ATTACHMENT 9

CONTINGENCY PLAN

Deseret Chemical Depot CAIRA Plan incorporated by reference, current plan available on site.

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ACRONYMS

For purposes of this Contingency Plan, the following acronyms are used:

ACAICO	Assistant Chemical Accident/Incident Response and Assistance Plan
ACAMS	Automatic Continuous Air Monitoring System
ACS	Agent Collection System
AFSC	Army Field Support Command
AIC	Assistant Incident Commander
APR	Air Purifying Respirator
Area 10	Chemical Surety Materiel Storage Area
BP	Battery Pack
BRA	Brine Reduction Area
BRA PAS	Brine Reduction Area Pollution Abatement System
CA	Combustion Air
CAICO	Chemical Accident/Incident Control Officer
CAIRA Plan	Chemical Accident/Incident Response and Assistance Plan
CAL	Chemical Assessment Laboratory
CAMDS	Chemical Agent Munitions Disposal System
CBR	Chemical, Biological, and Radiological
CFR	Code of Federal Regulations
CHB	Container Handling Building
CHE	Cholinesterase
CMA	Chemical Materials Agency
CON	Control Room
CSEPP	Chemical Stockpile Emergency Preparedness Plan
DA	Department of the Army
DAAMS	Depot Area Air Monitoring System
DCD	Deseret Chemical Depot
Decon	Decontamination
DFS	Deactivation Furnace System
DPE	Demilitarization Protective Ensemble
ECF	Entry Control Facility
ECR	Explosive Containment Room
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EOD	Explosive Ordnance Disposal
EP	Emergency Power
ERO	Emergency Response Organization
ERP	Emergency Response Plan
GB	Sarin, Isopropyl methylphosphonofluoridate
GC	Gas Chromatograph
GEN	Emergency Generator Supply
H	Levinstein mustard, bis (2-chloroethyl) sulfide
HAL	Halon
HD	Distilled mustard, bis (2-chloroethyl) sulfide
hr	Hour
HT	Mustard, 60% HD and 40% T
HTL	HAZMAT Team Leader
HVAC	Heating, Ventilation, and Air Conditioning

IC	Incident Commander
ICU	Intermittent Collection Unit
IDLH	Immediately Dangerous to Life and Health
IR	Infrared Retro-Reflective
IRF	Initial Response Force
lb/hr	pounds per hour
LIC	Liquid Incinerator
LPG	Liquefied Petroleum Gas
MAT	Management Advisory Team
MCE	Maximum Credible Event
MCIC	Medical Clinician In Charge
MDB	Munitions Demilitarization Building
MDM	Multi-purpose Demilitarization Machine
MET/DET	Meteorological/Detection Teams
MOU	Memoranda of Understanding
MPF	Metal Parts Furnace
MSDS	Material Safety Data Sheets
NaOCl	Sodium Hypochlorite
NaOH	Sodium Hydroxide
NIOSH	National Institute for Occupational Safety and Health
PAS	Pollution Abatement System
PDS	Personnel Decontamination Station
PMB	Personnel Maintenance Building
PMD	Projectile/Mortar Disassembly Machine
POC	Point of Contact
POV	Privately Owned Vehicles
PPE	Personal Protective Equipment
PPS	Primary Power Supply
PTL	Paramedic Team Leader
PUB	Process and Utility Building
QASAS	CMA Shift Quality Assurance Specialist and Ammunition Surveillance
QRU	Quick Response Unit
RTAP	Real Time Analysis Platform
RTL	Rescue Team Leader
SCBA	Self Contained Breathing Apparatus
SCO	Scene Control Officer
SDS	Spent Decontamination System
SPORT	Single Pallet Only Rocket Transporter
Spent Decon	Spent Decontamination Solution
SPS	Secondary Power Supply
SSCC	Site Security Control Center
SEL	Source Emission Limit
STEL	Short-Term Exposure Limit
T	Bis[2(2-chloroethylthio)ethyl]ether
TAP	Toxicological Agent Protective
TCB	Treaty Compliance Building
TEAD	Tooele Army Depot (North Area)
TOCDF	Tooele Chemical Agent Disposal Facility
TOX	Toxic Cubicle
UPS	Un-interruptible Power Supply

UV	Ultraviolet/Infrared
VSL	Vapor Screening Level
VX	O-ethyl-S(2-diisopropylaminoethyl) methyl phosphonothiolate
XXX	3X; surface decontamination
XXXXX	5X; thermal treatment at 1000 °F for a minimum of 15 minutes

9.0 CONTINGENCY PLAN [R315-3-2.5,R315-8-4]

9.0.1 This Contingency Plan provides for hazardous waste management and describes the actions facility personnel will take in response to fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents from their containment systems.

9.1 EMERGENCY EQUIPMENT AND SYSTEMS

9.1.1 Electrical Distribution and Emergency Power (EP) System Overview

9.1.1.1 The electrical system consists of primary and secondary systems. The primary system consists of substation, switchgears, and diesel engine generators. The secondary system consists of 480-V switchgears, Motor Control Centers, distribution transformers, panelboards, and Uninterruptible Power Supply (UPS) systems. The electrical loads are divided into three categories: critical, essential, and utility:

9.1.1.1.1 *Critical Loads* are those required immediately following a power interruption. These loads are fed from UPS and battery packs (BPs). Those requiring AC power are supplied from a solid-state UPS consisting of a battery/inverter system. Those requiring DC power are fed from a battery charger and storage battery or a special purpose pack furnished as an integral part of the load device.

9.1.1.1.2 *Essential Loads* are those that are essential for health and safety but can tolerate interruption for a few seconds or more. Essential loads may be supplied from a standby generator system that can be started and fully loaded within 90 seconds.

9.1.1.1.3 *Utility Loads* are those not falling into the first two categories. The loss of these loads may result in a shutdown of the facilities and loss of production, but will not endanger health or safety.

9.1.1.2 Primary Power System (PPS)

9.1.1.2.1 Two 5-MVA transformers in the main substation, located near the TOCDF, receive primary power from the local electrical utility. This substation steps down line voltage from 46kV to 4.16kV and provides power to the TOCDF Primary Power System (PPS). Each transformer in the substation can carry 100% of the essential loads.

9.1.1.3 Secondary Power System (SPS)

9.1.1.3.1 The Secondary Power System (SPS) consists of double-ended 480-V load center and switchgear, motor control centers, and other equipment necessary to control and distribute power to TOCDF equipment. The SPS drops the voltage received from the PPS from 4,160-V to 480-V through a series of transformers. These transformers supply power to the switchgear and load centers. The switchgear and load centers contain circuit breakers that control power to the SPS motor control centers, transformers, and UPS systems.

9.1.1.4 Uninterruptible Power Supply (UPS) System

9.1.1.4.1 The Uninterruptible Power Supply (UPS) provides power to electrical loads that cannot be interrupted for any length of time, such as instrument control systems, Control Room advisor screens, closed-circuit television, DPE radio system, warning lights (flashing), fire alarms, exit and emergency lights, and agent monitoring systems. The UPS system for the MDB uses offset battery racks in a separate room to facilitate access for maintenance and to accommodate cable connections to each battery. Positive room air circulation is utilized to avoid hazardous concentrations of hydrogen gas. If the utility and emergency power systems are not available, the critical loads will be powered by two UPS batteries that provide power for no less than 45 minutes. A listing of the major systems and major equipment that remains operational under emergency power is provided in Table 9-1-1.

Table 9-1-1
EMERGENCY POWER LOAD SUMMARY

Power Load	Recommended Type of Supply	Load Classification
Agent annunciation system	BP[1]	Critical
Fire alarm	BP	Critical
DPE radio base station	BP[2]	Critical
ACAMS agent monitors	UPS	Critical
Emergency lighting in non-toxic areas	BP	Critical
Emergency lighting in toxic areas	BP[3]	Critical
Load center and electrical switchgear controls (SPS-LCTR-101 and -102)	UPS and/or Station Batteries	Critical
DAAMS Monitoring	EP	Essential
Rotary retort DFS drive	EP	Essential
DFS retort lube oil pump	EP	Essential
CCTV (selected areas)	UPS	Critical
Public address system	UPS or BP	Critical
Instrumentation (CON, PLCs, microprocessors)	UPS	Critical
Control room ventilation (air handling)	EP	Essential
UPS (power to)	EP	Essential
CAL building, hood and filter units	EP	Essential
Life support system and compressor	EP	Essential
Air filtration system (includes air handling units)	EP	Essential
Instrument air compressor	EP	Essential
Battery room exhaust(HVC-FANX-102)	UPS	Critical
LPG transfer pump air compressor, vaporizer	EP	Essential
Facility heating	EP	Essential
Decon supply pump and spare	EP	Essential
Stack lighting	EP	Essential
MPF/ DFS/ECR feed and exit, conveyors/doors	EP	Essential
DFS secondary combustion air blowers	EP	Essential
MPF combustion air blower	EP	Essential
DFS/MPF emergency exhaust blowers	EP	Essential
DFS/MPF afterburners	EP	Essential
Quench brine pumps	EP	Essential
MPF/DFS Clean Liquor Pumps	EP	Essential

Table 9-1-1
EMERGENCY POWER LOAD SUMMARY

Power Load	Recommended Type of Supply	Load Classification
Control room air conditioning	EP	Essential
Process Water Supply	EP	Essential
Primary Cooling water	EP	Essential
Elevators/doors	EP	Essential

Notes:
1 BP = self-contained battery pack, EP = emergency power, UPS = solid-state uninterruptible power supply.
2 8-hour battery.
3 Battery packs are located in non-toxic areas.

9.1.1.5 Emergency Generator (GEN) System

9.1.1.5.1 The Emergency Generator (GEN) system consists of diesel-driven electrical generation systems capable of providing backup power to all of the critical and essential loads in case of a power outage. Diesel-driven auxiliary electrical generation systems are provided to supply essential power to the MDB and associated facilities for a safe and orderly shutdown. This includes power for emergency lighting, instrumentation and control system, building ventilation system, and key process equipment such as pumps and blowers where a power loss could either create a safety hazard or major damage to equipment. An additional diesel-driven filter generator is tied to all nine filter units in the MDB HVAC filtering system to provide power for any two of the filter units during an outage as needed. Plant security lighting is supplied from the Entry Control Facility generator.

9.1.2 Fuel Gas System (Natural Gas)

9.1.2.1 The furnaces at TOCDF are designed to burn natural gas as their primary fuel source. The natural gas is fed to the facility from the local utility company main supply line at a nominal pressure of 70 psig. The TOCDF regulates this pressure down to a header pressure of 35 psig.

9.1.2.2 The fuel gas system consists of commercially supplied natural gas, associated controls, indicators, and flare stack and fuel gas distribution system. A seismic-activated gas cutoff valve is provided to shut the gas supply to the equipment in the event of an earthquake.

9.1.3 Fuel Oil System

9.1.3.1 Fuel oil storage is provided to supply fuel to the emergency diesel-driven electrical generation system. The fuel oil system consists of a belowground storage tank with level sensor, switch panel, drop tube, and 30-inch manway. The tank is double walled with a rustproof fiberglass reservoir. A monitoring system provides for leak detection.

9.1.4 Fire Detection and Protection Overview

9.1.4.1 TOCDF is equipped with smoke and fire alarm sensors, control panels, and alarms to alert personnel that a fire has been detected. Manual pull stations are located at exit

points throughout the site to allow personnel to report visual sighting of a fire. Pull stations, alarms, and hydrants are located throughout the site near the fuel storage area for the emergency generator, the LPG tank, the PMB filters, the fuel and bulk chemical unloading area, the MDB filter and stack area, the CON filter, the CHB loading dock, and the backup generator area. To extinguish fires, sprinkler systems using water are used in the UPA, ECR, and CHB; Halon systems are used in the CON and UPS rooms; and dry chemical systems are used in the TOX; and the induced-draft fan oil-lube systems located east of the PAS building. Wet-pipe sprinkler systems are used in the PMB. Smoke detectors are used in the PSB, certain areas of the PMB, and the Treaty Compliance Building (TCB). Portable fire extinguishers are provided for rapid response to small fires. In addition, a looped water distribution system services the site's fire hydrants.

9.1.4.2 Detection and Alarm

9.1.4.2.1 Fire detectors used in the various fire detection systems are one of the following types: photoelectric, combination Ultraviolet/Infrared (UV/IR), and thermal. Detectors in the furnace rooms and in areas subject to decon solution spray are high-temperature, rate-of-rise, and thermal types. Combination UV/IR detectors are provided for the ID fan oil-lube systems. All other areas are provided with photoelectric detectors.

9.1.4.2.2 If smoke or heat is sensed, an alarm is generated at the local panel and a signal goes to the main supervisory control panel in the CON. That panel passes the alarm to the ECF control panel. The ECF control panel reports the alarm to the DCD fire department through the radio communication system.

9.1.4.2.3 Rooms with Halon 1301 protection use cross-zoned photoelectric detectors. Rooms with dry-chemical extinguishing system protection use cross-zoned protection with thermal and photoelectric detectors in the TOX. When these detectors sense smoke or heat, they simultaneously activate an alarm throughout the MDB using local alarm horns and strobe lights and visual and audio alarms in the CON.

9.1.4.2.4 If a worker observes a fire and no alarm has sounded, that person should pull the nearest manual pull station. When a fire occurs inside of the double fence, the Plant Shift Manager must decide whether the fire can be extinguished without peril to personnel or equipment. Using existing resources and personnel can stop a small fire that has no chance of spreading further if promptly extinguished.

9.1.4.3 Automatic Sprinkler System

9.1.4.3.1 Dry-type, hydraulically designed automatic sprinkler systems are located in the CHB and the UPA. Thermal fire detectors in these areas automatically trigger the systems.

9.1.4.3.2 In the event of a fire, the sprinkler system dry pipes are charged with water by the activation of a deluge valve triggered by thermal detectors in the area. Sprinkler heads over the fire are then thermally activated by melting a fusible link[1]. Water is released through open sprinkler heads to extinguish the fire. If the fire is very small and remotely located from explosives, it could be fought effectively with a hand-held extinguisher. In

[1] The sprinkler system uses sprinklers with fusible alloy sealed into a bronze center strut by a stainless steel ball. When heat from a fire causes the alloy to melt, the ball is forced upward into the center strut allowing a release of the pressurized firewater.

the event of a large fire or if the fire is detected in the UPA, the sprinkler system automatically activates. If it fails to start automatically, operators in the UPA and CHB UPA must manually activate the sprinkler deluge valve.

9.1.4.4 Halon (HAL) Systems

9.1.4.4.1 Automatic total-flooding Halon 1301 (HAL) systems protect the CON and UPS systems. Halon is used to extinguish fires in these rooms since it does not cause damage to electrical equipment. The CON rooms have raised computer-room floors, so these under floor spaces are also protected by Halon discharge nozzles. The systems are actuated by cross-zoned, photoelectric smoke detectors in two stages; if a detector in only one stage is activated, a warning signal (flashing and audible) is generated. The automatic control leading to the HAL discharge is actuated only when detectors in two different zones are activated; the second alarm sets the system into a 30-second time delay mode. The time delay allows operators to push an abort switch, which inhibits the HAL discharge as long as the button is held down. This allows personnel to determine the seriousness of the fire or if it is a false alarm, and it allows evacuation of affected personnel from the fire area if necessary.

9.1.4.4.2 If the fire is small and can be fought safely, operators may abort the automatic release and use the manual Halon fire extinguishers located in the CON and UPS rooms to extinguish the fire. If the fire is large, and the operator does not choose to abort the discharge, the second alarm sounds and the HAL is discharged ten seconds after the abort button is released. If the automatic discharge fails, the manual discharge switch may be used. The manual discharge switch overrides the time delay and abort switches in the system.

9.1.4.5 ECR High-Speed Deluge System

9.1.4.5.1 The ECR High-Speed Deluge System is located in the ECRs and installed on the feed conveyors. Each system consists of three UV flame detectors, three Rapid-Response deluge valves, and a manual pull station located in each ECR. When a flame is detected on the feed gate, the UV sensor sends a signal to the Rapid Response Deluge control panel, which in turn actuates the High-Speed Deluge Solenoid Valve and sends an alarm to the control panel. The detection of a flame will operate the High-Speed Solenoid in ≤49 milliseconds. The system is activated and ready to respond during campaigns, which require the use of the RSM and BSR.

9.1.4.6 Portable Fire Extinguishers

9.1.4.6.1 Portable fire extinguishers are wall mounted throughout the TOCDF (except for A and B air categories in the MDB) and are used in the event of a small fire that has been determined to be one that can be handled safely and kept under control. Two types of portable fire extinguishers are available depending on the type of fire expected in the immediate area: Halon 1211 and multipurpose dry chemical. Both types are compatible with chemical agent and decontamination fluids. All personnel are authorized to use portable fire extinguishers to extinguish small fires and are familiar with extinguisher locations.

9.1.4.6.2 Halon 1211 fire extinguishers are rated 2A:60B:C and placed in areas where electrical fires or electrical hazards are expected. The contents of these extinguishers are stored as a liquid under pressure and expelled as a liquid.

9.1.4.6.3 In areas where electrical fires or electrical hazards are not expected, multipurpose dry-chemical fire extinguishers are sufficient. Multipurpose dry-chemical extinguishers for Class A, B, and C, and rated 20A:120B:C are mounted in such areas.

9.1.4.7 Dry-Chemical System

9.1.4.7.1 Five dry-chemical type fire suppression systems protect specific process zones. Four systems are located on the east side of the PAS platform east of the PAS building and provide protection to the four lube-oil systems of the four PAS induced-draft fans. A fifth system provides protection to the upper and lower levels of the TOX.

9.2 EMERGENCY RESPONSE ORGANIZATION [R315-8-4.3(c), R315-8-4.6; 29 CFR 1910.120]

9.2.1 Overview

9.2.1.1 TOCDF response efforts are commanded and controlled by the Incident Commander (IC)[2]. The IC is an employee of EG&G, operator of TOCDF. Oversight of emergency response efforts is provided by the TOCDF General Manager, also an EG&G employee. In an emergency that is declared a Chemical Accident/Incident Response and Assistance (CAIRA) event, response command and control is ceded to the DCD Commander operating from the installation Emergency Operations Center (EOC). During CAIRA events, the Chemical Accident/Incident Control Officer (CAICO) has been designated by the DCD Commander to direct emergency operations. In a CAIRA event, the TOCDF IC will fulfill the function of the Assistant Chemical Accident/Incident Control Officer (ACAICO) under the direction of the CAICO.

9.2.1.2 TOCDF's Emergency Response Organization (ERO) is composed of three distinct but coordinated groups of emergency personnel: Scene Responders, the Control Room, and the Management Advisory Team (MAT). Each group has its own response role and focus, each complementing the other. Group composition and relationships are illustrated in Figure 9-1-1. The basic responsibilities of each of these three groups are discussed below.

9.2.1.3 The DCD Emergency Response Organization for a chemical event is shown in Figure 9-1-2. During chemical events, TOCDF emergency response efforts are under the direction of the DCD Commander at the DCD EOC. Direct interface is provided through the DCD CAICO at the EOC.

9.2.2 Scene Responders

9.2.2.1 The Scene Responders are comprised of EG&G and Battelle employees with the expertise to quickly respond to the scene of an event, assess the situation, and promptly

[2] To be consistent with the TOCDF Emergency Response Plan, the title of Incident Commander (IC) is used instead of Emergency Coordinator.

implement corrective and protective measures. This group is modular in composition; therefore, responders can be mobilized based on need. The organizational structure of Scene Responders is patterned after the unified command and control concepts of the Incident Command System as specified in OSHA Regulation 29 CFR 1910.120. Scene Responders are led by the IC who directs and controls emergency response activities at TOCDF. Response teams are activated by the IC, and the IC will establish the response objectives. In a chemical agent event, the DCD CAICO will establish response objectives and inform the IC. The responsibilities of each scene response leader and advisor are as follows:

9.2.2.2 Incident Commander (IC)/Emergency Coordinator

9.2.2.2.1 The Incident Commander (IC)/Emergency Coordinator during an emergency at TOCDF is the Plant Shift Manager. The alternate designee IC is the Operations Shift Supervisor or personnel certified as either the Plant Shift Manager or the Operations Shift Supervisor. The IC is responsible for directing TOCDF emergency response operations. The IC will receive notification of an event in the Control Room. The IC will determine whether the event is an incidental event or an emergency. If the event is an emergency, the IC will decide personnel protective actions and determine which elements of the Emergency Response Organization (ERO) to activate. The IC will then turn over operation of the plant to the Operations Shift Supervisor and assume the role of IC for the duration of the emergency.

9.2.2.2.2 The IC will:

9.2.2.2.2.1 ensure prompt notification of an emergency to pre-specified organizations.

9.2.2.2..2.2 ensure effective mobilization of TOCDF and outside responders and resources.

9.2.2.2.2.3 ensure the safety of site personnel and responders.

9.2.2.2.2.4 ensure personnel and responder accountability is maintained.

9.2.2.2.2.5 establish response strategies, objectives, and priorities.

9.2.2.2.2.6 If appropriate, evacuate the facility (see Section 9.10.3.4).

9.2.2.2.2.7 Make the necessary notifications (see Section 9.7.1).

9.2.2.2.2.8 Mobilize personnel and ensures the proper PPE is provided.

9.2.2.2.2.9 Stop flow into the tank system and inspect to determine the cause of the release (see R315-8-10 [40 CFR 264.196(a)], Sections 9.4.9 through 9.4.11, and Attachment 16 (Tank Systems) of this Permit regarding spills and leakage from tanks, containers, and other regulated units).

9.2.2.2.2.9.1 Shut off pumps and closes inlet valves as appropriate.

9.2.2.2.2.9.2 If a valve, pipe, hose, or pump is leaking or spilling, isolate this equipment by closing the appropriate valves.

9.2.2.2.2.10 Removes sufficient waste from the tank system within 24 hours after detection of leak to reach a level where further release is prevented and tank inspection and repair can be performed (see R315-8-10 [40 CFR 264.196(b)], Sections 9.4.9 through 9.4.11, and Attachment 16 (Tanks Systems) of this Permit regarding spills and leakage from tanks, containers, and other regulated units).

9.2.2.2.2.10.1 Transfers the contents to other tank(s), container(s), or an appropriate treatment process.

9.2.2.2.2.10.2 As appropriate, removes the tank or component in question from service until permanent repairs can be made.

9.2.2.2.2.11 Conducts a visual inspection of the release and prevents further migration and removes and properly disposes of any visible contamination (see R315-8-10 [40 CFR 264.196(c)], Sections 9.4.9 through 9.4.11, and Attachment 16 (Tank Systems) of this Permit regarding spills and leakage from tanks, containers, and other regulated units).

9.2.2.2.2.11.1 Assemble the appropriate response equipment (i.e., absorbent material, empty drums, overpacks, shovels, brooms, pumps, vacuum trucks, etc.)

9.2.2.2.2.11.2 Determine the most appropriate containment and clean-up methods; implements appropriate containment procedures (i.e., earthen dikes, etc.).

9.2.2.2.2.11.3 Initiate clean-up and, directly or through communication with spill response personnel, monitors the clean-up of the released material. Clean-up will be performed as soon as possible, following detection of the release, to minimize any associated affects on human health or the environment. Releases to secondary containment systems will be cleaned-up within 24 hours of detection. The released material will be transferred (e.g., via shovel, pump, vacuum truck, absorbent, earth moving equipment, etc.) to a container(s) or other tank(s) in good condition or to an appropriate treatment process.

9.2.2.2.2.11.4 If the origin (and therefore the identity) of the released material is unknown, ensure that a sample of the released material and/or the clean-up residues/solutions are obtained and arranges laboratory analysis.

9.2.2.2.2.11.5 Ensure that the released material, that is treated or has been placed into a container(s) or tank(s) is managed in accordance with this Permit (e.g., stored in permitted container storage area(s), stored in permitted tank(s), shipped offsite, thermally treated, etc.).

9.2.2.2.2.11.6 Ensure that, after clean-up is complete, the secondary containment system and all equipment and PPE used during clean-up is decontaminated as necessary and PPE and absorbent materials are restocked as appropriate.

9.2.2.2.2.12 Develop and submit the appropriate reports required by R315-8-10 [40 CFR 264.196(d)] and Section 9.8 of this Contingency Plan.

9.2.2.2.2.13 Ensure, tank systems are repaired or closed as appropriate (see R315-8-10 [40 CFR 264.196(e)]). The repair methodology specified in the appropriate tank system design/fabrication standards (i.e., ASME Section VIII Division I, API 650, etc.) will be followed. Attachment 10 (Closure Plan) of this Permit contains details regarding tank

system closure. See Sections 9.4.9 through 9.4.11, and Attachment 16 (Tank Systems) of this Permit regarding spills and leakage from tanks, containers, and other regulated units.

9.2.2.2.2.13.1 If the tank system is repaired and the repair was extensive, obtain and submit a certification by an independent, qualified registered professional engineer that the repaired system is capable of handling hazardous waste for the intended life of the system (see R315-8-10 [40 CFR 264.196(e)]).

9.2.2.2.3 With advice and input from ERO members, the IC will:

9.2.2.2.3.1 assess the emergency and its consequences.

9.2.2.2.3.2 establish a hazard zone and protective actions.

9.2.2.2.3.3 develop a corrective action plan.

9.2.2.2.4 The IC will integrate non-TOCDF responders such as firefighting and security services and ensure that all parties are fully informed of events and actions occurring at the scene. Upon termination of an emergency, the IC will make reentry and recovery recommendations and assist with recovery operations.

9.2.2.2.5 The IC has the authority to commit all TOCDF resources necessary to adequately implement any response actions.

9.2.2.2.6 Table 9-2-1 identifies the ICs and Table 9-2-2 indentifies the AICs for the TOCDF site.

Table 9-2-1
EMERGENCY COORDINATORS
Incident Commanders

Position	Name and Address	Work Phone	Home Phone
PLANT SHIFT MANAGER	JAMES BREWER 167 McMichael Street Grantsville, Utah 84029	(435) 833-7700	(435) 884-6768
	BURK LEATHAM 566 Walden Drive Tooele, Utah 84074	(435) 833 7700	(435) 882-1911
	JAY IVEY 388 South 4th Street Tooele, Utah 84074	(435) 833-7700	(435) 882-0681
	ROBERT PETERSEN 619 East 180 North Tooele, Utah 84074	(435) 833-7700	(435) 833-9754
	SCOTT SORENSON 169 Millcreek Way Tooele, Utah 84074	(435) 833-7700	(435) 882-4347
	TROY H. WORTHEN 187 North Main Alpine, Utah 84008	(435) 833-6722	(801) 756-8129

Table 9-2-2
ALTERNATE EMERGENCY COORDINATORS

Position	Name and Address	Work Phone	Home Phone
CONTROL ROOM SUPERVISOR/ OPERATIONS SUPERVISOR	ROBERT ANDERSON 10540 South Columbia Way Sandy, Utah 84094	(435) 833-7700	(801) 545-8973
	JIM BROWER 9 North Booth Street Grantsville, Utah 84088	(435) 833-7700	(435) 884-1311
	KEITH EYRE 8441 Barnstable Road West Jordan, Utah 84088	(435) 833-6722	(801) 282-1685
	JOSEPH T. JOLLEY 587 North 470 East Tooele, Utah 84074	(435) 833-7700	(435) 843-0167
	RICK KIRKLAND 182 Lakeview Stansbury Park, Utah 84074	(435) 833-7700	(435) 833-0565
	DEVIN LEMMON 3886 Sun Valley Drive Grantsville, Utah 84029	(435) 833-7700	(435) 884-1523
	ELDON PERKINS 10360 Hwy 89 North Evanston, Wyoming 82930	(435) 833-7782	(307) 789-1005
	ROBERT RALSTON 202 West 1900 North Tooele, Utah 84074	(435) 833-7559	(435) 843-0745

9.2.2.3 Scene Control Officer (SCO)

9.2.2.3.1 Immediately upon activation of any scene responder, the Scene Control Officer (SCO) will report directly to the scene, take control of the activities of first responders, and then coordinate the actions of all response teams upon their arrival. The SCO will conduct evacuation of all personnel from the hazard zone; coordinate first responder efforts; control the spread of contamination; establish hazard zone perimeter control; determine the appropriate level of PPE for response teams; establish a staging area for response teams; designate the Personnel Decontamination Station (PDS) location; inform response team leaders of the mission objectives and priorities; assess personnel and equipment requirements; ensure responder accountability is maintained; and coordinate the evacuation of emergency responders from the site if necessary. The SCO will keep the IC fully informed of scene events and actions, and ensure the safety and effective coordination of assembled response teams. The SCO will take direction from and report to the IC.

9.2.2.4 Safety Advisor

9.2.2.4.1 The Safety Advisor is responsible for identifying and evaluating hazards, and ensuring the safety of emergency operations. The Safety Advisor position is filled by the shift

Safety Representative. Immediately upon activation of any scene responder, the Safety Advisor will report directly to the scene to provide safety assessment and advice. When activities are judged by the Safety Advisor to be an IDLH condition and/or to involve an imminent danger condition, the Safety Advisor has the authority to alter, suspend, or terminate those activities and will inform the SCO and/or IC of any actions needed to correct these hazards at the emergency scene. The Safety Advisor will ensure the appropriate level of PPE is worn by responders; ensure pre-entry safety checks are performed; ensure proper surveillance of responders inside the hazard zone; and assess the adequacy of the hazard zone perimeter and protective actions implemented.

9.2.2.5 Environmental Advisor

9.2.2.5.1 The Environmental Advisor is responsible for assessing the environmental consequences of a hazardous material event; providing guidance to the SCO and/or IC on contamination control, spill survey, and clean-up measures; and arranging for environmental sampling and analysis. The Environmental Advisor position is filled by the shift Environmental Representative. Immediately upon notification of any hazardous material release, the Environmental Advisor will report directly to the scene to assess environmental impacts and provide advice on environmental matters. The Environmental Advisor will provide advice and methods for keeping a spill and decontamination activities confined to initially affected areas (under engineering controls, inside a building, etc.) to the extent reasonable. The Environmental Advisor will provide technical advice in the areas of spill cleanup, property decontamination, and hazardous waste disposal.

9.2.2.6 Maintenance Superintendent

9.2.2.6.1 The Maintenance Superintendent will perform duties as directed in an emergency.

9.2.2.7 HAZMAT Team Leader (HTL)

9.2.2.7.1 The HAZMAT Team Leader (HTL) is responsible for directing activities of the HAZMAT Team. The HTL will obtain mission objectives from the SCO; assess the risks; develop a HAZMAT entry plan; prescribe safety measures to be taken; ensure proper equipment is used; brief entry and backup teams on the mission; perform entry readiness checks; dispatch the entry teams; provide constant surveillance and guidance during entry operations; direct portable air sampling for oxygen, combustible gas, and toxic vapor levels as required; ensure contamination control and personnel decontamination procedures are followed; maintain accountability of HAZMAT personnel; and obtain any needed support for entry teams. The HTL will take direction from and report to the SCO.

