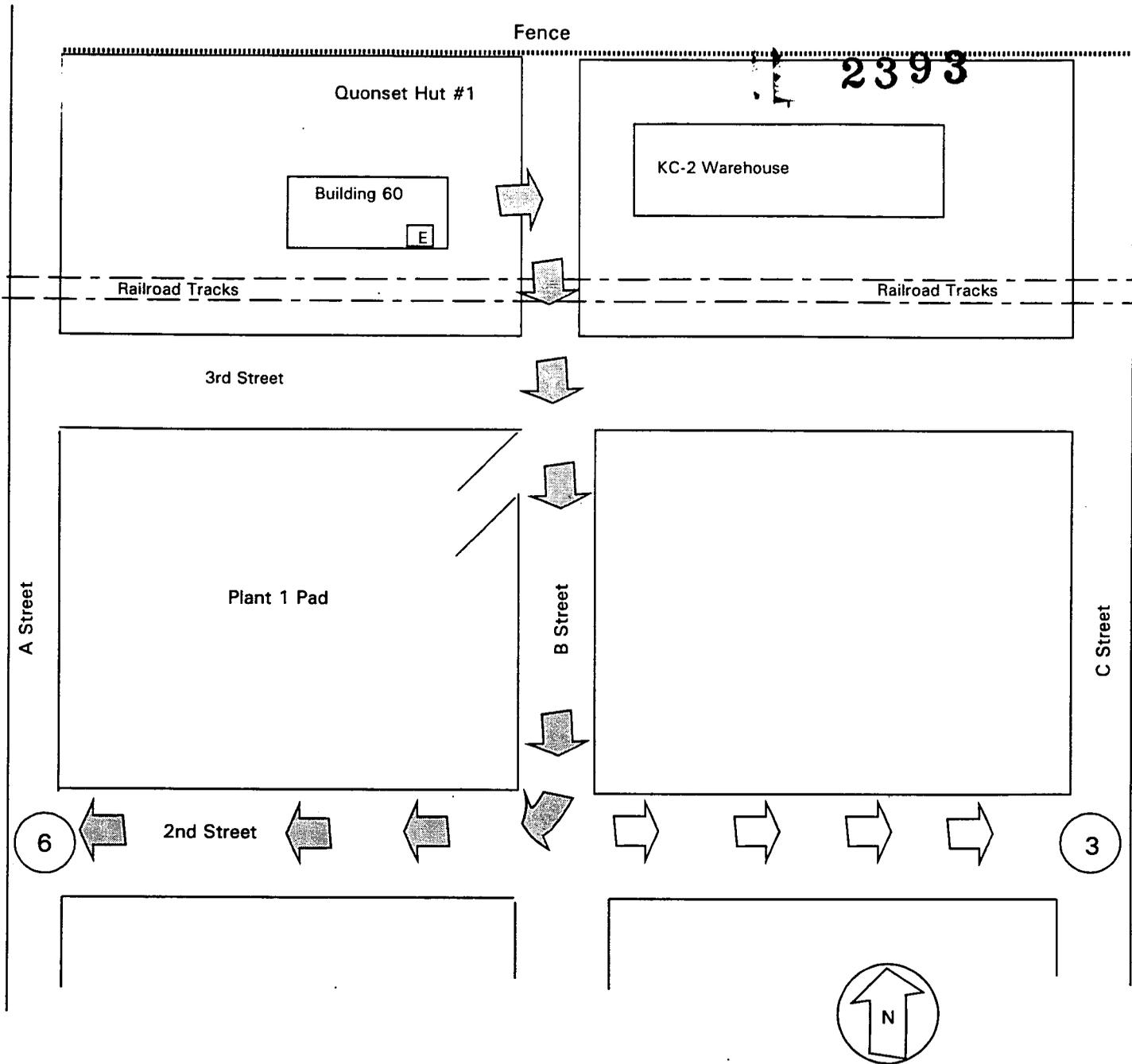
Quonset Hut #1 is a pre-engineered, single-level structure located west of the KC-2 Warehouse. It is being used for the storage of containers of thorium-contaminated mixed waste.

Personnel should evacuate to Rally Point No. 3 which is located at the intersection of 2nd Street and "C" Street. Movement is east on 3rd Street to south on "B" Street, then east on 2nd Street to the intersection of "C" Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on 3rd Street to south on "A" Street, then west on 2nd Street to the rally point.

The following is a list of safety equipment assigned to this unit:

- Eye Wash Station
  - 1) During operations, available to personnel in the area



**QUONSET HUT #1 (BUILDING 60)**

3 = Rally Point

E = Eye Wash Station

= Primary Evacuation Route

= Alternate Evacuation Route

### LIQUID MIXED WASTE PROJECT BULK TANKS

The southwest portion of Plant 1 Pad provides storage for ignitable hazardous waste. Several tanks will be relocated to Plant 1 Pad from their current location outside of the Plant 6 Warehouse (HWMU # 37) by September 1999. These tanks will be used to bulk PCBs/ignitable waste.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located North of the West Water Tower, at the Waste Pit Area access gate. Movement is south to 2nd Street, then west on 2nd Street to the Waste Pit Area access gate.

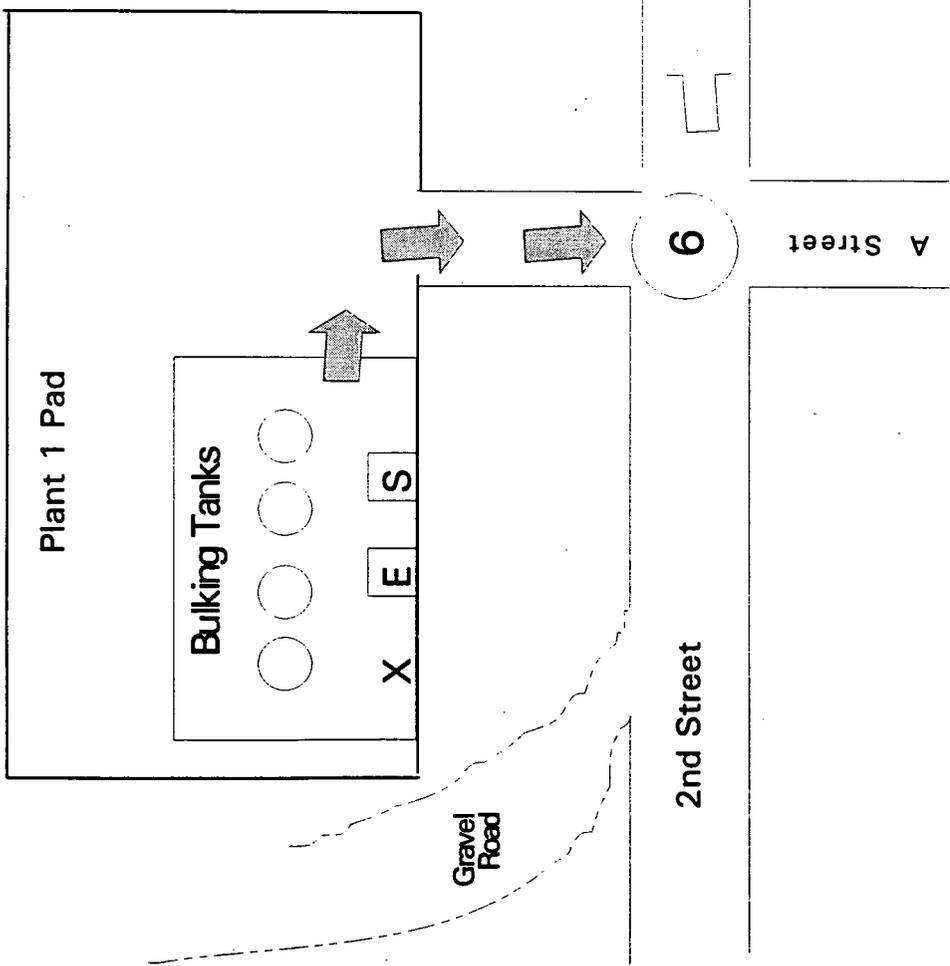
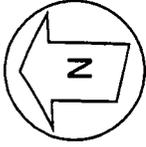
The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is east, then south past the east side of Building 1A to 2nd Street, and east on 2nd Street to the intersection of "C" Street.

By the end of June 1999, the main and alternate Rally Points will be reversed. The Primary Rally Point will be No. 3, and the alternate Rally Point will be No. 6. This reordering is consistent with the other RCRA storage warehouse (Building 56 (HWMU 19)) located in the same general vicinity as Plant 1 Pad.

The following is a list of safety equipment assigned to the bulk tanks:

- Fire Extinguisher
  - 1) 20# ABC posted in front of the bulk tanks
  
- Eye Wash Station
  - 1) Located in front of the bulk tanks
  
- Spill Cleanup Equipment
  - 2) Located in front of the bulk tanks

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**LIQUID MIXED WASTE PROJECT BULK TANKS**

- X = Fire Extinguisher
- S = Spill Cleanup Station
- E = Eye Wash/Safety Shower
- ↑ = Primary Evacuation Route
- ⊏ = Alternate Evacuation Route

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**90 DAY HAZARDOUS WASTE STORAGE LOCKER**

The 90 Day Hazardous Waste Storage Locker is a temporary container storage area located east of the Receiving and Incoming Materials Inspection Area (RIMIA). The locker is used to store hazardous waste that is non-radiologically contaminated for less than ninety days prior to shipment off-site for recycle or disposal.

Personnel should evacuate to Rally Point No. 1. Rally Point No. 1 is located at the Northeast corner of the FEMP East Parking Lot. Movement to Rally Point No. 1 is south on F street to the North Access Road and through the East Parking Lot to the rally point.

The Alternate Rally Point is No. 2. Rally Point No. 2 is located at the West side of the FEMP West Parking Lot, just north of the Stormwater Retention Basin. Movement to Rally Point No. 2 is south on F street to the North Access Road and west through the FEMP East and West Parking Lots to the rally point.

- Spill Cleanup Equipment
  - 1) Located inside 90 Day Hazardous Waste Storage Locker

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90 Day  
Hazardous  
Waste  
Storage Locker

Bldg.  
#82

F Street

North Access Road



West  
Parking  
Lot

East  
Parking  
Lot

1

2

### 90 DAY HAZARDOUS WASTE STORAGE LOCKER

← = Primary Evacuation Route

⇐ = Alternate Evacuation Route

1 = Rally Point

S = Spill Cleanup Equipment

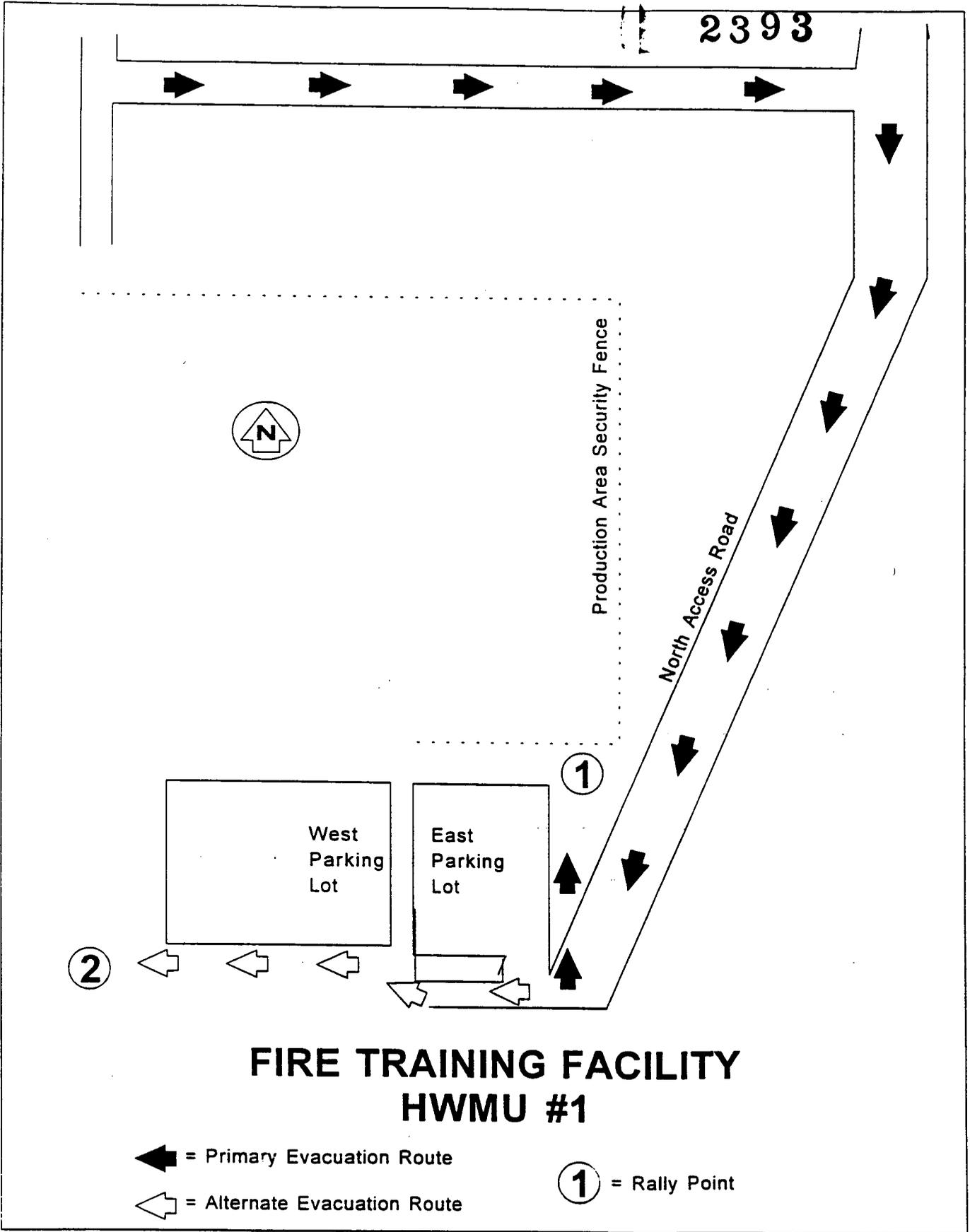
**HWMU No. 1 - FIRE TRAINING FACILITY**

This facility is located due north of the KC-2 Warehouse outside the perimeter fence.

Personnel should evacuate to Rally Point No. 1. Rally Point No. 1 is located at the Northeast corner of the FEMP East Parking Lot. Movement is east on the unnamed gravel road to south on the North Access Road to the FEMP East Parking Lot, then north to Rally Point #1 at the Northeast corner of the Parking Lot.

The Alternate Rally Point is No. 2. Rally Point No. 2 is located at the West side of the FEMP West Parking Lot, just north of the Stormwater Retention Basin. Movement to Rally Point No. 2 is west through the parking lot to the rally point.

There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.



**FIRE TRAINING FACILITY  
HWMU #1**

← = Primary Evacuation Route

◁ = Alternate Evacuation Route

① = Rally Point

**HWMU No. 4 - DRUM STORAGE AREA NEAR LOADING DOCK (LAB BLDG.)**

This was a container storage and waste transfer area which operated from 1952 to 1983.

**Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st and "B" Street. Movement is north to 1st Street, then east to "B" Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement to Rally Point No. 6 is north to 1st Street, west to "A" Street, then north to 2nd Street and west to the rally point.**

There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.

Waste Pit  
Security Fence

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2nd Street

6

"A" Street

1st Street

"B" Street

8

Lab Building  
(BLDG. 15A)

**DRUM STORAGE AREA NEAR  
LOADING DOCK (LAB BLDG.)  
HWMU #4**



= Primary Evacuation Route



= Alternate Evacuation Route



= Rally Point

**HWMU No. 5 - DRUM STORAGE AREA SOUTH OF ROOM W-26 (LAB BLDG.)**

This area was located near Building 15 and operated from 1983 to 1989.

Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st and "B" Street. Movement is north to 1st Street, then east to "B" Street.

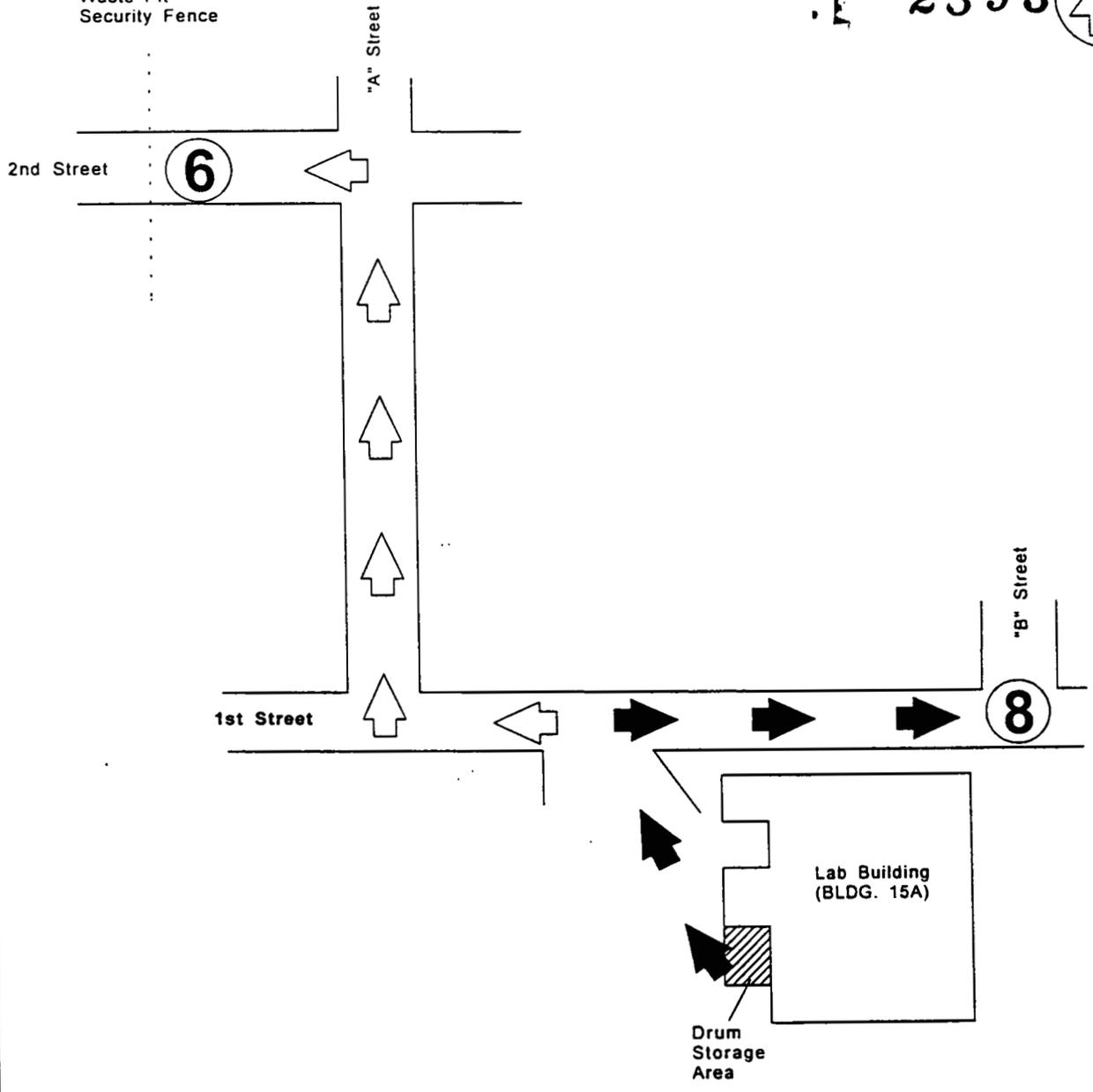
The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement to Rally Point No. 6 is north to 1st Street, west to "A" Street, then north to 2nd Street and west to the rally point.

There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.

Waste Pit  
Security Fence



2393



**DRUM STORAGE AREA SOUTH  
OF ROOM W-26 (LAB BLDG.)  
HWMU #5**



= Primary Evacuation Route



= Alternate Evacuation Route



= Rally Point

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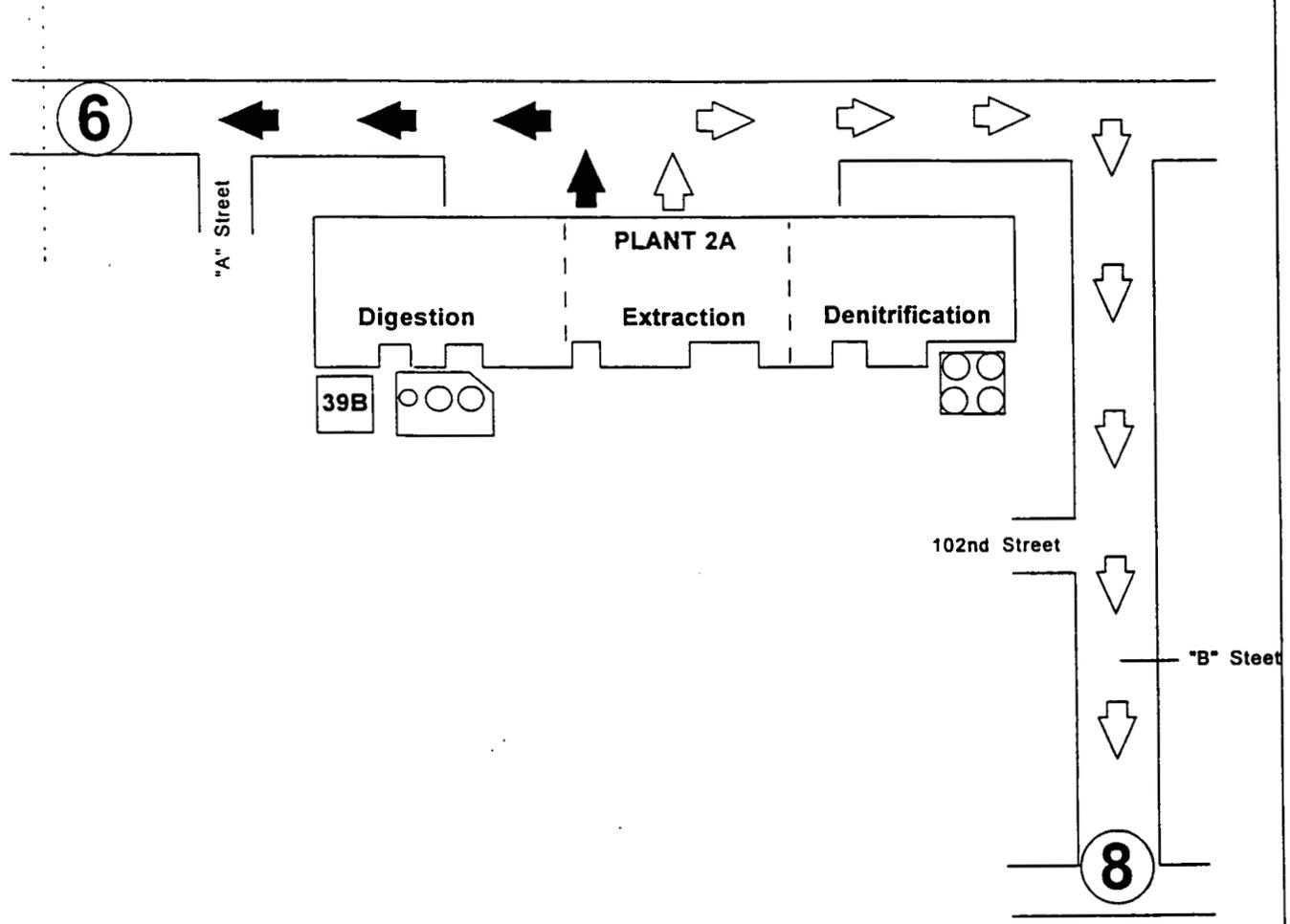
**HWMU No. 10 - NAR SYSTEM COMPONENTS**

This unit is located in the NAR Tank Farm and in the Denitrification Area which converted uranyl nitrate to uranium oxide. The tanks are empty and residues have been removed from the pots and ancillary equipment.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located North of the Water Tower. Movement can be north out of Building 2A to 2nd Street then west to the Waste Pit Area access gate. Movement can also be south out of the building to 102nd Street, west to "A" Street, north on "A" Street to 2nd Street then west to the Waste Pit Area access gate.