9.2.2.8 Decon Team Leader (DTL)

9.2.2.8.1 The Decon Team Leader (DTL) is responsible for directing activities of the Decon Team deployed to the scene. The DTL manages the setup and operation of the Personnel Decontamination Station (PDS) at the scene. The Medical Clinician in Charge manages the setup and operation of the PDS at the Medical Clinic. The DTL will obtain the PDS location from the SCO; determine the extent of PDS setup needed; ensure the proper decon solution and equipment are available; assign personnel and perform readiness

checks; direct the processing of contaminated personnel through the decon line; ensure the PDS remains outside the hazard zone; minimize secondary contamination; monitor personnel at the PDS for signs of illness/exposure; maintain accountability of Decon Team personnel; obtain any needed support for decon activities; direct PDS shutdown and cleanup; and ensure proper PDS waste disposal. The DTL will take direction from and report to the SCO.

9.2.2.9 Paramedic Team Leader (PTL)

9.2.2.9.1 The Paramedic Team Leader (PTL) is responsible for directing activities of the Paramedic Team and all outside medical teams at the scene. The PTL will obtain mission objectives from the SCO; ensure proper PPE for medical personnel; assess the medical needs of the event; establish a triage and treatment area at the scene as required; advise other team leaders on medical care and patient processing administered by their personnel (HAZMAT entrants, deconners, etc.); ensure patients have been at least gross decontaminated prior to transport; administer medical treatment; assess the need for further medical assistance and transportation; ensure medical support for responders at the scene; and obtain medical support through the Medical Clinician In Charge (MCIC) as needed. The PTL will take direction from and report to the SCO for scene control matters and report to the MCIC for medical treatment matters.

9.2.2.10 Medical Clinician In Charge (MCIC)

9.2.2.10.1 The Medical Clinician In Charge (MCIC) has overall responsibility for emergency medical response. The MCIC is the most highly-trained medical person at the TOCDF Medical Clinic at the time of an emergency. The MCIC is responsible for dispatching medical transport vehicles and paramedics to the scene; authorizing administration of additional nerve agent antidote injections as required (may also be authorized by paramedics); providing casualty triage and treatment instructions to paramedics on the scene; assuring the Clinic is staffed and prepared to receive casualties; ensuring casualties have been adequately decontaminated prior to treatment in the Clinic; managing personnel decontamination at the Clinic; performing and directing emergency triage and treatment of casualties arriving at the Clinic; requesting outside medical support directly from the DCD EOC via the TOCDF Control Room and keeping the DCD EOC updated on casualty status and medical response; directing activities of all outside medical teams at the Clinic; and recording and tracking treatment provided to casualties at the scene, at the Clinic, and in support facilities.

9.2.2.11 Rescue Team Leader (RTL)

9.2.2.11.1 The Rescue Team Leader is responsible for directing activities of the Rescue Team in performing confined space/technical rescue. The RTL and Rescue Team personnel are also members of the HAZMAT Team. If the event involves HAZMAT response and either confined space or technical rescue, the RTL will defer to the HAZMAT Team Leader for matters involving HAZMAT operations (PPE, contamination control, personnel decontamination, etc.). The RTL will obtain mission objectives from the SCO; assess the risks; develop a rescue plan; prescribe safety measures to be taken; verify that no explosive atmosphere exits prior to any confined space entry; ensure proper PPE and rigging systems for the rescue; brief rescue and backup teams on the mission; perform rescue readiness checks; dispatch the rescue teams; provide constant surveillance and

guidance during the extraction; maintain accountability of rescue personnel; and obtain any needed support for rescue teams. The RTL will take direction from and report to the SCO.

9.2.2.12CMA Shift Engineer

9.2.2.12.1 The CMA Shift Engineer will provide technical advice and guidance to the IC and Control Room personnel, and perform CMA notifications. During an off-hours emergency involving Management Advisory Team (MAT) mobilization, the CMA Shift Engineer will dispatch the CMA Shift Quality Assurance Specialist and Ammunition Surveillance to the DCD EOC to act as a TOCDF liaison and technical advisor pending MAT arrival.

9.2.3 Control Room

9.2.3.1 The Control Room for TOCDF plant operations is located in the MDB. The Control Room is designed with engineering controls to isolate it from the effects of potential hazards. It contains centralized monitoring capability and emergency communications systems including the 911 emergency reporting line, the site-wide public address system for broadcast of emergency notification and instructions, and base radio stations for emergency communications. It also provides centralized control and monitoring of critical plant systems and equipment. The Control Room is staffed on a 24-hour basis. The Control Room, comprised of shift Control Room Operators, is directed by the Plant Shift Manager during normal shift operations. The Plant Shift Manager will delegate direction of the Control Room to the Control Room Supervisor in an emergency event. The Control Room Supervisor will then be the Control Room group leader and be responsible for emergency notification; protective action instructions; activation of the Emergency Response Organization; emergency communications; and monitoring and controlling plant processes, systems, and equipment to ensure personnel safety and to mitigate damage to facilities and equipment.

9.2.3.2 Assistant Incident Commander (AIC)/Alternate Emergency Coordinator[3]

9.2.3.2.1 The Operations Shift Supervisor is the Assistant IC (AIC). The Operations Shift Supervisor may be designated the IC in any event by the Plant Shift Manager or will automatically assume the role of IC in the Plant Shift Manager's absence. If the Operations Shift Supervisor is designated the IC, he will then assume command of all TOCDF emergency response operations and report to the EOC for the duration of the emergency. If the Operations Shift Supervisor assumes the role of IC, he will assign a certified Operator to assume the Operations Shift Supervisor's duties.

9.2.3.2.2 The Operations Shift Supervisor is responsible for monitoring emergency alarms and communication devices; providing initial emergency instructions and guidance to first responders at the scene; rapidly notifying required emergency services such as firefighting, medical, and security; alerting and notifying affected personnel of the emergency and protective actions; deploying responders to the scene and emergency facilities such as the Clinic and DCD EOC; promptly notifying DCD and TOCDF management; establishing a Control Room communications and information center for

[3] To be consistent with the TOCDF Emergency Response Plan, the title of Alternate Incident Commander (AIC) is used instead of Alternate Emergency Coordinator.

TOCDF response; initiating rapid entry and exit procedures for areas under surety controls; tracking accountability of site personnel and responders; acquiring resources to support scene operations; and documenting and tracking emergency events and actions. The above Operations Shift Supervisor responsibilities are carried out by the Control Room Operators, who are pre-assigned to certain emergency tasks at the start of their shift in order to maximize response effectiveness.

9.2.3.2.3 In addition, the Operations Shift Supervisor will assess any malfunction or damage to plant systems, equipment, or facilities; initiate remedial actions such as shutdown, reroute, or repair; identify hazardous locations; anticipate emergency impact on associated systems or equipment; take action to mitigate damage; and provide technical advice and cautions for response teams working on plant systems.

9.2.3.2.4 During an Emergency, the AIC in consultation with the CMA Shift Engineer, if available, has the authority to commit all TOCDF resources necessary to adequately implement any response actions.

9.2.3.3 Accountability Coordinator

9.2.3.3.1 The Accountability Coordinator is responsible for managing muster area operations during an emergency requiring site-wide evacuation and coordinating personnel accountability during an emergency involving site-wide, in-place sheltering. Responder accountability such as HAZMAT, decon, and medical personnel is coordinated by the SCO at the event scene. During site-wide evacuation, the Accountability Coordinator will manage muster area operations; report building sweep and personnel accountability results to the Control Room; maintain evacuee control and personnel accountability; transmit emergency information between the Control Room and evacuees; and ensure the safety of assembled evacuees. During site-wide in-place sheltering, the Accountability Coordinator will report personnel accountability results to Control Room. The Accountability Coordinator will take direction from and report to the IC.

9.2.3.4 Sweepers

9.2.3.4.1 Sweepers are responsible for assuring that all buildings and areas under an evacuation directive are clear of personnel and reporting results to the appropriate accountability lead. Sweepers are designated by building. Sweepers will perform their duties at the time of evacuation. Sweepers are the last persons out of their assigned building and will ensure the building is clear of personnel. The Sweeper will not enter an area of danger. If there is a hazardous condition, the Sweeper will report the area of the building that could not be swept. The IC may arrange for the search and rescue of personnel thought to be in the area of danger. The Sweeper will normally report building sweep results to the Accountability Coordinator.

9.2.4 Management Advisory Team (MAT)

9.2.4.1 Pre-designated responsibilities have been assigned to each member of the Management Advisory Team (MAT). The responsibilities for each MAT position are as follows:

9.2.4.2 General Manager

9.2.4.2.1 During an emergency, the General Manager is responsible for the health and safety of all personnel at TOCDF and for the overall direction of the TOCDF emergency response effort. The General Manager will ensure prompt, appropriate, and effective implementation of this plan in order to minimize the consequences of an emergency. The General Manager will review emergency response strategies, objectives, and priorities for appropriateness; notify EG&G and Battelle corporate headquarters after DCD Commander concurrence; track casualty status and care; ensure proper notification to families of EG&G and Battelle casualties after DCD Commander concurrence; support DCD public affairs activities; ensure EG&G and Battelle families are kept informed of personnel status; review news media reports for accuracy; monitor ongoing TOCDF response actions; determine the need for additional personnel to support the MAT; recommend termination ofterminate TOCDF emergency operations to the Commander when appropriate; initiate an immediate critique of response effectiveness; and initiate coordinated recovery planning and operations. The General Manager will also work with and advise the DCD EOC Director of Operations on TOCDF issues.

9.2.4.3 CMA Project Manager

9.2.4.3.1 The CMA Project Manager is responsible for monitoring overall TOCDF response effectiveness, ensuring coordinated interface between TOCDF and outside organizations, and providing technical and facility design basis information. The CMA Project Manager will ensure CMA is notified and kept informed of emergency events and activities; confirm notification of offsite agencies required by regulation or administrative agreement; ensure effective coordination between TOCDF and outside organizations; ensure emergency terms of TOCDF Memoranda of Understanding (MOUs) are upheld; assist in developing solutions to response problems; mobilize CMA, SAIC, and other government resources as needed to support MAT activities; ensure proper notification to families of any government casualties after DCD Commander concurrence; coordinate TOCDF public affairs activities and ensure integration with DCD efforts; ensure government families are kept informed of personnel status; review and approve TOCDF-related press releases and briefing sheets; and review news media reports for accuracy. The CMA Project Manager will also work with and advise the DCD EOC Director of Operations on TOCDF issues.

9.2.4.4 Deputy General Managers

9.2.4.4.1 The Deputy General Managers are responsible for providing MAT support to TOCDF and DCD, facilitating information flow and resource support between TOCDF and DCD, and advising DCD EOC staff on plant operations and technical matters. The Deputy General Managers will assist with MAT mobilization and operations; represent TOCDF operational needs and interests at the EOC; advise EOC staff on plant systems and other technical matters; track casualty status and care; closely monitor ongoing TOCDF response activities including responder actions and personnel protective actions; assist the Control Room in developing solutions to response problems; identify and coordinate delivery of MAT support; mobilize additional resources to support the MAT as required; arrange support for extended response operations such as food and relief; assist the EG&G General Manager in determining emergency operations termination; and assist the EG&G General Manager in implementing recovery operations. The Deputy General Managers will work with and advise the DCD CAICO on TOCDF issues.

9.2.4.4.2 The Deputy General Managers delegate reviews and amendments to the Contingency Plan, if necessary, whenever: (a) The facility RCRA permit is revised; (b) The Contingency Plan fails in an emergency in any way; (c) The facility changes in its design, construction, operation, maintenance, or other circumstances in such a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency; (d) The list of Incident Commanders changes; or (e) The list of emergency equipment changes.

9.2.4.5 CMA Shift Quality Assurance Specialist and Ammunition Surveillance (QASAS)

9.2.4.5.1 During an off-hours emergency involving Management Advisory Team (MAT) mobilization, the CMA Shift Engineer will immediately dispatch the CMA Shift Quality Assurance Specialist and Ammunition Surveillance (QASAS) to the DCD EOC to serve as liaison between DCD and TOCDF and a technical advisor to EOC staff until the MAT arrives at the EOC. The QASAS will facilitate information flow and resource support between TOCDF and DCD; represent TOCDF response needs and interests at the EOC; and advise EOC staff on plant systems and other technical matters. The QASAS will work with and advise the DCD CAICO (or alternate) on TOCDF issues until the MAT arrives. The QASAS will then turn over his responsibilities to the EG&G General Manager and take direction from the CMA Project Manager.

9.2.4.6 The MAT is comprised of the EG&G General Manager, the EG&G Deputy General Manager for Plant Operations, the EG&G Deputy General Manager for Risk Management, and the CMA Project Manager (or their alternates). The EG&G General Manager is ultimately responsible for the overall TOCDF emergency response effort and serves as the head of the MAT. The CMA Project Manager provides a government oversight function. The Deputy General Managers provide technical expertise to DCD EOC personnel relative to TOCDF operations. In a CAIRA event in which the DCD Commander assumes responsibility for the overall response, MAT members will serve as liaisons and technical advisors to DCD EOC staff and coordinate closely with the EOC Director of Operations and the CAICO as necessary.

9.2.4.7 The MAT serves as an information and advisory group to DCD EOC staff and represents TOCDF needs and interests at the EOC. The MAT will confirm completion of required notifications; ensure effective information flow between TOCDF emergency facilities and the EOC; advise EOC staff on plant technical matters; review emergency response strategies, objectives, and priorities; monitor TOCDF response and provide recommendations as appropriate; ensure adequate resource support to TOCDF; track casualty status and care; complete corporate and family notifications; assist the Control Room in solving operational problems; support DCD public affairs activities; arrange support for extended operations such as food and relief; terminate TOCDF emergency operations; and initiate coordinated recovery planning and operations. The MAT will not direct actions at the scene or at any emergency facilities but will ensure the overall plan of action is appropriate and that primary objectives are kept in focus.

9.2.4.8 The IC makes the decision to activate the MAT. The IC will automatically mobilize the MAT whenever DCD activates its EOC due to an event at TOCDF. For TOCDF purposes, the EOC is considered activated whenever the CAICO is directing CAIRA operations from it. The IC, at his discretion, may mobilize the MAT to the EOC or

another location based on other considerations. During normal working hours, MAT members are mobilized from work locations near the EOC. Off-hours, MAT members are mobilized from home locations some distance away, in which case the onsite CMA Shift Quality Assurance Specialist and Ammunition Surveillance are dispatched to the EOC to provide plant technical information and represent TOCDF needs until the MAT arrives.

9.2.4.9 Upon arrival, the three TOCDF senior managers who comprise the MAT will augment and integrate into EOC staffing as required. As the event develops, additional TOCDF expertise may be required at the EOC or some other location, e.g., plant systems specialists or special working groups may be needed to analyze specific problems and recommend solutions. The activation of additional TOCDF personnel in support of the MAT is at the discretion of the General Manager.

9.2.4.10 During an emergency, the MAT will continue to administer normal work functions not impacted by the emergency.

9.3 IMPLEMENTATION [R315-8-4.2(b)]

9.3.1 The purpose of this section is to establish guidelines for the orderly reporting and handling of emergency situations, which occur or could foreseeably develop at the TOCDF site. Due to the nature of materials handled at TOCDF, this plan may be implemented as a precautionary measure during routine operations. This Contingency Plan is implemented immediately in the event that a fire, explosion, or agent or non-agent release occurs which could threaten human health or the environment.

9.3.2 Fire or Explosion Incident

9.3.2.1 For the purpose of this section, fire means a fire in a chemical agent, oil, or hazardous material/waste storage, transportation, treatment, or work area. Explosion means an explosion in a chemical agent, oil, or hazardous material/waste storage, transportation, treatment, or work area.

9.3.2.2 The Contingency Plan is implemented due to fire or explosion if:

9.3.2.2.1 The event causes the release of toxic fumes.

9.3.2.2.2 The fire spreads and could possibly ignite materials at other locations on site, or could cause heat-induced leaks or explosions.

9.3.2.2.3 The fire could possibly spread to offsite locations.

9.3.2.2.4 The use of fire suppressant, either chemicals or water, could result in contaminated runoff.

9.3.2.2.5 The explosion has or could:

9.3.2.2.5.1 Result in danger from flying fragments or shock waves,

9.3.2.2.5.2 Ignite other materials at the facility,

9.3.2.2.5.3 Release toxic materials.

9.3.2.2.6 The fire or explosion endangers human health or the environment for any other reason.

9.3.2.3 In the event that a fire and/or explosion has occurred, follow Section 9.4.1.

9.3.3 Agent or Non-Agent Release

9.3.3.1 For the purpose of this plan, agent release means the release of chemical agent to the environment outside of closed systems, facilities, or devices (e.g., lab hoods, glove box, munitions and bulk containers) exceeding or predicted to exceed the agent exposure limits listed in Table 9-3-1. This includes release of any nature resulting in personnel exhibiting clinical signs or symptoms of agent exposure. Any potential release exceeding the agent exposure limits from a stack, which cannot be confirmed or non-confirmed within 24 hours, is also agent release. Non-agent release means release of oil, hazardous material/waste or hazardous waste constituents. Release means any unplanned sudden or non-sudden release to air, soil, or surface water at the facility.

Table 9-3-1
AGENT EXPOSURE LIMITS AND AGENT STACK LIMITS (mg/m^3)

	GB	VX	H/HD/HT
12 hour WPL[1]	0.00002	0.0000006	0.00027
24-hr GPL[2]	0.000001	0.0000006	12 hour GPL 0.00002
SEL[3]	0.0003	0.0003	0.03
STEL	0.0001	0.00001	0.003

[1] Unmasked agent worker 12-hour Worker Population Limit.

[2] Non-agent worker/General Population (GPL) 72-hour time weighted average.

[3] Source Emission Limit.

9.3.3.2 The Contingency Plan is implemented due to a spill or material release if:

9.3.3.2.1 The spill could release toxic or flammable liquids or vapors outside of engineering controls or could cause a fire or gas explosion hazard.

9.3.3.2.2 The spill could result in offsite or onsite soil, groundwater, or surface water contamination.

9.3.3.2.3 The spill constitutes a release of a Reportable Quantity (RQ) of a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

9.3.3.2.4 The spill endangers human health or the environment for any other reasons.

9.3.3.3 The Contingency Plan is implemented due to an agent spill or release if:

9.3.3.3.1 Observation of an agent spill, leaking vapor, or mustard (garlic) odor outside of engineering controls.

9.3.3.3.2 Agent signs and/or symptoms in personnel are observed.

9.3.3.3.3 Agent is released to the environment, exceeding source emissions limits.

9.3.3.4 In the event that a spill or material release has occurred, follow section 9.4.1.

9.3.4 Decision Process

9.3.4.1 A logic diagram of typical initial response activities leading to implementation of the Contingency Plan is shown in Figure 9-6-1. Should the incident be of a minor or controllable nature (i.e., it presents no potential hazard to human health or the environment), the IC will not implement the Contingency Plan but will complete the necessary reporting per section 9.7.1.4.

9.4 EMERGENCY RESPONSE PROCEDURES [R315-8-4.7]

9.4.1 Notification [R315-8-4.7(a)]

9.4.1.1 Notification and Mobilization Overview

9.4.1.1.1 The ability to quickly alert and notify personnel during an emergency event is critical. Site personnel and emergency responders must be informed in a timely manner to be able to initiate emergency response actions and implement protective actions. Twenty-four hour reporting will be adhered to as required by Condition I.U. The TOCDF will also send all other required reports, notifications, and submissions as required by Condition I.AA.2. to the Executive Secretary and the EPA Region VIII as required by Condition I.AA.3.

9.4.1.1.1 At TOCDF, emergency notifications are performed by the Control Room. Emergency conditions at TOCDF are most commonly indicated by system alarms sounding in the Control Room or by first responders at the event scene calling information into the Control Room. All alarms are centrally monitored in the Control Room; therefore, Control Room operators will often be aware of abnormal or emergency events as they occur. For the MDB, the Control Room has visual monitors as well as agent and other alarms. The Control Room also monitors plant systems and are therefore aware of which elements of a system may not be functioning properly. Because of their monitoring capability, the Control Room is most likely to notify personnel of an emergency or abnormal event based on direct and immediate input. First responder reports are the second most frequent means of event notification. All site personnel have been trained to call the Control Room when they recognize an emergency situation. The Control Room can be reached by telephone or by hand-held radio at the following numbers:

- Emergency (non-cellular) Telephone - Call 911.
- Telephone - 833-7700.
- Control Room Cellular Telephone – 830-2472.

9.4.1.1.3 The Control Room, which is staffed and operational 24 hours a day, 7 days a week, provides TOCDF with a 24-hour notification capability. They receive alarms and first responder reports and perform all further notifications required.

9.4.1.1.4 Control Room personnel record information provided by the caller on an Event Report form. The Control Room questions the caller to ensure all essential event information is obtained. The Control Room uses the Event Report form as the basis for all notifications.

9.4.1.1.5 Emergency event notifications are made to alert site personnel and mobilize emergency responders, including DCD support. Emergency notifications to off-post authorities are made via the DCD Emergency Operations Center (EOC). It is the responsibility of DCD to notify the public, as appropriate.

9.4.1.1.6 Notifications will serve to alert personnel that an emergency situation exists and provide specific instructions on required protective actions to be implemented.

9.4.1.2 Personnel Notification

9.4.1.2.1 The ability to quickly direct personnel from a danger area to a safe area and prevent offsite personnel from traveling into a danger area is vitally important. TOCDF has a system in place for promptly notifying both onsite and offsite personnel of an emergency at the site.

9.4.1.2.2 *Site Personnel*

9.4.1.2.2.1 The TOCDF site-wide public address system is used to notify site personnel of an emergency. The system simultaneously reaches personnel inside buildings, as well as those outdoors. The system is capable of providing both an alert signal and an emergency message throughout the site.

9.4.1.2.2.2 The alert signal varies according to the type of event and action necessary. For any release of chemical agent, the agent alarm is sounded. A warbler tone alerts personnel to immediately mask and await emergency instructions. A steady tone alerts personnel to immediately mask and evacuate to the indicated upwind muster area. Whenever an agent alarm is activated, lights installed in the MDB begin flashing to alert personnel in high-noise areas of an emergency event. For a non-agent emergency, the phrase "Attention, all site personnel" is broadcast as the alert signal, which prompts personnel to listen for an important follow-on message.

9.4.1.2.2.3 An emergency message will quickly follow the alert signal to notify personnel of emergency events and, if necessary, provide protective action instructions. Instructional messages are clear and concise. They will contain the information necessary for personnel to protect themselves. Sheltering messages will include instructions on how to maximize protection when sheltering. Evacuation instructions will include, at a minimum:

- Hazard type.

- Hazard location.
- Danger areas to avoid.
- Muster area.
- Best path of travel.

9.4.1.2.2.4 Evacuation instructions will contain familiar terms and landmarks and be broadcast initially at least two times, then periodically repeated.

9.4.1.2.3 *Public Address System*

9.4.1.2.3.1 The site-wide public address system consists of a signal generator, microphone, power amplifiers, and numerous loudspeakers installed throughout occupied buildings and outdoor areas across the site. The system is on twin-diesel generator backup power and a UPS system. Emergency use and activation of the PA system is controlled by Control Room operators. The agent alarm and evacuation alarm switches and the emergency microphone are also located there. When switched on, alarm signal and microphone messages override any other PA use.

9.4.1.2.3.2 In the event of microphone failure, a standard telephone can be used to make site-wide emergency announcements. Proper PA system functioning can be verified inside the Control Room by monitoring messages over Control Room loudspeakers. If the PA system fails during an emergency, radios and standard phones are used to dispatch runners to affected areas to make emergency announcements.

9.4.1.2.3.3 Emergency components of the PA system are tested weekly. During each test, the agent alarm and evacuation alarm are sounded, along with a test message.

9.4.1.2.4 *Offsite Personnel*

9.4.1.2.4.1 Off-site personnel will be notified of an event on site in order to provide any off-site protective actions required and prevent offsite personnel from inadvertently traveling into a danger area prior to access control being established. The Control Room will notify DCD EOC, who will activate the warning lights along the roads leading to TOCDF. The Control Room can directly activate the warning light on Rankin Road, which is the most common access to the site. When the flashing lights are on, no personnel may proceed past the lights without their masks donned. Prompt notification to nearby offsite locations will also prevent outside personnel from adding to the problem. Offsite locations to be notified of all emergencies involving site-wide protective action include:

- DCD EOC
- Chemical Assessment Laboratory (CAL)
- Receiving Warehouse
- Stark Road Office

9.4.1.2.4.2 Notification of DCD personnel is performed by the EOC. TOCDF notification of the EOC is described below. The CAL, Receiving, and the Stark Road Office will be notified of an emergency on site by standard phone. The Control Room will inform these locations of the emergency and any offsite protective actions required. The Control Room will also advise the sites to keep offsite personnel away from the TOCDF; and, if site-wide sheltering is in effect, to instruct site personnel visiting their facility to phone their supervisor for accountability purposes. TOCDF personnel visiting Area 2 carry a cellular phone and will be notified by phone.

9.4.1.2.4.3 If an emergency occurs at any of the above-listed offsite locations, notification to the TOCDF Control Room may be accomplished using the same methods described above. In this situation, the CAL, Receiving, and the Stark Road Office will promptly notify the TOCDF Control Room of an emergency at their location. In the event of an emergency at Area 2, TOCDF personnel working there will report it to the Control Room using a cellular phone.

9.4.1.2.5 *DCD Installation*

9.4.1.2.5.1 The Control Room will notify the EOC of all TOCDF emergencies and chemical events using the EOC hotline phone, with standard phone and DCD radio as backup methods. Chemical events are defined in detail in Section 4, Definitions, of the DCD CAIRA Plan (current plan maintained on site). It is understood that within 10 minutes from initial confirmed detection of an actual or likely chemical agent release at the DCD installation, the DCD Commander or designee must report the event to the Tooele County Sheriff Dispatch Center. The Control Room shall therefore report all events immediately upon discovery to the EOC.

9.4.1.2.6 *TOCDF Management*

9.4.1.2.6.1 TOCDF senior management has an interest in any emergency event occurring in an area under TOCDF control. The Control Room will promptly notify TOCDF senior management of an emergency. At a minimum, the following managers or designees will be notified of all emergencies at TOCDF:

- General Manager
- Deputy General Manager for Plant Operations
- Deputy General Manager for Risk Management
- CMA Shift Engineer

9.4.1.2.6.2 If the IC decides to mobilize the Management Advisory Team, the Control Room will notify MAT members.

9.4.1.3 Emergency Responder Notification

9.4.1.3.1 *Scene Response Teams*

9.4.1.3.1.1 TOCDF scene response teams will be notified of an emergency via the site PA system. HAZMAT, Decon, and Paramedic Teams are on site 24 hours a day, 7 days a week. When notification of site personnel occurs via the PA, response personnel are also alerted. The verbal PA announcement to site personnel is followed by a verbal announcement to the responders to mobilize or stand by. If the HAZMAT and Decon Teams are mobilized, the HAZMAT Team Leader and Decon Team Leader will contact the Control Room for information and response confirmation. The Clinic is notified using the Clinic hotline phone.

9.4.1.3.2 *DCD Primary Response Organizations*

9.4.1.3.2.1 DCD Fire Station on the DCD installation will be notified of a TOCDF emergency by the Control Room using a standard phone. The backup means of notification to the DCD Fire Station is by cellular telephone.

9.4.1.3.2.2 The Control Room will notify the DCD Site Security Control Center (SSCC) using a standard phone. The backup means of notification to the SSCC is by DCD radio. Entry Control Facility (ECF) personnel will be alerted to an emergency event when site personnel are notified over the site PA system. ECF personnel will be mobilized by the SSCC.

9.4.1.3.2.3 For all TOCDF emergency events, the Control Room will contact the DCD Emergency Operations Center (EOC) via hotline telephone, with standard phone as backup, to provide initial alert and request assistance as necessary.

9.4.1.3.3 *Management Advisory Team*

9.4.1.3.3.1 During normal working hours for members of the Management Advisory Team (MAT), the MAT will be alerted by the Control Room via the public address system and standard telephones. Off-hours, standard telephone will be the primary means of notifying the MAT with cellular phone as the backup.

9.4.1.4 HAZMAT Release Reporting

9.4.1.4.1 For any emergency event requiring HAZMAT release reporting, the Control Room will notify the DCD Emergency Operations Center and the CMA Shift Engineer, and provide a copy of the Event Report. All reporting to Army, local, State, and Federal agencies will be handled by DCD and the Environmental Department.

9.4.2 Identification of Hazardous Materials [R315-8-4.7(b)]

9.4.2.1 Identification of Hazardous Materials Overview

9.4.2.1.1 As soon as possible, the IC will determine the character, source, and extent of any released materials by visual inspection and with reference to available information such as manifests, sample analyses, waste profile sheets, Material Safety Data Sheets (MSDS), and other available sources of information.

9.4.2.1.2 Initial identification includes the following parameters:

9.4.2.1.2.1 Origin of the release

9.4.2.1.2.2 Condition of the source (e.g., repairable leak, uncontrollable leak, easily moved, unmovable, etc.)

9.4.2.1.2.3 Physical state of the spill (e.g., granular, liquid, gas)

9.4.2.1.2.4 Odor, if noticed

9.4.2.1.2.5 Color of material and

9.4.2.1.2.6 Noticeable reactions (e.g., fuming, flaming, or gas evolution).

9.4.2.1.2.7 After the materials have been identified to the fullest extent possible, the IC assesses the possible hazards to human health and the environment in accordance with Section 9.4.3 of the Contingency Plan.

9.4.2.2 Hazardous Materials at TOCDF

9.4.2.2.1 Hazardous materials stored and used at TOCDF that may be involved in an emergency fall into two major categories: Industrial Chemicals and Chemical Agents.

9.4.2.2.2 Industrial chemicals are handled through inventory control. The control room has access to information on all chemicals through Material Safety Data Sheet (MSDS) records kept on-site. Control room personnel will inform the IC of any chemicals involved in a spill or release. Bulk chemicals stored onsite include sodium hydroxide (caustic), and sodium hypochlorite (bleach).

9.4.2.2.3 The chemical agents stored in Area 10 comprise three basic types. These are the persistent nerve agent VX and the non-persistent nerve agent GB (Sarin), both of which belong to a family of organophosphorus chemicals; and the blistering mustard agents (H, HD, HT). The mustard agents H, HD, and HT all refer to various blends of the same basic chemical compound[4].

9.4.2.2.4 Chemical agents are stored in a variety of containers and munitions: rockets, land mines, artillery and mortar shells, bombs, spray tanks, and bulk containers. Munition and bulk item characteristics are shown in Table 9-4-1.