The Alternate Rally Point is No. 8. Rally Point No. 8 is located at the intersection of 1st Street and "B" Street. Movement is east to "B" Street, and south on "B" Street to the intersection of 1st Street.

There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.



# NAR SYSTEM COMPONENTS HWMU #10

 = rally point       = primary evacuation route       = alternate evacuation route

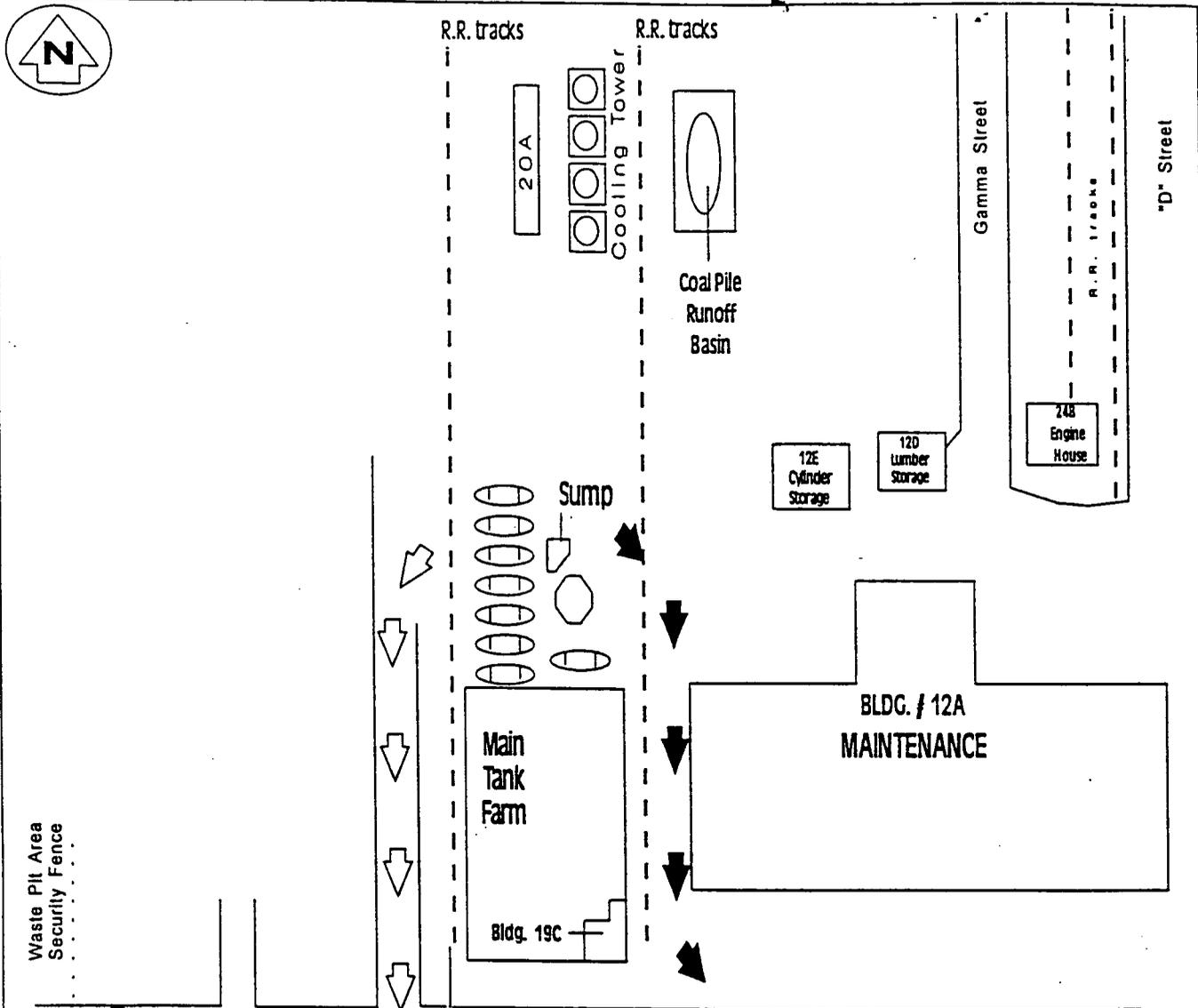
**HWMU No. 11 - TANK FARM SUMP**

The Tank Farm Sump is a surface impoundment located South of the Cooling Towers.

Personnel should evacuate to Rally Point No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is south to 2nd Street and east on 2nd Street to the intersection of "C" Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement to Rally Point No. 6 is south on "B" Street, then west on 2nd Street to the Waste Pit Area access gate.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.



# TANK FARM SUMP HWMU #11

-  - rally point
-  - primary route
-  - alternate route

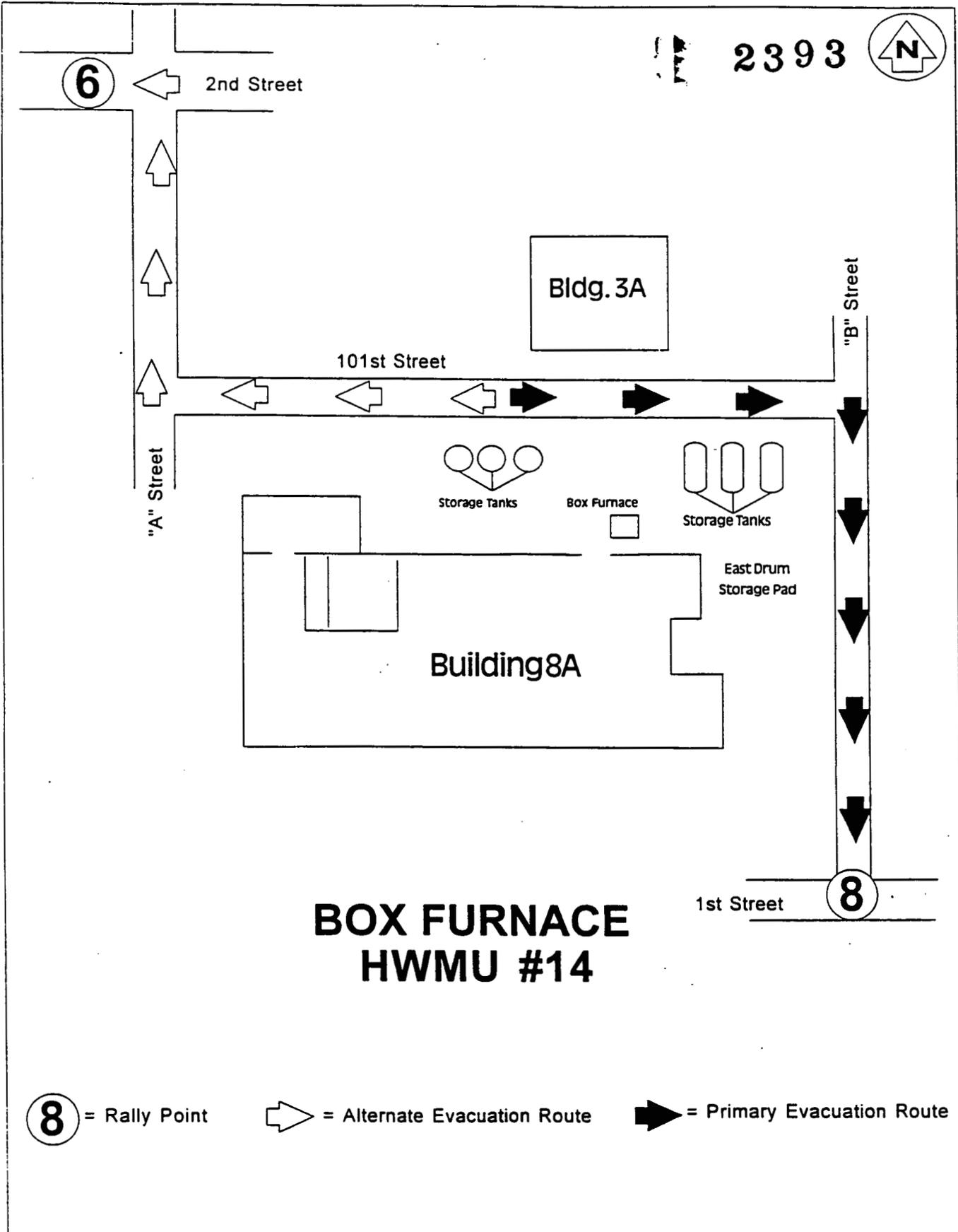
**HWMU No. 14 - BOX FURNACE**

The Box Furnace is located on the North side of Plant 8. Residues have been removed from this unit.

Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st Street and "B" Street. Movement is east to "B" Street and south on "B" Street to the intersection of 1st Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on 101st Street to north on "A" Street, then west on 2nd Street to the rally point.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.



**BOX FURNACE  
HWMU #14**

8 = Rally Point     
  = Alternate Evacuation Route     
  = Primary Evacuation Route

114

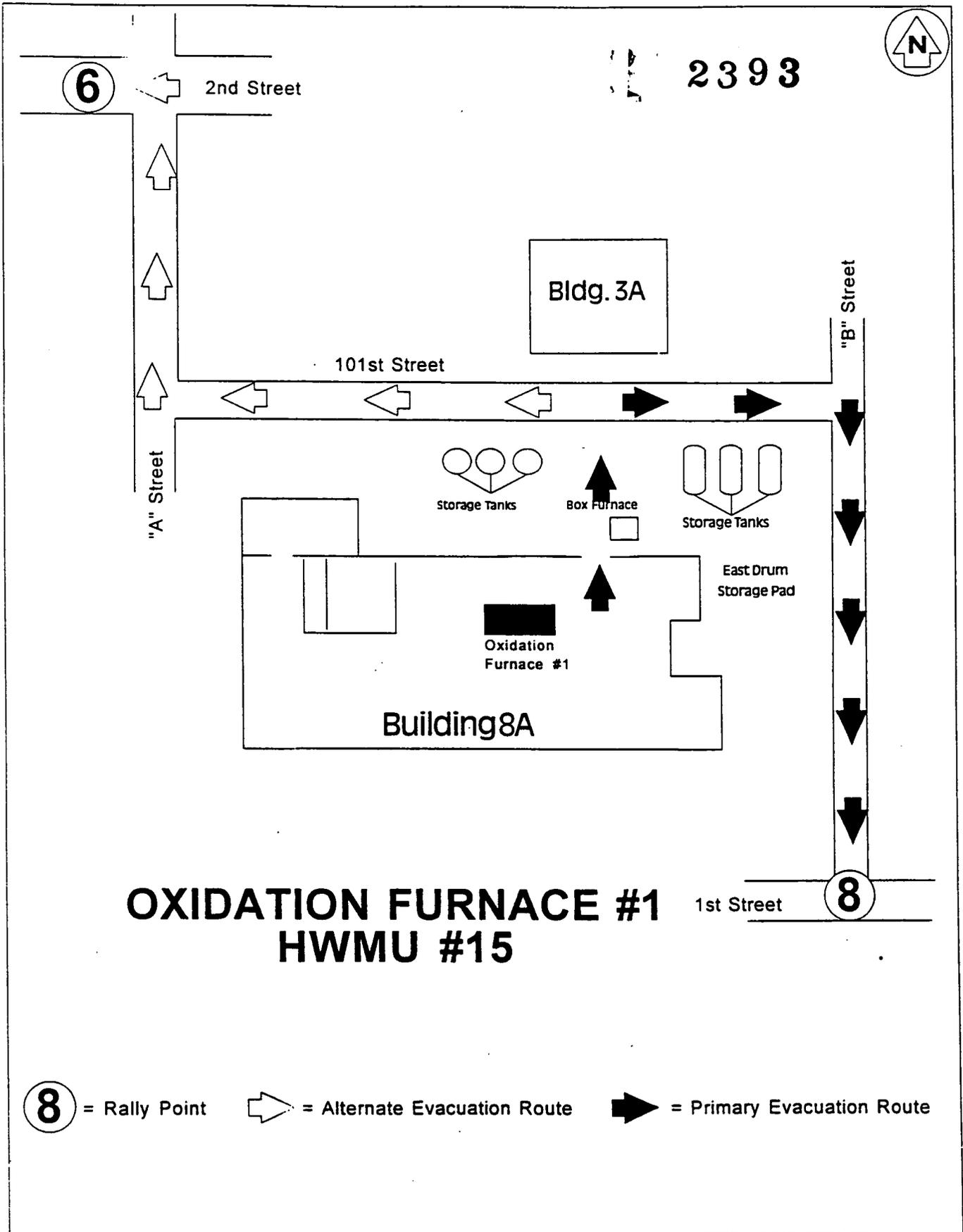
**HWMU No. 15 - OXIDATION FURNACE # 1**

This furnace is located in Plant 8 and functioned as a combined reprocessing, recovery and pre-treatment unit. Residues have been removed from this unit.

**Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st Street and "B" Street. Movement is east on 101st Street to "B" Street and south on "B" Street to the intersection of 1st Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit access gate. Movement is west on 101st Street to north on "A" Street, then west on 2nd Street to the rally point.**

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.



**OXIDATION FURNACE #1  
HWMU #15**

8 = Rally Point     
 = Alternate Evacuation Route     
 = Primary Evacuation Route

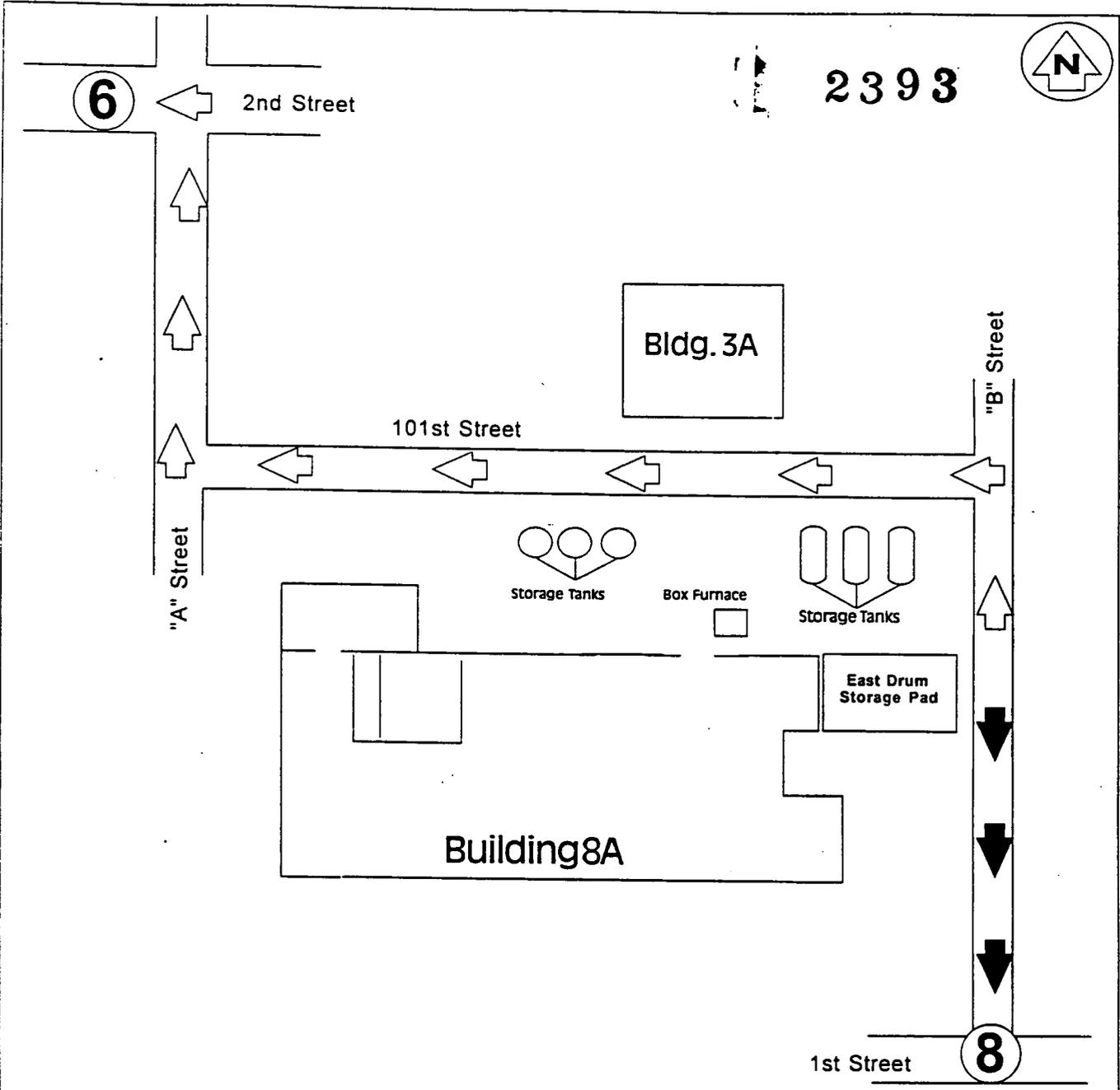
**HWMU No. 17 - PLANT 8 EAST DRUM STORAGE PAD**

This unit is a container storage area located East of Plant 8. The pad is no longer used for the storage of containers of hazardous waste but may be used for the temporary staging of containers of low-level radioactive waste.

**Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st Street and "B" Street. Movement is east to "B" Street and south on "B" Street to the intersection of 1st Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit access gate. Movement is north on "B" Street to west on 101st Street, then north on "A" Street to 2nd Street and west to the rally point.**

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.



**PLANT 8 EAST DRUM STORAGE PAD  
HWMU #17**

8 = Rally Point     
  = Alternate Evacuation Route     
  = Primary Evacuation Route

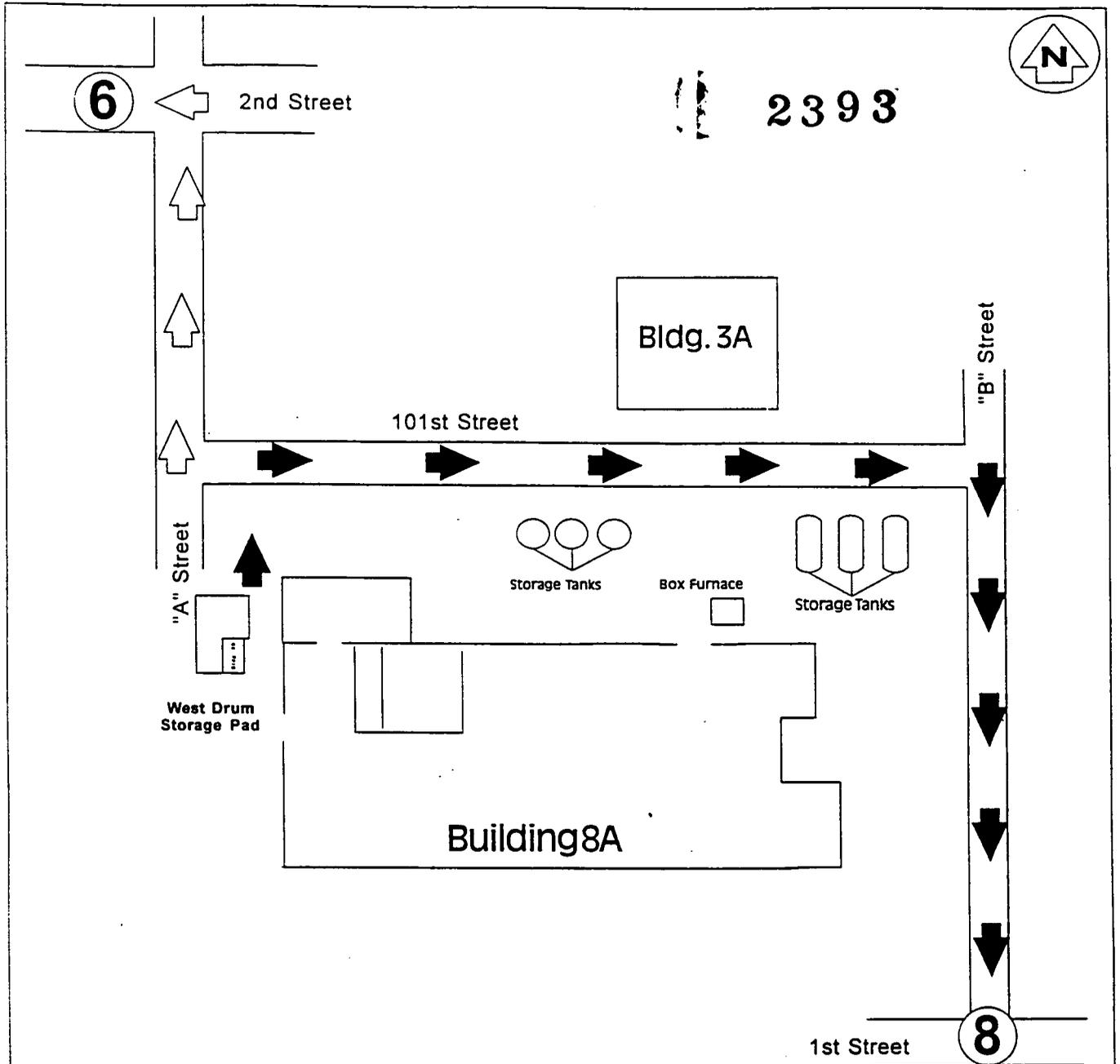
**HWMU No. 18 - PLANT 8 WEST DRUM STORAGE PAD**

The Plant 8 West Drum Storage Pad is located in the West section of the Production Area. The pad is no longer used to store containers of hazardous waste but may be used for short-term storage of containers of low-level radioactive waste.

**Personnel should evacuate to Rally Point No. 8 which is located at the intersection of 1st Street and "B" Street. Movement is east on 101st Street to "B" Street and south on "B" Street to the intersection of 1st Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit access gate. Movement is north on "A" Street to 2nd Street and west to the rally point.**

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.



**PLANT 8 WEST DRUM STORAGE PAD  
HWMU #18**

8 = Rally Point     
  = Alternate Evacuation Route     
  = Primary Evacuation Route

**HWMU No. 19 - CP STORAGE WAREHOUSE BLDG. 56 (BUTLER BLDG.)**

The CP Storage Warehouse is a pre-engineered, ribbed, unheated building covered by metal roofing. There currently are no containers of hazardous waste being stored in the CP Storage Warehouse.