Table 9-4-1[1]
MUNITIONS AND BULK ITEM CHARACTERISTICS

Item	Agent	Fuzes	Bursters
4.2-inch mortar shell	HD	YES	YES
	HT	YES	YES
155-mm projectiles	VX	NO	YES
	GB	NO	YES

[4] H is mustard made by the Levinstein process. It contains up to 25% by weight of impurities, chiefly sulfur, organosulfur, and polysulfides. HD (distilled mustard) is mustard purified by washing and vacuum distillation, which reduces the impurities to about 5%. HT is a 60:40 mixture by weight of HD and T. T is an abbreviation for bis 2 (chloroethylthioethyl) ether.

Table 9-4-1[1] MUNITIONS AND BULK ITEM CHARACTERISTICS			
Item	**Agent**	**Fuzes**	**Bursters**
	H	NO	YES
Ton containers	HD	NO	NO

Notes:
[1] From: "Disposal of Chemical Munitions and Agents," National Research Council, Washington, D.C. 1984.

9.4.2.2.5 Bulk containers are standard one-ton tanks in which HD is stored.

9.4.2.2.6 Mortars and some projectiles contain mustard agent.

9.4.2.2.7 As mentioned, the five major agents slated for demilitarization are the three types of mustard, $C_4H_8Cl_2S$; Sarin (GB), $C_4H_{10}FO_2P$; and VX, $C_{11}H_{26}NO_2PS$. The chemical and physical properties of the agents are summarized in Table 9-4-2 and are discussed in more detail in the following paragraphs.

Table 9-4-2[1] CHEMICAL AND PHYSICAL PROPERTIES OF AGENTS					
Agent	**Chemical Formula**	**Molecular Weight**	**Boiling Point(°C)**	**Melting Point(°C)**	**Vapor Pressure (mm Hg)**
H	$C_4H_8Cl_2S$	175	225	5 to 14	0.059 (20°C)
HD	$C_4H_8Cl_2S$	159	217	14	0.069 (20°C)
HT	$C_4H_8Cl_2S$ $C_8H_{16}Cl_2OS_2$	(HD = 159) (T = 263)	228	0	0.079 (20°C)
GB	$C_4H_{10}FO_2P$	140	158	-56	2.9 (25°C)
VX	$C_{11}H_{26}NO_2PS$	267	298	-50	0.00063 (25°C)

Notes:
[1] H, HD, HT, GB, VX data (U.S. ARMY, 1996, 1999, and 2001).

9.4.2.3 GB (Sarin): Physical, Chemical, and Toxic Properties

9.4.2.3.1 GB, also known as Sarin, is the most volatile of the nerve agents in the stockpile and, for this reason, is mainly an inhalation hazard. This nerve agent will not, however, dissipate immediately if spilled. GB is clear to amber in color, with no odor. GB is readily hydrolyzed by either acid or base to relatively nontoxic products. The hydrolysis products, hydrofluoric acid and isopropyl methylphosphonic acid, can readily attack metal, which may explain degradation of some weapons. GB is miscible with water, but under neutral conditions (pH 7), the half-life for hydrolysis is several days.

9.4.2.3.2 *Effects of GB*

9.4.2.3.2.1 GB is an extremely active inhibitor of cholinesterase (ChE). By forcing the buildup of acetylcholine at the synapsis of cholinergic nerve fibers, GB causes victims to experience pinpoint pupils (miosis), increased salivation, abnormal tearing of the eyes, urination, diarrhea, convulsions, respiratory collapse, and death. A lethal dosage of GB is 100 mg min/m^3. Early treatment with oxime derivatives, such as pralidoximine, can accelerate

regeneration of cholinesterase, especially in the peripheral nervous system. Treatment with atropine, an inhibitor of acetylcholine release, can also mitigate the toxicity of GB.

9.4.2.3.2.2 Victims surviving the acute cholinergic effects of GB may suffer delayed neuropathy syndrome characterized by degeneration of peripheral nerves and permanent paralysis. In addition, like similar compounds, GB may cause abnormal fetal development. For this reason, pregnant women are restricted from areas containing the agent.

9.4.2.3.2.3 Absorption of enough nerve agent by any route results in the following generalized effects upon the body system:

- Pupils become pinpoint, sometimes unequal (miosis)
- Frontal headache, eye pain, and slight dimness of vision occur
- Occasional nausea and vomiting
- Tightness in chest, wheezing or coughing
- Giddiness
- Tension
- Anxiety
- Restlessness
- Slowness of recall
- Confusion
- Slurred speech
- Generalized weakness
- Drooling
- Runny nose

9.4.2.3.2.4 The extent of the symptoms depends on the amount of the agent received. A severe exposure causes:

- Convulsions (twitching, jerking, staggering)
- Collapse
- Paralysis
- Death, without immediate treatment, usually within 15 minutes.

9.4.2.3.3 *Hazard Symbol for GB*

9.4.2.3.3.1 The hazard symbol for GB is a yellow circle, 24 inches in diameter, with a black letter "G" in the middle.

9.4.2.4 VX: Physical, Chemical, and Toxic Properties

9.4.2.4.1 VX is a clear to straw colored, oily liquid. It is both an inhalation and a skin contact hazard. Despite its low vapor pressure, VX still poses a significant vapor hazard. A lethal dosage for VX is 35 mg min/m^3. VX is a nerve agent. Nerve agents are organophosphorus compounds, chemically related to pesticides. All nerve agents bind to cholinesterase, an enzyme of the human body that is essential for functioning of the nervous system.

9.4.2.4.2 *Effects of VX*

9.4.2.4.2.1 The acute toxic effects of VX are like those of GB, and its mode of action is similar. Absorption of VX results in symptoms identical to those produced by GB. Absorption of enough nerve agent by any route results in the following generalized effects upon the body system:

- Pupils become pinpoint, sometimes unequal (miosis)
- Frontal headache, eye pain, and slight dimness of vision occur
- Occasional nausea and vomiting
- Tightness in chest, wheezing or coughing
- Giddiness
- Tension
- Anxiety
- Restlessness
- Slowness of recall
- Confusion
- Slurred speech
- Generalized weakness
- Drooling
- Runny nose

9.4.2.4.2.2 The extent of the symptoms depends on the amount of the agent received. A severe exposure causes:

- Convulsions (twitching, jerking, staggering)
- Collapse
- Paralysis
- Death, without immediate treatment, usually within 15 minutes.

9.4.2.4.3 *Hazard Symbol for VX*

9.4.2.4.3.1 The hazard symbol for VX is a yellow circle, 24 inches in diameter, with black letters "VX" in the middle.

9.4.2.5 Mustard: Physical, Chemical, and Toxic Properties

9.4.2.5.1 Mustard agent comes in three varieties that differ mainly in purity. H is the crude agent made by the Levinstein process. Distillation of the crude material yields HD. A mixture of HD (60 percent) with a similar compound, T ($ClC_2H_4SC_2H_4)_2O$), is termed HT. T is also known as bis 2 (chlorethylthioethyl)ether. HT has the advantage of a lower melting point than pure HD, which freezes at 15°C and, therefore, cannot be poured at low ambient temperature. Mustard belongs to a family of toxicants, the N-, S-, and O-mustards. Mustard is a colorless, oily liquid with a garlic odor. It quickly numbs the olfactory nerves, after which the odor is no longer detected. Although the boiling point is relatively high (225°C for H), it has a significant vapor pressure at ambient temperatures. Even in the solid state at 0°C, the vapor pressure is 0.025 mm of Hg, which is 28% of the vapor pressure at 30°C. Mustard is virtually insoluble in water, but, because of its high lipid solubility, it rapidly penetrates the skin. Mustard is considered to be a “persistent” chemical agent.

9.4.2.5.2 *Effects of Mustard*

9.4.2.5.2.1 Although inhalation of mustard produces pulmonary edema, it is classified as a vesicant. As such, it acts on the eyes, lungs, and skin, and burns and blisters the skin or any part of the body that comes in contact with it. Mustard has also been identified as carcinogenic, teratogenic, and mutagenic.

9.4.2.5.2.2 The eye is the most vulnerable part of the body to mustard. Long exposures to low concentrations or short exposure to high concentrations can result in permanent eye damage. The initial effect after skin contact is a reddening of the skin. Depending on the severity of exposure, the reddening may progress to blistering and tissue destruction. The initial exposure is not accompanied by a sensation, but, as the symptoms develop, there may be an itching or burning sensation, which develops to reddening and then to blistering. Inhalation of mustard vapor or aerosol causes damage to the mucous membranes of the upper respiratory tract. Damage from mustard exposure develops slowly and may not reach maximum severity for several days.

9.4.2.5.3 *Hazard Symbol for Mustard*

9.4.2.5.3.1 The hazard symbol for mustard is a yellow circle, 24 inches in diameter, with a black letter "H" in the center.

9.4.3 Hazard Assessment [R315-8-4.7(c)]

9.4.3.1 Hazard Assessment Overview

9.4.3.1.1 Hazard assessment involves determining the type and nature of an emergency situation and its potential or actual impact. This leads to the determination of a hazard zone around the accident area, in which an unacceptable level of personnel hazard exits. Hazard assessment results serve as the basis for determining appropriate emergency response actions (e.g., hazard containment and control, selection and implementation of protective actions, mobilization of response personnel and equipment, etc.).

9.4.3.1.2 Hazard assessment will be performed continually during the response phase of an event. The initial assessment will involve determining, as soon as possible, the emergency hazard type, source, amount, severity, and scope. Event hazard assessment will be performed by the first responders, Scene Control Officer (SCO), response teams, Control Room personnel, and the Incident Commander (IC) with assistance from DCD during events involving the release of chemical agent. Subsequent assessments will support redefining the event hazard zone and redirecting response and protective actions as necessary.

9.4.3.1.3 The hazard assessment process involves the following primary activities: event detection; event information gathering; event assessment; determination of event hazard zone; and on-going verification of event hazard zone.

9.4.3.1.4 If a chemical agent release extends off-post, civilian authorities will become involved in extended or long-term assessment. This assessment will be primarily concerned with evaluating the impact of the event on the population and monitoring conditions to determine appropriate protective measures. On-going assessment will include identifying long-term adverse effects on air, soil, water, wildlife, etc.

9.4.3.1.5 In the event of a DCD emergency, which affects TOCDF, DCD performs hazard assessment and provides TOCDF the appropriate protective actions.

9.4.3.2 Event Detection

9.4.3.2.1 Emergency event assessment and response activities begin with the detection of an event. Emergency events are identified primarily through the following means:

- Site personnel in the vicinity (who become event first responders)
- Control Room (via plant data monitoring)
- Detection equipment (for chemical agent)

9.4.3.2.2 Personnel working in the vicinity of the event area will be the individuals most likely to witness or discover an emergency situation. At the TOCDF, all personnel have been

trained to the OSHA Hazardous Materials Awareness Level. This provides a strong site-wide emergency detection capability. Awareness level personnel are trained to initiate the emergency response process by performing an initial assessment of event conditions and contacting the Control Room. The awareness training course covers the following basic concepts: Identification of emergency situations; Hazardous substances and their dangers and risks; Recognition of the presence of hazardous substances in an emergency; Identification of hazardous substances; and the Role of the first responder in the emergency response process, including use of the US DOT Emergency Response Guidebook.

9.4.3.3 Event Information Gathering

9.4.3.3.1 It is important to gather as much information about an emergency event as soon as possible after detection. Accurate and timely event information results in a more comprehensive assessment, which leads to implementation of the most appropriate response actions.

9.4.3.3.2 The first information likely to be available during an emergency will be from the first responders on the scene. All site personnel are taught to report emergency situations to the Control Room. The Control Room can be reached by telephone or by hand-held radio at the following numbers:

- Emergency (non-cellular) Telephone - Call 911.
- Telephone - 833-7700.
- Control Room (on cellular phone) – 830-2472.

9.4.3.3.3 The information provided by first responders will allow for an initial assessment to be performed by the Control Room. However, to support the complete emergency event assessment process, the following information must be known or projected:

9.4.3.3.3.1 Nature of release;
- Hazard type
- Hazard amount (small, moderate, or large)
- Source rate (instantaneous, intermittent, or continuous)
- Source behavior (leak, spill, detonation, fire, or combustion)
- Agent behavior (persistent, semi-persistent, or non-persistent)
- Meteorological conditions (temperature, wind speed, direction at source location, and atmospheric inversion)

9.4.3.3.3.2 Description of hazard(s);
- Potential vapor hazard? (should be assumed until monitoring data indicates otherwise)
- Potential water hazard?
- Potential subsurface hazard? (adsorbed into the soil)

9.4.3.3.3.3 Anticipated duration of hazard; and

9.4.3.3.3.4 Extent of the area impacted by dispersion of hazard.

9.4.3.3.3.5 Event information is recorded by Control Room Operators on an Event Report. Event information beyond that usually available from first responders is obtained from many different sources, including:

- Emergency response teams
- SCO, IC, and advisors
- Control Room
- Monitoring and sampling teams
- DCD Emergency Operations Center

9.4.3.4 Information Sources

9.4.3.4.1 The following describes the type of event information provided by each of these groups.

9.4.3.4.2 *Information from Emergency Response Teams*

9.4.3.4.2.1 Emergency response teams include the HAZMAT Team, Paramedic Team, and Decon Team. The HAZMAT Team will provide information about the type, quantity, source, and behavior of the hazardous substance. HAZMAT members may also provide air sampling support. The Paramedic Team will provide information about number of casualties and the type of injuries to the Control Room. The Clinic will provide patient condition, treatment, and transport status periodically to the Control Room. The Decon Team will provide the number of people processed through the Personnel Decontamination Station (PDS), and the capability of the PDS to handle additional personnel. By working close to the hazard, response teams have a unique perspective on the event and can provide specific information on the hazard and its immediate impacts.

9.4.3.4.3 *Information from SCO, IC, and Advisors*

9.4.3.4.3.1 The SCO and IC gather event information through direct observation and input from advisors. The SCO, who is typically the first outside responder on the scene, provides event information to the IC, Control Room, and response teams.

9.4.3.4.4 *Information from TOCDF Control Room*

9.4.3.4.4.1 The Control Room serves as the technical center for plant system information as well as a reference for technical information. Control Room personnel monitor the status of plant systems and activities via monitoring systems, which feed directly to computer terminals. In addition, the Control Room acts as a central point for collecting, assessing, and distributing event information from responders. The Control Room also assists scene responders in obtaining required resources and forwards DCD Meteorological/Detection Teams (Met/Det) results, provided by the EOC, to the SCO.

9.4.3.4.5 *Information from Monitoring and Sampling Teams*

9.4.3.4.5.1 For emergency events involving the release of chemical agent or industrial chemicals, monitoring and sampling will be performed to confirm the release plume location and levels. Monitoring and sampling activities will be initiated as soon as possible after emergency event detection. Initial monitoring will focus on broadly defining the hazard and its impacts. Subsequent monitoring (and sampling) will provide more detailed hazard release characteristics.

9.4.3.4.5.2 The HAZMAT Team will perform airborne monitoring as necessary during events involving the release of industrial chemicals. The HAZMAT team will use an air pump instrument and associated detector tubes for the chemical(s) involved to perform air monitoring. Monitoring personnel will perform environmental sampling (e.g. surface, soil, water) as directed by the IC.

9.4.3.4.5.3 For events involving the release of chemical agent, DCD will dispatch Met/Det Teams. Chemical agent samples will be taken to a lab located at DCD.

9.4.3.4.5.4 DCD agent monitoring and sampling will be accomplished using the following equipment:

9.4.3.4.5.4.1 Real Time Analysis Platform (RTAP): Combines gas chromatograph with an automatic continuous environmental monitoring system in a self-contained mobile platform; provides low-level chemical agent monitoring capability. RTAPs required by an event at TOCDF will be provided by DCD.

9.4.3.4.5.4.2 Depot Area Air Monitoring System (DAAMS)

9.4.3.4.5.4.3 Air sampling unit designed to provide low-level detection capability for GB, H, and VX agents requires lab analysis.

9.4.3.4.5.5 In the event off-post monitoring and sampling are required, DCD, via the EOC, may provide resources and assistance to local off-post agencies requesting support.

9.4.3.5 Event Assessment

9.4.3.5.1 Initial event assessment will often be done by first responders at the scene or by the Control Room. This initial assessment involves a quick analysis of immediate hazard area dangers. Subsequent assessments will involve more integrated and complex analysis of event information. Hazard assessment is a process, which will continue throughout the event as additional event information becomes available.

9.4.3.5.2 The hazard assessment process will involve analysis of threats, direct and indirect, to both human health and the environment. Direct threats are those posed by the immediate hazard and are generally obvious. The dangers of indirect effects are less obvious and can be caused by, for example, the generation of toxic, irritating, or asphyxiating gases from the event hazard; the run-off of water or chemicals used to control fire and heat-induced explosions; and the use of large amounts of decontaminants.

9.4.3.5.3 The event hazard assessment process involves projection of affected areas and contamination levels using computer modeling based on event information and comparison of model predictions versus actual field data from Met/Det Teams (for agent

only). For chemical agent releases, the DCD Emergency Operations Center (EOC) directs plume plotting and monitoring and sampling activities. The EOC initially performs plume projection based on the MCE (Maximum Credible Event) for a CAIRA event. The EOC later uses actual field data received from DCD Met/Det Teams to refine the initial projections. In the event of a DCD emergency, which affects TOCDF, DCD performs hazard assessment and develops and provides protective action recommendations.

9.4.3.5.4 Hazard assessment will also be performed after the event response phase and prior to entering the recovery phase. This assessment will focus primarily on identifying and analyzing long-term hazards and impacts and will support the setting of recovery priorities.

9.4.3.5.5 Event assessment results will be used by the IC in directing response activities and developing TOCDF site protective actions. This information will also be provided to DCD via the EOC for use in developing depot protective actions. DCD will supply the information to offsite authorities for use in developing protective actions for the public. The timeliness and accuracy of the event hazard assessment affects the ability to protect site and post personnel as well as the public.

9.4.3.5.6 Hazard assessment will result, at a minimum, in the following key information:

- Type and nature of hazard
- Quantity of hazardous substance and form of release
- Direction and speed of release
- Definition of the hazard zone
- Expected effects on personnel in the hazard zone

9.4.3.6 Determination of Event Hazard Zone

9.4.3.6.1 Based on the emergency event characterization, a hazard zone will be determined. The hazard zone is the area around the hazard source in which an unacceptable level of personnel hazards exist.

9.4.3.6.2 For industrial chemical releases, the hazard zone will be determined by comparing hazard exposure projections to the Short Term Exposure Limit (STEL) for the specific hazardous substance involved. The STEL is the average concentration to which unprotected chemical workers may be exposed for up to 15 minutes continuously. A STEL level of greater than 1.0 is considered to be an unacceptable personnel risk. The use of STELs to define the hazard zone represents a conservative approach to protecting personnel.

9.4.3.6.3 For releases of chemical agent, DCD EOC staff determine the hazard zone by defining the "no effects" distance for the specific chemical agent involved. For chemical munitions in an explosively hazardous condition, EOC staff use the munitions fragment distance as the minimum hazard zone. Initial definition of the hazard zone will be based

on the Maximum Credible Event (MCE) developed for TOCDF. The hazard zone will be refined as appropriate as actual event information becomes available.

9.4.3.6.4 The hazard zone will be verified by results from monitoring and sampling activities. Changes in monitoring and sampling results, as well as changes in event conditions, will result in re-definition of the event hazard zone.

9.4.4 Control Procedures [R315-8-4.7(a)]

9.4.4.1 TOCDF personnel will comply with R315-8-4.2 by evaluating emergency situations with regards to the criteria specified in Section 9.3 and, if the emergency situation meets the criteria specified in Section 9.3 (i.e., the situation could threaten human health or the environment), immediately implementing the Contingency Plan (e.g., taking the appropriate response actions specified in Section 9.4, etc.). By implementing the appropriate portions of the Contingency Plan, the requirements of R315-8-4.7 will be addressed as required by R315-8-4.3(a).

9.4.5 Prevention of Recurrence or Spread of Fires, Explosions, or Releases [R315-8-4.7(e) & (f)]

9.4.5.1 Fire

9.4.5.1.1 Fires or explosions occurring on the facility grounds are handled by the Emergency Response Team and the Deseret Chemical Depot Installation Fire Department unless they are beyond the capabilities of the two units. In that case, the Tooele County, Tooele City, Grantsville, and/or Stockton Fire Departments are called in to supplement onsite capabilities.

9.4.5.1.2 If a fire involves explosive materials or is supplying heat to it, or if the fire is so large that it cannot be extinguished with the equipment at hand, the personnel involved shall evacuate and seek safety.

9.4.5.1.3 The TOCDF is equipped with both smoke and heat detectors in designated areas that alarm in the Control Room. The fire suppression system is designed to extinguish a fire before the fire increases the amount of agent available for release to the environment. In addition, the fire suppression system reduces the temperature produced by a fire to prevent rupturing of agent storage tanks/containers and piping, and the detonation of explosively configured munitions.

9.4.5.1.4 All fire response personnel are provided with the appropriate protective clothing and safety equipment. Care must be taken to contain and recover any runoff of waste and water, foams, or chemicals applied to the fire. If possible, the area should be diked and/or any runoff drains blocked prior to using liquids to put out the fire. Once extinguished, the materials involved in the fire and surrounding area are decontaminated, if necessary, recovered, and placed in containers for proper disposal.

9.4.5.1.5 In the event of a fire, the major effort is placed on preventing the fire from spreading to nearby areas. The following actions are taken in indoor areas affected by a fire or explosion:

- Fire doors in buildings are closed.
- Hazardous work in all areas are terminated immediately.
- All feed lines to furnaces and additional equipment are shut down, as necessary and practical.
- The IC is contacted.
- The area is cleared of all personnel not actively involved in fighting the fire. Non-emergency personnel are to report to the designated assembly point for a head count.
- All injured persons are removed, and medical treatment is administered by qualified personnel.

9.4.5.1.6 The IC is responsible for all firefighting efforts until help from outside the facility arrives. Supervisors of unaffected areas will stay with their personnel and will be ready to evacuate and account for the persons under their supervision.

9.4.5.2 Fire Reporting and Evacuation

9.4.5.2.1 *Immediate Actions*

9.4.5.2.1.1 As soon as any fire of any size is found, the Control Room must be notified. If the fire is observed visually and no automatic alarms are activated, the individual noticing the fire pulls the nearest manual alarm in the area. If the sprinkler, dry chemical, or Halon systems are activated, ample time should be given for them to operate. When the fire is extinguished, the alarms should be deactivated. After the Control Room Operator has determined the size and location of the fire, he announces "Fire in the (specify) room, stand by for instructions," on the public address system. If the public address system is not functional, operators are used to pass instructions. Anyone in immediate danger must be assisted, if safe to do so. All unpacking and munitions processing will stop until further evaluation of the event has been completed.

9.4.5.2.1.2 The Control Room Operator notifies the IC and gives the information as noted below. The following information is also relayed to other appropriate personnel:

(a) Location of fire
(b) Type of fire (if known)
(c) Hazardous material involved
(d) Number of known casualties
(e) Type of injuries (if known)

9.4.5.2.1.3 The IC determines the course of action based on the seriousness of the situation. The seriousness or size of a fire is a subjective decision that must be made as quickly as possible. If there is ever any doubt on the course of action to be taken, a large fire is assumed.

9.4.5.2.2 *Subsequent Actions*

9.4.5.2.2.1 Subsequent actions depend on the magnitude of the fire and, more importantly, the location. TOCDF procedures will be followed during firefighting activities at TOCDF.

9.4.5.2.2.2 The DCD Fire Department is responsible for fighting the fire. The IC directs the appropriate person to remain with the DCD Fire Department during firefighting for assistance with technical advice.

9.4.5.2.2.3 An Emergency Response Team dressed in appropriate protective clothing enters the building to conduct reentry monitoring only after receiving approval from the IC, DCD Fire Department Chief, and Safety Representative.

9.4.5.2.2.4 The IC, Safety Representative and any other applicable personnel assess the damage and determine any further course of action to be taken.

9.4.5.3 Fires and Agent Releases

9.4.5.3.1 If an agent release occurs during or as a result of a fire, the offgases from the fire may contain toxic chemicals. As a precaution, all personnel fighting fires are in appropriate protective clothing at all times. The potentially toxic offgases cannot be controlled, but every effort is made to quickly extinguish the fire with the fire suppression system and douse any agent leaks with decontaminant when the scene is rendered safe.

9.4.5.3.2 After a fire involving chemical agents has been controlled and extinguished, the Emergency Response Team closely monitors the affected area to determine that all traces of chemical agents have been thoroughly decontaminated. For events outside the MDB, the workers initially use standard detection kits to clear an area. More sensitive analyses are conducted in the facility laboratory, if necessary. Inside the building, standard low-level monitors of the facility are used to clear an area. This involves ensuring that all monitors are returned to a normal level and that no detectable chemical agent remains above the Alarm Set Point level.

9.4.5.3.3 Runoff from fires inside the MDB are collected in sumps that drain to the SDS tanks. From there, these runoffs are fed to one of the two LICs. For an event at the facility, such as a transportation accident involving fire, runoff is contained as much as practical, absorbed on pads and managed appropriately.

9.4.5.3.4 Any remaining materials in the fire area that may have been exposed to agent are decontaminated with decontamination solution and managed appropriately.

9.4.5.3.5 *Prevention of Recurrence, Spread of Fires, Explosions, or Releases [R315-8-4.7(e) & (f)]*

9.4.5.3.5.1 Fire and spill response actions discussed previously, and explosions in the following section, are the primary means of preventing releases of hazardous waste resulting from the recurrence or spread of fires and explosions. Other actions include collecting and containing the released waste and recovering or isolating containers.

9.4.5.3.6 If the facility stops operations in response to a fire, explosion, or release, the Emergency Coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

9.4.5.4 Explosive Hazards

9.4.5.4.1 In general, two types of explosive hazards are of concern in the facility: (1) explosives in the presence of agent, and (2) explosives alone. Many of the munitions to be processed in the facility contain explosives (bursters, supplemental charges, and fuzes). A detonation of an explosively configured munition presents not only a hazard to personnel and property from the blast effects, but also a hazard from the spread of chemical agent throughout the local work areas. Once the explosively configured munition has been disassembled in the Explosive Containment Room, the explosive components will be separated from the agent and agent exposure from a detonation is not a concern. After separation, the explosives are incinerated in the Deactivation Furnace System where all energetic material is destroyed.

9.4.6 <u>Storage and Treatment of Released Material [R315-8-4.7(g)]</u>

9.4.6.1 Once the emergency situation has ended, the IC will ensure that recovered waste, contaminated soil, or any other material (e.g., decontamination solution, etc.) that results from a release, fire, or explosion at the facility is immediately stored (i.e., placed in containers or tanks in good condition), treated, or shipped offsite. When determining the appropriate destination for this released material, the IC will address the compatibility considerations described below in Section 9.4.7. Information regarding the management of material that results from a release is provided below in Sections 9.4.9, 9.4.10, and 9.4.11.

9.4.6.2 Any agent-contaminated spilled liquids and any solid materials (rags, clothing, etc.) will be managed in accordance with this Permit. Waste that is not agent-contaminated will be managed onsite in accordance with this Permit or applicable regulations. The IC will ensure that, after clean-up is complete, all equipment and PPE used during clean-up is decontaminated as necessary (refer to Section 9.7.8 below) and first aid supplies and absorbent materials are restocked as appropriate.

9.4.7 Incompatible Waste [R315-8-4.7(h)(1)]

9.4.7.1 The IC will ensure that, in the affected areas of the facility, the storage and treatment of wastes that may be incompatible with the released materials will be prevented until clean-up procedures are completed.

9.4.7.2 The TOCDF operating approach (i.e., only processing munitions and bulk containers containing one type of agent at a time) minimizes the potential of released material being incompatible with other wastes in the area. Also, the design of the plant minimizes the chances of incompatible material contact. For instance, the brine, spent decontamination solutions, and agent each have a separate and unique destination (e.g., BRA storage tanks, spent decontamination tanks, agent collection tanks). Additionally, this Permit mandates that containers, which share a common secondary containment system, only be used for the storage and treatment of compatible waste streams. Likewise, this Permit requires that tanks, which share a common secondary containment system, only be used for the storage and treatment of compatible waste streams. Therefore, the plant design, this Permit, and normal operating procedures will generally prevent management of an incompatible waste in an area where a release has occurred.

9.4.7.3 However, to ensure segregation of incompatible waste and materials, the IC will assure that the released material is characterized by the appropriate means (e.g. analysis, checking facility records if origin of the release is known, etc.) and will use this information to ensure that no incompatible materials or wastes are brought into the affected area. The IC will also compare the characterization of the released material to the characteristics of the waste and material already stored in the affected area. If, based upon this comparison, any transportable incompatible materials are determined to be in the area and available storage capacity exists elsewhere at the facility, the IC will have these materials moved to another area of the facility (e.g., a different container storage area or tank system, etc.) where segregation of incompatible wastes/materials can be assured. Potentially incompatible waste or material that cannot be removed from the affected area will be segregated from the released material by using any appropriate means (e.g., earthen berms, overpacks, etc.) until the clean-up procedures are completed.

9.4.8 Post-Emergency Equipment Maintenance [R315-8-4.7(h)(2)]

9.4.8.1 After an emergency event, all emergency equipment used during the emergency response/clean-up, including PPE, will be either: (1) discarded and replaced with new emergency equipment/PPE; or (2) cleaned with the proper decontamination solution, repaired as necessary, and reused. Also, as necessary, absorbent material and first aid supplies will be restocked and fire extinguishers recharged. Before operations resume, an inspection of the affected emergency equipment listed in Section 9.5 will be conducted by the IC or his designee to ensure that the equipment is clean and fit for future use. Once this inspection is complete and the appropriate notifications have been made, operations may resume in the affected area.

9.4.9 Container Spills and Leakage [R315-8-4.3, R315-8-9.2]

9.4.9.1 If there is a spill, leak, or release from a container, which could threaten human health or the environment, the TOCDF Emergency Response Plan (ERP) will be implemented. If this release involves a chemical agent and/or munitions, then the Chemical Accident/Incident Response and Assistance (CAIRA) Plan (Annex B of the ERP) will also be implemented. These plans provide detailed procedures, which encompass the various aspects of emergency response, including: notification, mobilization, PPE requirements, hazard assessment, emergency response, recovery, etc.

9.4.9.2 If the spill, leak, or release from a container could threaten human health or the environment, then this section of the Contingency Plan will also be implemented. This section of the Contingency Plan augments the procedures provided in the ERP and the CAIRA Plan by focusing on procedures for responding to releases from containers.

9.4.9.3 If an agent release is involved, the first individual to observe the release will mask and notify the Control Room. The procedures described in the ERP and CAIRA as well as the procedures identified below will then be followed. If a non-agent release is encountered, then the first individual to observe the release will do the following:

- Alert other nearby workers and, if outside, move upwind of the release.

- Contact the Control Room, which will then notify the Emergency Coordinator; report the release, location, nature of material spilled (if known); and report the estimated amount involved.

- Prevent access to the area by vehicles or other personnel.

- Follow instructions offered by the Emergency Coordinator or the Control Room.

9.4.10 Tank Spills and Leakage [R315-8-10 [40 CFR 264.194©]]

9.4.10.1 If there is a spill, leak, or release from a tank system, which could threaten human health or the environment, the TOCDF Emergency Response Plan (ERP) will be implemented. If this release involves a chemical agent, then the Chemical Accident/Incident Response and Assistance (CAIRA) Plan (Annex B of the ERP) will also be implemented. These plans provide detailed procedures, which encompass the various aspects of emergency response, including: notification, mobilization, PPE requirements, hazard assessment, emergency response, recovery, etc.

9.4.10.2 If the spill, leak, or release from a tank system could threaten human health or the environment, then this section of the Contingency Plan will also be implemented.

9.4.11 Spills and Leakage from Other Regulated Units

9.4.11.1 Spills and leakage from other units at the TOCDF is possible. These units include the incineration systems (LIC1, LIC2, DFS, MPF), the associated pollution abatement systems, the Subpart X units (BRA[5], RSM, BDS, PMD, MDM), and Slag Removal System (SRS).

9.4.11.2 If there is a spill, leak, or release from a unit identified above, which could threaten human health or the environment, the TOCDF Emergency Response Plan (ERP) will be implemented. If this release involves a chemical agent and/or munitions, then the Chemical Accident/Incident Response and Assistance (CAIRA) Plan (Attachment A of the ERP) will also be implemented. These plans provide detailed procedures, which encompass the various aspects of emergency response, including: notification, mobilization, PPE requirements, hazard assessment, emergency response, recovery, etc.

9.4.11.3 If an agent release is involved, the first individual to observe the release will mask and notify the Control Room. The procedures described in the ERP and CAIRA as well as the procedures identified below will then be followed. If a non-agent release is encountered, then the first individual to observe the release will do the following:

- Alert other nearby workers and, if outside, move upwind of the release.

- Contact the Control Room, which will then notify the Emergency Coordinator, report the release, location, nature of material spilled (if known), and the estimated amount involved.

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[5] Section 9.4.11 of the Contingency Plan will not apply to the RCRA tank systems in the BRA. Section 9.4.10 of the Contingency Plan applies to these tank systems instead.

- Prevent access to the area by vehicles or other personnel.

- Follow instructions offered by the Emergency Coordinator or the Control Room.

9.5 EMERGENCY EQUIPMENT [R315-8-4.3(d)]

9.5.1 The implementation of the Contingency Plan will usually require the use of various types of equipment. Much of this equipment will be used during normal (non-emergency) operations at the TOCDF. For instance, vehicles owned by the TOCDF (pickup trucks, fork lifts, etc.), which are not adversely affected in the incident, will be available for use during an emergency. Any maintenance equipment such as hand tools, welders, cranes, hoists, machine shop equipment, steam cleaners, etc. that is not damaged or destroyed in the incident would be available for use during an emergency. In addition to the equipment used during normal operations, equipment specifically intended for emergency response use is also available. This equipment includes, but is not limited to, the following communication and alarm systems, spill control and decontamination equipment, and emergency equipment.

9.5.2 Communication and Alarm Systems

9.5.2.1 Communications inside the TOCDF will be achieved through a telephone system and public address (PA) system. Telephones are located so that each employee has access to one from his workstation. An employee can call the Control Room or any other telephone in the TOCDF and can be connected to an outside phone line from site telephones. Employees can access the PA system for paging by using or by contacting designated telephones throughout the site or by contacting the Control Room. The paging system will be broadcast through a series of loudspeakers to provide coverage throughout the active portion of the facility. Two-way radios are also available for onsite communication. The TOCDF is connected to the local telephone system to enable external communications. Alarms will be broadcast over the PA system loudspeakers. The agent and evacuation alarms will be initiated by the Control Room. The alarm for mask and remain-in-place will consist of a warble tone (oscillating whine) broadcast. The alarm for mask and site evacuation will consist of a steady-tone broadcast. Generally, the alarms will be accompanied by instructions from the Control Room, which include event-specific instructions.

9.5.2.2 System Design

9.5.2.2.1 TOCDF emergency communications are performed by standard telephone, hotline telephone, cellular phone, radio, and face-to-face contact.

9.5.2.2.2 All Emergency Response Organization members have received training in emergency communications. Common terminology has been developed to ensure clear communications. All personnel assigned radios have been trained in the use of those radios. Entry teams have been trained to remain in visual contact with their buddy.

9.5.2.2.3 All communications links are backed up. A minimum of two channels will be available on all radios. Within the areas with the highest probability of emergency incidents (MDB, unpack) emergency phones have been strategically located. If required, the public address system, which is on an uninterrupted power source, could be utilized for

one-way emergency communications on site. The system can be addressed to site-wide or specific locations. The system can be accessed through any facility standard telephone.

9.5.2.2.4 The attached Emergency Communications table (Table 9-5-1) provides detailed information regarding the types of equipment used for emergency communication. Links beyond the DCD Emergency Operations Center (DCD EOC) to Army, local, State, and Federal agencies are covered in the DCD CAIRA Plan.

Table 9-5-1
TOCDF Emergency Communications

Phone Systems	
Standard Phones	Lines into the site and on the site are buried. The phone system is on an uninterrupted power supply. The backup power supply provides six hours of margin. If there is a loss of offsite (outside of TOCDF) power the system will continue to provide communications on the site, but will not provide communications offsite.
Hotline Phones	There are four hotline phones on site, all of which connect with the Control Room. These phones are located in the Entry Control Facility, Clinic, DSA, and DCD EOC. These phones, which are independent of the standard phone system, have an uninterrupted power supply that provides six hours of margin.
Radio Network	
Daily Operations	The TOCDF radio network consists of six channels ranging from 151.505 MHz to 151.955MHz. For daily operations each of the following groups are assigned one of the six channels. Emergency Response Teams Maintenance – Monitoring Operations – LIC 1 & 2, MPF Operations – DFS Operations – PAS Operations - Utilities
Emergency Operations	For emergency operations, the following response personnel will be assigned a specific radio channel (1 through 6). Emergency Responder Control Room Operators IC SCO Safety Advisor Environmental Advisor HAZMAT Team Decon Team Leader Rescue Team Leader

Table 9-5-1 TOCDF Emergency Communications	
	Paramedic Team Leader TOCDF Clinic Furnaces (PAS) Utilities CAL Appropriate radios are distributed to emergency response teams. DCD utilizes a Motorola Saber 16-channel radio system with 12 assigned frequencies ranging from 139.035 MHz to 148.975 MHz. There are four portable radios with DCD frequencies assigned to TOCDF. In an emergency they will be used by the IC and Clinic. In addition, the Control Room maintains a DCD radio base station with 12 assigned frequencies.

9.5.2.2.5 During drills and exercises, communications are typically prefaced by and ended with "This is a test exercise message".

9.5.2.3 Control Room

9.5.2.3.1 The TOCDF Control Room is the communications center for emergency response. The Control Room has engineering controls, which isolate it in the event of an emergency. It is manned 24 hours a day, 7 days a week, and has backup emergency power. The Control Room contains the following communications equipment: standard phones, hotline phones, a cellular phone, radio base stations each covering all TOCDF channels, a radio base station covering all DCD channels, and a fax machine.

9.5.2.3.2 In an emergency, specific Control Room Operators are assigned to act as phone contacts with specific response teams. Specific operators are assigned to each of the following groups: IC if he is in a field location, SCO, Clinic, MAT, and EOC. The operators who are not assigned to one of these specific response teams will handle all other communications. These remaining groups will normally have limited communications requirements. If for any reason the communications needs of a group expand, a specific operator will be assigned.

9.5.3 Spill Control and Decontamination Equipment

9.5.3.1 TOCDF has trained personnel and a variety of equipment and supplies available onsite for responding to spills and decontamination. The HAZMAT and Decontamination Teams are staffed by trained on-shift personnel around the site and are primarily composed of Maintenance and Operations personnel. The HAZMAT Team performs victim rescue, containment, mitigation, and clean-up activities during TOCDF emergency events involving the release of chemical agent or industrial chemicals. The Decon Team performs associated personnel decontamination.

9.5.3.2 HAZMAT and Decon Response Teams' resources include a Decon Trailer, HAZMAT Van, Emergency Decon Station, Buildings S-1 and S-5, and the DPE Support Area

(DSA). The HAZMAT Van and Decon Trailer are stationed inside Building S-1. All HAZMAT response equipment and supplies located in the HAZMAT Van and Decon Trailer are inspected on a regular basis as specified in Attachment 5 (Inspection Plan). Lists of equipment that must be maintained on the HAZMAT Van and Decon Trailer can be found in the Inspection Log section of Attachment 5 (Inspection Plan).

9.5.3.3 The Decon Trailer contains PPE and all equipment and supplies necessary to perform personnel decontamination. The Decon Trailer inspection log identifies equipment and supplies available on the Decon Trailer. The Decon Trailer has one fixed rinse shower and one portable decon shower. A TOCDF truck is used to move the Decon Trailer to the scene.

9.5.3.4 The HAZMAT Van is stocked with PPE and all equipment and supplies necessary to respond to hazardous spills and emergency decontamination. The HAZMAT Van inventory inspection log identifies equipment and supplies available on the HAZMAT Van.

9.5.3.5 Emergency Decon Stations house additional gear and are located along the most probable routes of egress in an emergency. Each Emergency Decon Station contains the equipment as listed in Table 9-5-2.

Table 9-5-2
EMERGENCY DECON STATIONS AND PERSONNEL DECONTAMINATION EQUIPMENT

ITEM	QUANTITY
Coveralls	10 pair
Socks[1]	10 pair
Tee-shirts[1]	10 pair
Underwear (men/women)[1]	10 pair
Towels	10
Rubber Boots	10 pair
Blankets	10
Butyl Gloves	10 pair
Scissors	2 pair
Belt Cutter	1
Decon Solution (bleach)[2]	6 gallons
Step Pans[3]	1 water, 1 decon
Chemical Casualty Kits[4]	2
Spill Control Kit[5]	1

Table 9-5-2
EMERGENCY DECON STATIONS AND PERSONNEL DECONTAMINATION EQUIPMENT

ITEM	QUANTITY

NOTE: The HAZMAT Van and Decon Trailer respond to all chemical spills or incidents. Some of the items referenced above are stored on the HAZMAT Van and/or Decon Trailer.

[1] Personnel will not receive these items until they have been evaluated at the TOCDF Clinic. The PMB will supply these items as necessary.

[2] Liquid soap and water are readily available for decontamination. Decontamination solution is always available on the HAZMAT Van or Decon Trailer that responds to chemical spills or incidents.

[3] Step Pans are always available on the Decon Trailer. Additional step pans are available from S-1.

[4] Each individual has a chemical casualty kit with them at all times. Additional chemical casualty kits are available on the HAZMAT Van and at the TOCDF Clinic.

[5] Spill control kits are stored on the HAZMAT Van. Additional spill control kits are available from S-1.

9.5.4 Emergency Equipment

9.5.4.1 Fire Extinguishing Equipment

9.5.4.1.1 Sprinklers and Halon systems are capable of operating automatically to extinguish fires in the areas in which they have been placed. These areas include the UPA (sprinklers) and areas where electronic equipment is in use (Halon). Portable fire extinguishers are available throughout the facilities and are capable of extinguishing small fires. The facility structure is designed to be fire-resistive. An automatic detection and alarm system is placed throughout the facility. Fire response forces have available portable extinguishers, a complete site firewater distribution system, and emergency response equipment similar to that of a municipal fire department.

9.5.4.2 Emergency Personal Protective Equipment

9.5.4.2.1 *Emergency Personal Protective Equipment Overview*

9.5.4.2.1.1 This plan section presents an overview of how the PPE available at TOCDF will be utilized by personnel responding to a release event of chemical agent or industrial chemicals. Response to an agent release will require use of Army PPE by responders entering toxic or contaminated areas. The general work force is required to don Army air purifying respirators (masks) immediately upon notification of any unusual event that could result in a release of agent. All personnel who enter the TOCDF site are trained in the use of, have issued to them, and are required to be prepared to use an Army protective mask. The use of the Army mask is for egress only in the event of an agent release. Response to industrial chemical releases and spills require the wearing of OSHA PPE.

9.5.4.2.1.2 The TOCDF facility was designed and constructed with the overriding consideration that "The use of personal protective equipment (PPE) is the least desirable method of exposure control." Based on hazard analyses, the reduction of dependence upon PPE was designed into all areas and operations of the TOCDF.

9.5.4.2.1.3 The TOCDF conducts operations in areas where no amount of design and engineering can alleviate the requirements to wear PPE. These requirements for wearing PPE are dependent on a number of factors that include the type of operations performed in an area and the likelihood of the presence of agent during normal or abnormal conditions. Selection of the appropriate level of protection is determined by the potential level of exposure/contamination that exists in the specific environment and the task to be performed.

9.5.4.2.2 *Chemical Agent Ventilation/Hazard Categories*

9.5.4.2.2.1 Each room in the MDB has a designated category rating of A, B, C, D, or E based upon the potential for agent contamination during normal munitions and support operations. Categories may be temporarily upgraded to correspond with increased hazard potential.

9.5.4.2.2.1.1 Rooms assigned a Category A rating have probable agent liquid and likely vapor contamination.

9.5.4.2.2.1.2 Rooms assigned a Category A/B are evaluated for contamination probability depending on the operations being performed and the materials present.

9.5.4.2.2.1.3 Rooms with a Category B rating have possible vapor contamination only resulting from routine operations.

9.5.4.2.2.1.4 Rooms with a Category C rating have a low probability of agent vapor contamination.

9.5.4.2.2.1.5 Rooms with a Category D rating have a very low probability of ever being contaminated by agent.

9.5.4.2.2.1.6 Rooms and areas with a category E rating are maintained from being contaminated by agent at all times barring the possibility of a catastrophic event.

9.5.4.2.3 *TOCDF Descriptions of Personal Protective Equipment Ensembles*

9.5.4.2.3.1 Level A (A1-A2) clothing is used for entry into agent toxic areas with agent vapor and liquid present based on the OSHA and Army criteria for chemical agent activity. Level A provides positive pressure, full-face, self-contained breathing apparatus (SCBA), or positive pressure supplied air line respirator with self-contained escape air supply, approved by NIOSH, and totally encapsulating, vapor-tight, chemical protective suit. The Demilitarization Protective Ensemble (DPE) suit (Level A1) is normally used within the agent areas of the Munitions Demilitarization Building. In any of these areas where an emergency occurs, the DPE suit is worn unless the emergency conditions themselves preclude the use of the suit. In those circumstances, M3 B (B1) (formerly known as Modified Level A) or OSHA Level A protective clothing is used. This equipment is available at the Demilitarization Protective Ensemble Support Area (DSA) in the Personnel Maintenance Building. (PMB)

9.5.4.2.3.2 M3 B (B1) (formerly known as Modified Level A) or OSHA A clothing is the highest level of protection available at the site, excluding the DPE suit. OSHA A or M3 B (B1) may be used in the presence of liquid when conditions prohibit DPE, when needed to

resotre the plant to normal conditions, or as the primary PPE for DPE backup. It will be used for munitions handling or other tasks based on OSHA and Army criteria for chemical agent activity.

9.5.4.2.3.3 Level B Protective Clothing-Level B (B1-B5) provides positive pressure, full-face Self-Contained Breathing Apparatus (SCBA), or positive pressure supplied air line respirator with self-contained escape air supply, approved by NIOSH, and non-encapsulating chemical protective clothing. It will be used for munitions handling or other tasks based on OSHA and Army criteria for chemical agent activity.

9.5.4.2.3.4 Level C Protective Clothing – Level C (C1-C6) provides an air purifying full-face respirator or protective mask and non-encapsulating chemical protective clothing. It will be used for entry into agent toxic areas with agent vapor only (no liquid) based on OSHA and Army criteria for chemical agent activity.

9.5.4.2.3.5 Level D – Level D provides mask or respirator slung or readily available and employer provided clothing. It will be used for entry into agent toxic areas where no vapor is present or anticipated at TOCDF based on OSHA and Army criteria for chemical agent activity.

9.5.4.2.3.6 Street Clothes (SC) – This level consists of personal clothing with Mask Available and is for areas at TOCDF where no respiratory protection or chemical protective clothing is needed.

9.5.4.2.4 *Selection of PPE*

9.5.4.2.4.1 Chemical Agent Release

9.5.4.2.4.1.1 When responding to a chemical agent release, the level of protection required will be determined for each operation. Conditions under which the various levels of protection are required are described along with the PPE descriptions in the section above.

9.5.4.2.4.2 Industrial Chemical Release

9.5.4.2.4.2.1 When responding to an industrial chemical release, the correct level of PPE is selected by the Scene Control Officer (SCO) with approval of the Safety Advisor. The TOCDF Hazard Guide, MSDS sheets for the chemical involved, the NIOSH "Personal Protective Equipment for Industrial Chemicals Incidents: A Selection Guide", and the DOT Emergency Response Guidebook are references used in determining this selection. The PPE selection made by the SCO will also consider the work requirements of the entry to ensure the durability of the PPE is appropriate to that work.

9.5.4.3 Medical Emergency Equipment

9.5.4.3.1 The following emergency medical equipment is to be available at the facility's medical clinic. The clinic is responsible for ensuring that the following equipment is available and operational.

- Ambulance bags (Jump Kits)

- Oxygen Cylinders
- Defibrillator
- Litters
- Mark 1 Auto Injectors (Nerve Agent Antidote Kit)
- Protective Clothing
- Protective Masks
- Ambulance/Vehicle for transporting casualties

9.5.4.4 Showers and Eyewash Facilities

9.5.4.4.1 Safety showers, decontamination showers, and eyewash stations are located in appropriate areas of the MDB (Figures 9-5-1 through 9-5-4), the PUB (Figure 9-5-5), the PAS (Figure 9-5-6), and the CHB (Figure 9-5-7). All figures are located at the end of the Contingency Plan.

9.5.4.5 Agent Detection Equipment

9.5.4.5.1 Agent munitions and alarms are present in each agent work area. The type of monitors used varies based on the agent being processed. The alarms/indicators consist of visual (rotating beacons or panel lamps) and audible alerts (horns). Instructions are given from the Control Room via the public address system to inform personnel as to what actions to take following an agent alarm.

9.5.4.6 Decontamination Solution

9.5.4.6.1 For liquid spills of GB, Sodium Hydroxide solution is used for decontamination. For liquid spills of VX or Mustard, dilute Sodium Hypochlorite is used for decontamination. The appropriate solution is available throughout the facility based on chemical agent being processed. The location is specific to each appropriate area of the facility.

9.5.4.7 Confined Spaces Entry Equipment

9.5.4.7.1 The equipment required for Confined Space Entry will be available and maintained at the PMB, Building S-6, or in the response vehicle. This includes a combustible gas indicator, an oxygen-sensing device, and self-contained breathing apparatus.

9.5.4.8 Offsite Equipment

9.5.4.8.1 *Firefighting Equipment*

9.5.4.8.1.1 Fire protection, emergency equipment, and DCD support organizations are detailed in Section 9.6

9.5.4.8.2 *Heavy Equipment*

9.5.4.8.2.1 Supplemental heavy equipment and supplies will be available, if needed, from offsite sources including Tooele Army Depot (TEAD) and DCD. Table 9-5-3 lists the emergency equipment available at the DCD and TEAD.

Table 9-5-3
DESERET CHEMICAL DEPOT (DCD) AND TEAD EMERGENCY EQUIPMENT

NOMENCLATURE	CAPABILITY	QUANTITY	LOCATION
Fire Trucks	1,000 gpm pumper	1	DCD Fire Station (Bldg 5010)
	Brush truck, 1,000-gallon capacity, 200 gpm pump	1	DCD Fire Station (Bldg 5010)
	Equipment truck, 2-ton pickup	1	DCD Fire Station (Bldg 5010)
	Crash truck for helicopter crash response; with foam, dry chemical water capabilities (NOTE: This vehicle doubles as 1,000-gallon pumper truck listed above.)	1	DCD Fire Station (Bldg 5010)
Ambulances	Emergency personnel evacuation and medical support	4	CAMDS (1) TOCDF (1) DCD (2) Bldg 5010 (2)
Bulldozer	Caterpillar type for brushfire, control, spill cleanup, general grading	1	Behind Building 134 (TEAD)
Loader, Scoop	1to2-yd^3 capacity, front-end type; for spill cleanup, etc.	1	Behind Building 134 (TEAD)
Backhoe	Wheeled type tractor-mounted; for ditch digging and excavation	1	Behind Building 134 (TEAD)
Hand Tools (shovels, brooms, etc.)[6]	Small spill cleanup	as available	Container storage buildings Building 516 (TEAD)
Distributor, Water Tank	1,000 gallon with pump	1	Building 516 (TEAD)
Auger, Earth	Boring up to 24-inch holes	1	Building 516 (TEAD)
Excavator,	Backhoe type excavation	1	Building 516

[6] A minimum of one shovel and one broom are kept at each container storage building.

Table 9-5-3
DESERET CHEMICAL DEPOT (DCD) AND TEAD EMERGENCY EQUIPMENT

NOMENCLATURE	CAPABILITY	QUANTITY	LOCATION
Multipurpose			(TEAD)
Tractor	Caterpillar-type for ditch digging, backhoe capabilities, etc.	10	Building 516 (TEAD)
Grader, Road	Road grading, ditch cleaning, etc., with 12-foot blade	5	Building 516 (TEAD)
Loader, Scoop	1to2-yard^3 capacity, front-end type	2	Building 516 (TEAD)
Crane, Shovel	1-yard^3 capacity for loading sand and gravel	1	Crusher area (TEAD)
Crane, Hydraulic	25-ton for major item material handling	1	Building 516 (TEAD)
Truck, Dump	5-yard^3 capacity for handling and dumping	7	Building 516 (TEAD)
Truck/Pickup	For general purpose transportation	2	Building 516 (TEAD)
Crane, Clamshell and Dragline	13-ton capacity	1	Building 516 (TEAD)

9.6 COORDINATION AGREEMENTS AND SUPPORT ORGANIZATIONS [R315-8-4.3(b), R315-8-3.7]

9.6.1 Coordination Agreements Overview

9.6.1.1 TOCDF, through DCD, has made contact with the local and regional entities and authorities, which may be involved, in an emergency situation at the facility. Each of these authorities have been provided with a copy of the current TOCDF Emergency Response Plan (TOCDF ERP) and relevant background information. A copy of this updated TOCDF Contingency Plan, along with the DCD CAIRA Plan is provided to each of these authorities upon approval.

9.6.1.2 Discussions regarding their specific involvement and coordination have been held.

9.6.1.3 The US Army, as owner and co-operator of TOCDF has contacted the following local authorities to obtain emergency response and/or mutual assistance and support agreements for the DCD and the TOCDF site.

9.6.1.4 The following agreements are in place and on file at the TOCDF.[7]

- Tooele County Sheriff's Office (27 May 1997)

[7] Copies of the agreements are found at the back of this section.

- North Tooele County Fire District (11 August 1998)
- City of Stockton Fire Department (11 August 1998)
- City of Tooele Fire Department (11 August 1998)
- City of Grantsville Fire Department (11 August 1998)
- Mountain West Medical Center (14 March 2003)
- Evans Army Community Hospital (17 July 2003)
- Utah Valley Regional Medical Center (26 June 2003)
- LDS Hospital (26 June 2003)
- University of Utah Medical Center AirMed (26 June 2003)
- Intermountain Health Care (IHC) Life Flight (23 July 2003)
- University of Utah Hospital (26 June 2003)

9.6.1.5 DCD is the main provider of non-TOCDF resources during an emergency. As a tenant of the DCD installation, TOCDF utilizes a number of emergency support services located on the installation. For most accident scenarios, installation resources are the only support required, with the exception of advanced medical treatment. TOCDF provides first-level emergency medical care, but regional hospital support is required for casualties in need of advanced life support.

9.6.1.6 Non-TOCDF resources are requested through the DCD Emergency Operations Center (EOC) located at DCD Building 5108, except for urgent DCD Security and DCD Fire Station resources, which may be requested directly by the Control Room. Additional local, State, and Federal resources are available in the event of a major disaster. All local, State, and Federal notifications and resource requests will be made by DCD. The CAICO identifies and recommends the outside resources needed to the DCD Commander, who in turn, establishes liaison with the provider to obtain them.

9.6.2 DCD Support

9.6.2.1 General

9.6.2.1.1 DCD maintains its own response force to handle chemical accidents/incidents involving DCD operations. CAMDS response teams have been established to augment the DCD force as needed. TOCDF response teams may also be called upon to support an emergency on the installation. The DCD resources available to support TOCDF emergency response are described below. DCD resources are under the command and control of the EOC on a daily basis. In the event TOCDF requires DCD resources, the Control Room will request them directly from the EOC, with the possible exception of initial DCD Security response.

9.6.2.2 DCD Security

9.6.2.2.1 The DCD Law Enforcement and Security Division (Security) is the sole provider of security services to TOCDF on a daily basis. In the event of an emergency at TOCDF, Security will:

- ensure the safeguarding of chemical surety materiel and TOCDF property
- provide perimeter control assistance and limit access to authorized personnel
- capture intruders
- implement rapid entry/exit procedures for responders and evacuating personnel.

9.6.2.2.2 Security personnel are under the command and control of the Site Security Control Center (SSCC).

9.6.2.3 Real Time Analysis Platforms (RTAPs)

9.6.2.3.1 TOCDF monitoring personnel conduct agent monitoring at the facility using fixed ACAMS and DAAMS stations located primarily inside the CHB, MDB, CAL, and associated exhaust stacks. In the event of a chemical agent release outside a normally monitored area, TOCDF does not have the necessary portable equipment to perform airborne monitoring in these areas, and therefore, will require agent-monitoring support.

9.6.2.3.2 DCD maintains Real Time Analysis Platform (RTAP) capability to support its daily chemical storage operations. The RTAP is a self-contained mobile platform, which can be moved from location to location to perform low-level, near real-time agent monitoring. Each RTAP includes a monitoring technician, a van with an ACAMS/MINICAMS, and a portable radio. RTAPs may be deployed individually or in support of DCD response teams, such as a Met/Det Team or the Hotline Crew.

9.6.2.4 DCD Meteorological/Detection Teams (Met/Det)

9.6.2.4.1 DCD has Meteorological/Detection Teams (Met/Det) available to perform initial entry, wind measurement, and agent detection activities. Each Met/Det Team includes at least two persons each with Army Level A and B protective clothing, available SCBA respiratory protection, a truck, portable radio, chemical casualty kit, decontamination solution, and a wind measuring instrument. Upon deployment of a Met/Det Team, a RTAP accompanies the team to perform low-level agent monitoring.

9.6.2.5 DCD Hotline Crew

9.6.2.5.1 DCD has a Hotline Crew available to perform personnel decontamination at the event scene. The Hotline Crew includes personnel and a mobile Personnel Decontamination Station (PDS) consisting of a tractor and a decon-ready trailer. The mobile PDS is a totally self-contained, environmentally controlled, runoff-capturing hotline in a trailer, which can be moved from location to location to perform personnel decontamination.

9.6.2.6 DCD Decontamination Teams

9.6.2.6.1 DCD has Decontamination Teams available to perform decontamination of personnel and agent-contaminated surfaces such as property and equipment. Each Decontamination Team includes DCD personnel each with Army Level A and B protective clothing, a flatbed truck with a generator and decontamination tank, portable radio, and decontamination tools. DCD pre-assigns one Decontamination Team for rapid deployment to an event scene to perform emergency actions such as personnel decontamination, spill confinement, and surface decontamination.

9.6.2.7 Emergency Operations Center (EOC)

9.6.2.7.1 The Emergency Operations Center (EOC) is a fully equipped emergency facility maintained by DCD and located at DCD Building 5108. The EOC is staffed 24 hours a day, 7 days a week, and is the primary point of contact for performing off-post notifications and obtaining resource support, including DCD, CAMDS, TEAD, and outside support. The DCD Commander is the Initial Response Force (IRF) Commander during a chemical accident/incident response and operates from the EOC. The CAICO also operates from the EOC and maintains direct contact with the ACAICO in the field.

9.6.2.7.2 After the initial confirmed detection of an actual or likely chemical agent release at the DCD installation, the DCD Commander or designee must classify the event; determine the protective action recommendation for off-post populations; and report the aforementioned items to the Tooele County Sheriff Dispatch Center. The DCD Commander or designee will notify local, State, and Federal organizations required by regulation, mutual agreement, or response requirements; obtain emergency medical support, as required; and execute public affairs activities related to the event.

9.6.2.7.3 TOCDF has one bus available for personnel evacuation. In the event of a site-wide evacuation of TOCDF personnel, up to five busloads of evacuees may require transportation from a TOCDF muster area to a DCD assembly area. DCD will provide the additional buses needed to fill the transportation shortfall. During a chemical accident/incident, all buses on the DCD installation are under the control of the CAICO, who will plan and direct any evacuation to DCD assembly areas. The Control Room requests transportation support from the EOC.

9.6.2.7.4 In the event the primary EOC facility is within the down-wind hazard area, DCD command staff will activate and operate from their Mobile Command Post. Upon EOC activation due to an event at TOCDF, the Management Advisory Team (MAT) will deploy to the EOC to provide technical assistance to EOC staff. TOCDF will maintain and provide to DCD a current roster of MAT members authorized to access the EOC.

9.6.2.8 DCD Fire Station

9.6.2.8.1 The DCD Fire Station, located on the DCD installation, is the primary provider of fire-fighting services and the backup provider of rescue and HAZMAT response services to TOCDF. The DCD Fire Station is a fully-equipped fire fighting station staffed 24 hours a day, 7 days a week. The DCD Fire Station is located approximately 3.5 miles from TOCDF in DCD Building 5010 and has an expected arrival time of 8 - 10 minutes. In the event of a fire emergency, the Control Room will contact the DCD Fire Station directly

for fire fighting services. Once the DCD EOC is activated, the Control Room will request fire-fighting services through the EOC.

9.6.2.8.2 Upon a TOCDF fire alarm, the DCD Fire Station receives only a general alarm for the TOCDF site. The Control Room then informs the DCD Fire Station of the particular zone(s) in alarm and confirms the alarm prior to fire fighter deployment. Once deployed, TOCDF will guide fire personnel to the scene and brief them on the event, structure layout, and hazards present. The senior DCD fire officer on scene will direct all fire fighting activities at TOCDF.

9.6.2.8.3 In addition to fire fighting skills, DCD fire personnel are trained and certified in rescue operations and as Hazardous Material Technicians in accordance with OSHA 29 CFR 1910.120. In an event involving hazardous industrial chemicals, DCD fire personnel will supplement TOCDF HAZMAT resources as required. A fully-staffed and equipped TOCDF HAZMAT Team is on site 24 hours a day, 7 days a week. The Control Room requests DCD HAZMAT support through the DCD Emergency Operations Center.