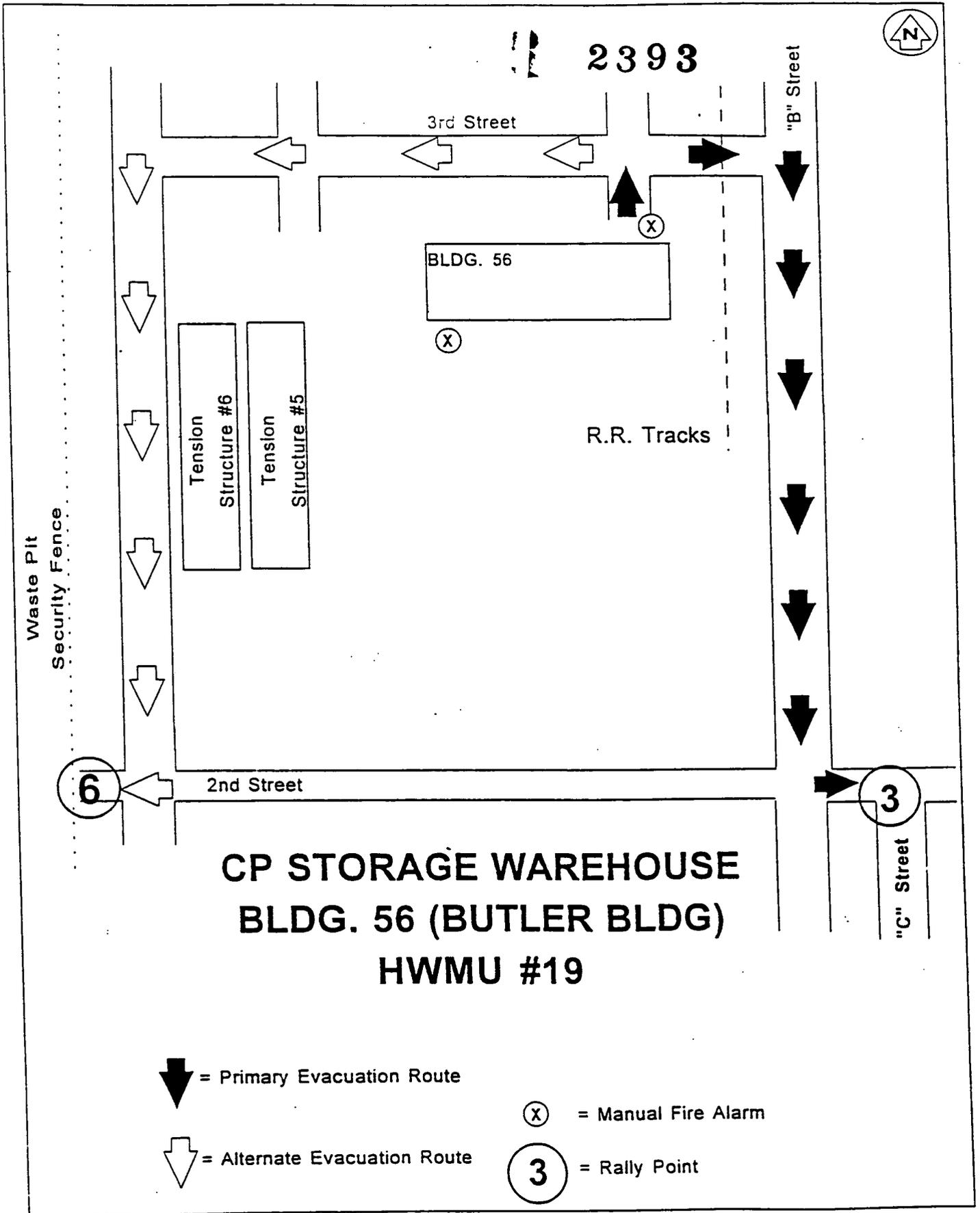
**Personnel should evacuate to Rally Point No. 3 which is located at the intersection of 2nd Street and "C" Street. Movement is east on 3rd Street to south on "B" Street, then east on 2nd Street to the intersection of "C" Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on 3rd Street to south on "A" Street, then west on 2nd Street to the rally point.**

The following is a list of safety equipment assigned to this unit:

- Manual Fire Alarms
  - 1) On outside Northeast building corner
  - 2) On outside Southwest building corner

Communication devices are available for personnel accessing this unit for emergency notification purposes.



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**HWMU No. 20 - PLANT 1 PAD**

The Plant 1 Pad provides indoor and outdoor storage for hazardous waste. Ignitable hazardous wastes are stored in the hazardous waste storage lockers.

**Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located North of the West Water Tower, at the Waste Pit Area access gate. Movement is south to 2nd Street, then west on 2nd Street to the Waste Pit Area access gate.**

**The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is east, then south past the east side of Building 1A to 2nd Street, and east on 2nd Street to the intersection of "C" Street.**

By the end of June 1999, the main and alternate Rally Points will be reversed. The Primary Rally Point will be No. 3, and the alternate Rally Point will be No. 6. This reordering is consistent with the other RCRA storage warehouse (Building 56 (HWMU 19)) located in the same general vicinity as Plant 1 Pad.

The following is a list of safety equipment assigned to this unit:

- Manual Fire Alarms
  - 1) Outside on North wall of Building 30A
  - 2) Inside door on South wall of Trailer #93
  
- Fire Extinguishers
  - 1-18) 10# ABC Eighteen (18) in Tension Support Structure #4
  - 19-36) 10# ABC Eighteen (18) in Tension Support Structure #5
  - 37-44) 10# ABC Eight (8) in Tension Support Structure #6
  - 45) 10# ABC outside T-65 located on the north end of Tension Support Structure #5
  
- Eye Wash Station
  - 1) Inside, south wall of Tension Support Structure #4

123

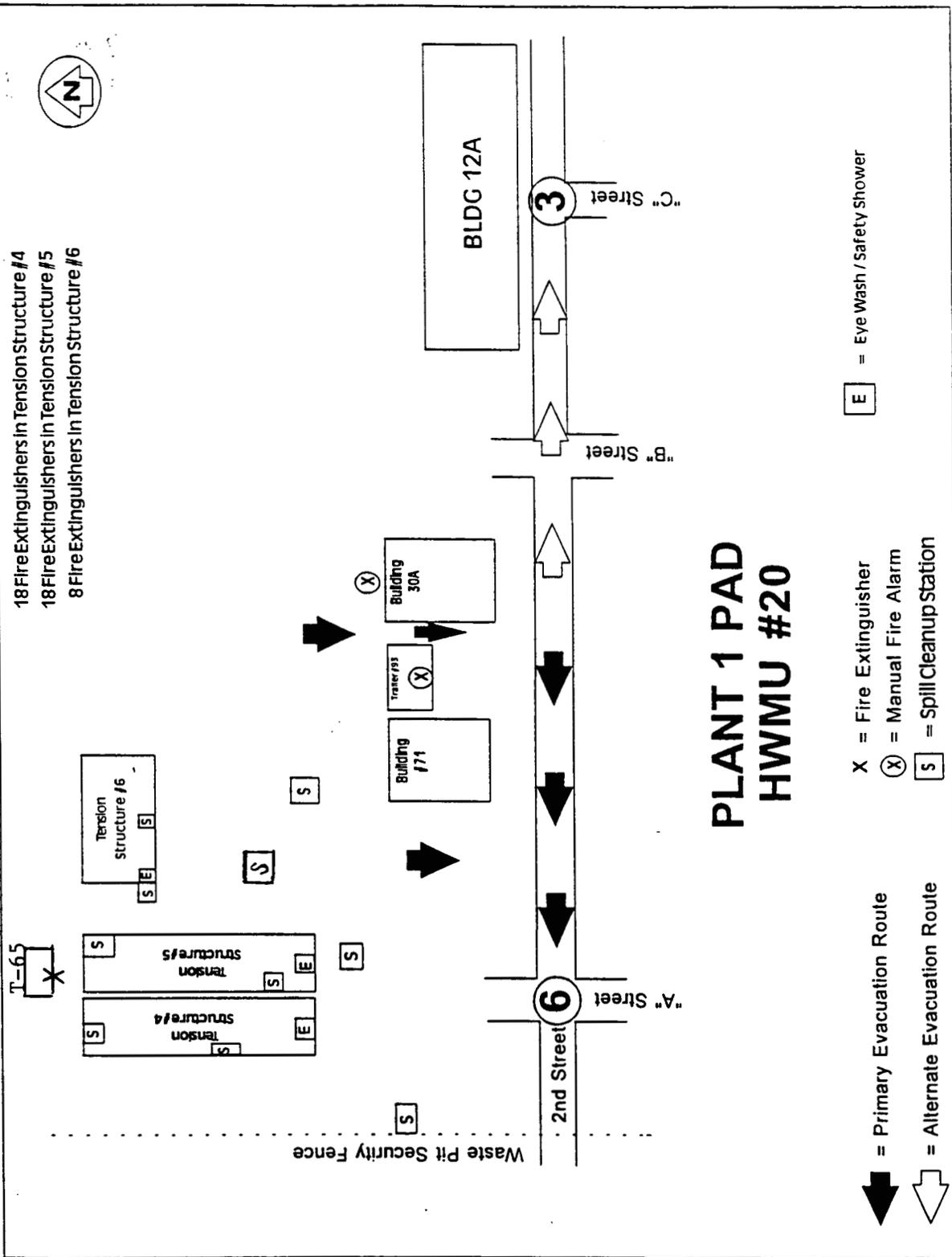
HWMU NO. 20 - PLANT 1 PAD

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- Eye Wash Station
  - 2) Inside, south wall of Tension Support Structure #5
  - 3) Inside, southwest corner of Tension Support Structure #6
  
- Spill Cleanup Equipment
  - 1) Inside, at north wall of Tension Support Structure #4
  - 2) Inside, at southwest wall of Tension Support Structure #5
  - 3) Inside, at south wall of Tension Support Structure #6
  - 4) Outside of Tension Support Structure #5, south of south wall
  - 5) Outside, southwest of Tension Support Structure #4 by waste pit security fence
  - 6) Outside, southwest corner of Tension Support Structure #6
  - 7) Inside, north of Tension Support Structure #5
  - 8) Inside, near center of west wall of Tension Support Structure #4
  - 9) Outside, northwest of Building #71
  - 10) Outside, east of Tension Support Structure #5

Communication devices are available for personnel accessing this unit for emergency notification purposes.

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18 Fire Extinguishers in Tension Structure #4  
 18 Fire Extinguishers in Tension Structure #5  
 8 Fire Extinguishers in Tension Structure #6

# PLANT 1 PAD HWMU #20

- = Primary Evacuation Route
- = Alternate Evacuation Route
- X = Fire Extinguisher
- (X) = Manual Fire Alarm
- S = Spill Cleanup Station
- E = Eye Wash / Safety Shower

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HWMU No. 22 - ABANDONED SUMP WEST OF PILOT PLANT

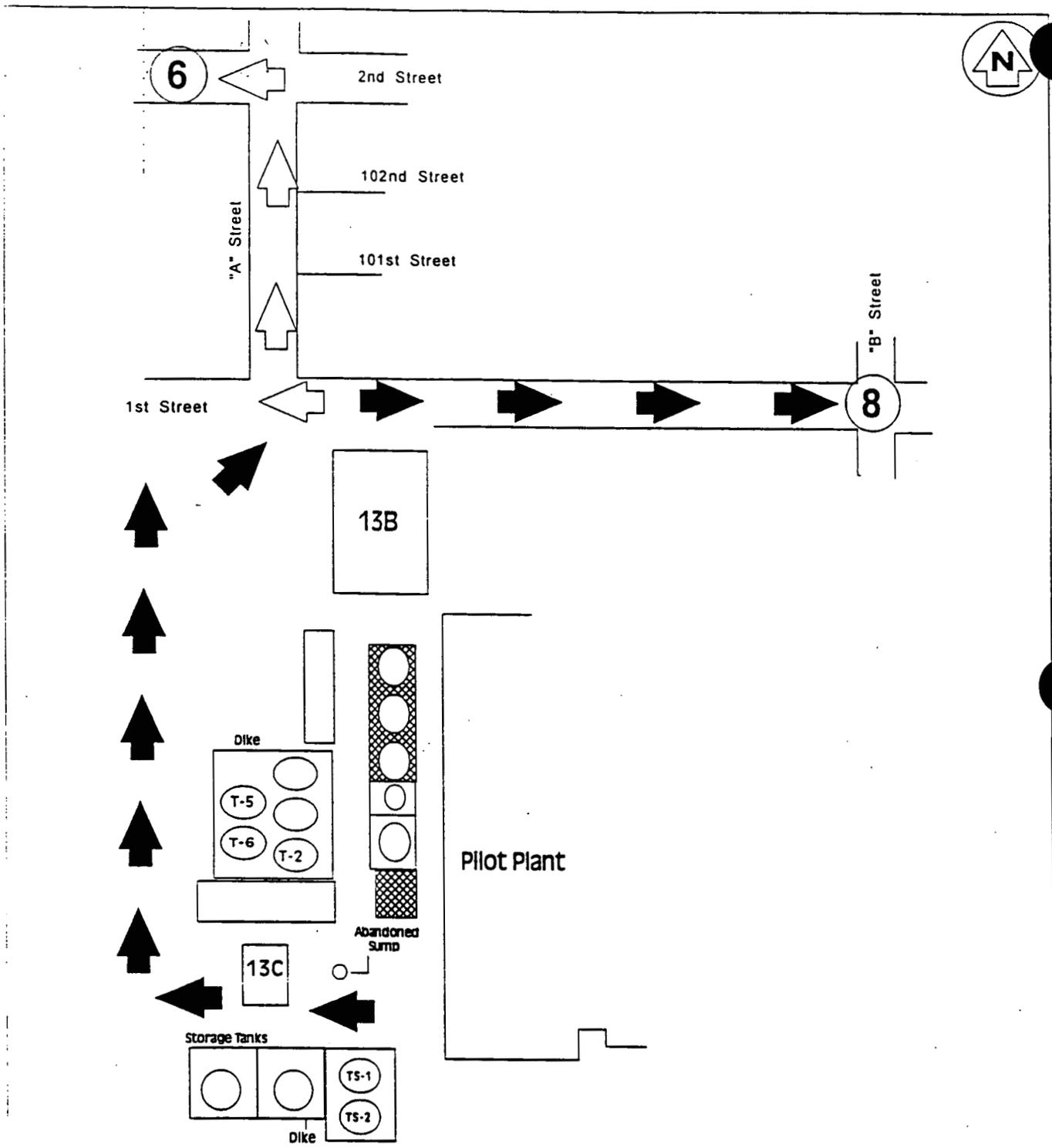
This unit is a temporary sump located to the West of the Pilot Plant.

Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st and "B" Street. Movement is north to 1st Street, then east to "B" Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is north on "A" Street to the intersection of 2nd Street, then west on 2nd Street to the rally point.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.

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**ABANDONED SUMP WEST OF  
PILOT PLANT  
HWMU #22**

◀ = Alternate Evacuation Route      ▶ = Primary Evacuation Route

2393

HWMU No. 27 - WASTE PIT No. 4

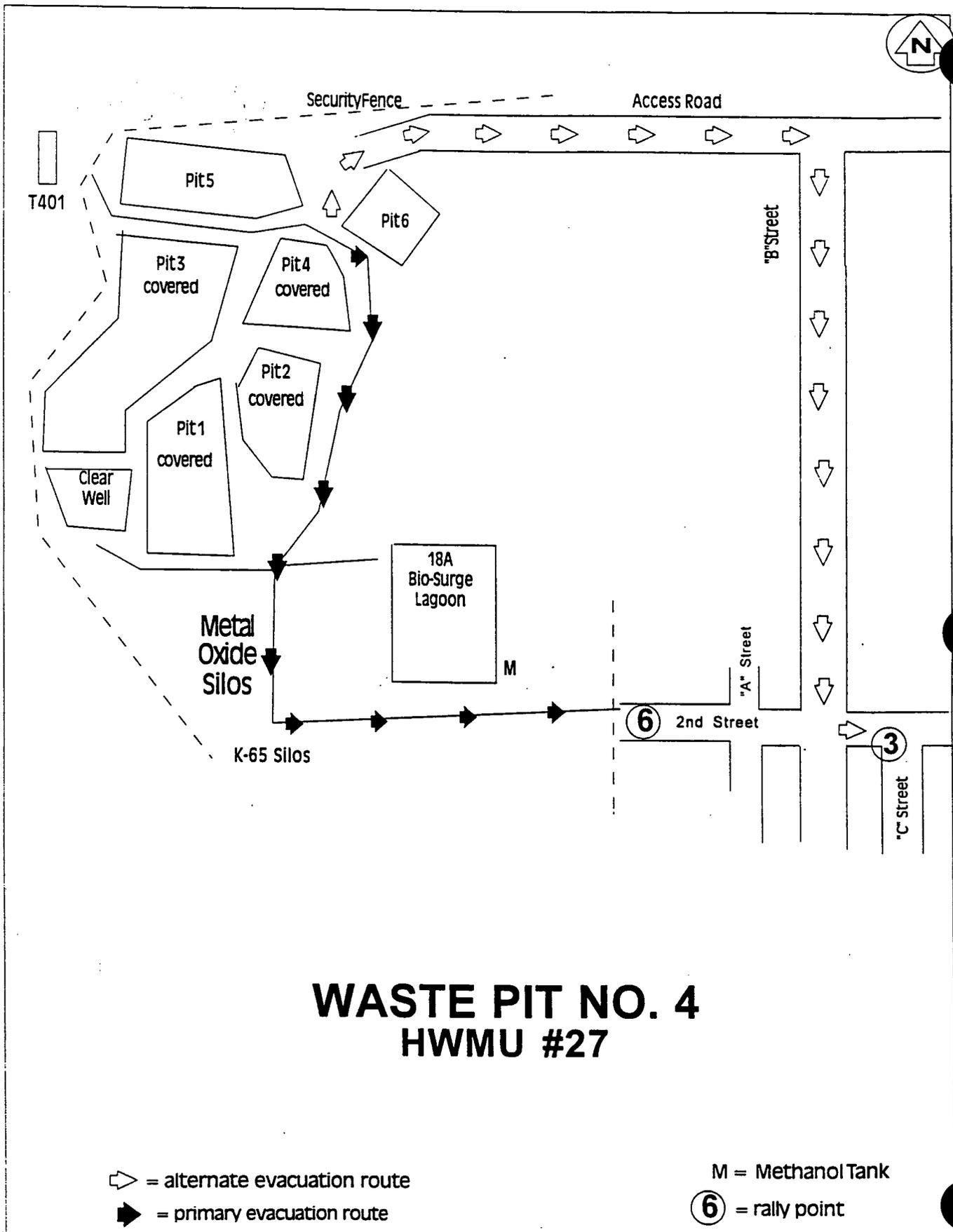
Waste Pit No. 4 is located West of the Production Area in the Waste Pit Area.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located North of the West Water Tower, at the Waste Pit Area access gate. Movement is southeast to 2nd Street and then east to the Waste Pit Area access gate.

The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is north past Pit 6 on the access road, then east to "B" Street, south on "B" Street to 2nd Street and east on 2nd Street to the intersection of "C" Street.

There is no safety equipment assigned to this unit. The pit is covered. Communication devices are available for personnel accessing this unit for emergency notification purposes.

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**HWMU No. 28 - TRANE THERMAL LIQUID INCINERATOR**

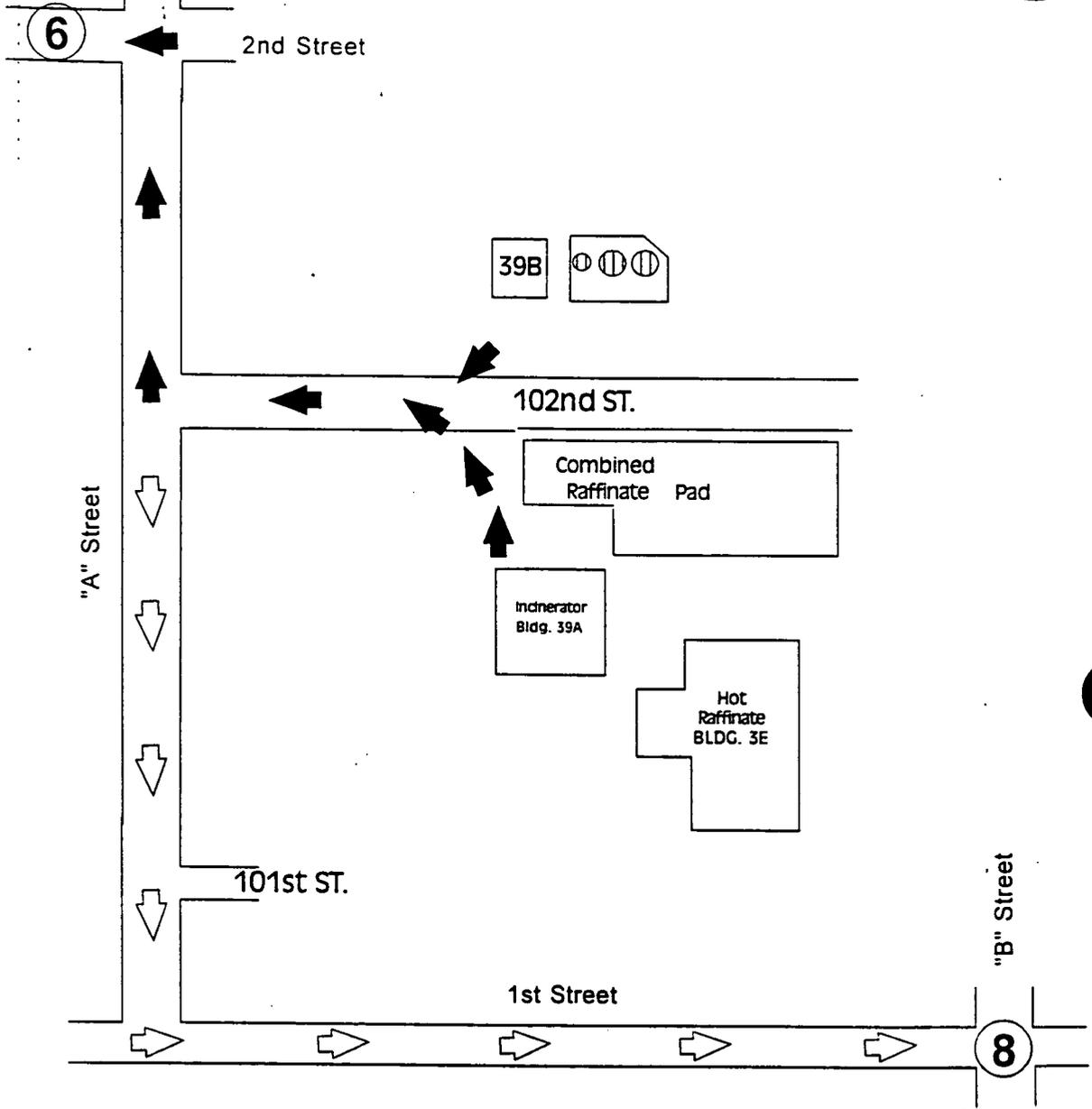
2393

The Trane Liquid Thermal Incinerator was used to incinerate liquid waste contaminated with radionuclides and liquid hazardous wastes. In addition to the incinerator, it consists of an oil-water separator (Building 39B), Feed Tank F3E-406 located near the Plant 2/3 Combined Raffinate pad, and the Plant 2/3 West Storage Pad. No hazardous waste residues remain in this unit.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located North of the West Water Tower, at the Waste Pit Area access gate. Movement is west to "A" Street and north on "A" Street to 2nd Street and then west to the Waste Pit Area access gate.