9.6.3 Chemical Agent Munition Disposal System (CAMDS) Support

9.6.3.1 General

9.6.3.1.1 The Chemical Agent Munitions Disposal System (CAMDS) is a disposal research facility operated by the government. CAMDS is located immediately adjacent to the TOCDF CAL, about 1.5 miles southwest of the TOCDF site. CAMDS is an operating chemical munitions disposal facility used for research and development of munitions disposal techniques and for incineration of a limited quantity of known unserviceable munitions.

9.6.3.1.2 CAMDS has its own emergency response organization, including a medical facility. CAMDS responders will supplement TOCDF teams for an emergency at TOCDF on an as-needed basis. CAMDS response teams are organized to augment DCD resources in the event of a chemical accident/incident at DCD, and therefore, resemble DCD response teams in composition. In addition to chemical accident/incident readiness, CAMDS response personnel are also trained and certified as Hazardous Material Technicians in accordance with OSHA 29 CFR 1910.120, but do not have the OSHA levels of PPE needed to respond to industrial chemical releases.

9.6.3.1.3 CAMDS resources available to support TOCDF emergency response are described below. In the event CAMDS resource support is needed, the Control Room will request it through the DCD Emergency Operations Center.

9.6.3.2 CAMDS Area Response Teams

9.6.3.2.1 CAMDS has Area Response Teams available to support initial entry activities at the CAMDS site and DCD areas. Each Area Response Team includes personnel with Army Level A and B protective clothing, a truck, portable radio, chemical casualty kit, decontamination solution, and gross-level nerve agent detectors/alarms.

9.6.3.3 CAMDS Meteorological/Detection Teams (Met/Det)

9.6.3.3.1 CAMDS has Met/Det Teams available to perform initial entry, wind measurement, and agent detection activities. Each Met/Det Team includes personnel with Army Level A and B protective clothing, a truck, portable radio, chemical casualty kit, decontamination solution, and a wind measuring instrument.

9.6.3.4 CAMDS Hotline Crew

9.6.3.4.1 CAMDS has one Hotline Crew available to support personnel decontamination on the installation. The Hotline Crew includes approximately eight CAMDS personnel and a flatbed truck with a mounted Single Pallet Only Rocket Transporter (SPORT).

9.6.4 TEAD Support

9.6.4.1 General

9.6.4.1.1 Tooele Army Depot (TEAD), under the Army Field Support Command (AFSC), is located approximately 15 miles north of TOCDF and 2 miles southwest of the City of Tooele. TEAD maintains resources to support a chemical accident/incident response at the DCD installation. The TEAD resources available to support TOCDF emergency response are described below. In the event TOCDF requires TEAD support, the Control Room will request it through the EOC, with the possible exception of initial TEAD Fire Department response.

9.6.4.2 TEAD Fire Station

9.6.4.2.1 The TEAD Fire Station, located on the TEAD installation, is the backup provider of fire fighting services to TOCDF. It is a fully equipped fire fighting station staffed 24 hours a day, 7 days a week. The TEAD Fire Station is located approximately 15 miles north of TOCDF and has an expected arrival time of 30 minutes. The TEAD Fire Station will supplement the DCD Fire Station resources.

9.6.4.3 TEAD Public Works

9.6.4.3.1 TEAD Public Works dispatches a representative to the Support Center to coordinate TEAD equipment support to the DCD installation.

9.6.4.4 Support Center

9.6.4.4.1 The Support Center is a fully equipped emergency support facility maintained by TEAD. The Support Center is the primary point of contact for coordinating all TEAD resource support to DCD during a chemical accident/incident. The TEAD Commander is the Support Center Commander and operates from the Support Center. The TEAD Commander or designee will provide all aspects of logistical support to DCD, including transportation, equipment, and facility support.

9.6.5 Medical Support

9.6.5.1 General

9.6.5.1.1 Medical services at both the DCD and TEAD installations, with the exception of TOCDF, are provided and managed by Evans Army Community Hospital based at Fort Carson, Colorado. Evans Army Community Hospital staffs and equips the TEAD Health Clinic, DCD Aid Station, and CAMDS Medical Module. Resources from these facilities are available to support a TOCDF medical response, if necessary.

9.6.5.1.2 In the event of multiple casualties requiring ground or air transport to definitive care facilities, medical resources other than Army support will be needed. Medical support, including Army resources, will be requested through the EOC to ensure there are no logistical impairments. The Medical Clinician In Charge (MCIC) of the TOCDF Clinic will make the initial request to the EOC through the Control Room, and once arrangements are made, will discuss the ETA and medical details directly with the medical support provider. Likewise, requests by DCD or CAMDS for TOCDF medical support on the DCD installation will be made through the EOC.

9.6.5.2 Aid Station (DCD)

9.6.5.2.1 The Aid Station, located on the DCD installation, is the first backup provider of emergency medical services to TOCDF. It is a fully-equipped emergency medical station maintained by Evans Army Community Hospital. The Aid Station is located approximately 3.5 miles from TOCDF in DCD Building 5010 and has an expected arrival time of 8 - 10 minutes. Aid Station resources include two ambulances with advanced life support equipment and a minimum of two Emergency Medical Technicians (EMTs) on duty 24 hours a day, seven days a week.

9.6.5.3 CAMDS Medical Module

9.6.5.3.1 The CAMDS Medical Module, located on the DCD installation, is the second backup provider of emergency medical services to TOCDF. It is a fully equipped emergency medical station maintained by Evans Army Community Hospital. The CAMDS Medical Module is located approximately 1.5 miles from TOCDF at the CAMDS site and has an expected arrival time of 8 minutes. CAMDS Medical Module resources include one ambulance with advanced life support equipment and two paramedics on duty 24 hours a day, Monday-Thursday (during CAMDS toxic operations).

9.6.5.4 U.S. Army Health Clinic (TEAD)

9.6.5.4.1 The Health Clinic, located on the TEAD installation, is the third backup provider of emergency medical services to TOCDF. It is a fully-equipped emergency medical station maintained by Evans Army Community Hospital. The Health Clinic is located approximately 15 miles from TOCDF and has an expected arrival time of 30 minutes. Health Clinic resources include two physicians, two ambulances with advanced life support equipment, and a minimum of two EMTs (Monday-Thursday, 0630-1700 hours only).

9.6.5.5 Dugway Proving Ground

9.6.5.5.1 Dugway will supply one ambulance with a physician and two EMS personnel if requested, with an expected arrival time of 50 minutes.

9.6.5.6 Air Ambulance Services

9.6.5.6.1 Air ambulances will provide air evacuation for casualties, when this can be done without endangering their personnel. Air ambulances will be requested directly by the MCIC through the EOC. The Control Room will be notified of this action immediately. Air ambulance services, which may be used, include: Life Flight (LDS Hospital) and AirMed (University Hospital).

9.6.5.7 LDS Hospital

9.6.5.7.1 Severely ill or injured patients may be transported by air or ground ambulance to LDS Hospital. LDS Hospital should be utilized for general trauma, shock trauma, closed head injury, and may be used for chemical casualties.

9.6.5.8 University Hospital

9.6.5.8.1 Severely ill or injured patients may be transported by air or ground ambulance to University Hospital. University Hospital is the hospital of choice for chemical casualties and burn trauma. University Hospital should also be utilized for general trauma, closed head or spine injuries, and as a backup for shock trauma.

9.6.5.9 Mountain West Medical Center

9.6.5.9.1 Patients who are ill or injured to a lesser degree may be transported by ground ambulance to Mountain West Medical Center.

9.6.5.10 Utah Valley Regional Medical Center

9.6.5.10.1 Patients who are ill or injured to a lesser degree may be transported to Utah Valley Regional Medical Center in Provo.

9.6.6 62nd Explosive Ordnance Disposal (EOD) Detachment

9.6.6.1 In an emergency event involving unexploded ordnance or other potential explosion situations, the EOD Detachment will be required to respond to TOCDF. The U.S. Army EOD Detachment is the primary response group for events that require Render Safe Procedures. The EOD Detachment is only dispatched via the EOC.

9.6.7 Community Fire Support

9.6.7.1 Tooele City Fire Department

9.6.7.1.1 In the event the TEAD Fire Department needs assistance, the Tooele City Fire Department will provide fire-fighting support. Estimated arrival time from Tooele is 45 minutes.

9.6.7.2 Stockton Fire Department

9.6.7.2.1 The Stockton Fire Department is the closest off-post responder. Stockton Fire Department is an all-volunteer fire fighting service. Anticipated mobilization time is approximately 30 minutes.

9.6.7.3 Grantsville Fire Department

9.6.7.3.1 The Grantsville Fire Department will provide a fourth level of fire fighting backup, if needed.

9.6.7.4 Tooele County Fire Department

9.6.7.4.1 In the event the TEAD Fire Department needs assistance, the Tooele County Fire Department will provide fire-fighting support. Estimated arrival time from Tooele is 45 minutes.

9.6.7.5 Volunteer Fire Departments

9.6.7.5.1 The following Fire Departments may respond to any fire emergency to the best of their ability. Due to the volunteer nature of their agency and the departments' limited capability, no written agreement can be entered into.

- Town of Rush Valley Volunteer Fire Department and Ambulance Quick Response Unit (QRU).
- Town of Vernon Volunteer Fire Department
- Town of Ophir Volunteer Fire Department

9.6.8 Other Emergency Services

9.6.8.1 Coordination with other emergency services in Tooele, Utah and Salt Lake Counties, along with federal emergency response groups, is handled through the Chemical Stockpile Emergency Preparedness Plan (CSEPP), which is coordinated by DCD.

9.6.9 Department of the Army (DA)

9.6.9.1 Additional Department of the Army (DA) resources are available to respond to a chemical accident/incident at the DCD installation. These DA-level resources are deployed by DA Headquarters, based on information and requests made by the DCD Commander. DA resources available to support a CAIRA response are detailed in the DCD CAIRA Plan. TOCDF, through DCD, has made contact with the local and regional entities and authorities, which may be involved, in an emergency situation at the facility.

9.7 PROTECTIVE ACTIONS AND EVACUATION PLAN [R315-8-4.3(e)]

9.7.1 Protective Actions Overview

9.7.1.1 Protective actions are emergency measures intended to avoid or reduce personnel exposure to hazards. The two primary protective actions are evacuation, which involves moving personnel away from a hazard, and in-place sheltering, which involves personnel

remaining indoors to avoid a hazard. Evacuation is the preferred protective action when conditions allow it to be safely completed prior to personnel hazard exposure. In-place sheltering is the preferred protective action when conditions do not permit a safe evacuation. Other protective actions include access control and the use of protective equipment. Protective equipment, such as respirators, suits, gloves, boots, etc., is worn primarily by emergency response personnel. All site personnel have Army protective masks and Mark I nerve agent antidote kits required by DA PAM 385-61.

9.7.1.2 Protective actions may be required for both on-post personnel and the off-post general public. The selection and implementation of protective actions for the public are the responsibility of civilian authorities and are addressed in the DCD CAIRA Plan.

9.7.1.3 Protective actions may be implemented for either an actual or a potential danger. An example of a protective action based on an actual threat is an evacuation of the site due to DCD reporting a release of agent from Area 10. When protective actions are implemented prior to an actual danger existing they are called precautionary. An example of a precautionary protective action is evacuating the site due to a major leak in the propane gas tank south of the BRA PAS area. The leak itself would not necessarily pose a health danger to the site, but the potential for the tank to explode and cause significant damage to personnel and property would warrant a precautionary site evacuation.

9.7.1.4 Determination of the appropriate protective actions for an emergency event is made through the protective action decision-making process. The process involves an assessment of event conditions and available data, use of contingency plans based on the plant hazards assessment, and selection of the protective action that best protects personnel from hazard exposure and minimizes event impacts.

9.7.1.5 The initial protective actions for an emergency event will be issued as soon as possible upon completion of the event assessment and protective action decision-making process. Subsequent protective actions will be developed and implemented as needed when changes in event conditions warrant upgrading or downgrading the existing protective actions. Examples of situations, which could result in the issuance of subsequent protective actions, include a shift in wind direction, obtaining results from monitoring teams, and successful containment of the hazard.

9.7.2 Protective Action Decision-Making

9.7.2.1 Initial hazard assessment and protective action decision-making are performed in the Control Room. An upset condition is identified in the Control Room either by notification from site personnel or via alarms or abnormal system readings. Control Room personnel perform an initial assessment of event conditions to determine the appropriate immediate response actions. These actions may involve providing guidance to first responders on how to properly confine the hazard and establish perimeter control, and/or may be requests for support from organizations such as Medical, TEAD Fire Department, or the HAZMAT Team.

9.7.2.2 Following the determination of required immediate response actions, the IC will begin the protective action decision-making process. The process involves an analysis of the following event conditions and factors: type of actual or potential hazard; anticipated

hazard duration; time of hazard occurrence; meteorological conditions; projected or actual event impacts; and projected or actual populations affected by hazard.

9.7.2.3 The selection of protective actions is based on the goal of reducing personnel exposure to the hazard and reducing overall event impacts. For many smaller events, no protective actions may be required. For events with a slightly larger potential for personnel danger, the donning of protective masks, such as would be appropriate in a Chemical Accident/Incident, may be ordered as a precautionary protective action. For events that pose a more serious and imminent danger to personnel, a determination must be made between in-place sheltering and evacuation.

9.7.2.4 The protective action of evacuation will be implemented primarily for events involving the sustained release or continued presence of chemical agent or other hazardous materials.

9.7.2.5 The protective action of in-place sheltering will be implemented primarily for the following situations:

9.7.2.5.1 Events involving a short hazard duration in which personnel could avoid hazard exposure by staying indoors until any released materials can pass through the area

9.7.2.5.2 Events where time or protective equipment is not available to avoid significant exposure to personnel

9.7.2.5.3 In lieu of evacuation when weather or other conditions do not permit a safe evacuation

9.7.2.6 Immediate protective actions may be implemented by personnel in the hazard area upon identification of an emergency event. Subsequent protective actions, however, are determined and issued by the IC. Since the IC position is filled by the Plant Shift Manager, who is always available on site, TOCDF has 24-hour, protective-action, decision-making capability. In a Chemical Accident/Incident, the CAICO in the DCD (DCD EOC) will determine the appropriate protective actions for the entire installation, including TOCDF. The EOC also provides protective actions to TOCDF for post emergencies, which affect TOCDF.

9.7.2.7 When protective actions have been determined and affected areas and populations defined, the information is relayed to the following groups by the method shown in Table 9-7-1.

Table 9-7-1
Protective Action Communication

Group	Method of Contact
Site Personnel	Public Address System
On-Scene Responders	Public Address System, Telephone, & Radio
CAL	Telephone
Stark Road Offices	Telephone
DCD (via EOC)	Telephone

9.7.2.8 It is important that all affected personnel and groups immediately carry out protective actions.

9.7.2.9 DCD is responsible for providing protective action recommendations to off-post authorities. DCD bases their recommendations in part on information received from TOCDF. The TOCDF Control Room provides DCD's Emergency Operations Center with the identical information used to develop the site protective actions. Final determination of off-post protective actions is the responsibility of off-post elected officials.

9.7.2.10 The IC periodically assesses event conditions and evaluates the appropriateness of existing protective actions (in coordination with the CAICO in Chemical Accident/Incidents). Only the IC (CAICO in Chemical Accident/Incidents) has the authority to upgrade or downgrade protective actions as appropriate.

9.7.3 Protective Action Implementation

9.7.3.1 Protective Masks and Agent Antidotes

9.7.3.1.1 All TOCDF site personnel are issued military protective masks. Included in the issuing process is performance of a fit test and training on mask use and upkeep. The masks are examined semi-annually at a minimum by the issuing branch, and each individual is responsible for performing a visual inspection of their mask monthly.

9.7.3.1.2 The protective masks are designed to prevent inhalation of chemical agent vapors by personnel. The masks are not designed or intended to be used to limit exposure to any substances other than chemical agent. If the IC determines that the donning of protective masks is an appropriate protective action, affected personnel will be notified via the methods discussed in Section 9.7.2 of this Contingency Plan.

9.7.3.1.3 All site personnel have been issued three Mark I nerve agent antidote kits. Each kit contains two injectors: Atropine (2 mg) and Pralidoxime Chloride (600 mg). The injectors will be used whenever two or more signs or symptoms of mild/moderate nerve agent exposure are being exhibited or whenever one or more signs or symptoms of severe nerve agent exposure are being exhibited. The injectors will be applied to either the outer thigh muscle or the upper, outer-quarter of the buttocks. Site personnel have been trained in identifying agent exposure symptoms and in the use of antidote injectors when they are issued the Mark I kits.

9.7.3.2 Access and Traffic Control

9.7.3.2.1 Access control will be established to prevent access to the site or specific site buildings and areas. Depending on the severity and scope of the emergency event, access may be controlled at the DCD installation main gate, TOCDF Entry Control Facility (ECF), Control Room, and Clinic, in addition to the hazard-affected buildings and areas. Access control at the main gate and the ECF will be performed by DCD security personnel. Additional access control capability exists by closing the site gates, which are at the northeast and south sides of the site. Traffic control is intended to facilitate the smooth flow of vehicles during an evacuation.

9.7.3.3 In-Place Sheltering

9.7.3.3.1 In-place sheltering involves personnel remaining indoors to avoid exposure to the hazard outside. Most buildings can provide significant protection against industrial chemical plumes, particularly in releases of short duration. Most non-pressurized buildings, however, are not air-tight. After a period of approximately two to three hours, the inside hazardous concentration becomes equal to the outside concentration, and the structure no longer provides exposure protection. In-place sheltering, therefore, is only effective as a short-term measure.

9.7.3.3.2 In the event in-place sheltering is ordered, personnel will complete the following actions to ensure the maximum possible exposure protection:

- Close windows and doors
- Shut off ventilation systems that draw air from the outside

Note: In buildings with agent-filtered ventilation systems (i.e., DSA, MDB, Control Room, Clinic, and TCB), the ventilation system will <u>not</u> be shut off.

- Move away from windows and doors (as appropriate)
- Move away from exterior walls facing the hazard (as appropriate)

9.7.3.3.3 Individuals outdoors will be permitted to enter a building where personnel are sheltering, but the time that doors are open must be minimized. Personnel will be prevented from exiting the shelter, by verbal instruction, until the sheltering protective action is canceled or changed.

9.7.3.3.4 At the discretion of the PSM, personnel accountability may be performed during in-place sheltering. The designated Point of Contact (POC) for each work group will use their respective Emergency Evacuation Personnel List to perform an accountability of their personnel, then report the results to the Accountability Coordinator.

9.7.3.4 Evacuation

9.7.3.4.1 Evacuation involves the moving of personnel away from a hazard and to a safe area. An evacuation protective action may be declared for the entire TOCDF or a portion of the

TOCDF, depending on the event severity and magnitude. A TOCDF-wide evacuation involves all non-essential personnel leaving the site to a safe location a significant distance away from the plant.[8] Essential personnel may be evacuated at a later time as conditions permit. A partial evacuation involves the movement of personnel from a specific plant or building to a safe area on the TOCDF site or near the TOCDF. The Incident Commander (IC) determines which buildings, areas, and populations are affected by an evacuation.

9.7.3.4.2 If a partial evacuation is determined as the appropriate action, all TOCDF personnel will be notified by the Control Room. Personnel in the affected area will be instructed to evacuate to a specified upwind location. All other TOCDF personnel will be told to stay clear of the affected area. The Control Room announcement also requests that any personnel who normally work in the evacuated area but who are presently at other site locations report their whereabouts to the Control Room.

9.7.3.4.3 Figures 9-7-1 through 9-7-29 show escape plans, which are posted in each TOCDF building as applicable. These figures show the best routes out of that specific building. All site personnel have received training on evacuation procedures.

9.7.3.4.4 Sweeps of evacuated buildings will be performed to ensure that all personnel have left, and Points of Contact (POCs) will perform personnel accountability. Based on sweep and accountability results, the IC will dispatch search and rescue teams as appropriate. The IC will determine when it is safe to return to the evacuated building or area.

9.7.3.4.5 If it is determined that a site-wide evacuation is appropriate, all TOCDF will be notified by the Control Room. All non-essential personnel will be told to report to the designated TOCDF muster area. The evacuation muster sites are indicated on Drawing EG-16-C-0004. There are two designated TOCDF muster areas:

- immediately south of the PSB
- immediately north of warehouse S-7

9.7.3.4.6 Signs are posted at the TOCDF muster areas to help personnel assemble with their co-workers. The Accountability Coordinator reports to the muster area to manage muster operations. Visitors to the TOCDF will follow the directions of their escort. Escorts will take visitors to the appropriate muster area, where they will turn over custody of the visitor to the POC for visitors.

9.7.3.4.7 Upon completion of muster area operations, the Accountability Coordinator, in coordination with the IC, will instruct personnel to either evacuate the TOCDF or return to their normal work locations. If transportation resources are required to support further evacuation, the IC will request resources from DCD.

9.7.3.4.8 In some cases, Privately Owned Vehicles (POVs) will be used for evacuation. When evacuating in POVs, personnel will follow one of the DCD-designated routes used for

[8] "Non-essential" personnel are those not required to stay during an emergency and perform critical plant operations or response activities. Persons who must stay and perform task even though the site is evacuating are termed "essential" personnel.

evacuation from TOCDF. Figure 9-730 is a DCD site map depicting the possible evacuation routes from the TOCDF.

9.7.3.4.9 The Control Room and Clinic are intended to be occupied by response personnel during most emergencies, even when the rest of the TOCDF is evacuated. Self-contained ventilation systems, filtered air systems, and positive pressure are among the engineered features of these buildings, which allow them to provide exposure protection to occupants. These buildings are locked during emergency events to control access.

9.8 REQUIRED REPORTS [R315-8-4.7(i) and (j)]

9.8.1 Required reports are made in accordance with R315-8-4.7(i) & (j) and TOCDF Part B Permit Conditions.

9.8.2 The operator must note in the operating record the time, date, and details of any incident that requires implementing the Contingency Plan. This form is completed in accordance with Section 9.7.1.4. For any emergency event requiring HAZMAT release reporting, the control room will notify the DCD EOC and the CMA Shift Engineer and provide a copy of the event report. All reporting to the Army, local, State, and Federal agencies will be handled by DCD.

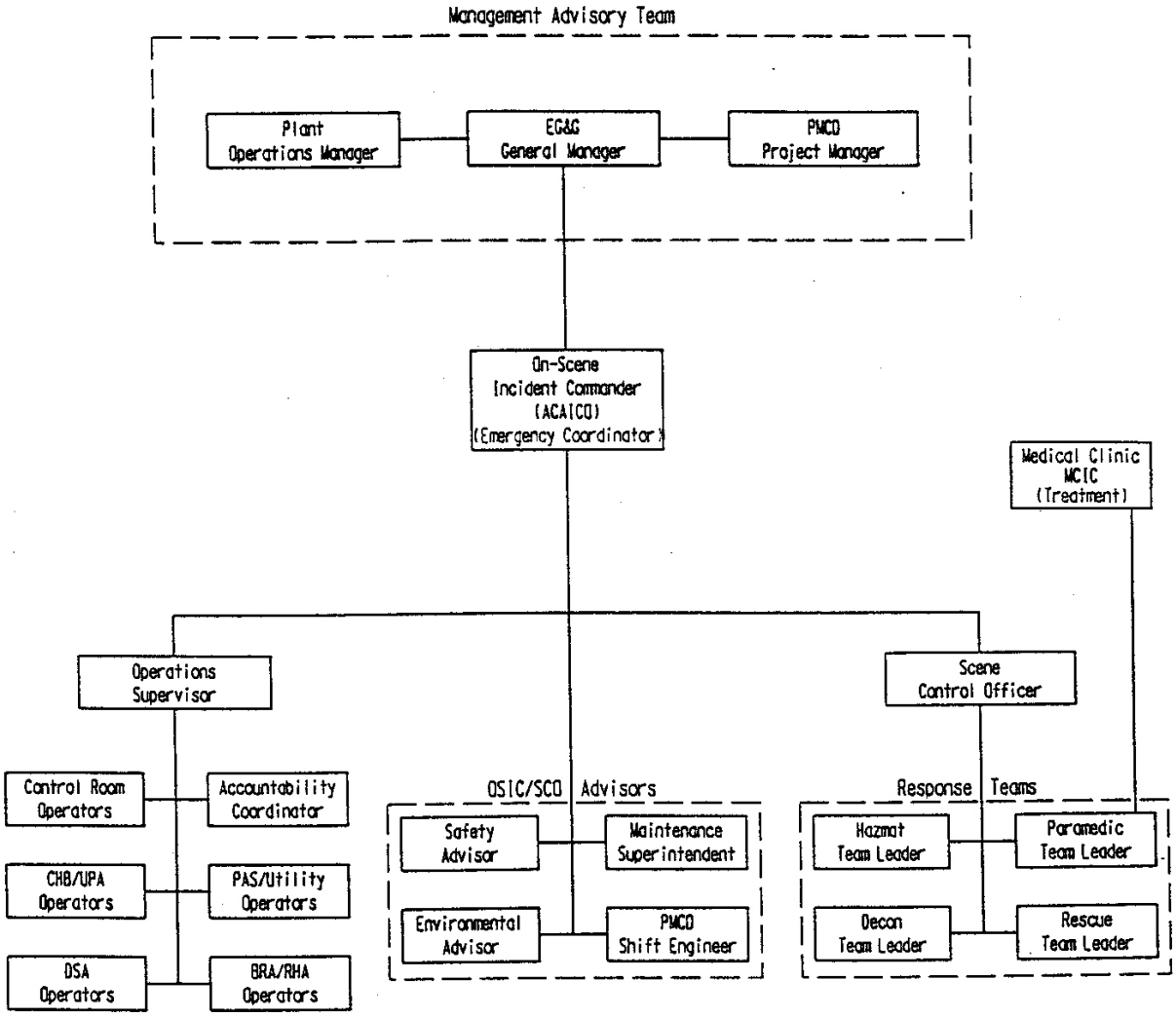


Figure 9-1-1
TOCDF Emergency Response Organization

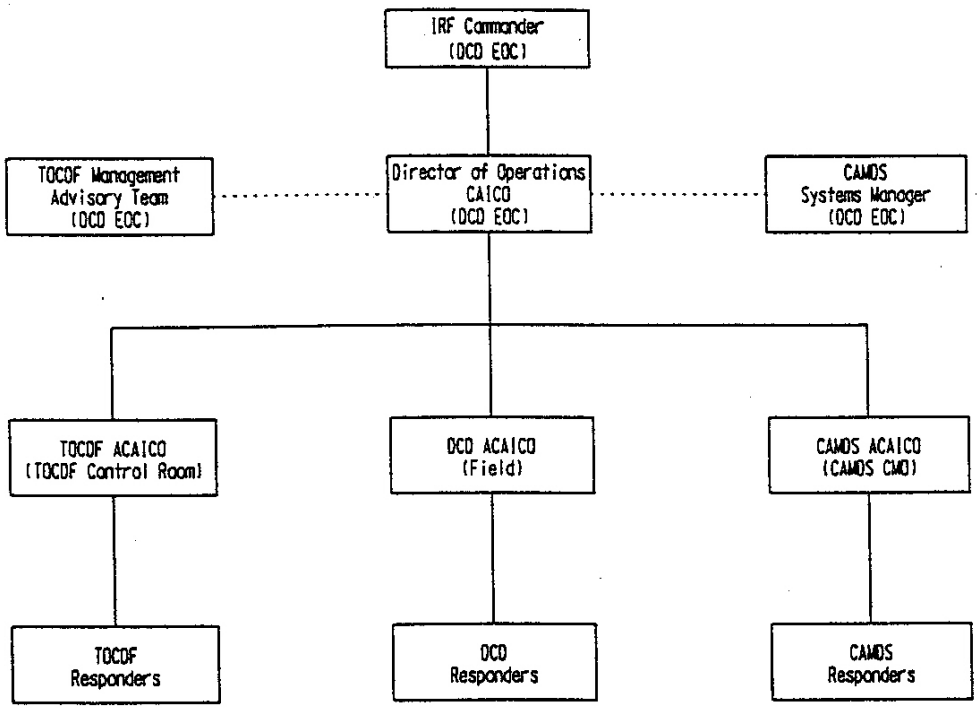


Figure 9-1-2
DCD Emergency Response Organization (Chemical Event)