The Alternate Rally Point is No. 8. Rally Point No. 8 is located at the intersection of 1st Street and "B" Street. Movement is west to "A" Street, then south on "A" Street and east on 1st Street to the intersection of "B" Street.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.



# TRANE THERMAL LIQUID INCINERATOR HWMU #28

6 = Rally Point     
 = Primary Evacuation Route     
 = Alternate Evacuation Route

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**HWMU No. 29 - PLANT 8 WAREHOUSE (BLDG. 80)**

The Plant 8 Warehouse storage unit is a pre-engineered, ribbed, heated building covered by metal roofing. The warehouse is being used for storage of containers of hazardous waste with free liquids.

**Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st Street and "B" Street. Movement is south to 1st Street and east on 1st Street to the intersection of "B" Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West water tower, at the Waste Pit area Access Gate. Movement is north on "A" Street to 2nd Street, then west on 2nd Street to the gate.**

The following is a list of safety equipment assigned to this unit:

- Manual Fire Alarms
  - 1) Inside Building 80 on East wall
  - 2) Inside Building 80 on West wall
  
- Fire Extinguishers
  - 1) 10# ABC at East door
  - 2) 10# ABC two (2) at West door
  - 3) 10# ABC two (2) on South wall
  - 4) 10# ABC at Northeast corner on North wall
  - 5) 10# ABC at Southwest corner in Sprinkler Control Room
  
- Eye Wash/Safety Shower Station
  - 1) One (1) Portable Eye Wash Unit in the building
  - 2) Safety Shower/Eye Wash Unit near South wall, middle of building
  
- Spill Cleanup Equipment
  - 1) Near Southwest corner of building
  - 2) Near Southeast corner of building

HWMU No. 29 - PLANT 8 WAREHOUSE (BLDG. 80)

- Respirator Cabinet
  - 1) Two (2) on South wall of building



2393

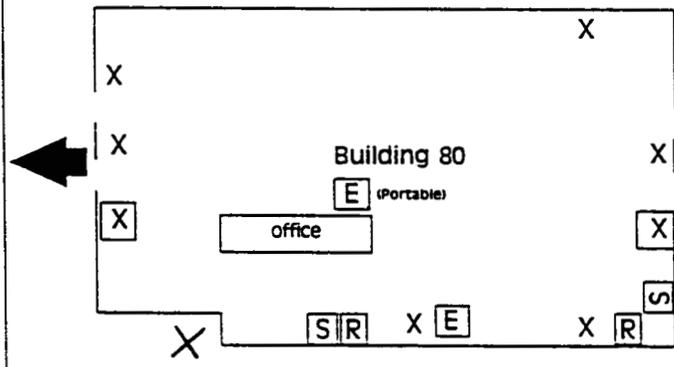
6

2nd Street



102nd Street

101st Street



1st Street

"B" Street



8

"A" Street

# PLANT 8 WAREHOUSE (BUILDING 80)

## HWMU #29

- R** = Respirator Cabinet
- E** = Eye Wash/Safety Shower
- S** = Spill Cleanup Equipment
- X** = Manual Fire Alarm

- X** = Fire Extinguisher
- = Primary Evacuation Route
- = Alternate Evacuation Route
- 8** = Rally Point

**HWMU No. 33 - PILOT PLANT WAREHOUSE (BLDG. 68)**

The Pilot Plant Warehouse is a pre-engineered fabricated building which is totally enclosed, and sided and roofed with transite. Hazardous waste is stored in a diked area approximately 62' x 7' in the warehouse. There currently are no containers of hazardous waste stored in the Pilot Plant Warehouse.

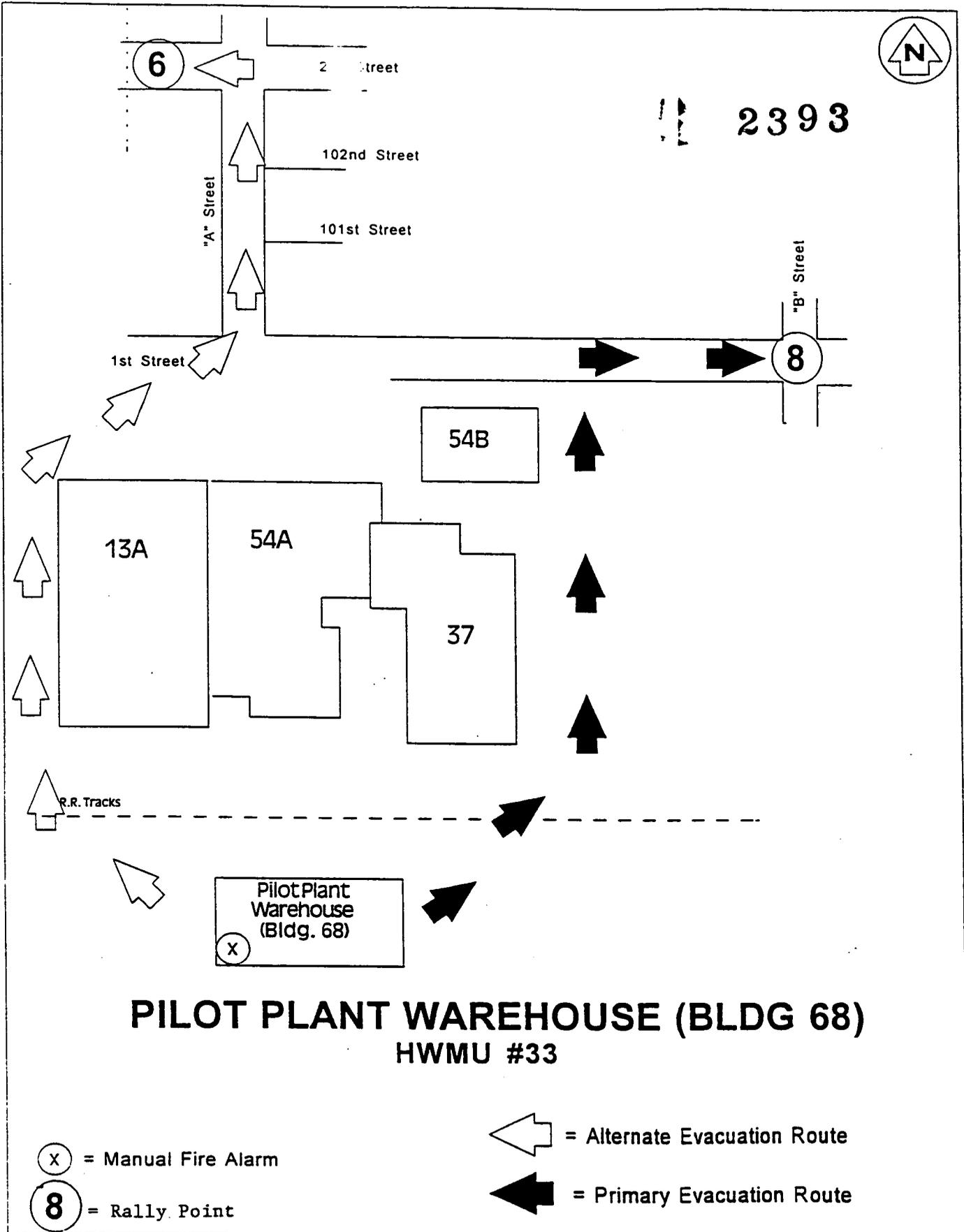
Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st and "B" Street. Movement is East, then north to 1st Street then proceed east to the intersection of "B" Street.

The Alternate Rally Point is No. 6. Rally Point No. 6 is located north of the West water tower, at the Waste Pit area Access Gate. Movement is west, then north to 1st Street, then east on 1st Street to "A" Street and north on "A" Street to 2nd Street, then west on 2nd Street to the gate.

The following is a list of safety equipment assigned to this unit:

- Manual Fire Alarm
  - 1) Inside door on West wall of Building #68

Communication devices are available for personnel accessing this unit for emergency notification purposes.



**PILOT PLANT WAREHOUSE (BLDG 68)**  
**HWMU #33**

(X) = Manual Fire Alarm  
 (8) = Rally Point

[White Arrow] = Alternate Evacuation Route  
 [Black Arrow] = Primary Evacuation Route

**HWMU No. 34 - KC-2 WAREHOUSE (BLDG. 63)**

The KC-2 Warehouse (Bldg 63) is a pre-engineered, ribbed, unheated building covered by metal roofing. The warehouse is divided into eight bays. Each bay is constructed as a separate containment storage unit. The warehouse is used to store hazardous waste with and without free liquids.

NOTE: Electrical power and water have been permanently shut-off at KC-2 Warehouse. Containers of hazardous waste may continue to be stored in the warehouse after this has occurred. However, this unit will no longer be used for the storage of D001-ignitable wastes.

**Personnel should evacuate to Rally Point No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is west to "B" Street, south on "B" Street to 2nd Street, then east on 2nd Street until the intersection at "C" Street.**

**The Alternate evacuation route is also to Rally Point No. 3 located at the intersection of 2nd Street and "C" Street. Movement is east to "D" Street, south on "D" Street to 2nd Street, then west on 2nd Street until the intersection at "C" Street.**

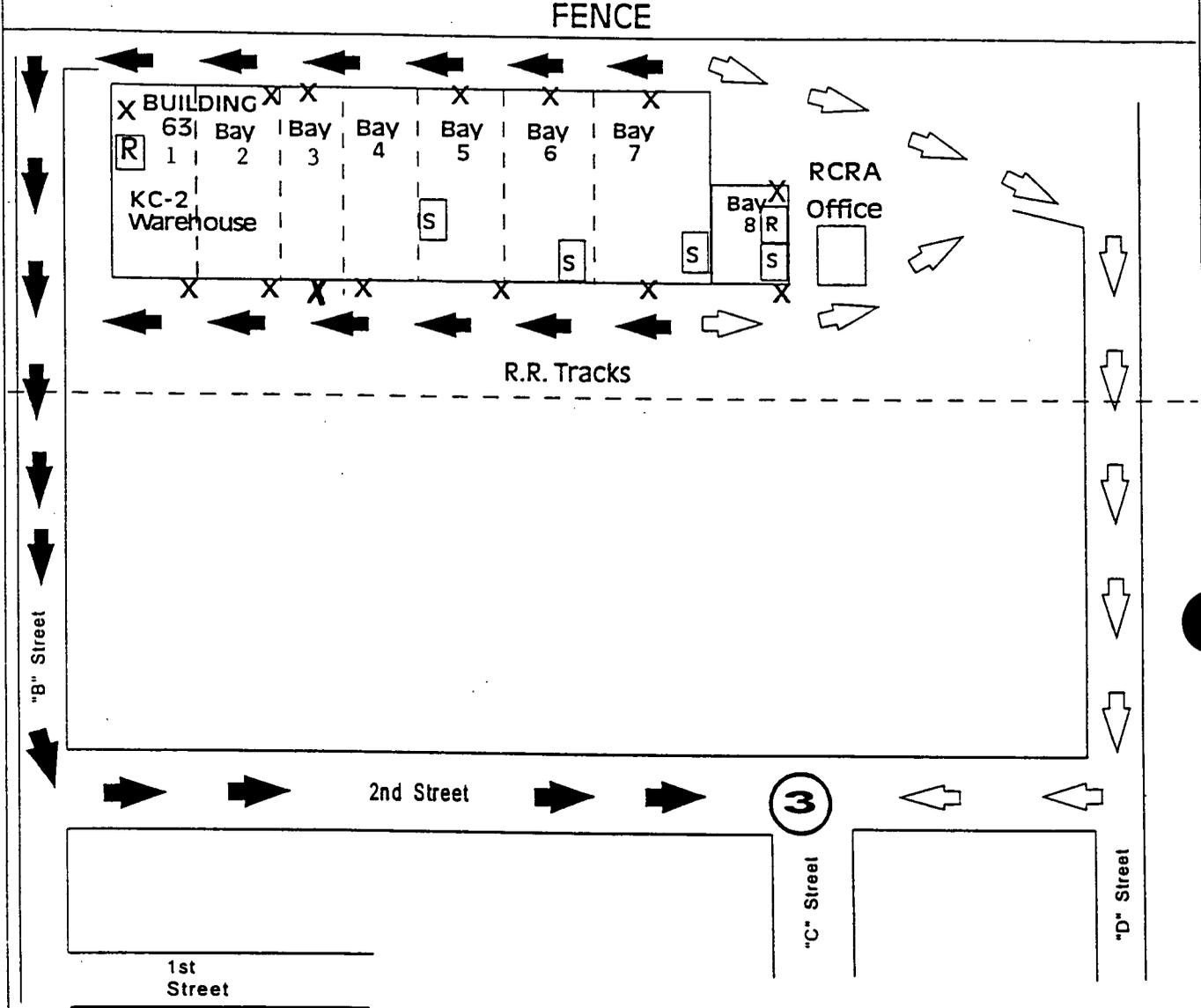
The following is a list of safety equipment assigned to this unit:

- Fire Extinguishers
  - 1) 20# ABC inside by West door of Bay 1
  - 2) 20# ABC outside on South wall of Bay 1
  - 3-8) 20# ABC inside North end of Bays 2, 3, 5, 6, 7, 8
  - 9) 20# ABC outside on South wall of Bay 2
  - 10) 20# ABC outside on South wall of Bay 3
  - 11) 20# ABC outside on South wall of Bay 4
  - 12) 20# ABC outside on South wall between Bays 5 and 6
  - 13) 20# ABC outside on South wall of Bay 7

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- Fire Extinguishers (continued)
  - 14) 20# ABC outside on South wall of Bay 8
  
- Spill Cleanup Equipment
  - 1) Inside Bay 5
  - 2) Inside Bay 6
  - 3) Inside Bay 7
  - 4) Inside Bay 8
  
- Respirator Cabinets
  - 1) Inside Bay 1
  - 2) Inside Bay 8

Access to equipment inside Building 63 can be gained only by personnel having a key to Bays 1, 5, 6, 7, or 8. Communication devices are available for personnel accessing this unit for emergency notification purposes.



**KC-2 WAREHOUSE  
(BUILDING 63)  
HWMU #34**

- 3** = rally point
- S** = spill cleanup equipment
- R** = respirator cabinet
- = alternate route
- X** = fire extinguisher
- = primary evacuation route

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**HWMU No. 36 - STORAGE PAD NORTH OF PLANT 6**

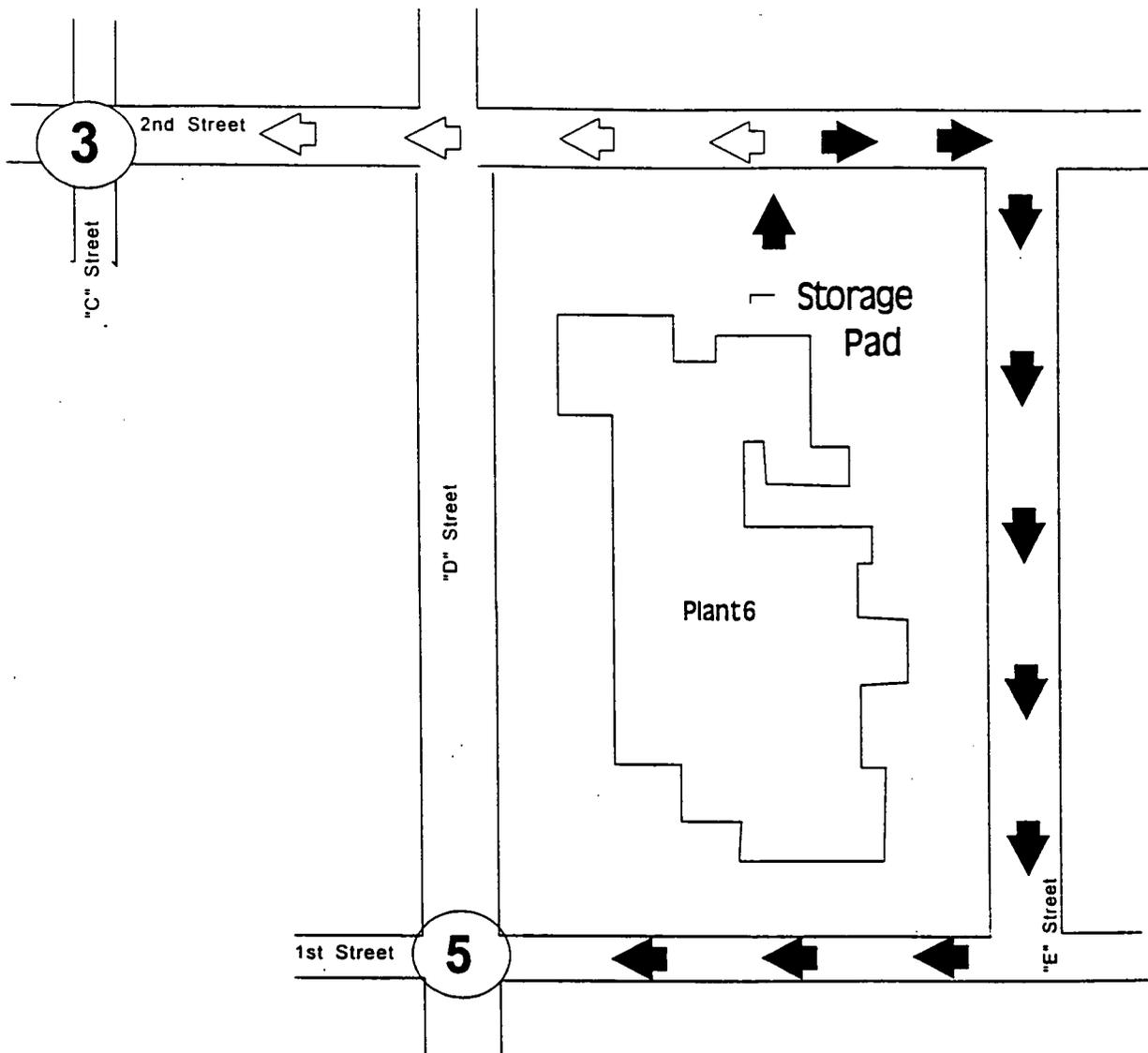
This area is North of and adjacent to Plant 6. Containers of hazardous waste are no longer stored in this unit.

**Personnel should evacuate to Rally Point No. 5. Rally Point No. 5 is located at the intersection of 1st Street and "D" Street. Movement is east on 2nd Street to south on "E" Street, then west on 1st Street to the intersection of "D" Street.**

**The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is west on 2nd Street to the intersection of "C" Street.**

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes.

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# STORAGE PAD NORTH OF PLANT 6 HWMU #36

-  - primary route
-  - alternate route

 = rally point

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**HWMU No. 37 - PLANT 6 WAREHOUSE (BLDG. 79)**

The Plant 6 Warehouse is a pre-engineered, ribbed, unheated building covered by metal roofing. Plant 6 Warehouse is designed to store hazardous waste with and without free liquids and combustible liquids. The Liquid Mixed Waste Project Bulk Tanks, which are used to bulk PCBs/ignitable wastes, are currently located northwest of the Plant 6 Warehouse. These tanks will be moved to a location near the Plant 1 Pad (HWMU No. 20) by September 1999.

**Personnel should evacuate to Rally No. 5. Rally Point No. 5 is located at the intersection of 1st Street and "D" Street. Movement is south on "E" Street and west on 1st Street to the intersection of "D" Street.**

**The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is north on "E" Street to 2nd Street, and west on 2nd Street to the Point.**

The following is a list of safety equipment assigned to this unit:

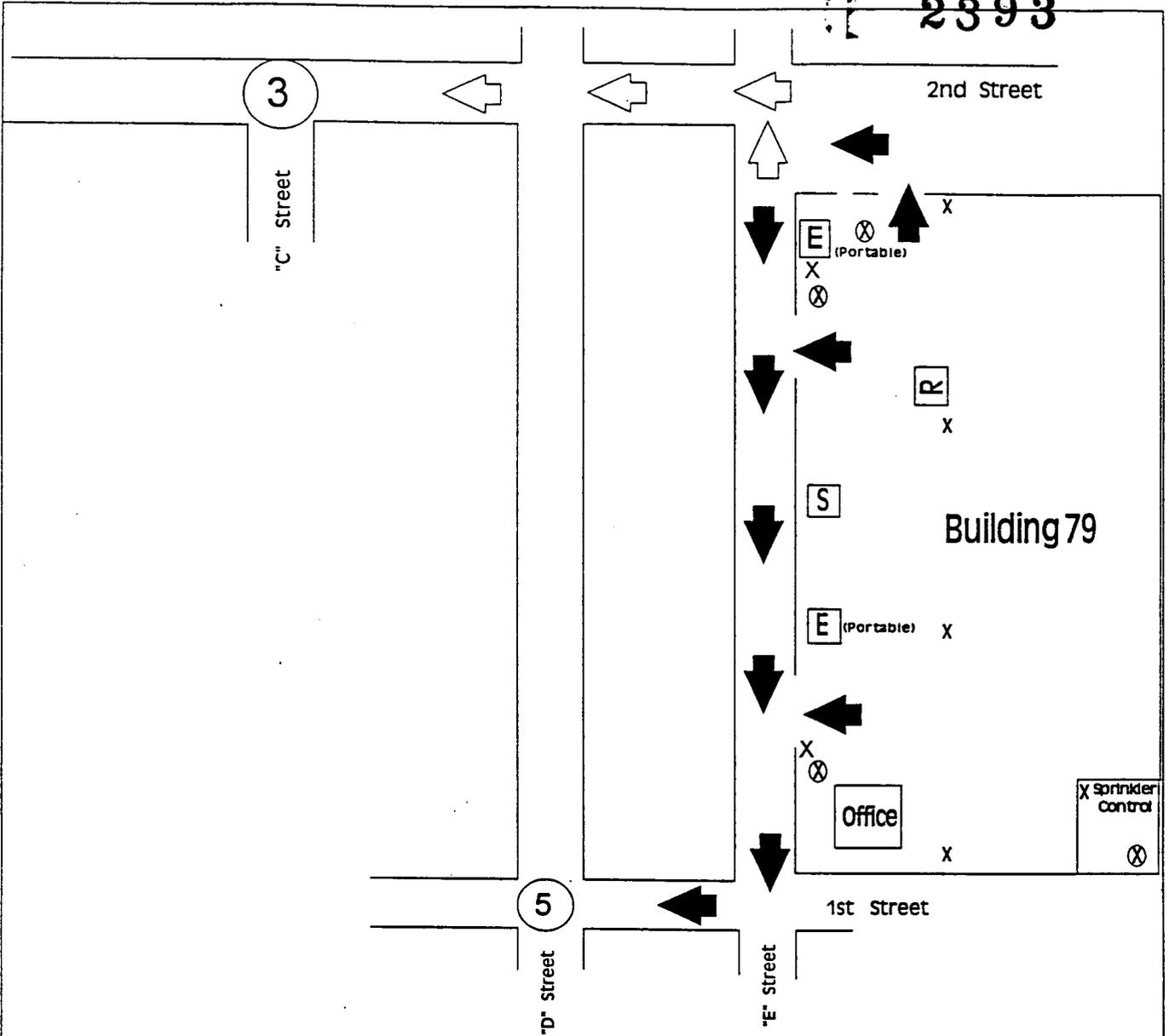
- Manual Fire Alarms
  - 1) By Southwest entrance door
  - 2) By Northwest entrance door
  - 3) North entrance door at Loading Dock
  - 4) Inside Sprinkler Control Room. Sprinkler Control Room is located in the Southeast corner of Building 79.
  
- Fire Extinguishers
  - 1) 20# ABC on the North wall in the center
  - 2) 20# ABC on the South Wall in the center
  - 3) 20# ABC on the West wall near the North end
  - 4) 20# ABC on the West wall near the South end
  - 5) 20# ABC on a column in the center of building (towards North end)
  - 6) 20# ABC on a column in the center of building (towards South end)
  - 7) 20# ABC near Sprinkler Control Room at Southeast corner of building

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**HWMU No. 37 - PLANT 6 WAREHOUSE (BLDG. 79)**

- Eye Wash/Safety Shower Station
  - 1) There are two (2) Portable Eye Wash Units in the building
  
- Respirator Cabinet
  - 1) At North end, near center of building
  
- Spill Cleanup Equipment (Middle of West wall)
  - 1) Pigs and absorbent pads
  - 2) All purpose absorbent material
  - 3) Four 55-gallon Salvage drums
  - 4) Four 85-gallon overpack salvage drum
  - 5) Cleaning utensils (shovels and brooms)
  - 6) Portable HEPA vacuum industrial cleaner
  - 7) Drum straps

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# PLANT 6 WAREHOUSE (BLDG. 79)

## HWMU #37

- X = fire extinguisher
- ⊗ = manual fire alarm
- ⇨ = alternative route
- ⇦ = primary route
- ⊙ 5 = rally point
- ⊠ R = respirator cabinet
- ⊠ E = eye wash/safety shower
- ⊠ S = spill cleanup equipment

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**HWMU No. 41 - SLUDGE DRYING BEDS**

The Sludge Drying Beds are surface impoundments that are part of the sanitary wastewater treatment system and are located east of the Production Area.

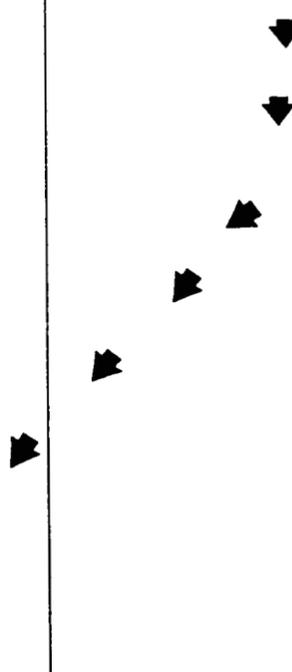
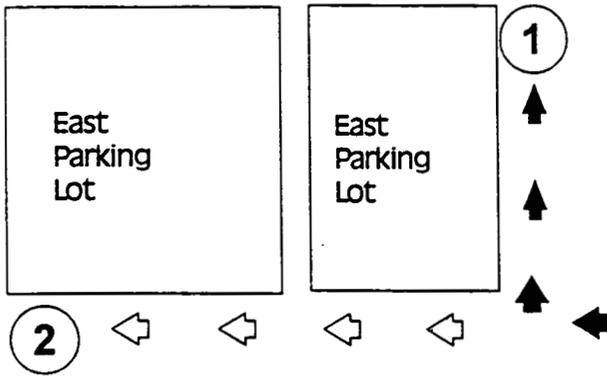
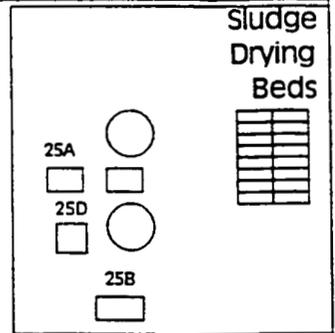
**Personnel should evacuate to Rally Point No. 1. Rally Point No. 1 is located in the Northeast corner of the FEMP East Parking Lot. Movement is south and west on the Sewage Treatment Plant access road to the FEMP East Parking Lot, then north to Rally Point # 1.**

**The Alternate Rally Point is No. 2. Rally Point No. 2 is located at the West side of the FEMP West Parking Lot, just north of the Stormwater Retention Basin. Movement from Rally Point No. 1 is west through the parking lot to Rally Point No. 2.**

There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.



North  
Access  
Road



# SLUDGE DRYING BEDS HWMU #41

- 1** = rally point
- = alternate evacuation route
- = primary evacuation route

**HWMU No. 42 - WASTE PIT NO. 5**

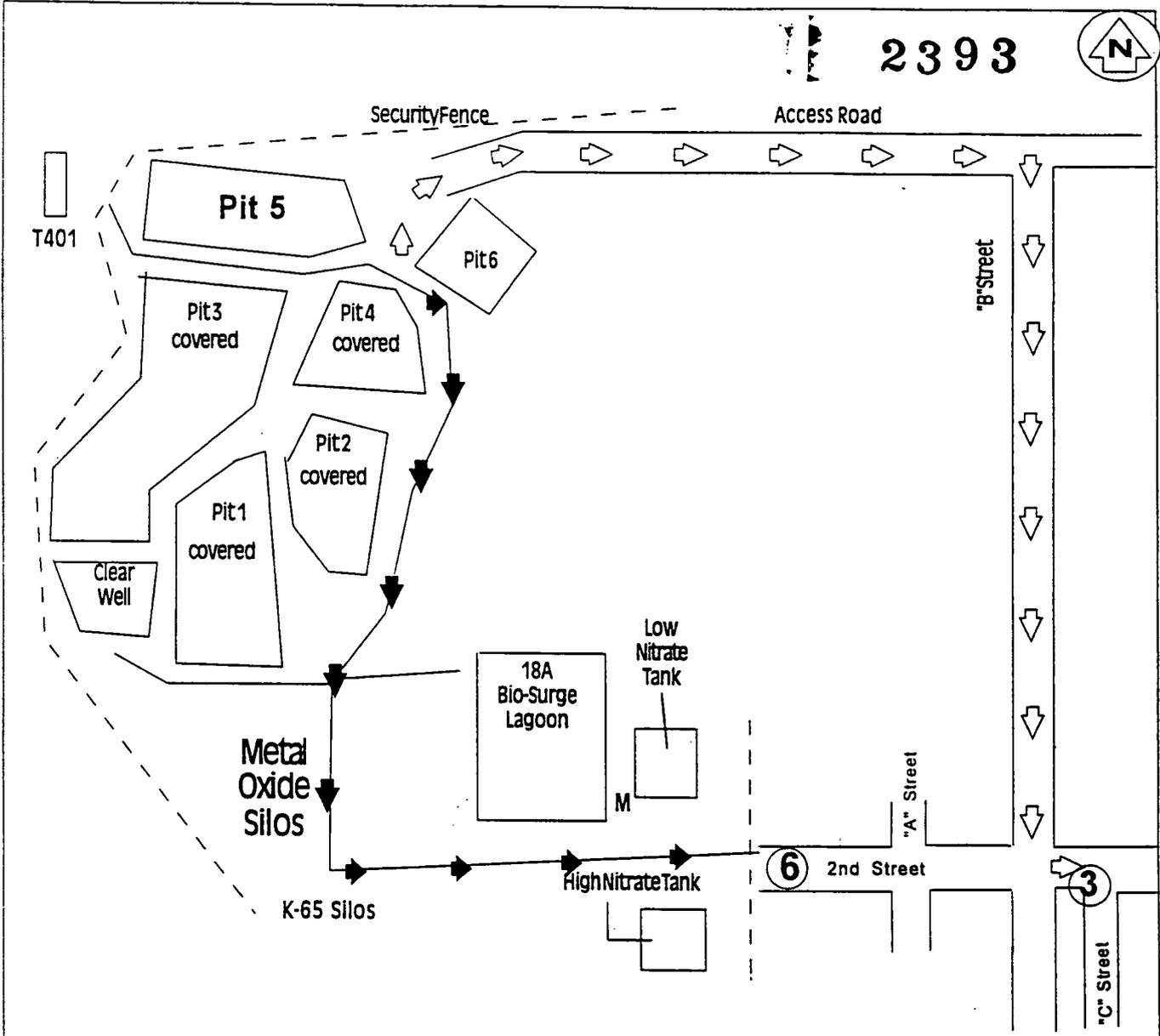
Waste Pit No. 5 is a land disposal unit in the Waste Pit Area northwest of the Production Area which covers 4.1 acres.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located North of the West Water Tower, at the Waste Pit Area access gate. Movement is southeast to 2nd Street and then east to the Waste Pit Area access gate.

The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is north past Pit 6 on the access road, then east to "B" Street, south on "B" Street to 2nd Street and east on 2nd Street to the intersection of "C" Street.

There is no safety equipment assigned to this unit. Communication devices are available for personnel accessing this unit for emergency notification purposes.

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# WASTE PIT NO. 5

## HWMU #42

- = alternate evacuation route
- = primary evacuation route

- M = Methanol Tank
- = rally point

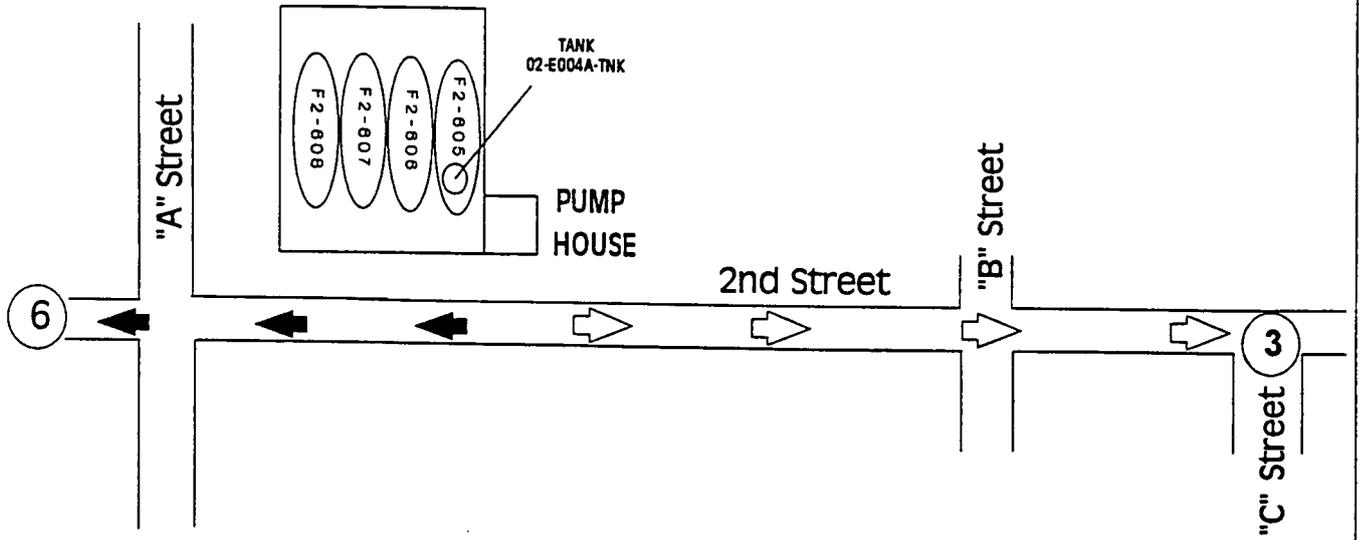
**HWMU No. 46 - URANYL NITRATE TANKS (NFS STORAGE AREA)**

This unit consists of five above ground UNH Tanks. These tanks are empty.

Personnel should evacuate to Rally Point 6. Rally Point 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on Second Street to the Waste Pit access gate.

The Alternate Rally Point is No. 3. Rally Point No. 3 is located at the intersection of 2nd Street and "C" Street. Movement is east on 2nd Street to the Point.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes. This area is restricted from entry unless personnel are wearing protective clothing due to asbestos contamination.



**URANYL NITRATE TANKS  
(NFS STORAGE AREA)  
HWMU #46**

-  = primary evacuation route
-  = alternate evacuation route
-  = rally point

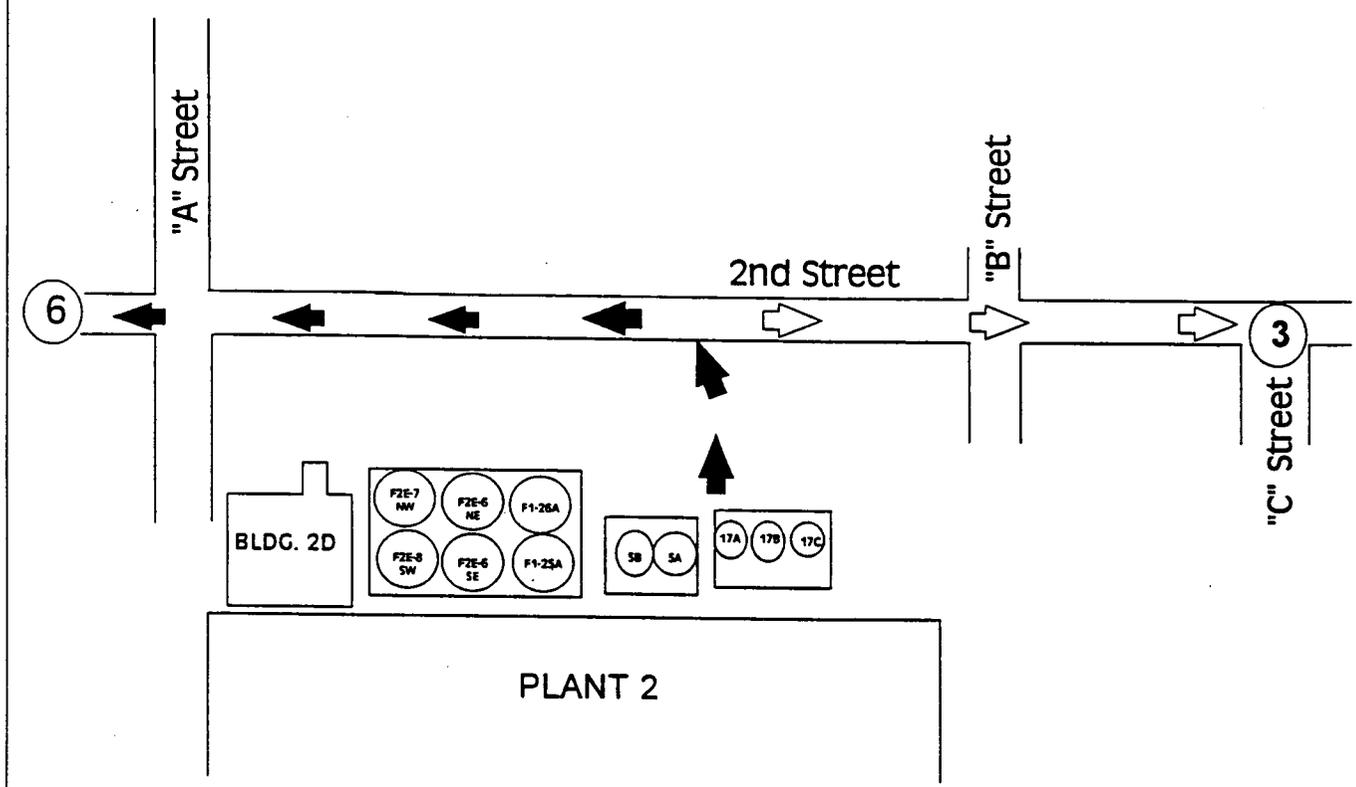
**HWMU No. 47 - URANYL NITRATE TANKS (NORTH OF PLANT 2)**

This unit consists of three above ground UNH Tanks. These tanks are empty.

**Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on Second Street to the Waste Pit access gate.**

**The Alternate Rally Point is No. 3. Rally Point No. 3 is located just east of the intersection of 2nd Street and "B" Street. Movement is east on 2nd Street to the Rally Point.**

There is no safety equipment assigned to this HWMU. Communications devices are available for personnel accessing this unit for emergency notification purposes. This area is restricted from entry unless personnel are wearing protective clothing due to asbestos contamination.



**URANYL NITRATE TANKS  
(NORTH OF PLANT 2)  
HWMU #47**

-  = primary evacuation route
-  = alternate evacuation route
-  = rally point

**HWMU No. 48 - URANYL NITRATE TANKS (SOUTHEAST OF PLANT 2)**

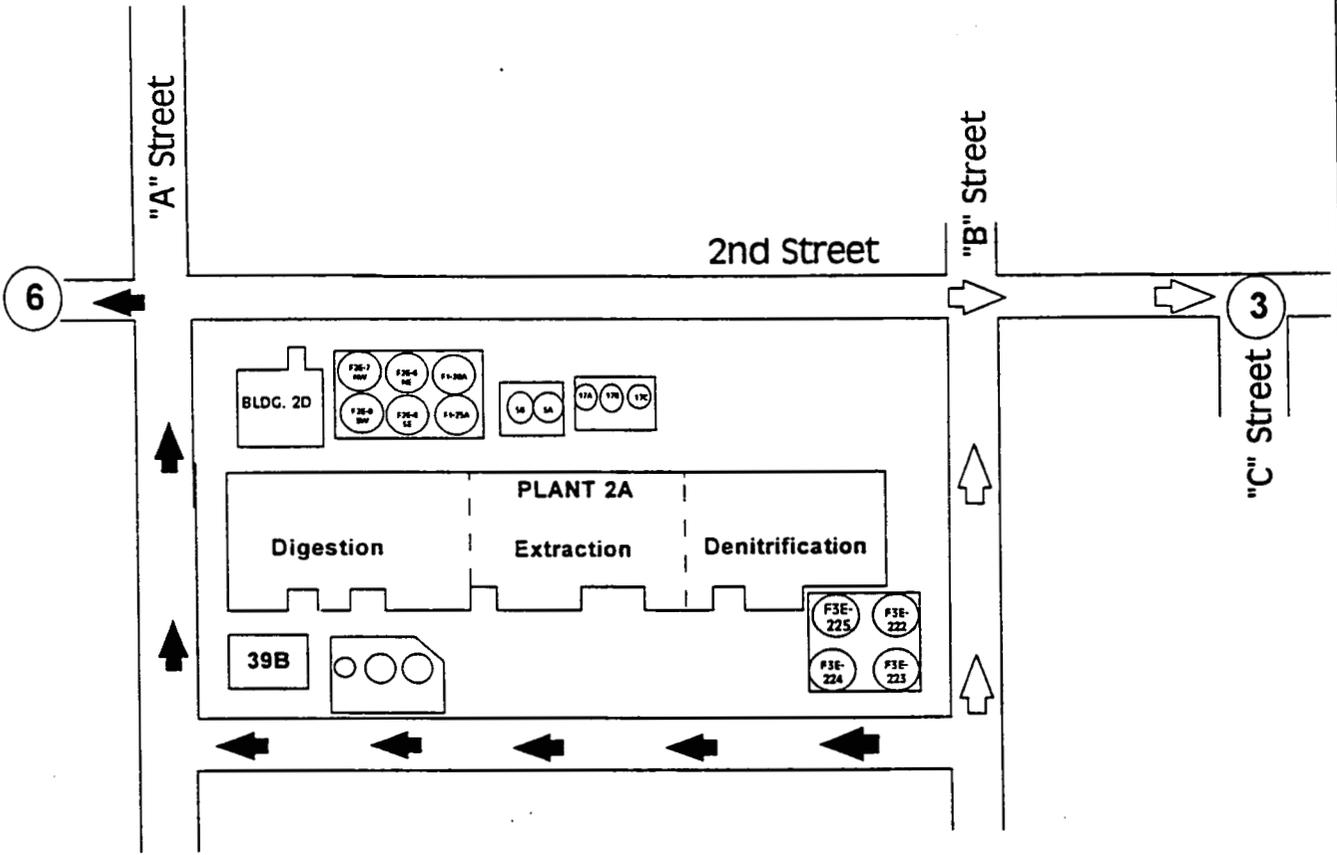
This unit is near the southeast corner of Plant 2 and consists of one above ground storage tank. This tank is empty.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west on 102nd Street to "A" Street, North on "A" Street to 2nd Street, then west on 2nd Street to the Waste Pit Area access gate.

The Alternate Rally Point is No. 3. Rally Point No. 3 is located just east of the intersection of 2nd Street and "B" Street. Movement is east to "B" Street, north on "B" Street to 2nd Street, and east on 2nd Street to the Rally Point.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes. This area is restricted from entry unless personnel are wearing protective clothing due to asbestos contamination.

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**URANYL NITRATE TANKS  
(SOUTHEAST OF PLANT 2)  
HWMU #48**

- = primary evacuation route
- = alternate evacuation route
- = rally point

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**HWMU No. 49 - URANYL NITRATE TANKS (DIGESTION AREA)**

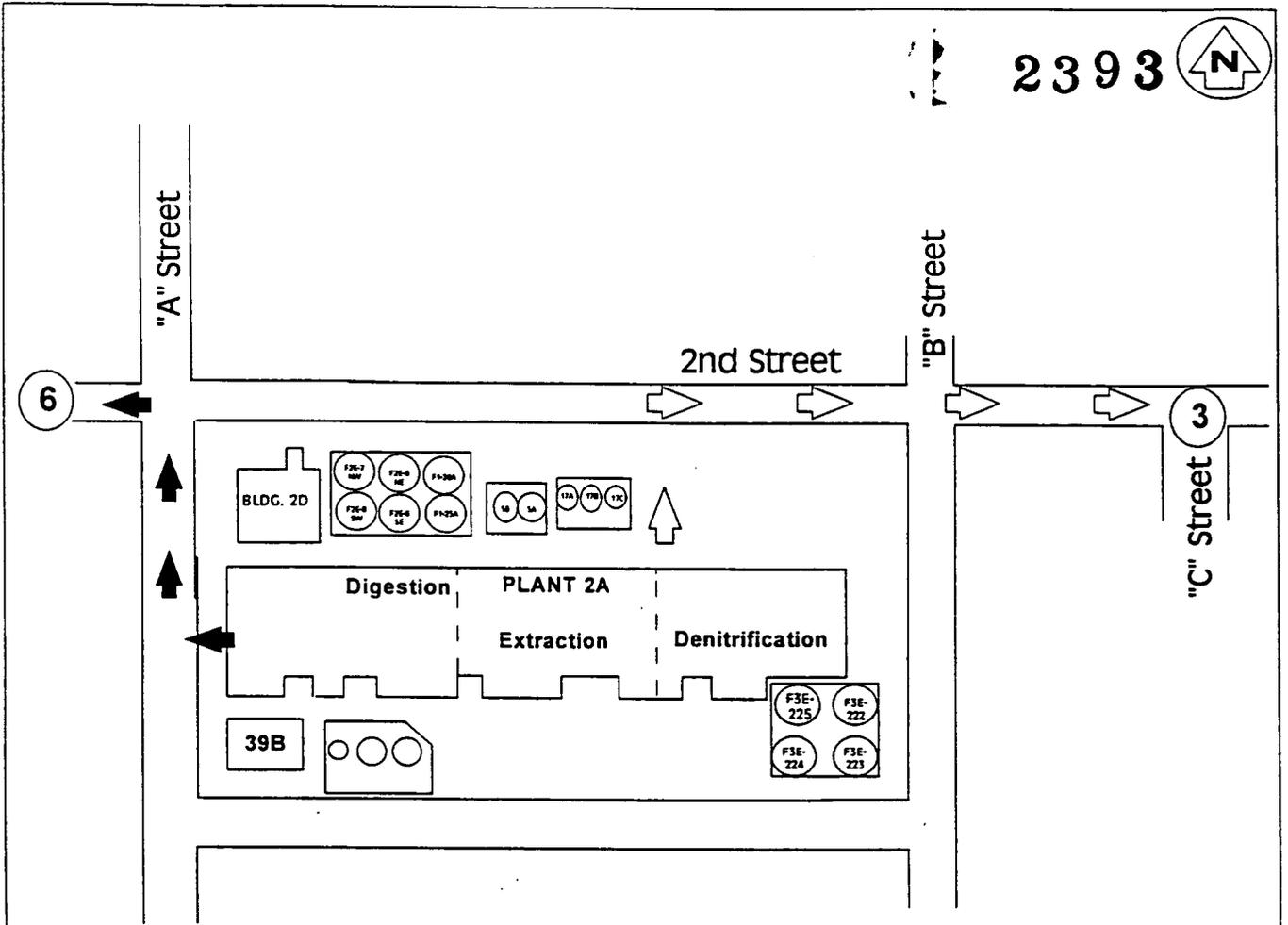
This unit consists of eight above ground steel tanks located within Plant 2 at the western end in the Digestion Area. These tanks are empty.