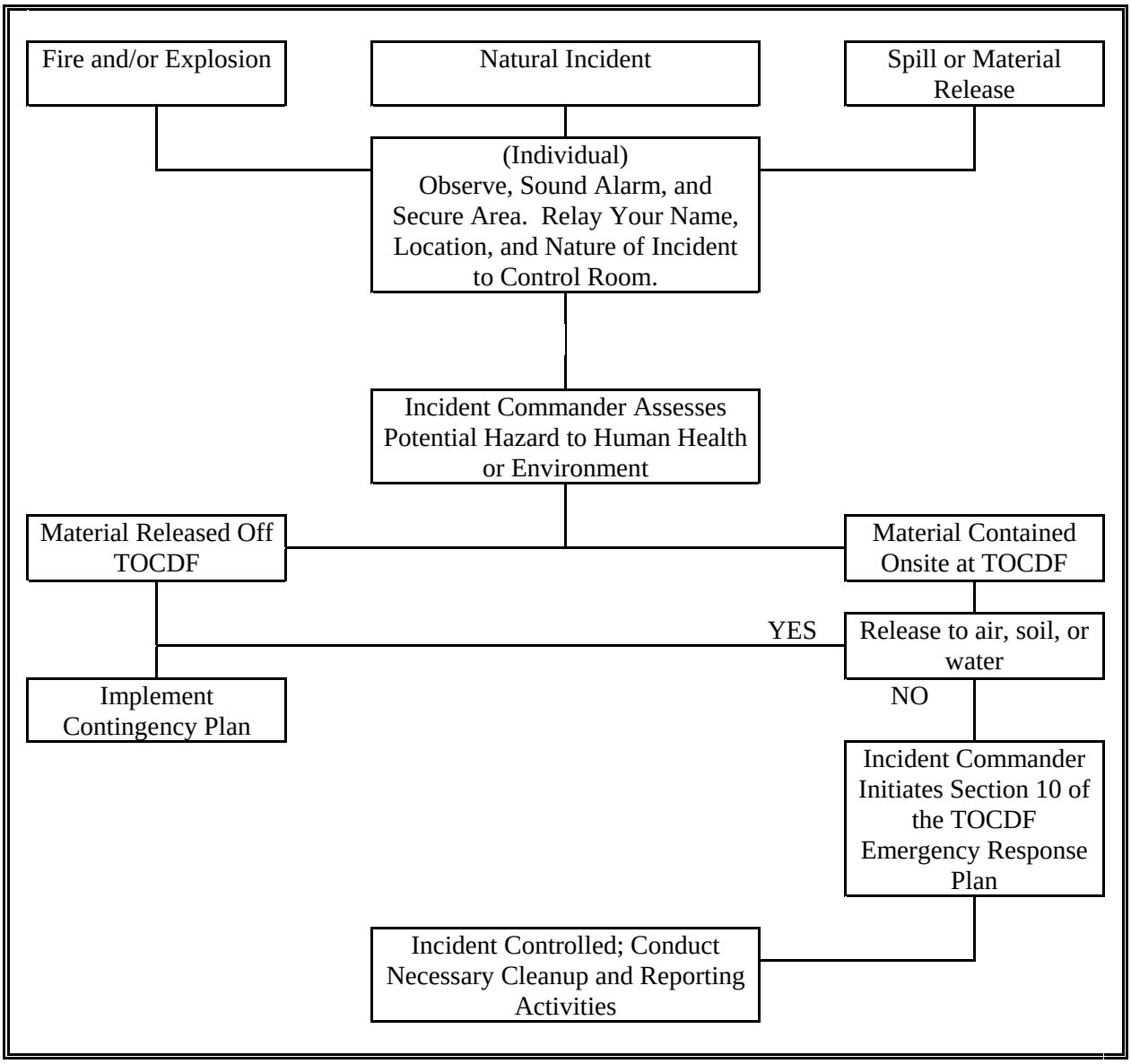
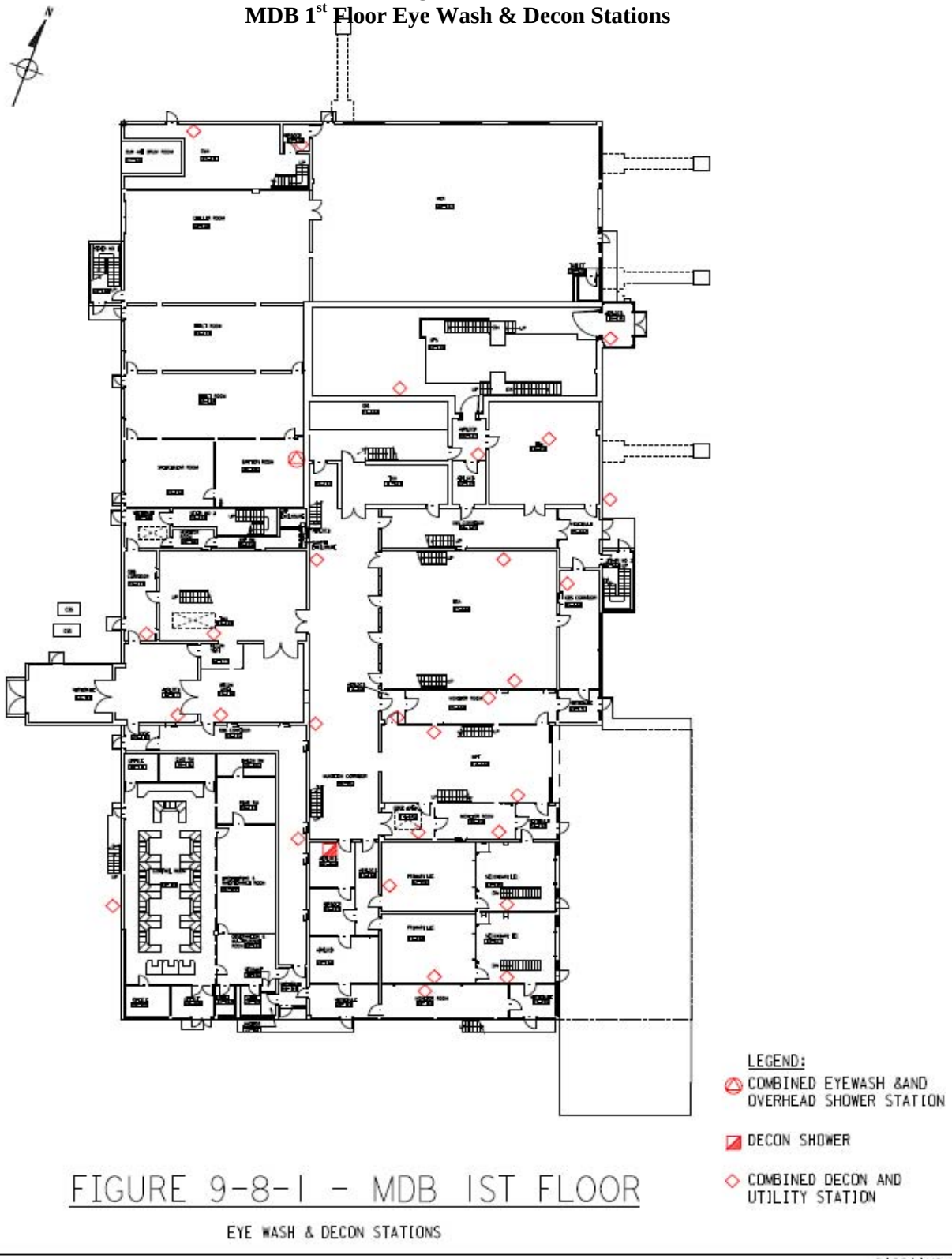


Figure 9-3-1
Initial Response Activities

Figure 9-5-1
MDB 1st Floor Eye Wash & Decon Stations



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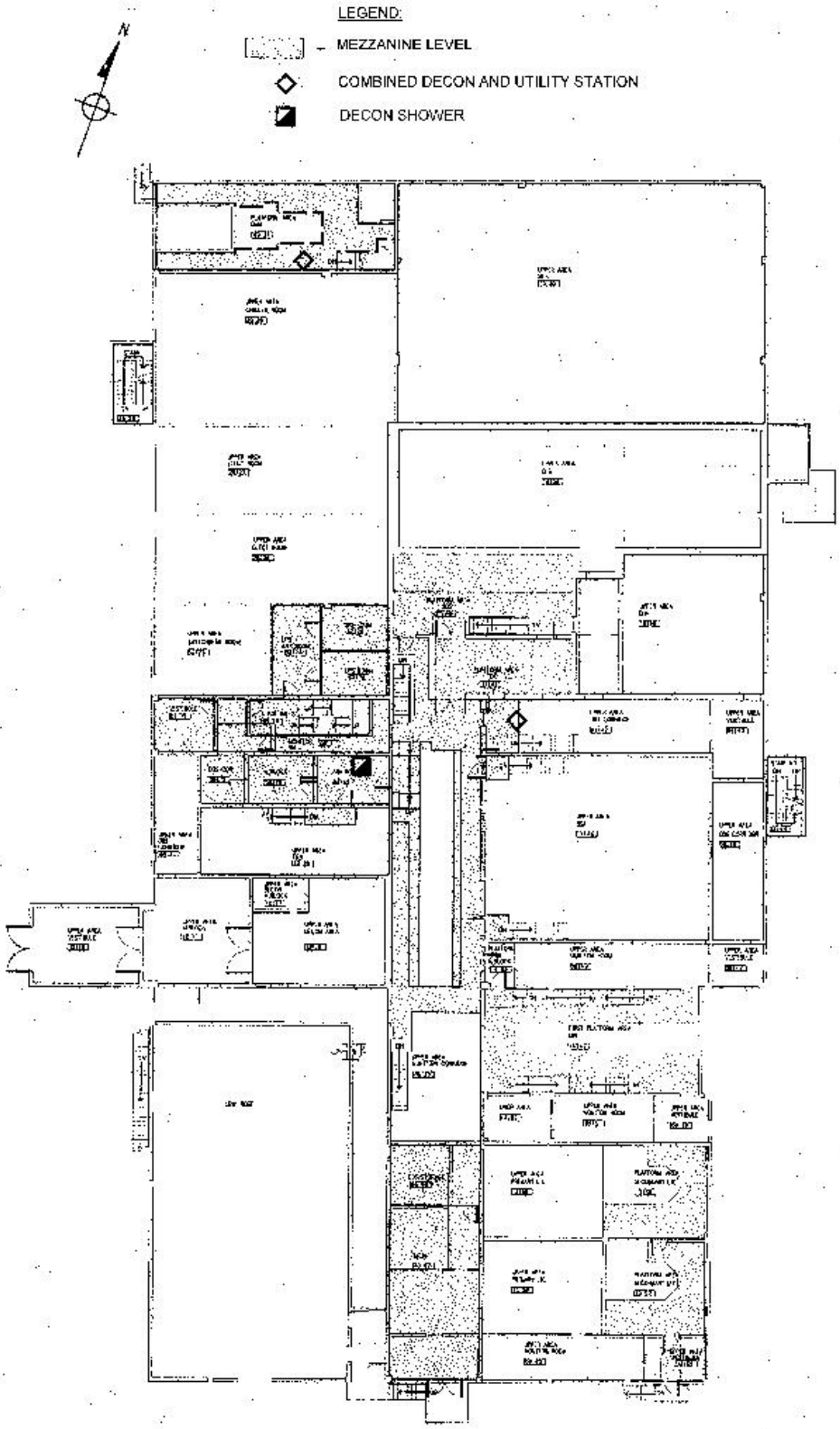