Personnel should evacuate to Rally Point No. 6. Rally Point No. 6 is located north of the West Water Tower, at the Waste Pit Area access gate. Movement is west out of Plant 2 to "A" Street, north on "A" Street to 2nd Street and then west on 2nd Street to the Waste Pit Area access gate.

The alternate rally point is No. 3. It is located just east of the intersection of 2nd Street and "B" Street. Movement is north to 2nd Street, and east on 2nd Street to the Rally Point.

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes. This area is restricted from entry unless personnel are wearing protective clothing due to asbestos contamination.

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**URANYL NITRATE TANKS  
(DIGESTION AREA)  
HWMU #49**

-  = primary evacuation route
-  = alternate evacuation route
-  = rally point

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**HWMU No. 50 - URANYL NITRATE TANKS (RAFFINATE BUILDING)**

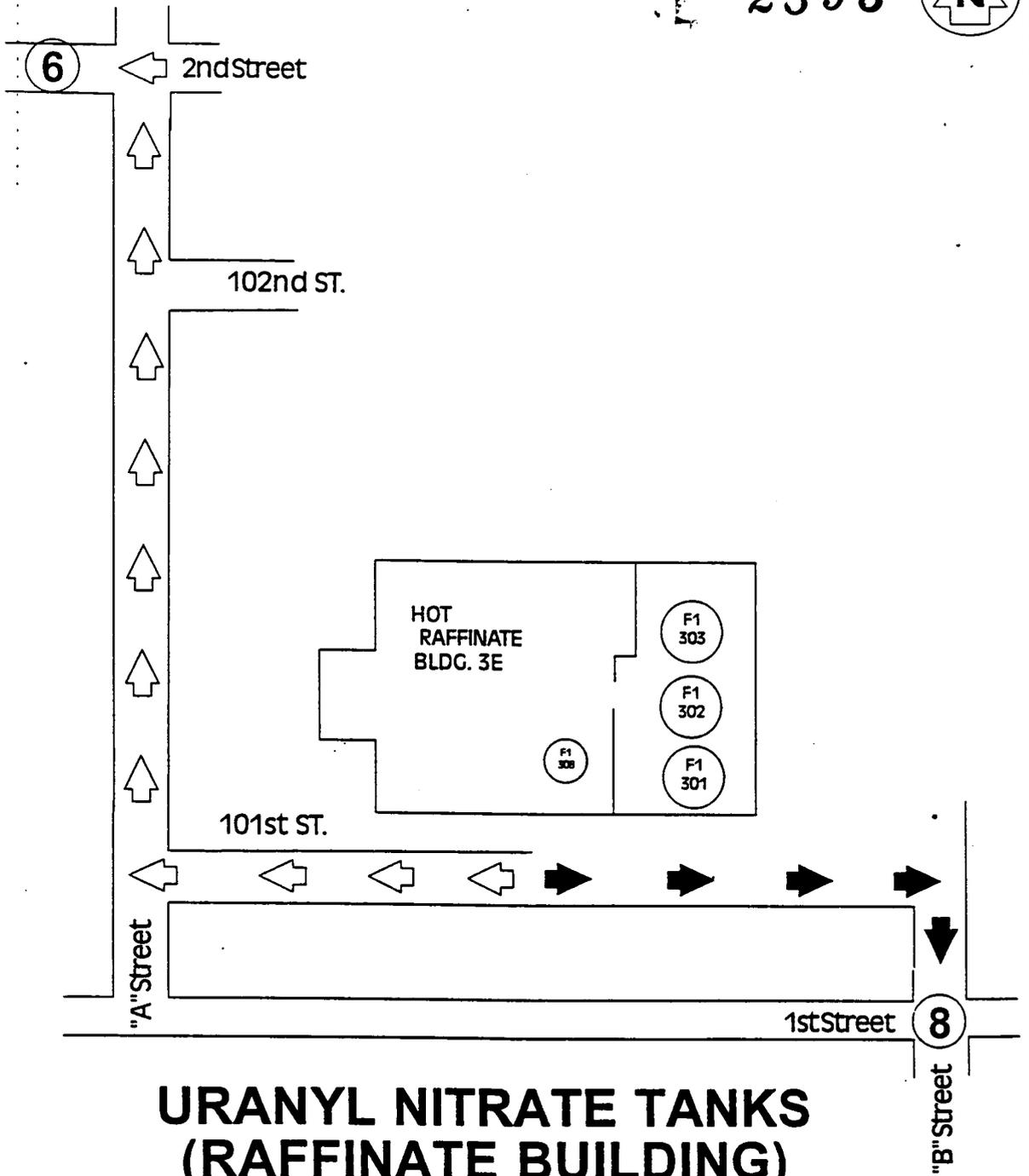
This unit consists of four storage tanks located on the Eastern bay and South central area of Building 3E. These tanks are empty.

**Personnel should evacuate to Rally Point No. 8. Rally Point No. 8 is located at the intersection of 1st and "B" Street. Movement is east on 101st Street to "B" Street then south on "B" Street to the intersection of 1st Street.**

**The Alternate Rally Point is No. 6. Rally Point No. 6 is located North of the West Water Tower. Movement is west to "A" Street, north on "A" Street to 2nd Street, then west to the point.**

There is no safety equipment assigned to this HWMU. Communication devices are available for personnel accessing this unit for emergency notification purposes. This area is restricted from entry unless personnel are wearing protective clothing due to asbestos contamination.

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**URANYL NITRATE TANKS  
(RAFFINATE BUILDING)  
HWMU #50**

**6** = Rally Point

= Primary Evacuation Route  
 = Alternate Evacuation Route

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SECTION G  
Attachment G-3

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AMBULANCE SERVICE  
AND  
MUTUAL RESPONSE FIRE PROTECTION  
AGREEMENT

THIS AGREEMENT, on this 4th day of June, 1996, by and between the United States of America, hereinafter called the "Government," represented by the Department of Energy, hereinafter called the "DOE", and the Ross Township Fire Department which maintains the fire protection and ambulance facilities in Ross Township hereinafter called the "Fire Service".

WITNESSETH THAT:

WHEREAS, Public Law 46, 84th Congress (Title 42 U.S. Code, Section 1856a, and pursuant to DOE Order 151.1, authorizes agencies of the United States of America to enter into reciprocal agreements with public or private corporations or associations for mutual aid in furnishing fire protection, ambulance, and/or hazardous material incident assistance; and

WHEREAS, the Government and the Fire Service may require fire protection, ambulance, and/or hazardous incident assistance; and

WHEREAS, the Fire Service is authorized to render fire protection assistance to the FEMP; and

WHEREAS, the Government may require emergency fire protection assistance and/or ambulance assistance at the FEMP; and

WHEREAS, the Contractor is authorized to render emergency fire protection including emergency hazardous material response and/or ambulance assistance to the Fire Service on behalf of the Government; and

WHEREAS, the Fire Service is authorized to render emergency ambulance assistance to the FEMP and is willing to exert its best efforts to provide such emergency assistance;

NOW THEREFORE, the parties do mutually agree as follows:

A. FIRE PROTECTION

1. The fire protection areas covered by this Agreement and the community of Ross Township, and the FEMP, the assistance contemplated by the Agreement shall be rendered only to such areas as are normally afforded fire protection by each party.
2. The fire protection assistance to be rendered by the Government under this Agreement will be furnished through the use of Government-owned fire equipment at the FEMP operated by the Contractor.
3. Requests for assistance on behalf of the Government will be on an automatic response basis via a dispatch from the Butler County Sheriff's Office (Communication Center).
4. Requests for assistance on behalf of the Fire Service will also be on an automatic response basis or as determined by the Fire Service and Contractor via a dispatch from the Butler County Sheriff's Department (Communications Center).
5. Both the Contractor and the Fire Service reserve the right to determine the extent of the assistance either will render to the other in response to requests for assistance, including the right to refuse any assistance to the other, when, in the opinion of the senior fire fighting official on duty, fire protection needs of the Government installation or the Fire Service from which aid is requested are such that equipment or personnel may not be safely released for service elsewhere.
6. Both the Contractor and the Fire Service reserve the right to recall at any time equipment and/or personnel dispatched to the other when, in the opinion of the senior fire fighting official on duty, protection needs of the Government installation or the Fire Service from which such equipment and/or personnel were dispatched require.
7. It is agreed that equipment and personnel dispatched in response to a request made hereunder will operate under the immediate supervision and control of the senior fire fighting official in charge of the dispatched equipment and personnel, but under the general direction of

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senior fire fighting official on duty at the Government installation or the Fire Service making such a request.

8. Except as expressly provided in paragraph 10 below, no compensation shall be paid either by the Government or by the Fire Service for fire protection assistance rendered to it under this Agreement.
9. The Government covenants and agrees that no claim for compensation will be made by it against the Fire Service for any loss, damage, personal injury, or death occurring in consequence of fire protection assistance rendered under this Agreement, and all such rights or claims are hereby expressly waived.
10. The Fire Service pursuant to Public Law 498, 93rd Congress (Title 15 U.S. Code, Section 2210), and Regulations promulgated thereunder (Federal Register, Vol. 42, No. 138, p. 36954, July 18, 1977), may file a claim with the Administrator (Director of the Federal Emergency Management Agency) for the amount of direct expenses and direct losses incurred by the Fire Service as a result of fighting a fire subject to this Agreement, to the extent that the amount of such direct expenses and direct losses exceeds the value of any services or payments provided by the Government to the Fire Service. The Fire Service covenants and agrees that no other claim for compensation, except as expressly provided herein, will be made by it against the Government or against the Contractor for any loss, damage, personal injury or death occurring in consequence of fire protection assistance rendered under this Agreement, and all such other claims are hereby expressly waived.
11. Fire Service personnel and equipment dispatched to FEMP will be monitored by the Contractor prior to leaving the Government installation to determine the level of radioactivity present, if any, on the equipment or the skin or clothing of the personnel. Efforts will be made by the Contractor to reduce contamination, if present, to a level which is as low as practicable. If Fire Service personnel or equipment become contaminated with radioactive or toxic materials as a direct result of assistance rendered, the Contractor will provide for the decontamination of the equipment (or replacement thereof)

or its personnel at no charge to the Fire Service.

#### B. EMERGENCY AMBULANCE ASSISTANCE

12. In the event of a medical emergency at the FEMP and at the request of the Government, the Fire Service will exert its best efforts to provide emergency ambulance assistance for the purpose of conveying an injured or ill person or persons from the FEMP to hospitals or other medical treatment facilities in the Hamilton-Cincinnati areas.
13. Requests for assistance on behalf of the Government will be on an automatic response basis or as determined by the Fire Service and Contractor via a dispatch from the Butler County Sheriff's Department (Communication Center). Requests for assistance on behalf of the Fire Service will also be on an automatic response basis via a dispatch from the Butler County Sheriff's Department (Communication Center).
14. The driver and attendants manning the ambulance shall be members of the Fire Services' Life Squad and shall be trained in the operation of the vehicle and performance of life squad emergencies practices in accordance with the laws of the State of Ohio.
- 14A. The emergency ambulance assistance to be rendered by the Government under this Agreement will be furnished through use of Government-owned ambulance equipment at the FEMP operated by the Contractor. (Conditions 13 & 14 applies).
15. Persons who are to be transported from the FEMP to hospitals or other medical treatment facilities will be monitored to determine the level of radioactivity present, if any, on their skin or clothing. Efforts will be made by the Contractor to reduce contamination, if present, to a level which is as low as practicable. If serious injuries are present and the need for immediate transport precludes decontamination, appropriate precautionary instruction will be given to drivers, attendants, and medical personnel. Also, appropriate precautions will be taken to prevent contamination of the transport vehicle.

- 16. There shall be no monetary compensation paid for the emergency ambulance assistance rendered by the Fire Service hereunder; provided, however, if the Fire Service's equipment or supplies become contaminated with radioactive or toxic materials as a direct result of assistance rendered, the replacement thereof at no charge to the Fire Service.
- 17. The Government covenants and agrees that no claim for compensation will be made by it against the Fire Service, and the Fire Service covenants and agrees that no claim for compensation will be made by it against the Government or against the Contractor for any loss, damage, personal injury, or death occurring in consequence of emergency ambulance assistance rendered by the Fire Service under its Agreement. All such rights or claims are hereby expressly waived by both parties to this Agreement.

C. TERM OF AGREEMENT

- 18. This Agreement may be terminated by either party upon 30 days' written notice to the other party, specifying the date of such termination.

D. OFFICIALS NOT TO BENEFIT

- 19. No member of, or delegate to Congress, or resident commissioner shall be admitted to any share or part of this Agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

ROSS TOWNSHIP FIRE DEPARTMENT

UNITED STATES OF AMERICA

BY: *Tom Ippolito*

BY: U.S. DEPARTMENT OF ENERGY

TITLE: *Chief Ross Twp. Fire Dept.* *[Signature]*

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BY: Teddy Peterson

TITLE: \_\_\_\_\_

TITLE: Ross Twp FIRE CHIEF

APPROVED:

ROSS TOWNSHIP/TRUSTEE

ROSS TOWNSHIP CLERK

BY: Thomas E. Williams<sup>6</sup>

BY: Judy Hoffman

TITLE: Ross Township Trustee U.P.

TITLE: Ross Twp. Clerk

MUTUAL AID AGREEMENT.  
FOR  
AMBULANCE SERVICE AND FIRE PROTECTION

CFF/CA/

THIS AGREEMENT, on this 31st -day of January, 1994 by and between Fernald Environmental Restoration Management Corporation hereinafter called the "Contractor" or "FERMCO", the United States of America, hereinafter called the "Government", represented by the Department of Energy, hereinafter called the "DOE", and the Crosby Township Fire Department which maintains fire protection and ambulance facilities in Crosby Township hereinafter called the "Fire Service".

WITNESSETH THAT:

WHEREAS, Public Law 46, 84th Congress (Title 42 U.S. Code Section 1856), authorizes agencies of the United States of America to enter into reciprocal agreements with public to private corporations or associations for mutual aid in furnishing fire protection; and

WHEREAS, the Government and the Fire Service may require emergency fire protection assistance and/or ambulance assistance; and

WHEREAS, the DOE'S, Environmental Restoration Management Contractor, FERMCO, for the Fernald Environmental Management Project located near Fernald, Ohio, hereinafter called the "FEMP" is authorized to render fire protection and emergency ambulance assistance to the Fire Service on behalf of the Government; and

WHEREAS, the Fire Service is authorized to render fire protection assistance and emergency ambulance assistance to the FEMP; and

NOW, THEREFORE, the parties do mutually agree as follows:

A. FIRE PROTECTION

1. The fire protection areas covered by this Agreement are the community of Crosby Township, and the FEMP, but assistance contemplated by the Agreement shall be rendered only to such areas as are normally afforded fire protection by each party.
2. The fire protection assistance to be rendered by the Government under this Agreement will be furnished through the use of Government-owned fire equipment at the FEMP operated by the Contractor.
3. Requests for assistance on behalf of the Government will be on a automatic response basis via a dispatch from the Hamilton County Communication Center.
4. Requests for assistance on behalf of the Fire Service will also be

on an automatic response basis via a dispatch from the Hamilton County Communication Center.

5. Both the Contractor and the Fire Service reserve the right to determine the extent of the assistance that either will render to the other in response to requests for assistance, including the right to refuse any assistance to the other, when, in the opinion of the senior fire fighting official on duty, fire protection needs of the Government installation or the Fire Service from which aid is requested are such that equipment or personnel may not be safely released for service elsewhere.
6. Both the Contractor and the Fire Service reserve the right to recall at any time equipment and/or personnel dispatched to the other when, in the opinion of the senior fire fighting official on duty, protection needs of the Government installation or the Fire Service from which such equipment and/or personnel were dispatched so require.
7. It is agreed that equipment and personnel dispatched in response to a request made hereunder will operate under the immediate supervision and control of the senior fire fighting official in charge of the dispatched equipment and personnel, but under the general direction of the senior fire fighting official on duty at the Government installation or the Fire Service making such a request.
8. Except as expressly provided in paragraph 10 below, no compensation shall be paid either by FERMCO or the Government or by the Fire Service for fire protection assistance rendered to it under this Agreement.
9. FERMCO and the Government covenant and agree that no claim for compensation will be made by it against the Fire Service for any loss damage, personal injury, or death occurring in consequence of fire protection assistance rendered under this Agreement, and all such rights or claims are hereby expressly waived.
10. The Fire Service pursuant to Public Law 498, 93rd congress (Title 15 U.S. Code, Section 2210), and Regulations promulgated thereunder (Federal Register, Vol. 42, No. 138, p. 36954, July 18, 1977), may file a claim with the Administration for the amount of direct expenses and direct losses incurred by the Fire Service as a result of fighting a fire subject to this Agreement, to the extent that the amount of such direct expenses and direct losses exceeds the value of any services or payments provided by the Government to the Fire Service. The Fire Service covenants and agrees that no other claim for compensation, except as expressly provided herein, will be made by it against the Government or against the Contractor for any loss, damage, personal injury or death occurring in consequence of fire protection assistance rendered under this Agreement, and all such other claims are hereby expressly waived.

11. Fire Service Personnel and equipment dispatched to the FEMP will be monitored by the Contractor prior to leaving the Government installation to determine the level of radioactivity present, if any, on the equipment or the skin or clothing of the personnel. Efforts will be made by the Contractor to reduce Contamination, if present, to a level which is as low as practicable. If Fire Service personnel or equipment become contaminated with radioactive or toxic materials as a direct result of assistance rendered, the Contractor will provide for the decontamination of the equipment (or replacement thereof) or the personnel at no charge to the Fire Service.

#### B. EMERGENCY AMBULANCE ASSISTANCE

1. In the event of a medical emergency, the Fire Service and FERMCDO will exert its best efforts to provide emergency ambulance assistance for the purpose of conveying an injured or ill person or persons to the hospitals or other medical treatment facilities in the Hamilton-Cincinnati areas.
2. Requests for assistance on behalf of the Government will be on an automatic response basis via a dispatch from the Hamilton County Communication Center. Requests for assistance on behalf of the Fire Service will also be on an automatic response basis via a dispatch from the Hamilton County Communication Center.
3. The driver and attendants manning the Fire Service's ambulance shall be members of the Fire Service's Life Squad. The driver and attendants of the Fire Service and FERMCDO shall be trained in the operation of the vehicles and performance of life squad emergencies practices in accordance with the laws of the State of Ohio.
4. The emergency ambulance assistance to be rendered by the Government under this Agreement will be furnished through use of Government-owned ambulance equipment at the FEMP operated by the Contractor (Condition No. 3 applies).
5. Persons who are to be transported from the FEMP to hospitals or other medical treatment facilities will be monitored to determine the level of radioactivity present, if any, on their skin or clothing. Efforts will be made by the Contractor to reduce contamination, if present, to a level which is as low as practicable. If serious injuries are present and the need for immediate transport precludes decontamination, appropriate precautionary instruction will be given to drivers, attendants, and medical personnel. Also, appropriate precautions will be taken to prevent contamination of the transport vehicle.
6. There shall be no monetary compensation paid for the emergency ambulance assistance rendered by the Fire Service hereunder; provided, however, if the Fire Service's equipment or supplies become contaminated with radioactive or toxic materials as a direct result of assistance rendered, the Contractor will provide for the decontamination or replacement thereof shall be made at no charge to the Township (Fire Service).

7. FERMCO and the Government covenant and agree that no claim for compensation will be made by it against the Fire Service, and the Fire Service covenants and agrees that no claim for compensation will be made by it against the Government or against the Contractor for any loss, damage, personal injury, or death occurring in consequence of emergency ambulance assistance rendered by the Fire Service under its Agreement. All such rights or claims are hereby expressly waived by both parties of this Agreement.

C. TERM OF AGREEMENT

1. Agreement may be terminated by either party upon 30 days' written notice to the other party, specifying the date of such termination.

D. OFFICIALS NOT TO BENEFIT

1. No member of, or delegate to Congress, or resident commissioner shall be admitted to any share or part of this Agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

E. ASSIGNMENT

1. This agreement inure to the benefit of the parties hereto and their respective successors and assigns. Upon completion of the Principal Contract, FERMCO shall assign its rights and obligations under this Agreement to its contractor or to the DOE (Oak Ridge Operations Office), and upon any such hereunder assignment, FERMCO shall be relieved of any further obligations and the DOE (Oak Ridge Operation Office), by signing the approval at the end of this Agreement, agrees to accept the assignment of the rights and obligations of FERMCO, when made.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

CROSBY TOWNSHIP FIRE DEPARTMENT

BY: *James Miller*

TITLE: *Crosby Fire Chief*

APPROVED:

CROSBY TOWNSHIP/TRUSTEE

BY: *James Miller*

TITLE: *Trustee*

UNITED STATES OF AMERICA

BY: U. S. DEPARTMENT OF ENERGY

BY: *J. P. Hamer*

TITLE: \_\_\_\_\_

FERNALD ENVIRONMENTAL RESTORATION  
MANAGEMENT CORPORATION

BY: *J. P. Hamer*

TITLE: \_\_\_\_\_

THIS LETTER OF AGREEMENT, is effective on the 1st day of December, 1992, by and between Flour Daniel Environmental Restoration Management Company, hereinafter called "FERMCO" and Mercy Hospital, 100 River Front Plaza, Hamilton, Ohio, hereinafter called "Mercy".

1. This letter of agreement delineates the areas of responsibility of FERMCO and Mercy concerning emergency medical services to be provided by Mercy Hospital to FERMCO employees in the event of a medical emergency at employee's place of employment, the Fernald Environmental Restoration Project, Fernald, Ohio, hereinafter called "FEMP".
2. Mercy agrees to provide emergency medical treatment to FERMCO employees in the Emergency Room of Mercy Hospital in case of sickness or accident.
3. FERMCO agrees not to send radioactive contaminated employees to Mercy even in cases of serious injuries or sickness unless said employee's contamination has been reduced to a safe level.
4. If Mercy equipment or supplies become contaminated with radioactive or toxic materials as a direct result of radioactive or toxic materials which may be carried into the Emergency Room by the FERMCO employee being treated, FERMCO will provide for the decontamination or replacement thereof at no charge to Mercy.
5. This Agreement may be terminated by either party upon 30 days written notice to the other party. Mercy and FERMCO can modify this Letter of Agreement by mutual written consent.
6. Mercy shall act as an independent contractor in the delivery of emergency services. FERMCO shall neither have nor exercise any control over the methods by which Mercy delivers such services. The sole interest of FERMCO is to assure that Mercy services shall be performed in a competent, efficient, and satisfactory manner.

Mercy Hospital

Flour Daniel Environmental  
Restoration Management Company

By: Joel Little R. CHQ  
 Title: Division Manager  
 Date: 9/22/92

By: Neil W. Fraser  
 Title: V.P. Acquisition & Finance  
 Date: 11/19/92

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LETTER OF AGREEMENT

THIS LETTER OF AGREEMENT, is effective on the 1st day of December, 1992, by and between Flour Daniel Environmental Restoration Management Company, hereinafter called 'FERMCO' and Providence Hospital and Franciscan MediCenter at Harrison, 2446 Kipling Avenue, Cincinnati, Ohio 45239, hereinafter called 'Providence'.

1. This letter of agreement delineates the areas of responsibility of FERMCO and Providence concerning emergency medical services to be provided by Providence Hospital to FERMCO employees in the event of a medical emergency at employee's place of employment, the Fernald Environmental Restoration Project, Fernald, Ohio hereinafter called "FEMP".
2. Providence agrees to provide emergency medical treatment to FERMCO employees in the Franciscan MediCenter at Harrison or the Emergency Room of Providence Hospital in case of sickness or accident.
3. FERMCO agrees to monitor all employees prior to admission to the Providence Emergency Room to determine the level of radioactivity present, if any, on the employee's skin or clothing. Efforts will be made by FERMCO to reduce contamination, if present, to a level as low as practical. If serious injuries or sickness is/are present and the need for immediate emergency treatment precludes decontamination, FERMCO will give Providence medical personnel appropriate precautionary instructions. All FERMCO employees who have not been decontaminated shall be sent directly to Providence Hospital as the Franciscan MediCenter at Harrison does not have decontamination equipment.
4. If Providence equipment or supplies become contaminated with radioactive or toxic materials as a direct result of radioactive or toxic materials which may be carried into the Emergency Room by the FERMCO employee being treated, FERMCO will provide for the decontamination or replacement thereof at no charge to Providence.
5. This Agreement may be terminated by either party upon 30 days written notice to the other party. Providence and FERMCO can modify this Letter of Agreement by mutual written consent.
6. Providence shall act as an independent contractor in the delivery of emergency services. FERMCO shall neither have nor exercise any control over the methods by which Providence delivers such services. The sole interest of FERMCO is to assure that Providence services shall be performed in a competent, efficient, and satisfactory manner.

Providence Hospital of Cincinnati

By: [Signature]

Title: Vice President

Date: 11-7-92

Flour Daniel Environmental Restoration Management Company

By: [Signature]

Title: V.P. Acquisition + Finance

Date: 11/17/92

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University of Cincinnati  
Medical Center



Vice Provost for Health Affairs  
Director, University Hospital and Health System

234 Goodman Street  
Cincinnati, Ohio 45267-0700  
Phone (513) 558-4628  
FAX (513) 558-6390

ATTACHMENT G-3  
page 9

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December 29, 1992

Mr. Milan Marshall  
Contract Administrator  
FERMCO (Fernald Environmental Restoration  
Management Corporation)  
498 Circle Freeway Dr.  
Suite: 222  
Cincinnati, Ohio 45248

Dear Mr. Marshall:

This letter will serve to acknowledge our continued commitment to provide emergency medical care to your employees in the event of a medical emergency arising at the Fernald Environmental Restoration Project (FEMP), located in Fernald, Ohio.

In case of sickness or accident, University of Cincinnati Hospital (UCH) will provide treatment in our Center for Emergency Care. If deemed necessary, care and/or transport would be made by our University Air Care.

As in the case of an accident creating a release of radioactive materials, FERMCO will monitor all employees, prior to transfer to UCH, to determine levels of radioactivity present, if any, on employees' skin or clothing. We appreciate that efforts will be made by FERMCO to reduce contamination levels. If serious injuries or sickness are present requiring immediate emergency treatment precluding decontamination, FERMCO will communicate this information to our medical personnel in order to allow for appropriate precautionary measures to be taken. FERMCO will inform UCH whenever there is an elevated level of radioactivity present.

It is our understanding that should hospital equipment or supplies become contaminated as a direct result of radioactive or toxic materials carried by the FERMCO employees, decontamination or replacement will be provided to UCH at no charge.

Patient Care • Education • Research • Community Service  
College of Medicine • College of Nursing and Health • College of Pharmacy • University of Cincinnati Hospital • Medical Center Libraries  
An Affirmative Action/Equal Opportunity Institution

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FL-3020

FEMP EMERGENCY PLAN

Page 5-20  
Issue Date: 3-22-

Mr. Milan Marshall

Page 2

We are pleased to have the opportunity to provide our services to you and your staff should the need arise.

Sincerely,



Terry R. White  
CEO/Director  
University of Cincinnati Hospital

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November 18, 1992

Mr. Milan Marshall  
Contract Administrator  
Westinghouse Management Company of Ohio  
P.O. Box 398704 MS-5  
Cincinnati, Ohio 45239-8704

Dear Mr. Marshall:

Per our discussion of Monday, November 16, attached is a draft of a letter confirming our continued commitment to provide emergency medical care to your employees in the event of an emergency at the Fernald Environmental Restoration Project. Attached also are copies of past confirmation letters sent to your company. As I indicated to you, our new legal counsel member is questioning our need to sign a contract to provide services we would normally provide to anyone. She noted that if we were to send the Letter of Agreement forward for signature at the University, we would have to revise it to include a payment clause and send it through the formal contract approval process, which can be a lengthy process.

Hopefully, this letter is useful for the purposes you require. If so, let me know and I will send you a formally signed copy. If not, let me know how you'd like us to respond. I can be reached by calling (513) 558-8861.

Sincerely,

A handwritten signature in cursive script, appearing to read "Geri L. Hinkle".

Geri L. Hinkle  
Associate To Administration

Attachment

cc: T. Jane Swaim  
Linda Harpster  
Dudley Smith

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MUTUAL AID  
AMBULANCE SERVICE  
AND  
MUTUAL AID FIRE PROTECTION  
AGREEMENT

THIS AGREEMENT, effective on the 1st day of December, 1992 by and between the United States of America, hereinafter called the "Government," represented by the Department of Energy, hereinafter called the "DOE," and the Colerain Township Fire Department, which maintains fire protection and ambulance facilities in Colerain Township hereinafter called the "Fire Service."

WITNESSETH THAT:

WHEREAS, Public Law 46, 84th Congress (Title 42 U. S. Code, Section 1856), authorizes agencies of the United States of America to enter into reciprocal agreements with public or private corporations or associations for mutual aid in furnishing fire protection; and

WHEREAS, the DOE's Environmental Restoration Management Contractor hereinafter called the "Contractor," for the Fernald Environmental Management Project located near Fernald, Ohio, hereinafter called the "FEMP" is authorized to render fire protection assistance to the Fire Service on behalf of the Government; and

WHEREAS, the Fire Service is authorized to render fire protection assistance to the FEMP; and

WHEREAS, the Government may require emergency ambulance assistance at the FEMP; and

WHEREAS, the Contractor is authorized to render emergency ambulance assistance to the Fire Service on behalf of the Government; and

WHEREAS, the Fire Service is authorized to render emergency ambulance assistance to the FEMP and is willing to exert its best efforts to provide such emergency ambulance assistance;

NOW, THEREFORE, the parties do mutually agree as follows:

A. FIRE PROTECTION

1. The fire protection areas covered by this Agreement are the community of Colerain Township, and the FEMP, but assistance contemplated by the Agreement shall be rendered only to such portions of such areas as are normally afforded fire protection by each party.
2. The fire protection assistance to be rendered by the Government under this Agreement will be furnished through the use of Government-owned fire equipment at the FEMP operated by the Contractor.
3. Requests for assistance on behalf of the Government will not be honored unless made for the Government by one of the following Contractor officials:

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- a. Fire & Safety Inspector
- b. Emergency Duty Officer
- c. Assistant Emergency Duty Officer
- d. Supervisor, Fire & Safety
- e. President

Requests are to be made to the Fire Chief, Assistant Fire Chief or other line fire officer in charge via the fire protection dispatching authority for the Fire Service.

4. Requests for assistance on behalf of the Fire Service will not be honored unless made by the Fire Chief, Assistant Fire Chief or other line officer in charge. Requests shall be made to the Contractor, via its Communications Center, telephone 738-6295.
5. Both the Contractor and the Fire Service reserve the right to determine the extent of the assistance that either will render to the other in response to requests for assistance, including the right to refuse any assistance to the other, when, in the opinion of the senior fire fighting official on duty, fire protection needs of the Government installation or the Fire Service from which aid is requested are such that equipment or personnel may not be safely released for service elsewhere.
6. Both the Contractor and the Fire Service reserve the right to recall at any time equipment and/or personnel dispatched to the other when, in the opinion of the senior fire fighting official on duty, protection needs of the Government installation or the Fire Service from which such equipment and/or personnel were dispatched so require.
7. It is agreed that equipment and personnel dispatched in response to a request made hereunder will operate under the immediate supervision and control of the senior fire fighting official in charge of the dispatched equipment and personnel, but under the general direction of the senior fire fighting official on duty at the Government installation or the Fire Service making such a request.
8. Except as expressly provided in paragraph 10 below, no compensation shall be paid either by the Government or by the Fire Service for fire protection assistance rendered to it under this Agreement.
9. The Government covenants and agrees that no claim for compensation will be made by it against the Fire Service for any loss, damage, personal injury, or death occurring in consequence of fire protection assistance rendered under this Agreement, and all such rights or claims are hereby expressly waived.

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10. The Fire Service pursuant to Public Law 498, 93rd Congress (Title 15 U. S. Code, Section 2210), and Regulations promulgated thereunder (Federal Register, Vol. 42, No. 138, p. 36954, July 18, 1977), may file a claim with the Administrator of the U. S. Fire Administration for the amount of direct expenses and direct losses incurred by the Fire Service as a result of fighting a fire subject to this Agreement, to the extent that the amount of such direct expenses and direct losses exceeds the value of any services or payments provided by the Government to the Fire Service. The Fire Service covenants and agrees that no other claim for compensation, except as expressly provided herein, will be made by it against the Government or against the Contractor for any loss, damage, personal injury or death occurring in consequence of fire protection assistance rendered under this Agreement, and all such other claims are hereby expressly waived.

11. Fire Service personnel and equipment dispatched to FHPC will be monitored by the Contractor prior to leaving the Government installation to determine the level of radioactivity present, if any, on the equipment or the skin or clothing of the personnel. Efforts will be made by the Contractor to reduce contamination, if present, to a level which is as low as practicable. If Fire Service personnel or equipment become contaminated with radioactive or toxic materials as a direct result of assistance rendered, the Contractor will provide for the decontamination of the equipment (or replacement thereof) or the personnel at no charge to the Fire Service.

#### B. EMERGENCY AMBULANCE ASSISTANCE

12. In the event of a medical emergency at the FEMP and at the request of the Government, the Fire Service will exert its best efforts to provide emergency ambulance assistance for the purpose of conveying an injured or ill person or persons from the FHPC to hospitals or other medical treatment facilities in the Hamilton-Cincinnati areas.

13. Requests for assistance on behalf of the Government will not be honored unless made by one of the Contractor officials referenced in paragraph 3 above. Requests are to be made to the Fire Chief, Assistant Fire Chief or other line fire officer in charge via the fire protection dispatching authority for the Fire Service.

14. The driver and attendants manning the ambulance shall be members of the Fire Service's Life Squad and shall be trained in the operation of the vehicle and performance of life squad emergencies practices in accordance with the laws of the State of Ohio.

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14A. The emergency ambulance assistance to be rendered by the Government under this Agreement will be furnished through use of Government-owned ambulance equipment at the FEMP operated by the Contractor (Condition No. 4 applies).

15. Persons who are to be transported from the FEMP to hospitals or other medical treatment facilities will be monitored to determine the level of radioactivity present, if any, on their skin or clothing. Efforts will be made by the Contractor to reduce contamination, if present, to a level which is as low as practicable. If serious injuries are present and the need for immediate transport precludes decontamination, appropriate precautionary instruction will be given to drivers, attendants, and medical personnel. Also, appropriate precautions will be taken to prevent contamination of the transport vehicle.

16. There shall be no monetary compensation paid for the emergency ambulance assistance rendered by the Fire Service hereunder; provided, however, if the Fire Service's equipment or supplies become contaminated with radioactive or toxic materials as a direct result of assistance rendered, the Contractor will provide for the decontamination or replacement thereof at no charge to the Fire Service.

17. The Government covenants and agrees that no claim for compensation will be made by it against the Fire Service, and the Fire Service covenants and agrees that no claim for compensation will be made by it against the Government or against the Contractor for any loss, damage, personal injury, or death occurring in consequence of emergency ambulance assistance rendered by the Fire Service under its Agreement. All such rights or claims are hereby expressly waived by both parties to this Agreement.

C. TERM OF AGREEMENT

18. This Agreement may be terminated by either party upon 30 days' written notice to the other party, specifying the date of such termination.

D. OFFICIALS NOT TO BENEFIT

19. No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this Agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

- 4 -

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IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

Colerain Twp. Fire Dept.  
BY: [Signature]  
TITLE: Chief

UNITED STATES OF AMERICA  
BY: U. S. DEPARTMENT OF ENERGY  
BY: [Signature]  
TITLE: Contracting Officer

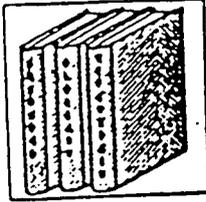
APPROVED:

Colerain Township Board of Trustees  
(Insert Township/Trustee)

BY: [Signature]  
TITLE: President

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## APPENDIX 5

## HAZARDOUS CHEMICALS\*

Aluminum Sulfate	Barium Carbonate
Blasting Grit	Calcium Hydroxide
Calcium Oxide	Chlorine
Diatomaceous Earth	Diesel Fuel #2
Heat Treat Salt	Hydrated Alumina
Hydrochloric Acid	Hydrogen Fluoride
Kerosene	Lithium Carbonate
Magnesium Oxide	Methanol
Nitric Acid	Oil
Potassium Carbonate	Propane
Sodium Carbonate	Sodium Hydroxide
Sulfuric Acid	Thorium
Tri-Butyl Phosphate	Unleaded Gasolene
Uranium Dioxide	Uranium Metal
Uranium Octaoxide	Uranium Tetrafluoride
Uranium Trioxide	Uranyl Nitrate
Urea	

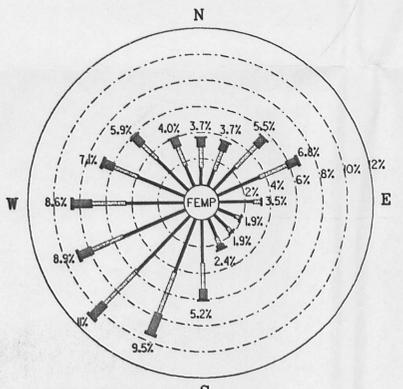
\*As reported February 1991 under Section 312 of the Emergency Planning and Community Right-to-Know Act of 1986 and Section 3750.08 of the Ohio Revised Code.

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WIND DIRECTION  
BASED ON 10 METER WIND OBSERVATIONS  
FEMP '87-'89, '92-'93



CALM WINDS 10.45%  
NOTE: FREQUENCIES INDICATE DIRECTION FROM WHICH WIND IS BLOWING



2393

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FOR INFORMATION ONLY  
CADD SERVICES

NO.	REVISIONS	DATE	DWN.	BY	APPD.	REF. DWG. NO.

FLUOR DANIEL  
FERNALD CADD  
DRAWING, DO NOT REVISE  
MANUALLY.

PERFORMANCE GRADE	1	2	3	4	5
BY:					
DATE:					

APPROVALS	
CIVIL	STR.
ELECTRICAL	SAFETY ENG.
MECHANICAL	MAINTENANCE
	FIRE PROTECT.
	WASTE MANAGE.
	SECURITY
	CRU
CHECKED	
APPROVED	

Fernald Environmental  
Management Project  
**FLUOR DANIEL  
FERNALD**  
U.S. DEPARTMENT OF ENERGY

SITE PLAN RCRA PART B  
PERMITTED RCRA STORAGE UNITS  
FIGURE G-1  
SCALE: 1" = 300'-0"  
DATE: 4/14/98  
DRAWN: SJS/SMOCK  
FILE NAME: /RES330537/Ca998.DWG

24" 22" 17" 11" 8.5" 11" 17" 22"



2393



2393

95

FEMP HAZARDOUS WASTE MANAGEMENT UNIT (HWMU) LOCATIONS	
1	FIRE TRAINING FACILITY
2	DRUM STORAGE AREA NEAR LOADING DOCK (LAB BLDG.)
3	DRUM STORAGE AREA SOUTH OF W-26 (LAB BLDG.)
4	NAR SYSTEM COMPONENTS
5	TANK FARM SUMP
6	BOX FURNACE
7	OXIDATION FURNACE #1
8	PLANT 8 EAST DRUM STORAGE PAD
9	PLANT 8 WEST DRUM STORAGE PAD
10	CP STORAGE WAREHOUSE BLDG. 56 (BUTLER BLDG.)
11	PLANT 1 PAD
12	ABANDONED SUMP WEST OF PILOT PLANT
13	WASTE PIT NO. 4
14	TRANE THERMAL LIQUID INCINERATOR
15	PLANT 8 WAREHOUSE (BLDG. 80)
16	PILOT PLANT WAREHOUSE STORAGE AREA (BLDG. 68)
17	KC-2 WAREHOUSE (BLDG. 63)
18	STORAGE PAD NORTH OF PLANT 6
19	PLANT 6 WAREHOUSE (BLDG. 79)
20	SLUDGE DRYING BEDS
21	WASTE PIT NO. 5
22	URANYL NITRATE TANKS (NFS STORAGE AREA)
23	URANYL NITRATE TANKS (NORTH OF PLANT 2)
24	URANYL NITRATE TANKS (SOUTHEAST OF PLANT 2)
25	URANYL NITRATE TANKS (DIGESTION AREA)
26	URANYL NITRATE TANKS (RAFFINATE BLDG.)

NO.	REVISIONS	DATE/DWN. BY/APPD.	REF. DWG. NO.

FLUOR DANIEL FERNALD CADD DRAWING, DO NOT REVISE MANUALLY.	PERFORMANCE GRADE	APPROVALS											
	1 2 3 4 5	<table border="1"> <tr><td>CIVIL &amp; R.</td><td>SAFETY ENG.</td></tr> <tr><td>ELECTRICAL</td><td>MAINTENANCE</td></tr> <tr><td>ENGINEERING</td><td>FIRE PROTECT.</td></tr> <tr><td>INSTRUMENT</td><td>WASTE MANAGE</td></tr> <tr><td>MECHANICAL</td><td>SECURITY</td></tr> <tr><td> </td><td>CRU</td></tr> </table>	CIVIL & R.	SAFETY ENG.	ELECTRICAL	MAINTENANCE	ENGINEERING	FIRE PROTECT.	INSTRUMENT	WASTE MANAGE	MECHANICAL	SECURITY	
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ELECTRICAL	MAINTENANCE												
ENGINEERING	FIRE PROTECT.												
INSTRUMENT	WASTE MANAGE												
MECHANICAL	SECURITY												
	CRU												
	By: _____ DATE: _____	CHECKED: _____											
		APPROVED: _____											

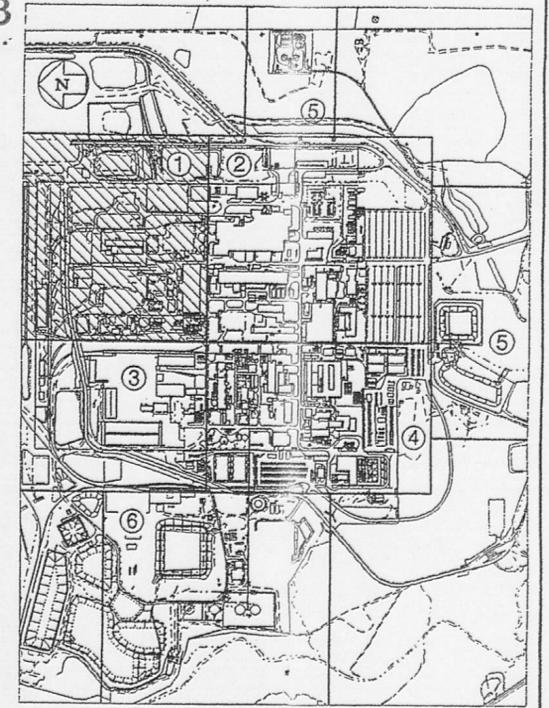
Fernald Environmental Management Project	
FLUOR DANIEL FERNALD	
U.S. DEPARTMENT OF ENERGY	

SITE PLAN
LOCATION OF FEMP RALLY POINTS
SCALE: 1" = 300'
DATE: 4/27/99
DRAWN: S.J.SMOCK

FILE NAME: ARE 95-0326-00-103.DGN
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2393

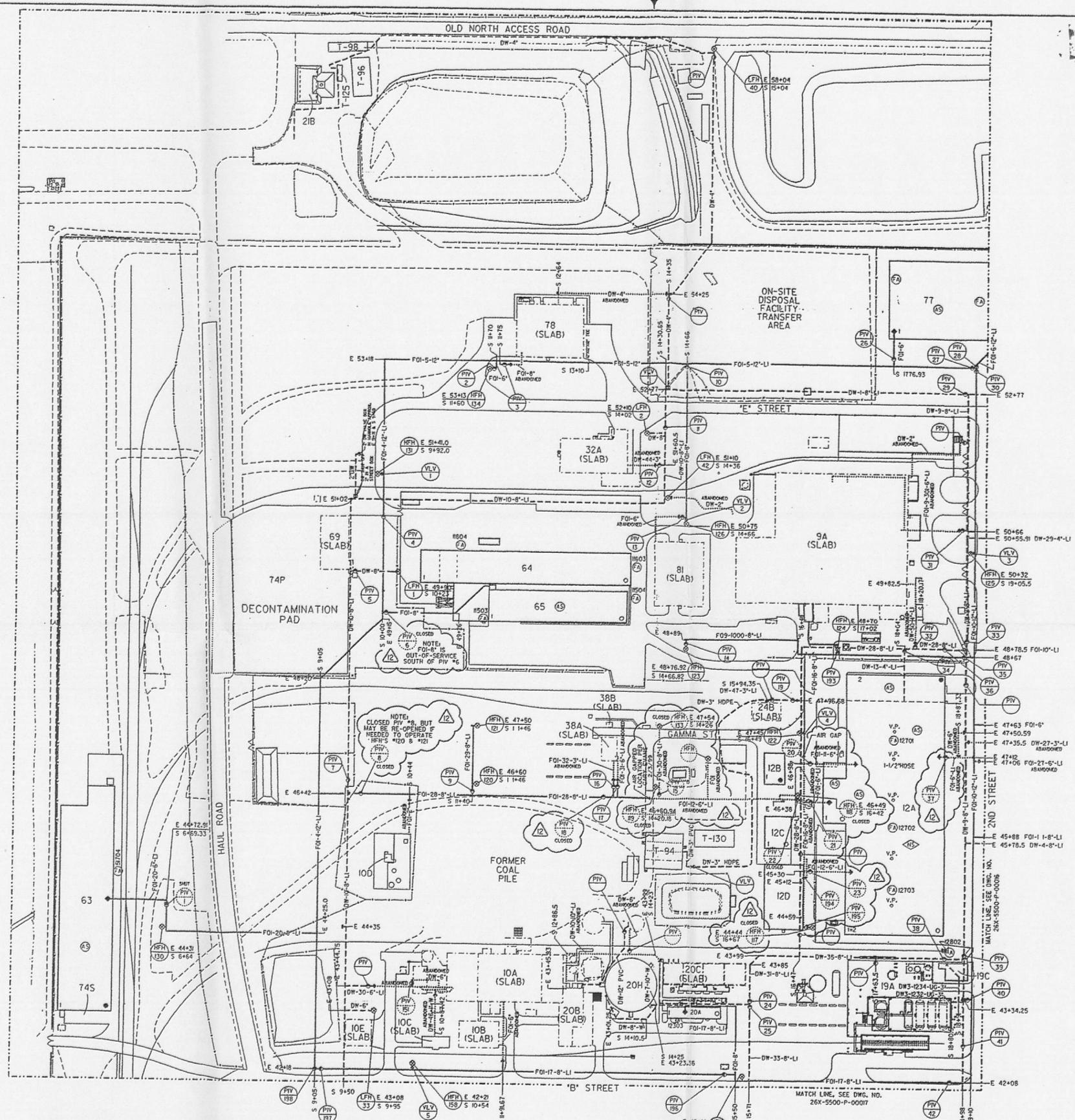


LOCATION MAP

- ① - 26X-5500-P-0005
- ② - 26X-5500-P-0006
- ③ - 26X-5500-P-0007
- ④ - 26X-5500-P-0008
- ⑤ - 26X-5500-P-0017
- ⑥ - 26X-5500-P-0013

2393

INFORMATION ONLY



LEGEND

- FO HIGH PRESSURE WATER MAIN
- DW LOW PRESSURE WATER MAIN
- AS AUTOMATIC SPRINKLER
- NS NON-SPRINKLERED
- FA FIRE ALARM BOX
- V.P. STANDPIPE
- HYDRANT
- PI POST INDICATOR VALVE
- RS RET SPRINKLER VALVE
- DS DRY SPRINKLER VALVE
- I NUMBER OF FLOORS
- FR FRAME ROOF CONSTRUCTION
- BR BUILT-UP ROOF CONSTRUCTION
- NC NON-COMBUSTIBLE ROOF CONSTRUCTION
- AM AUTOMATIC MANUAL
- HP HIGH PRESSURE
- LP LOW PRESSURE
- AB ABANDONED
- PIV POST INDICATOR VALVE
- VALVE BOX
- CB CURB BOX

PIV NO.	MARKS NO.
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INFORMATION ONLY

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NOTE: THIS DRAWING IS FOR INFORMATION ONLY. FOR AS-BUILT CONDITIONS CONTACT FIRE & SAFETY.