Figure 9-5-2
MDB 1st Floor Mezzanines Eye Wash & Decon Stations

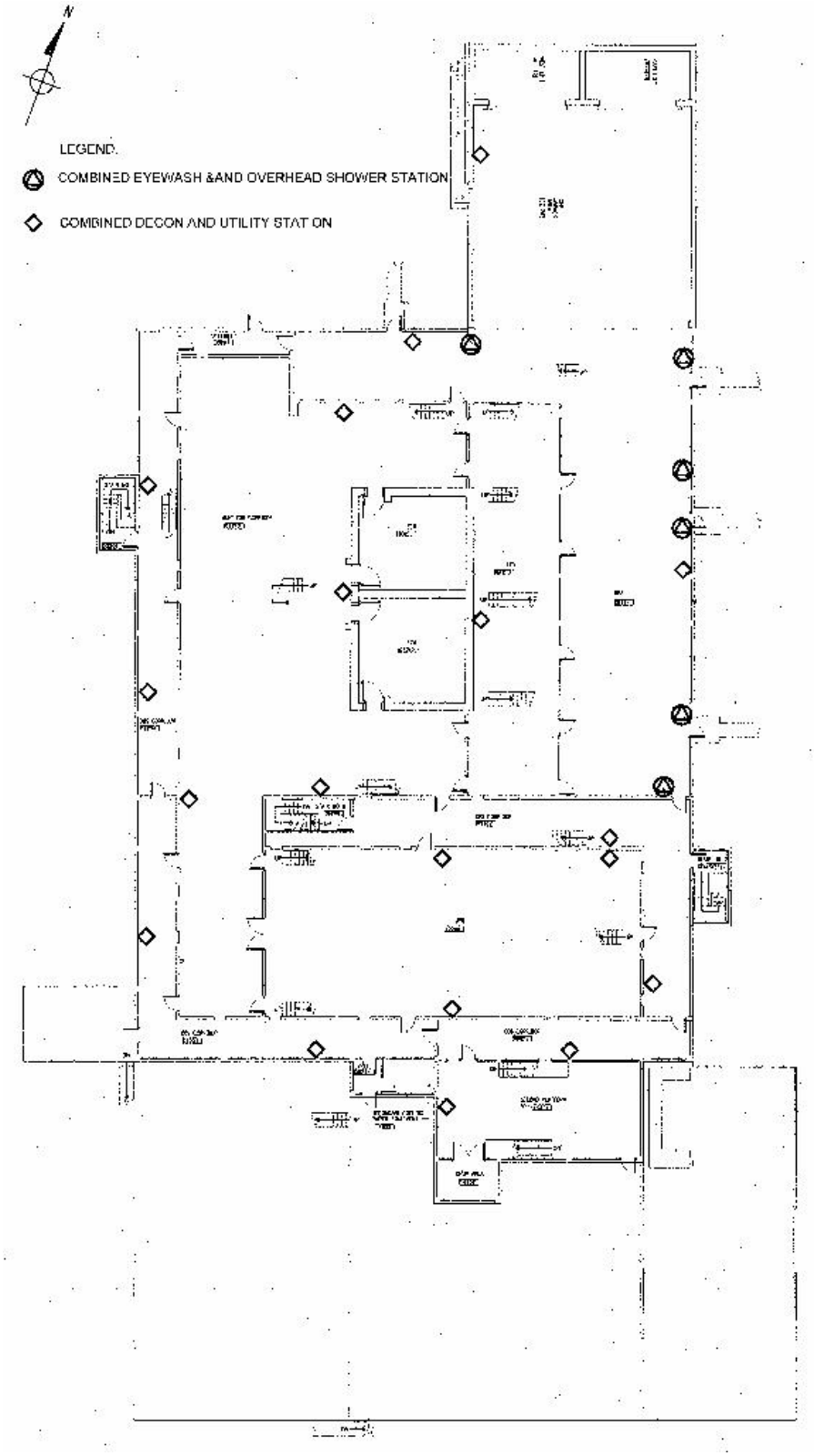


Figure 9-5-3
MDB 2nd Floor Eye Wash & Decon Stations

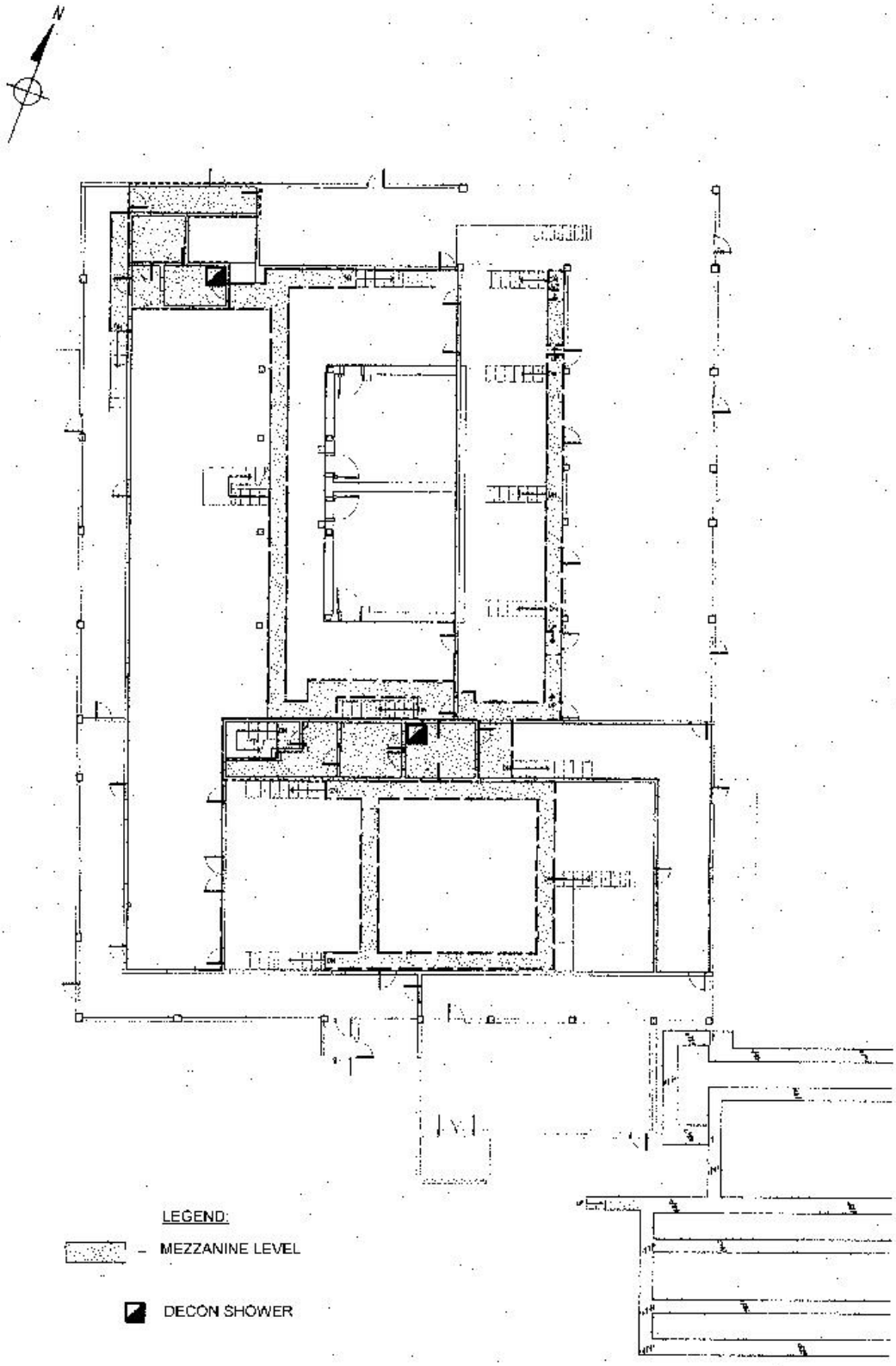


Figure 9-5-4
MDB 2nd Floor Mezzanines Eye Wash and Decon Stations

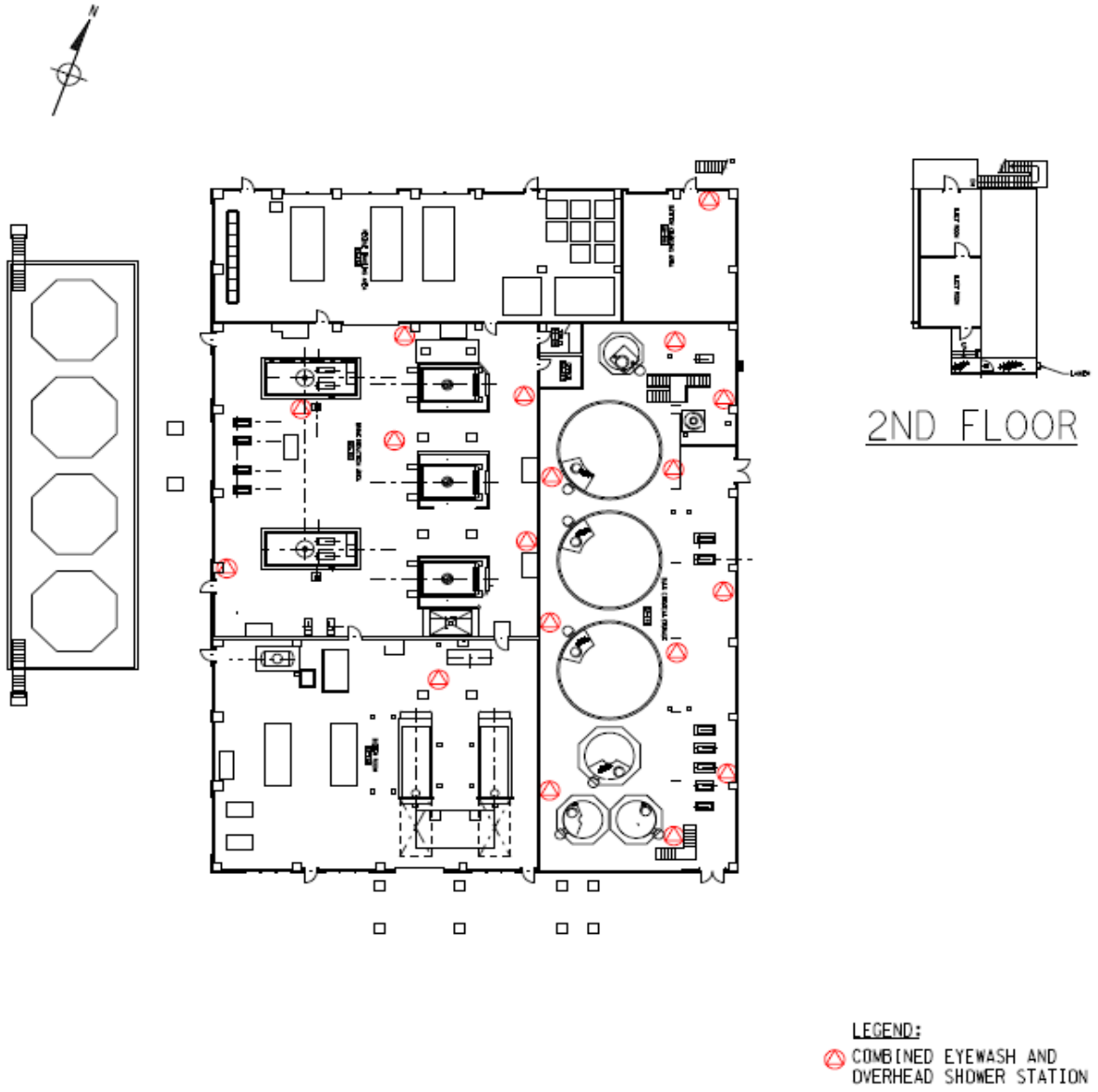


Figure 9-5-5
PUB 1st Floor Eye Wash Stations

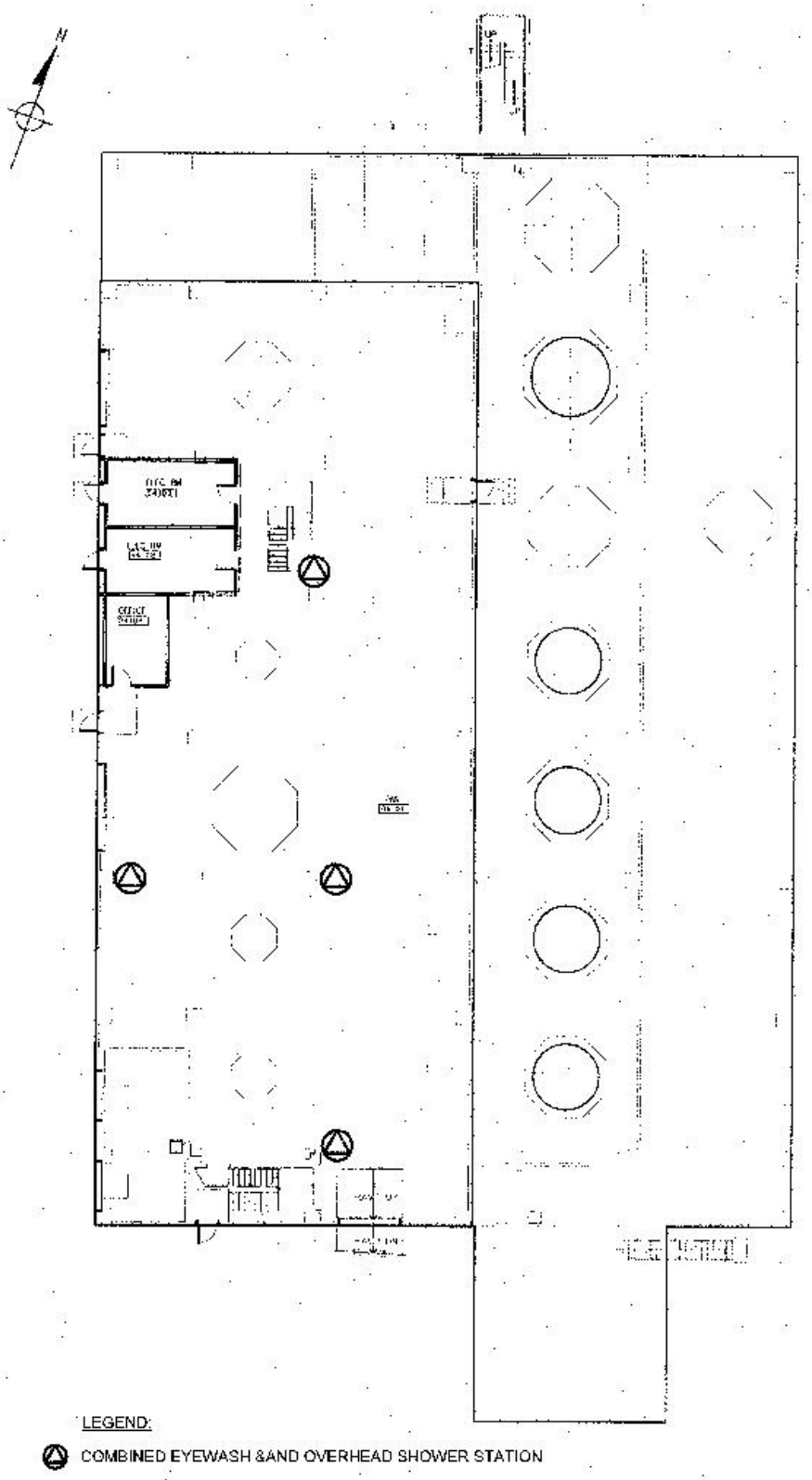


Figure 9-5-6
PAS 100 FT Level (Ground Floor) Eye Wash Stations

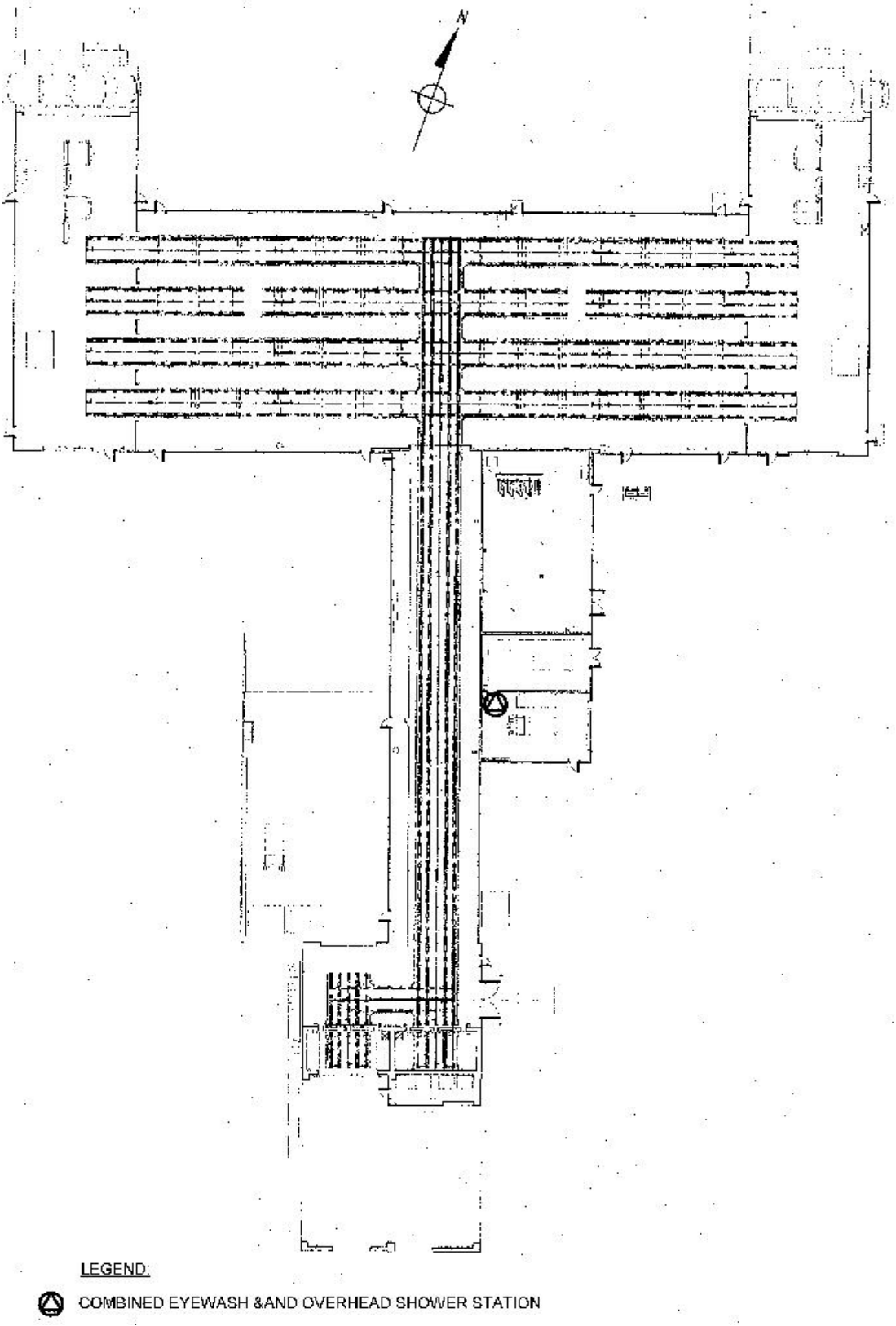


Figure 9-5-7
CHB 1st Floor Eye Wash Stations

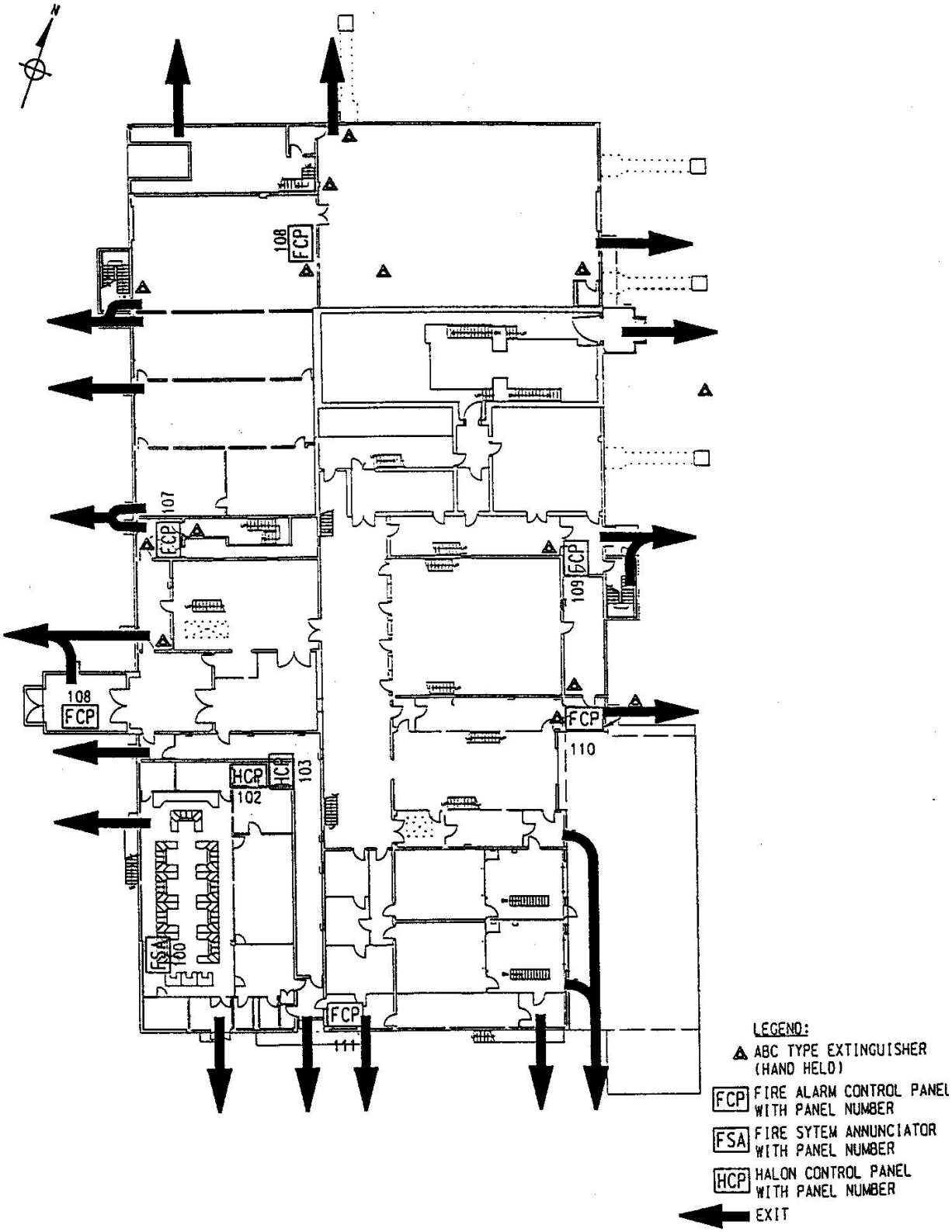


Figure 9-7-1
MDB 1st Floor

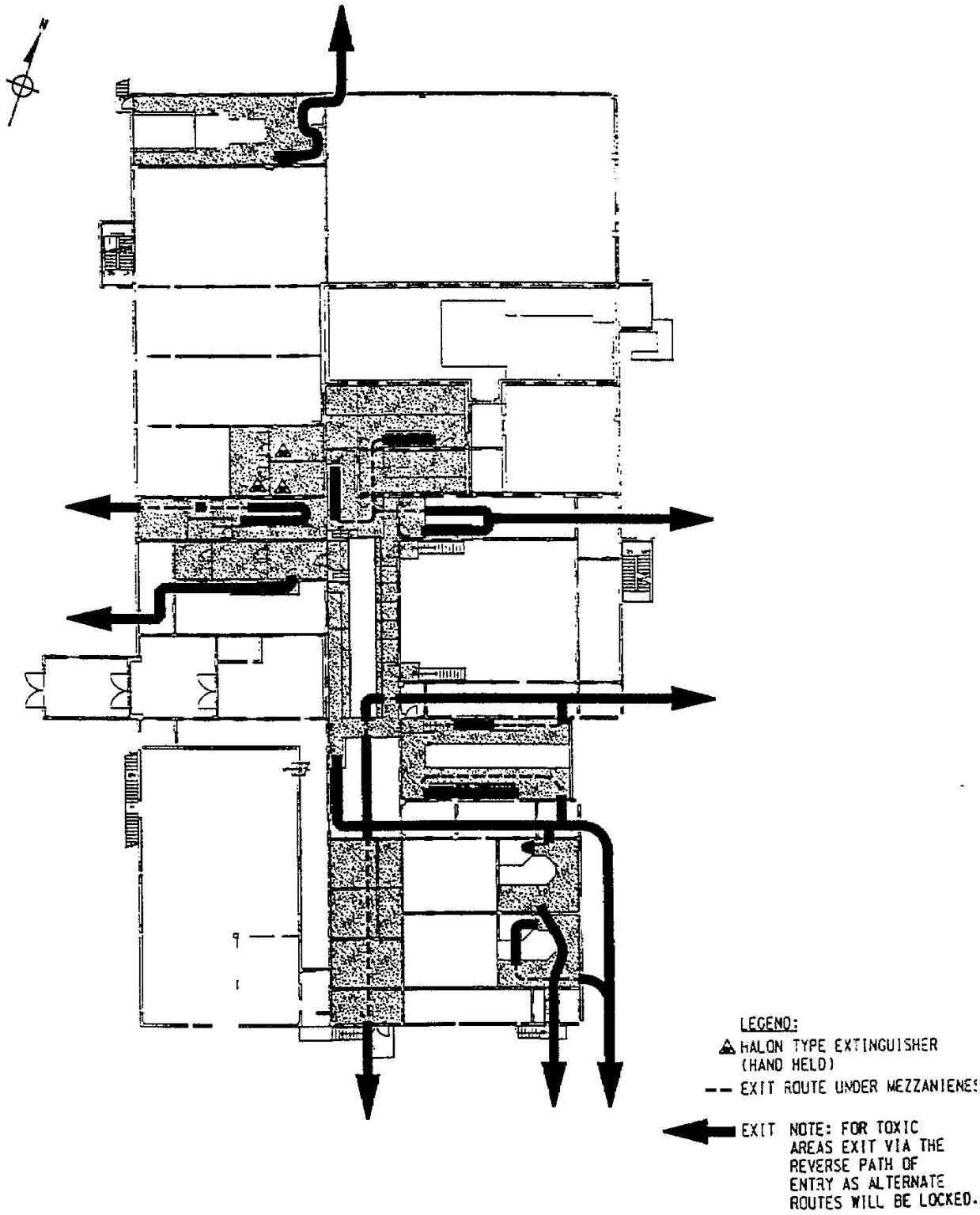


Figure 9-7-2
MDB 1st Floor Mezzanines

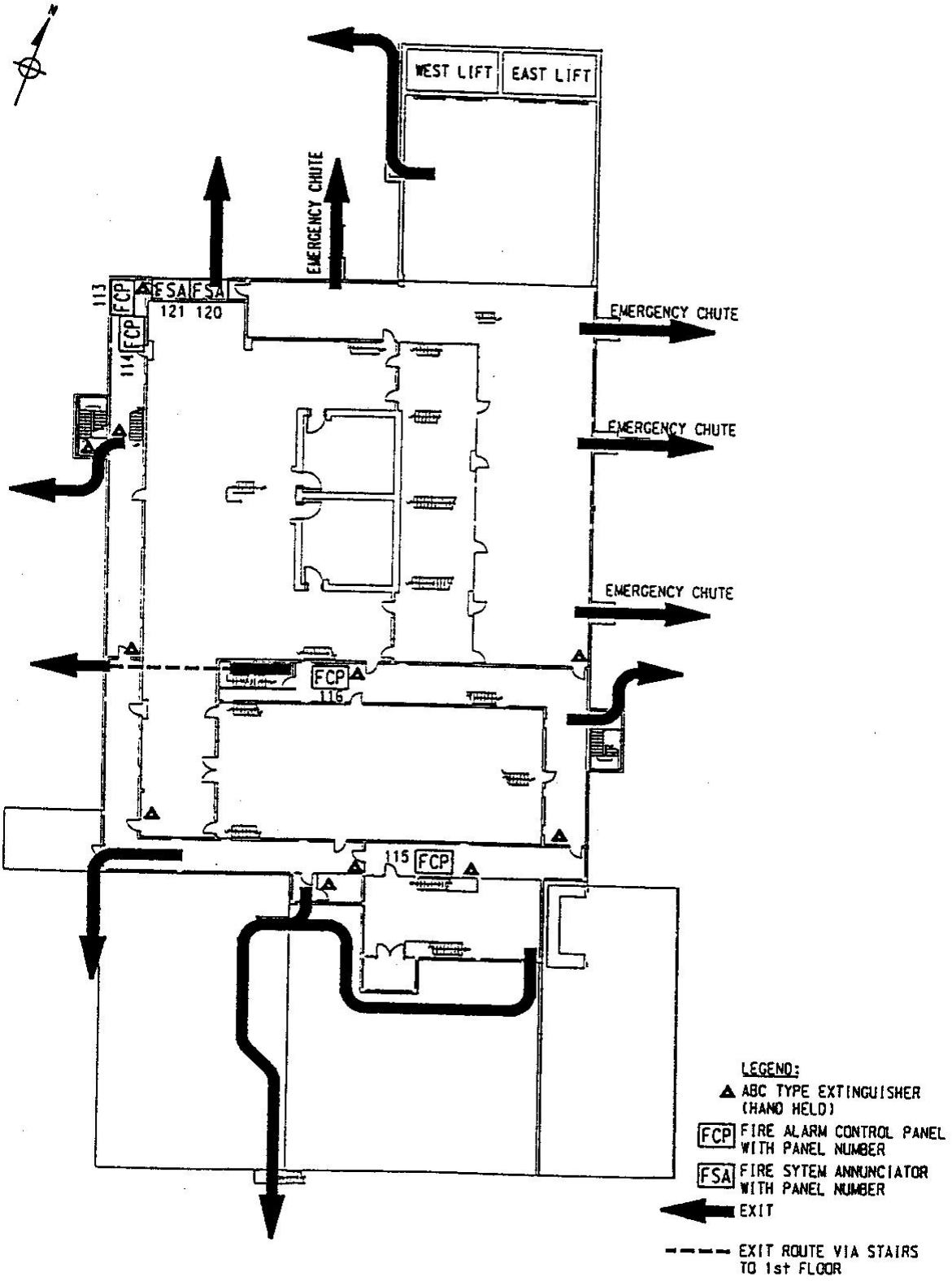


Figure 9-7-3
MDB 2nd Floor

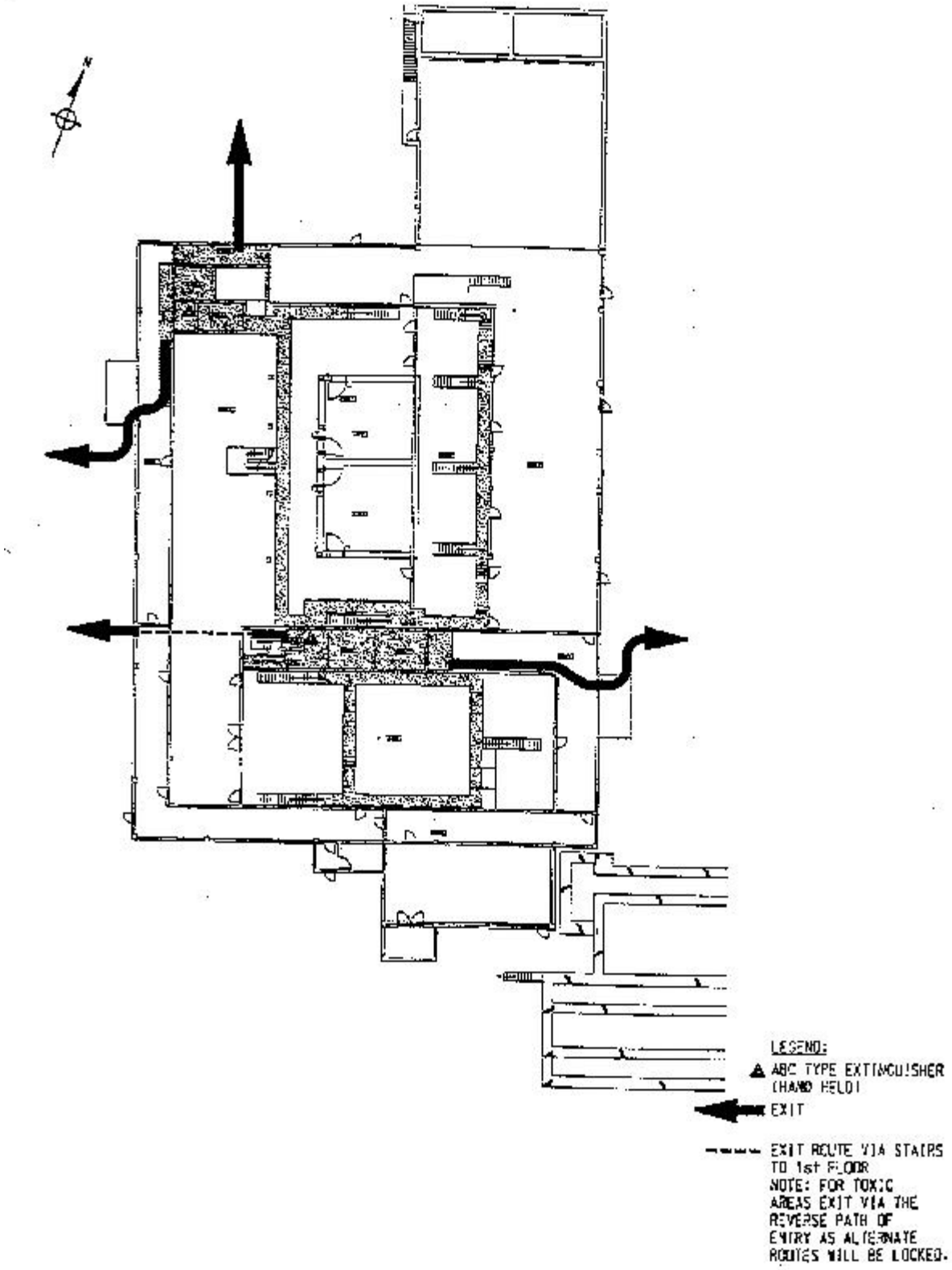


Figure 9-7-4
MDB 2nd Floor Mezzanines

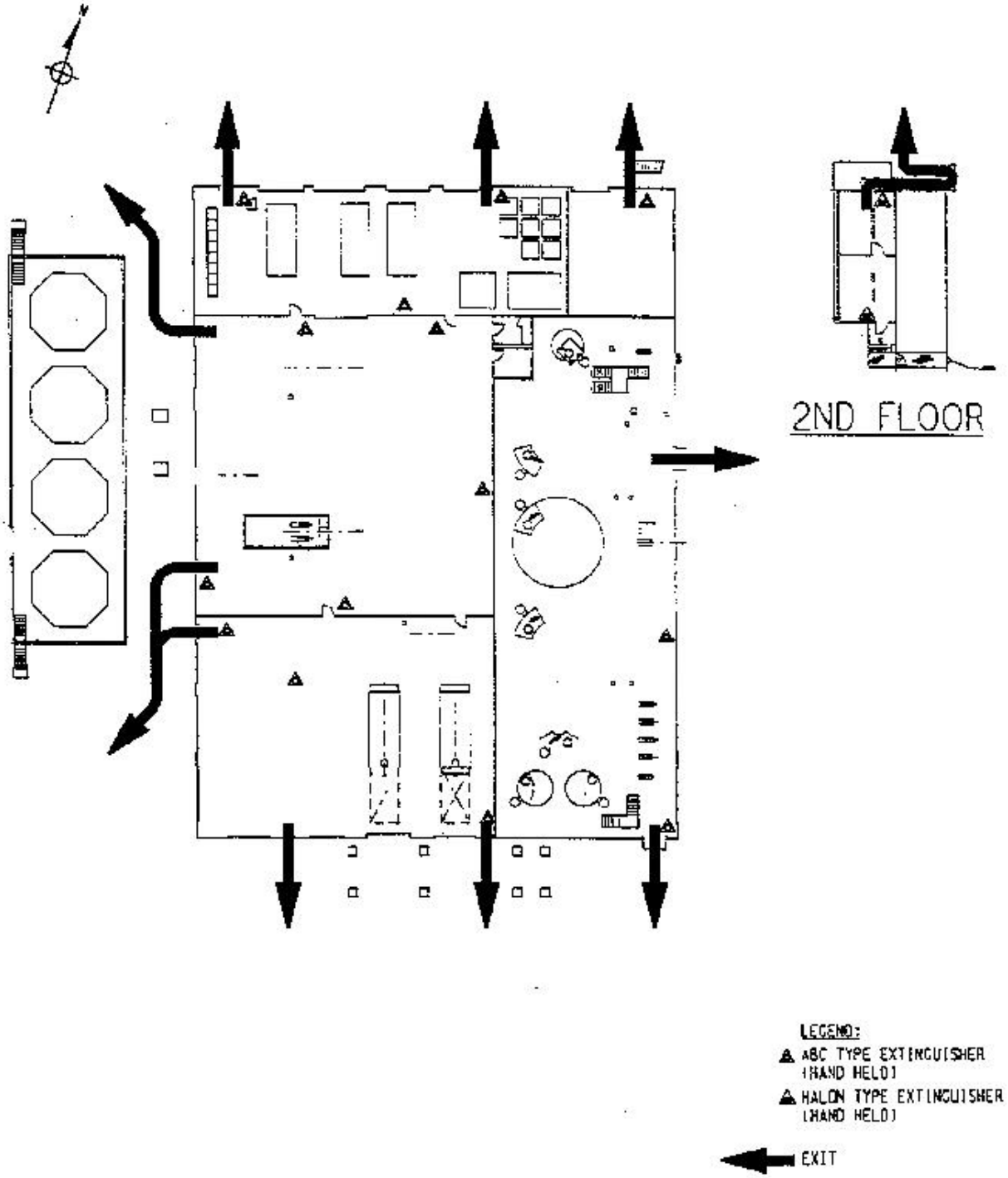


Figure 9-7-5
PUB 1st Floor

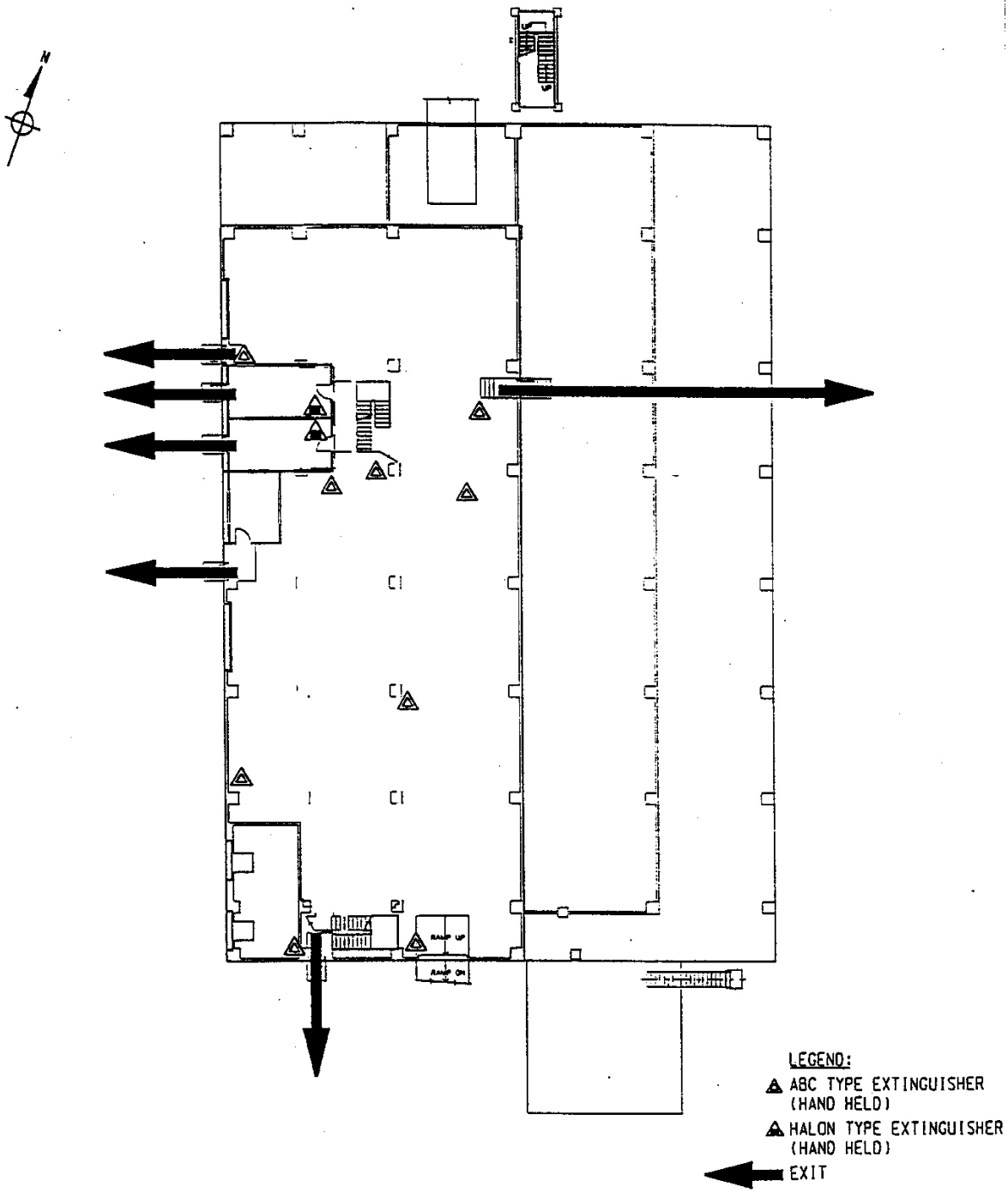


Figure 9-7-6
PAS 100 Ft Level (Ground Floor)