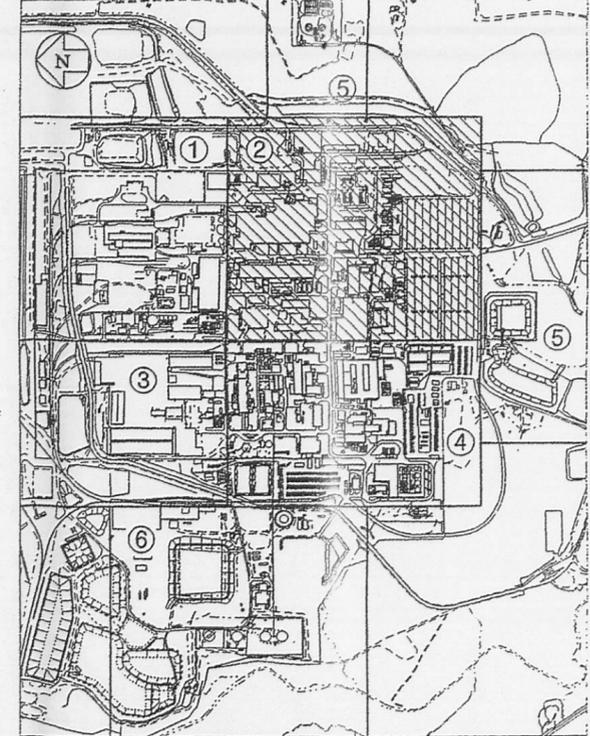
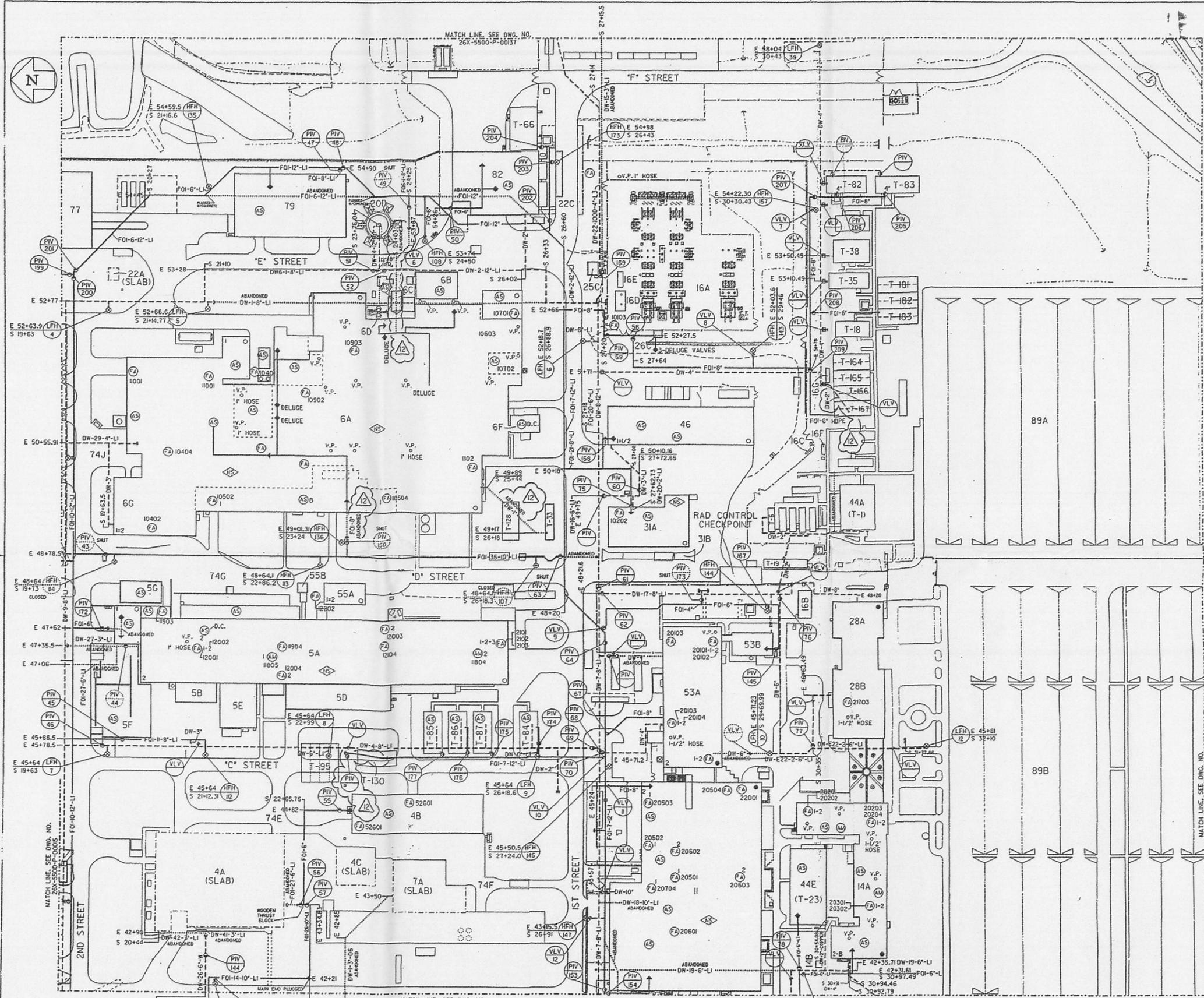
NO.	REVISIONS	DATE	DWN. BY	APPD. NO.	NO.	REVISIONS	DATE	DWN. BY	APPD. NO.	REF. DWG. NO.
12	PLACED HFS'S #5 RT, 10, 11, 12 & 13 OUT-OF-SERVICE, IDENTIFIED AIR GAPPED FIRE MAIN LOCATIONS, CHGO QUADRANT #1 TO AREA #1	3/2/99	SJS	01/09	10	GENERAL REVISIONS	3/5/98	SJS	GEP	
11	IN DRAWING TITLE BLOCK, GENERAL REVISIONS				9	UPDATED PER RES #3442	1/28/98	SJS	GEP	26X-5500-P-00173
10	GENERAL REVISIONS, COMPLETED NUMBERING	1/3/98	SJS	01/09	8	UPDATED	1/28/98	SJS	GEP	26X-5500-P-00137
9	FOI PIV'S, NUMBERED FOI VLV'S & CHANGED SCALE OF DWG. TO INCLUDE NORTH ACCESS RD.				7	UPDATED	9/5/96	G.E.S.	GEP	26X-5500-P-00018
8					6	UPDATED	1/10/96	S.J.S.	GEP	26X-5500-P-00017
7					5	REDRAWN AND UPDATED	7-6-91	S.J.S.	GEP	26X-5500-P-00016

NOTE: FLUOR DANIEL FERNALD CADD DRAWING. DO NOT REVISE MANUALLY.

CONFIGURATION MANAGEMENT DRAWING	APPROVALS
CIVIL & STR. ENGINEER	SAFETY ENG.
ELECTRICAL ENGINEER	MAINTENANCE
INSTRUMENT MECHANICAL	FIRE PROTECT. DRG. ENGR
	WASTE MNGMNT
	SECURITY
	PROJECTS

Fernald Environmental Management Project  
**FLUOR DANIEL FERNALD**  
 U.S. DEPARTMENT OF ENERGY

RES #293	PLANTWIDE FIRE PROTECTION SYSTEM AREA #1
DATE 2-15-90	SCALE: 1" = 65'-0"
DRAWN S.J.SMOCK	26X-5500-P-00015
	12



LOCATION MAP

- ① - 26X-5500-P-0005
- ② - 26X-5500-P-0006
- ③ - 26X-5500-P-0007
- ④ - 26X-5500-P-0008
- ⑤ - 26X-5500-P-0017
- ⑥ - 26X-5500-P-0013

INFORMATION ONLY

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150	99-2000-V

- LEGEND**
- FD HIGH PRESSURE WATER MAIN
  - DW LOW PRESSURE WATER MAIN
  - AS AUTOMATIC SPRINKLER
  - NS NON-SPRINKLER
  - FA FIRE ALARM BOX
  - V.P. STANDPIPE
  - HYDRANT
  - POST INDICATOR VALVE
  - WET SPRINKLER VALVE
  - DRY SPRINKLER VALVE
  - I NUMBER OF FLOORS
  - FRAME ROOF CONSTRUCTION
  - BUILT-UP ROOF CONSTRUCTION
  - ALM AUTOMATIC MANUAL
  - HIGH PRESSURE
  - - - LOW PRESSURE
  - ABANDONED
  - VLV VALVE BOX
  - CURB BOX

NOTE: THIS DRAWING IS FOR INFORMATION ONLY. FOR AS-BUILT CONDITIONS CONTACT FIRE & SAFETY.

NO.	REVISIONS	DATE	DWN.	BY	APPD.	NO.	REVISIONS	DATE	DWN.	BY	APPD.	NO.	REVISIONS	DATE	DWN.	BY	APPD.	NO.	REVISIONS	DATE	DWN.	BY	APPD.
12	CHC QUADRANT #2 TO AREA #2 IN DRAWING TITLE BLOCK, GENERAL REVISIONS	3/1/98	SJS		02/08	9	GENERAL REVISIONS	3/9/98	SJS		GEP	10	GENERAL REVISIONS	3/9/98	SJS		GEP	11	GENERAL REVISIONS	3/9/98	SJS		GEP
11	GENERAL REVISIONS, COMPLETED NUMBERING FOI PIV'S, NUMBERED FOI VLV'S & RE-NUMBERED FOI PIV #62 TO PIV #75	10/20/98	SJS		02/08	8	UPDATED PER RES #3442	10/20/98	SJS		GEP	7	UPDATED	10/20/98	SJS		GEP	6	UPDATED	10/20/98	SJS		GEP
						6	UPDATED	9/2/98	G.E.S.		GEP	5	UPDATED	7/8/98	S.J.S.		GEP	4	UPDATED	7/8/98	S.J.S.		GEP
						5	REDRAWN AND UPDATED	3/2/98	S.J.S.		GEP	4	REDRAWN AND UPDATED	3/2/98	S.J.S.		GEP	3	REDRAWN AND UPDATED	3/2/98	S.J.S.		GEP

NOTE: FLUOR DANIEL FERNALD CADD DRAWING. DO NOT REVISE MANUALLY.

CONFIGURATION MANAGEMENT DRAWING	APPROVALS
CIVIL & STR. ENGINEER	SAFETY ENG.
MECHANICAL ENGINEER	MAINTENANCE
INSTRUMENT MECHANICAL	FIRE PROTECT.
WM & TP	WASTE MNGT.
CHECKED	SECURITY
APPROVED	PROJECTS
	A.M.I.
	ALARM SYS.
	OPERATIONS

**Fernald Environmental Management Project**

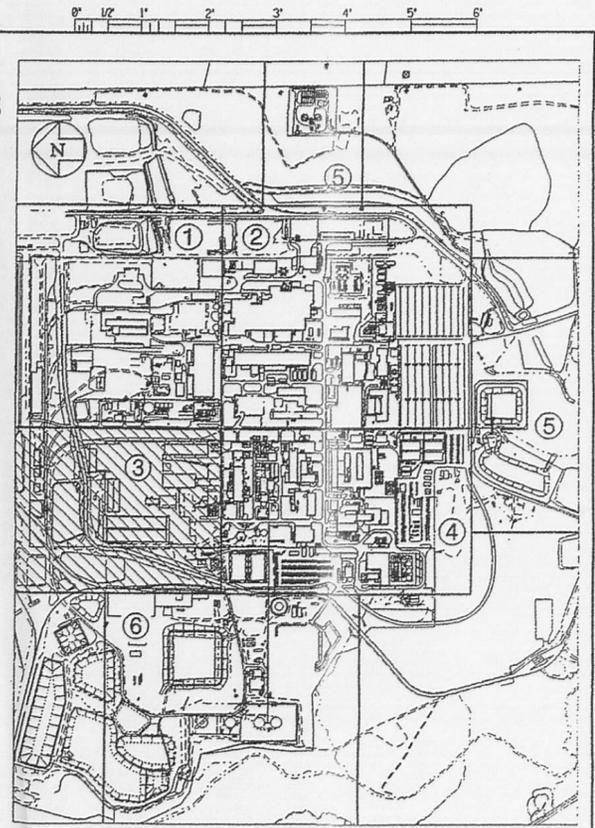
**FLUOR DANIEL FERNALDS**

U.S. DEPARTMENT OF ENERGY

RES #293	PLANTWIDE FIRE PROTECTION SYSTEM AREA #2
DATE 3-10-98	SCALE: 1" = 60'-0"
DRAWN S.J.S/MDC	26X-5500-P-0006 12



2393



LOCATION MAP

- ① - 26X-5500-P-0005
- ② - 26X-5500-P-0006
- ③ - 26X-5500-P-0007
- ④ - 26X-5500-P-0008
- ⑤ - 26X-5500-P-0037
- ⑥ - 26X-5500-P-0013

2393

# INFORMATION ONLY

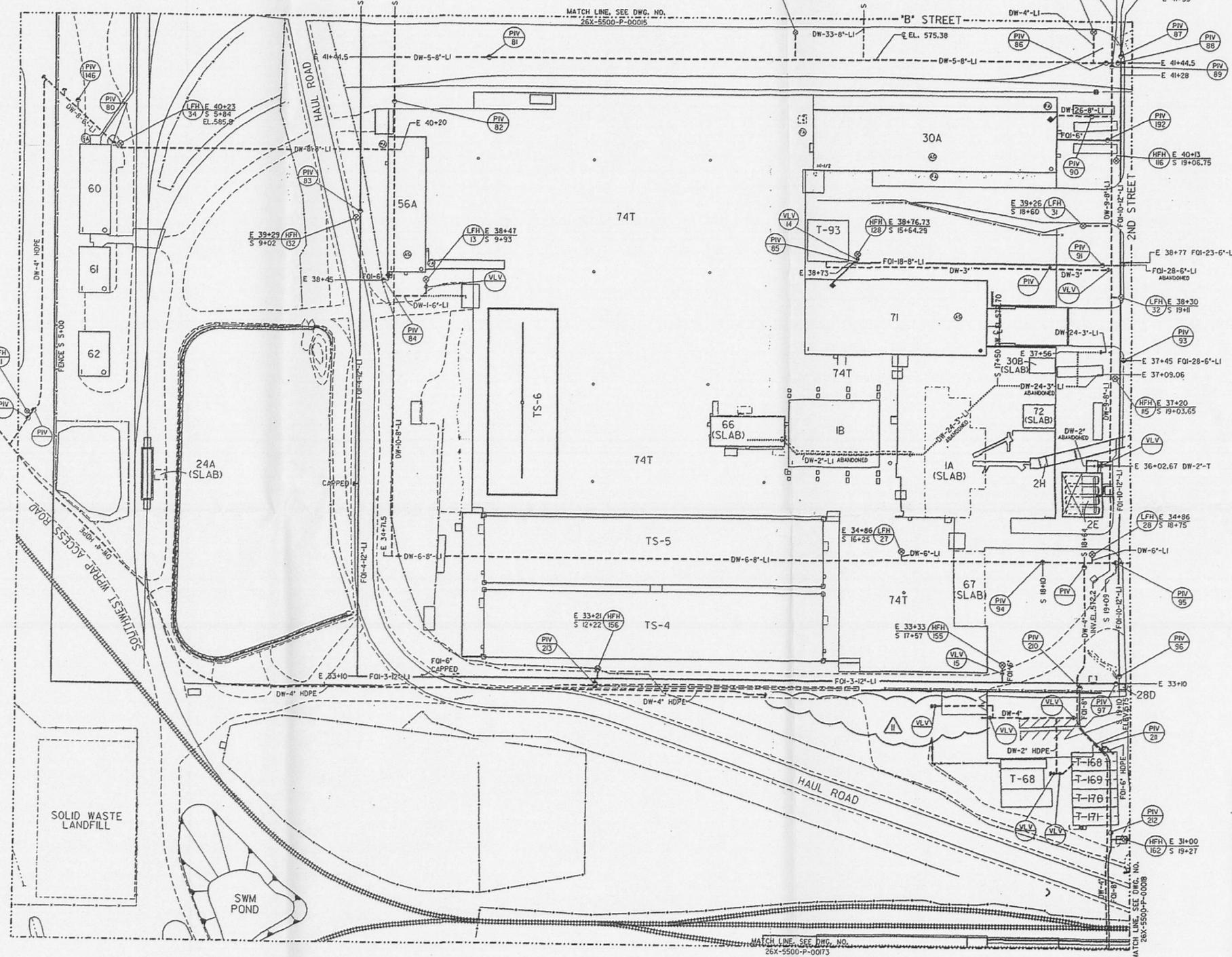
### LEGEND

- FO HIGH PRESSURE WATER MAIN
- DW LOW PRESSURE WATER MAIN
- AS AUTOMATIC SPRINKLER
- NS NON-SPRINKLER
- EA FIRE ALARM BOX
- S.P. STANDPIPE
- HYDRANT
- PIV POST INDICATOR VALVE
- WET SPRINKLER VALVE
- DRY SPRINKLER VALVE
- I NUMBER OF FLOORS
- x FRAME ROOF CONSTRUCTION
- o BUILT-UP ROOF CONSTRUCTION
- o NON-COMBUSTIBLE ROOF CONSTRUCTION
- AM AUTOMATIC MANUAL
- HIGH PRESSURE
- - - LOW PRESSURE
- ..... ABANDONED
- PIV POST INDICATOR VALVE
- VLV VALVE
- CB CURB BOX

# INFORMATION ONLY

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NOTE: THIS DRAWING IS FOR INFORMATION ONLY. FOR AS-BUILT CONDITIONS CONTACT FIRE & SAFETY.



PIV NO.	IMICS NO.
80	99-2012-WV
81	99-2012-WV
82	99-2012-WV
83	99-2012-WV
84	99-2012-WV
85	99-2012-WV
86	99-2012-WV
87	99-2012-WV
88	99-2012-WV
89	99-2012-WV
90	99-2012-WV
91	99-2012-WV
92	99-2012-WV
93	99-2012-WV
94	99-2012-WV
95	99-2012-WV
96	99-2012-WV
97	99-2012-WV
98	99-2012-WV
99	99-2012-WV
100	99-2012-WV

NO.	REVISIONS	DATE	DWN.	BY	APPD.	NO.	REVISIONS	DATE	DWN.	BY	APPD.	NO.	REVISIONS	DATE	DWN.	BY	APPD.	NO.	REF. DWG. NO.	
9	GENERAL REVISIONS																			
8	UPDATED PER RES #3442	3/10/98	SJS		GEP				3/10/98	SJS	GEP								26X-5500-P-00173	
7	UPDATED	0/1/98	SJS		GEP				0/1/98	SJS	GEP								26X-5500-P-00137	
6	UPDATED	9/1/98	SJS		GEP				9/1/98	SJS	GEP								26X-5500-P-00018	
5	UPDATED	1/10/98	SJS		GEP				1/10/98	S.J.S.	GEP								26X-5500-P-00016	
4	REDRAWN & UPDATED	1/2/98	T.M.W.		GEP				1/2/98	T.M.W.	GEP								26X-5500-P-00015	

NOTE: FLUOR DANIEL FERNALD CADDD DRAWING. DO NOT REVISE MANUALLY.

CONFIGURATION MANAGEMENT DRAWING

APPROVALS	DATE
CIVIL & STR.	
ELECTRICAL	
ENGINEER	
INSTRUMENT	
MECHANICAL	
W/M & TP	
CHECKED	
APPROVED	

Fernald Environmental Management Project

FLUOR DANIEL FERNALD

U.S. DEPARTMENT OF ENERGY

HIGH & LOW PRESSURE (FOI & DW) PLANTWIDE FIRE PROTECTION SYSTEM AREA #3 SCALE: 1" = 60'-0"

RES #293

DATE 8-22-98

DRAWN TAJWEST

26X-5500-P-00017 II