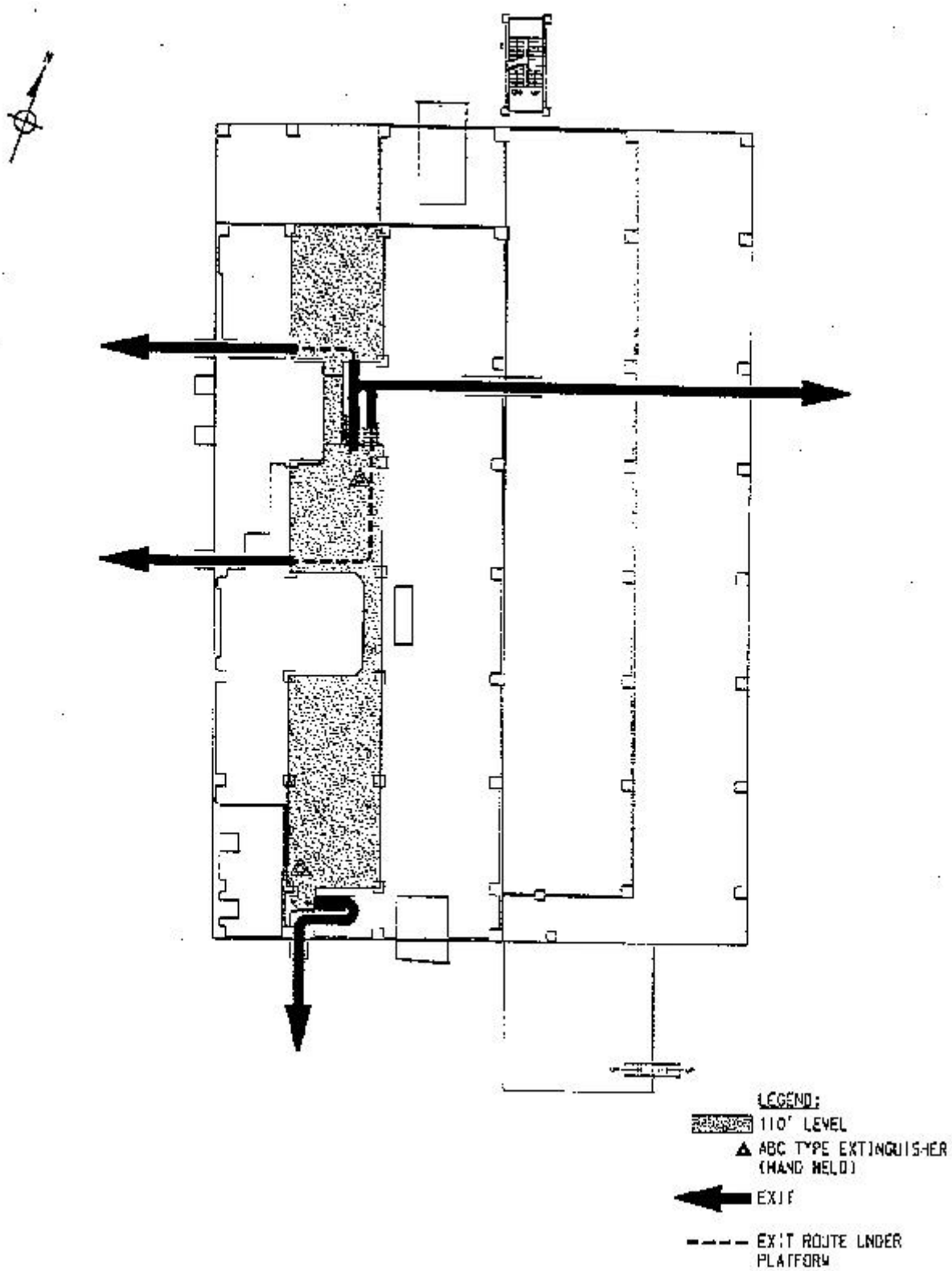


Figure 9-7-7
PAS 16 Ft Level

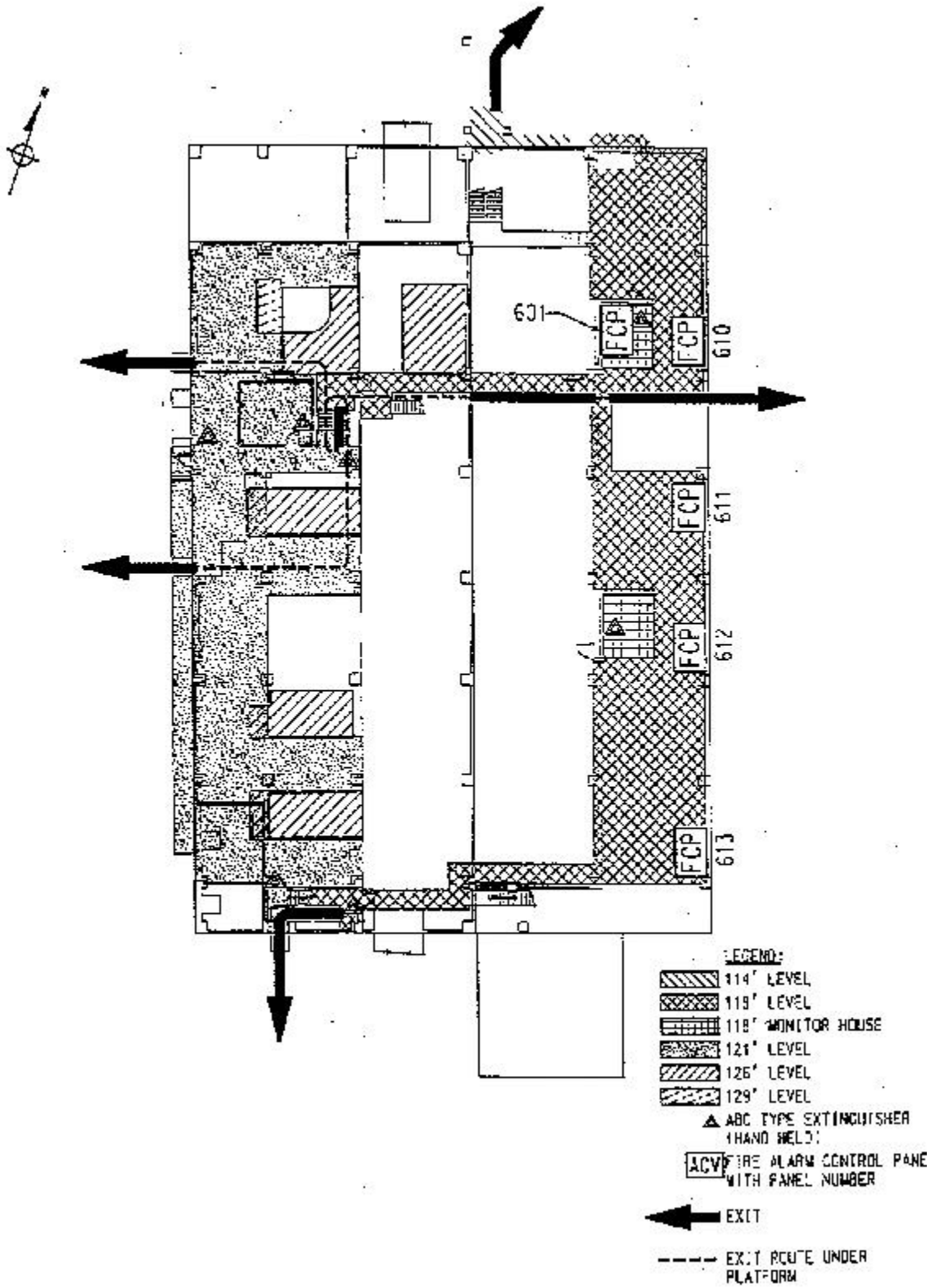


Figure 9-7-8
PAS 114-129 Ft Levels

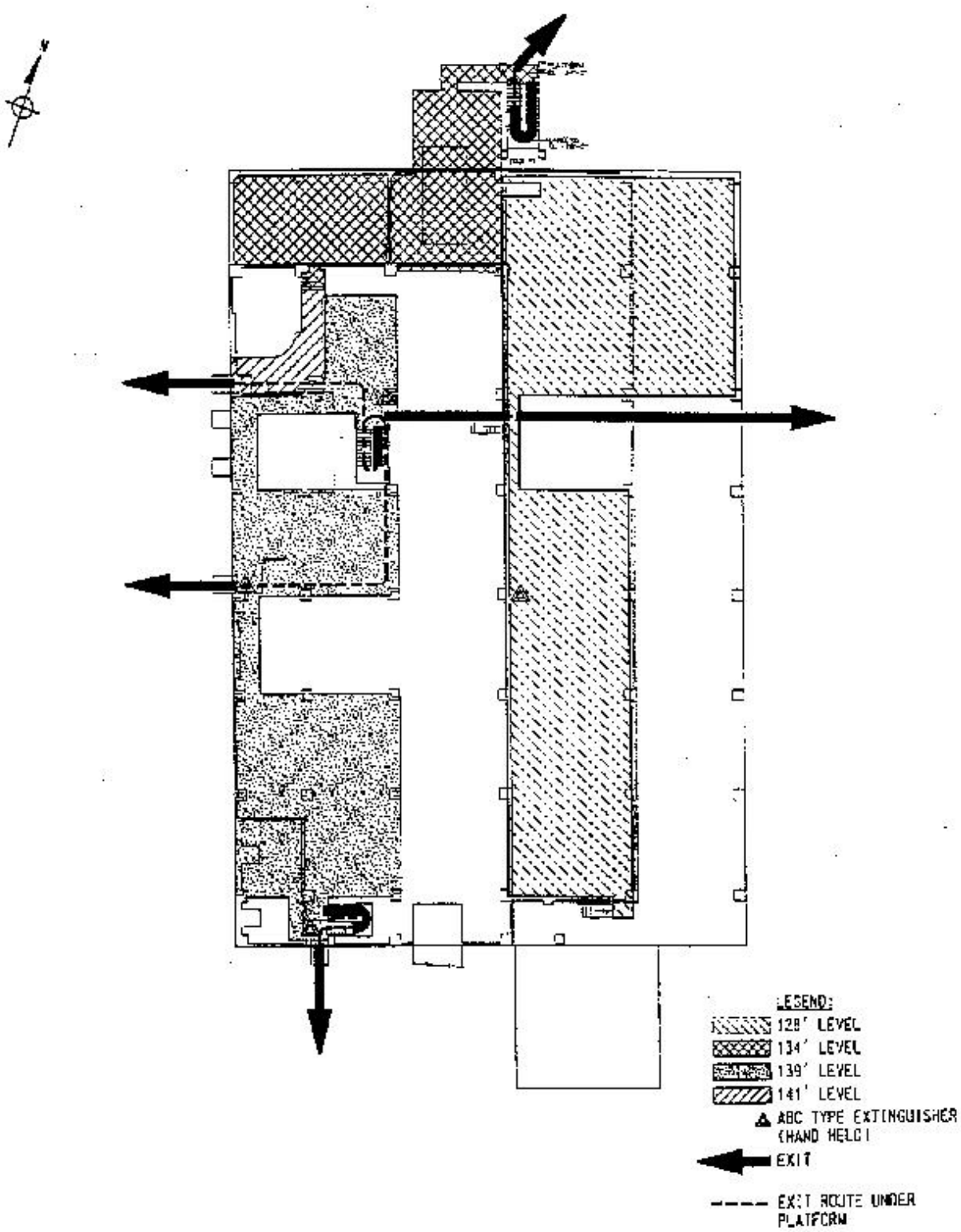


Figure 9-7-9
PAS 128-141 Ft Levels

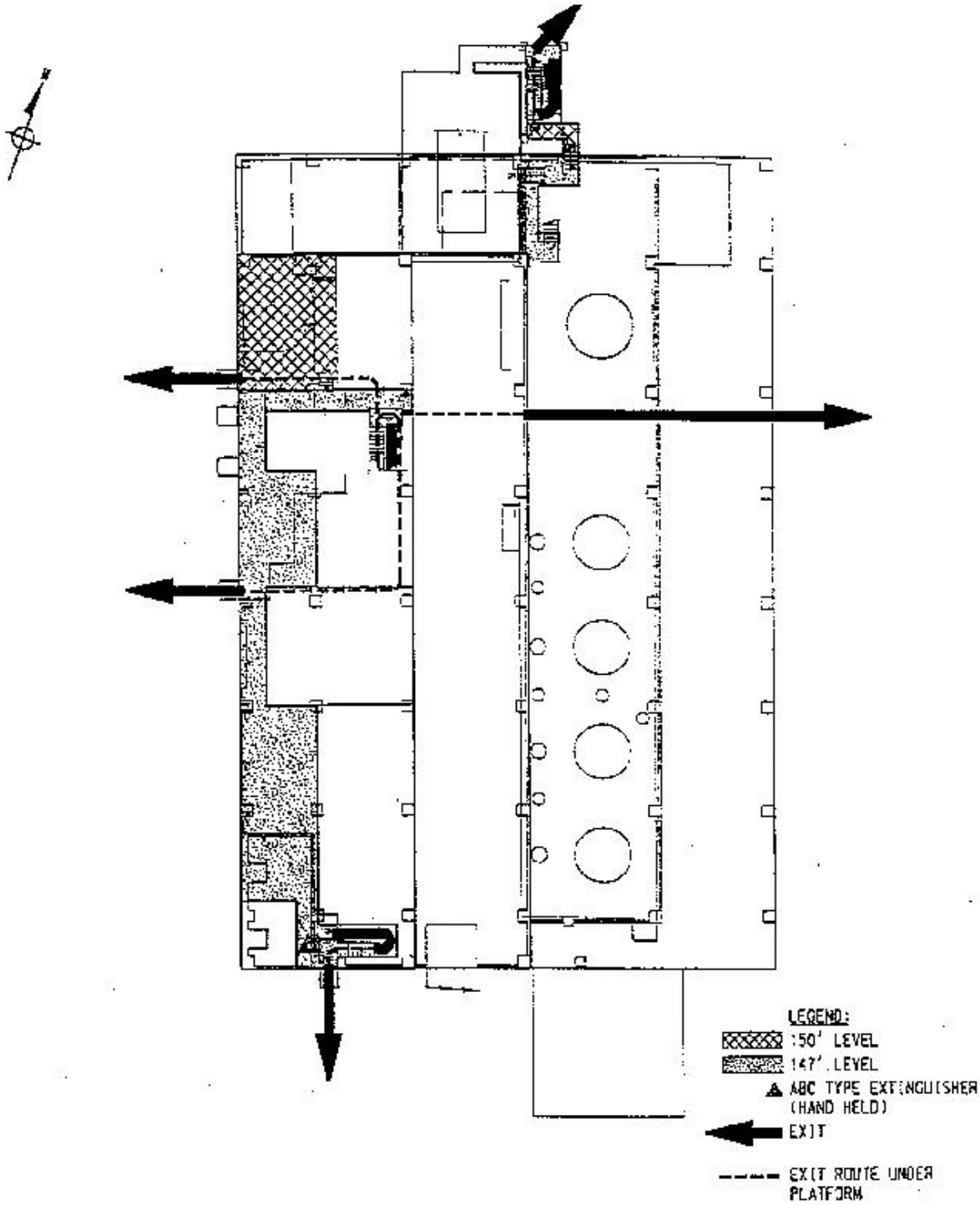


Figure 9-7-10
PAS 147-150 Ft Levels

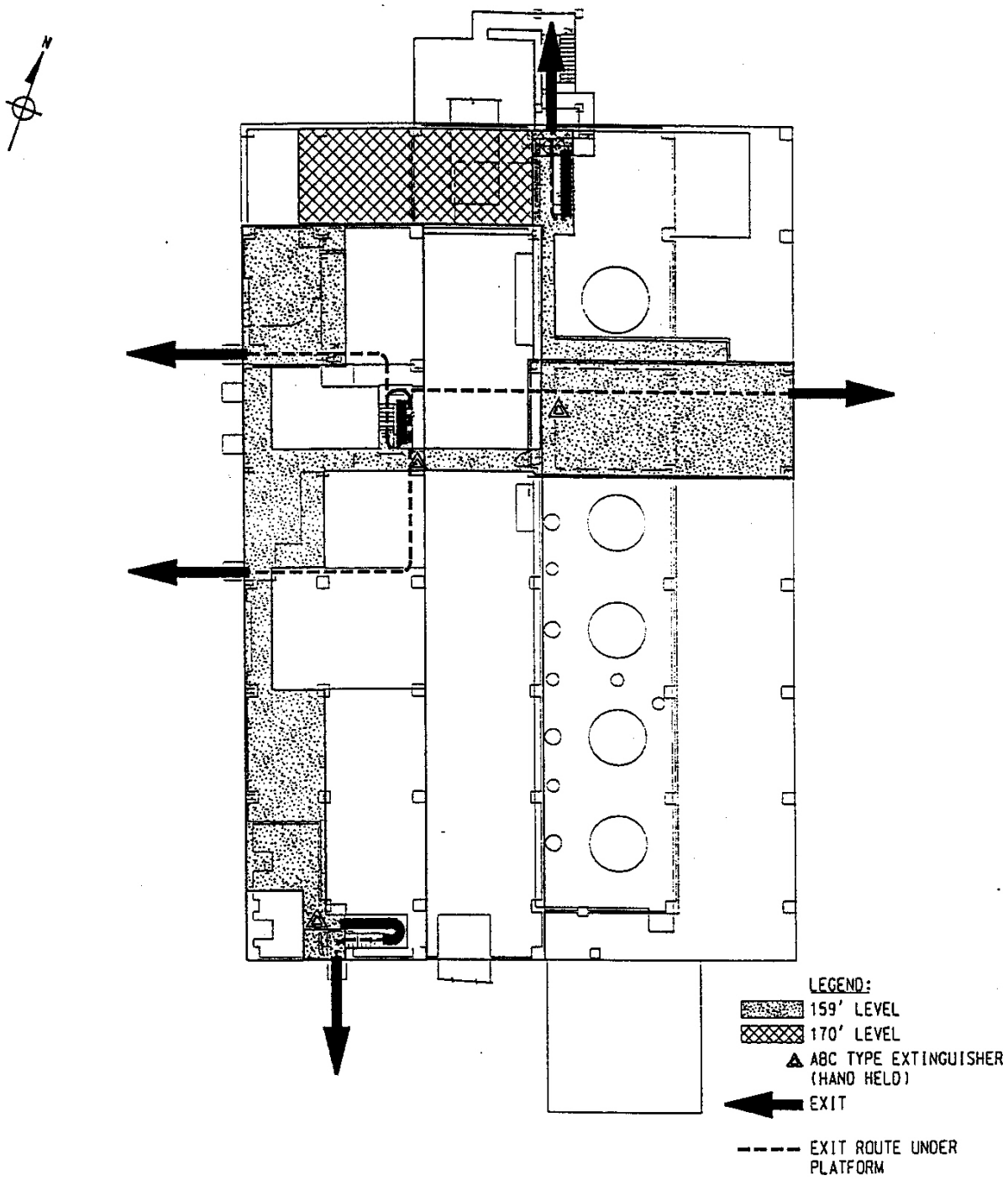


Figure 9-7-11
PAS 159-170 Ft Levels

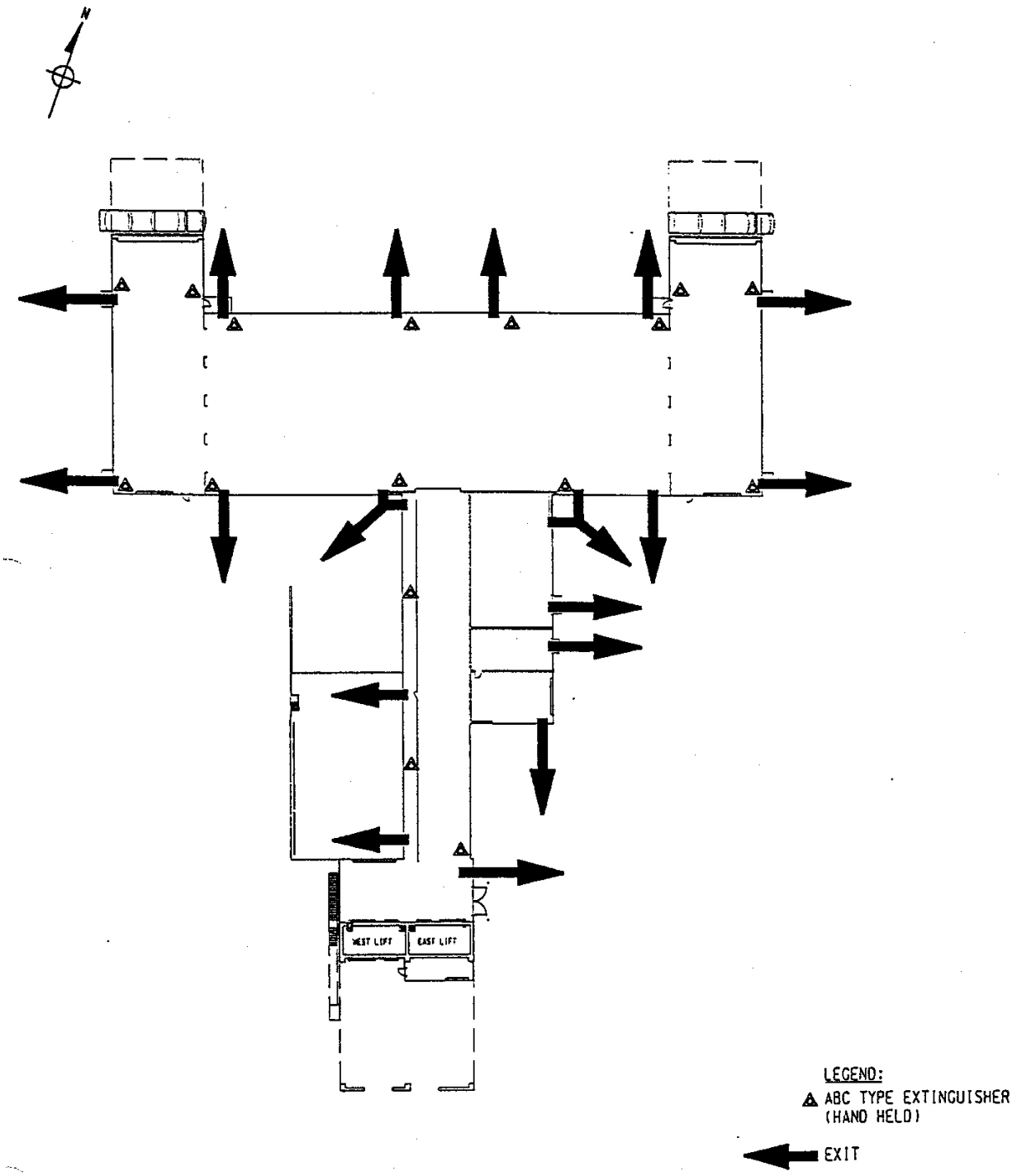


Figure 9-7-12
CHB

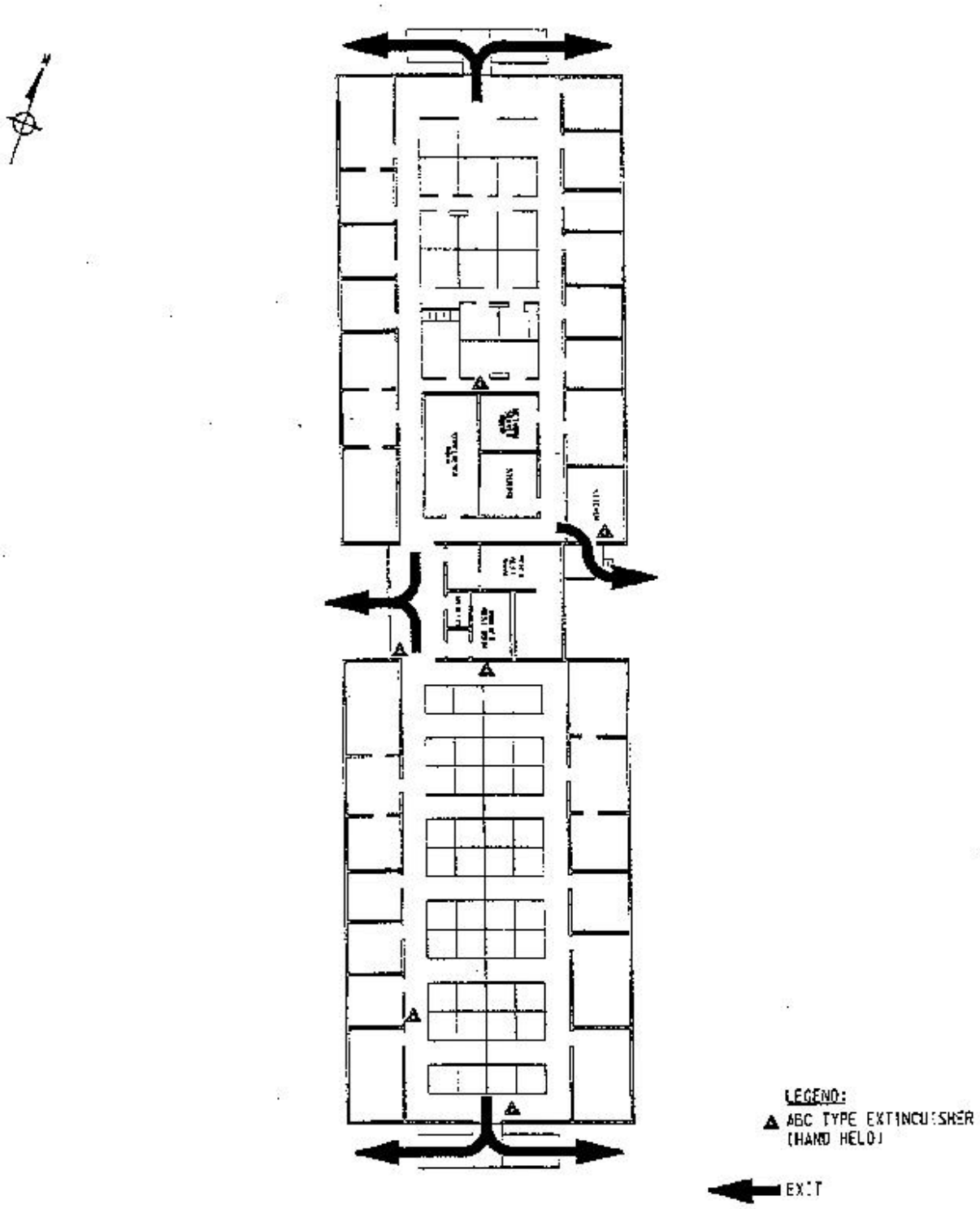


Figure 9-7-13
PSB

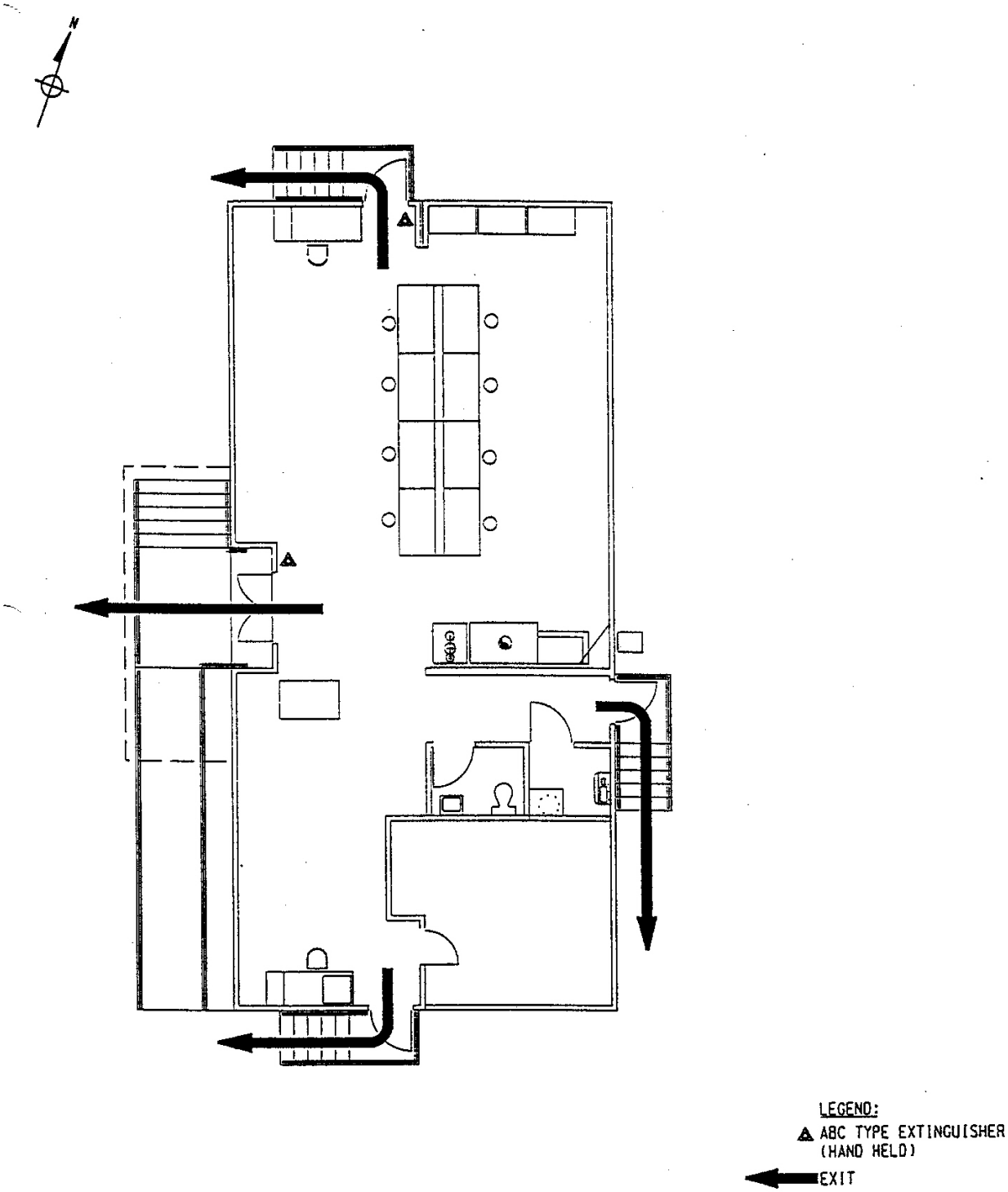


Figure 9-7-14
MSB Plan

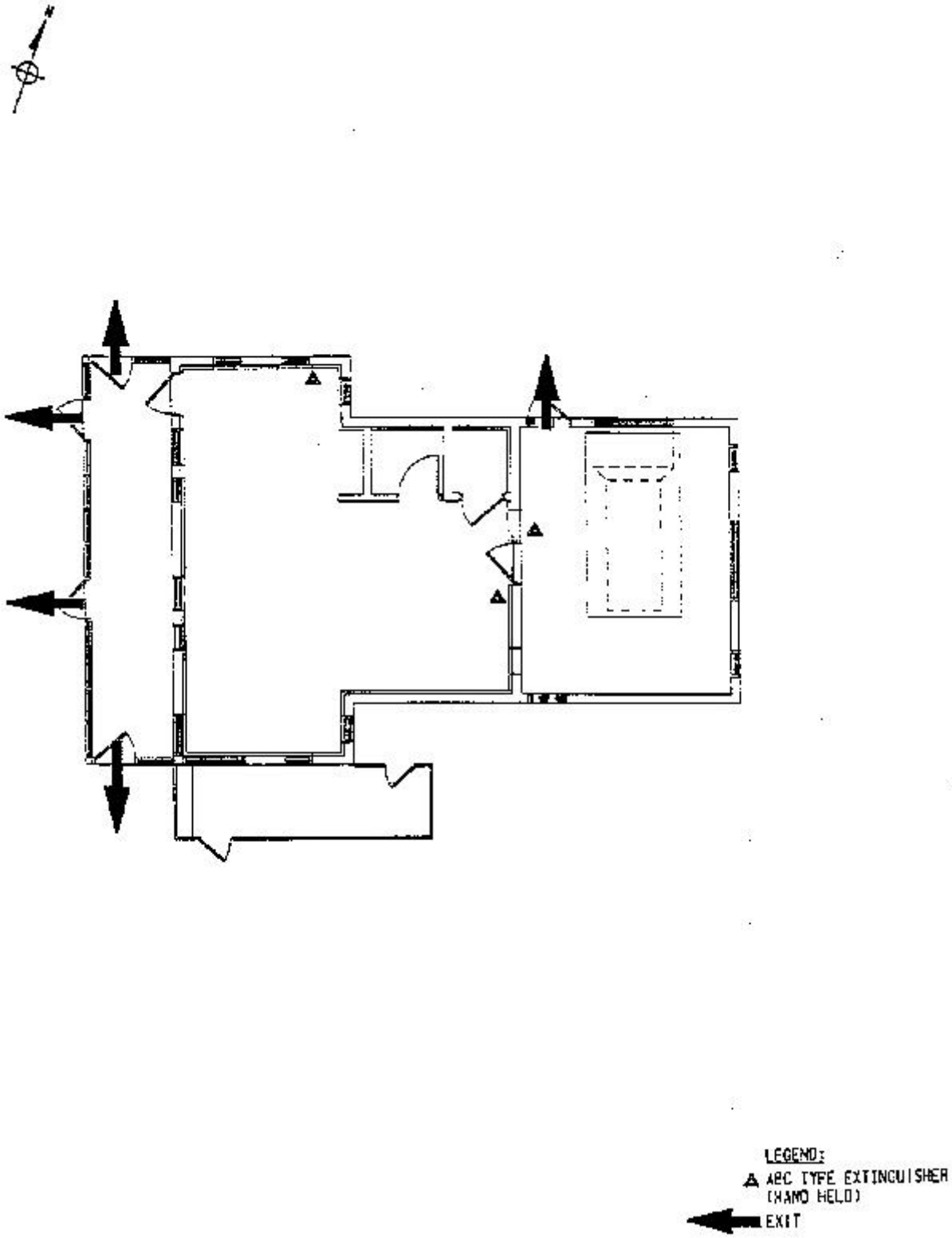


Figure 9-7-15
ECF Plan

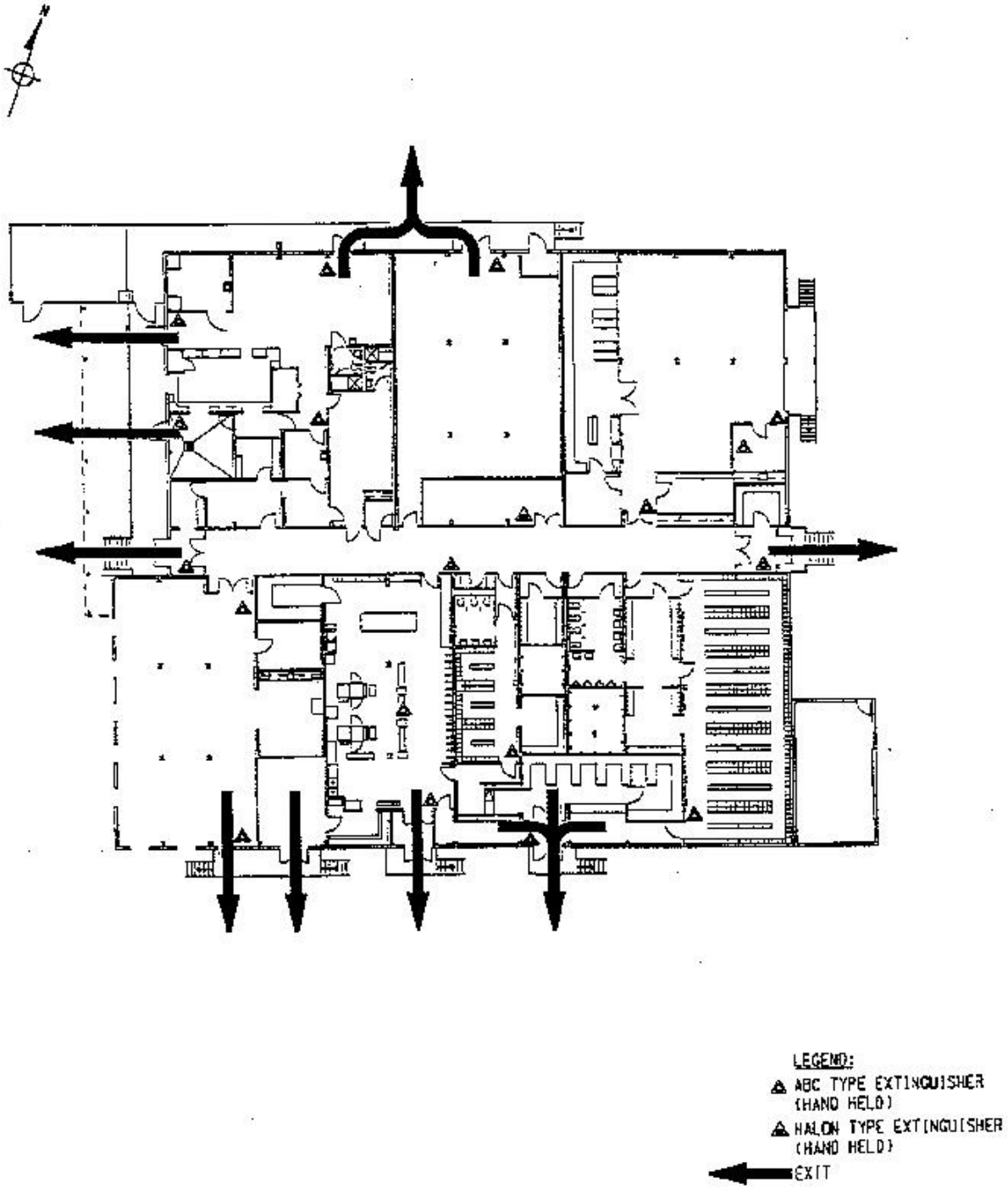


Figure 9-7-16
PMB Plan

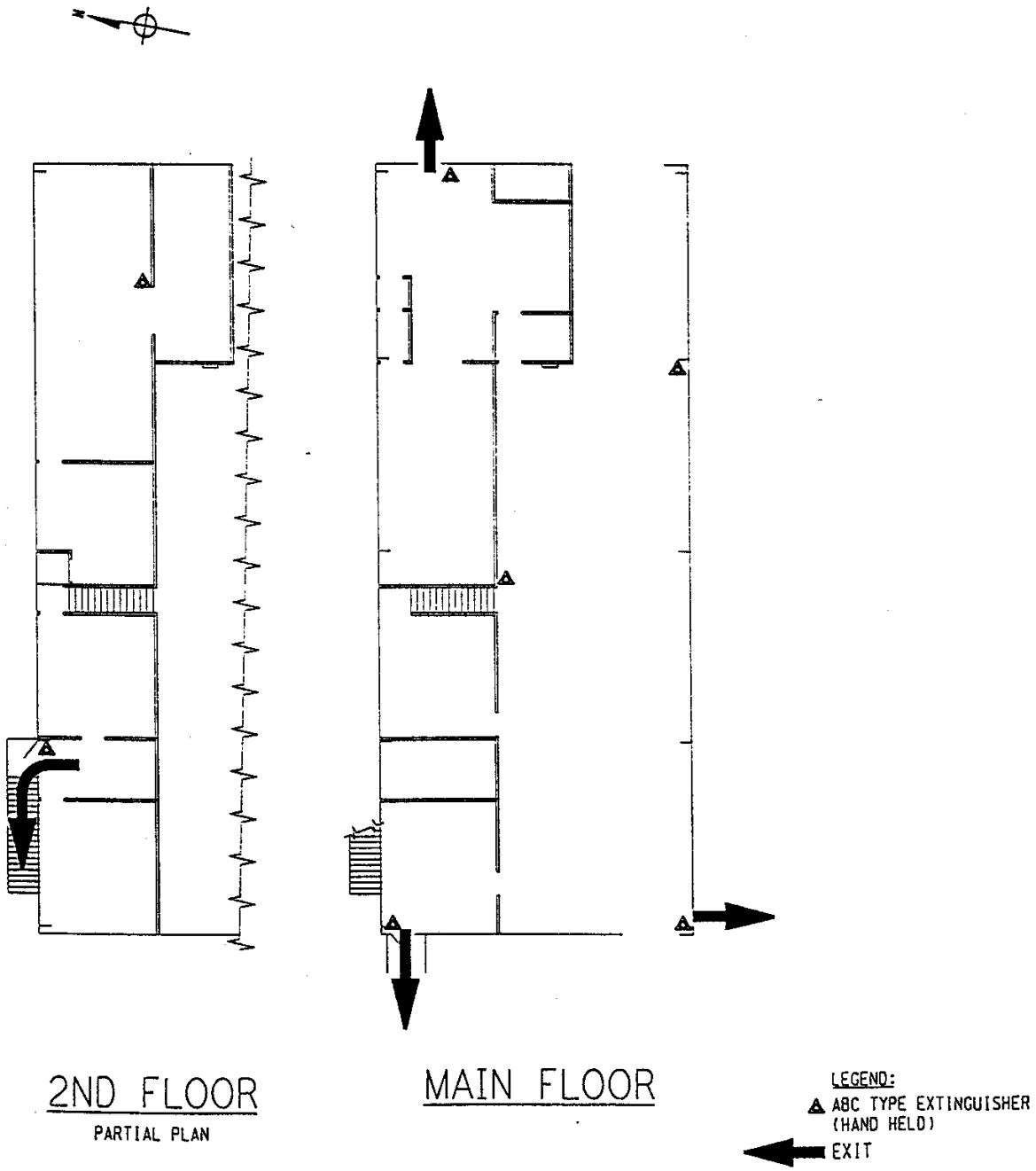


Figure 9-7-17
S-1 Plan

Figure 9-7-18
S-2 Plan

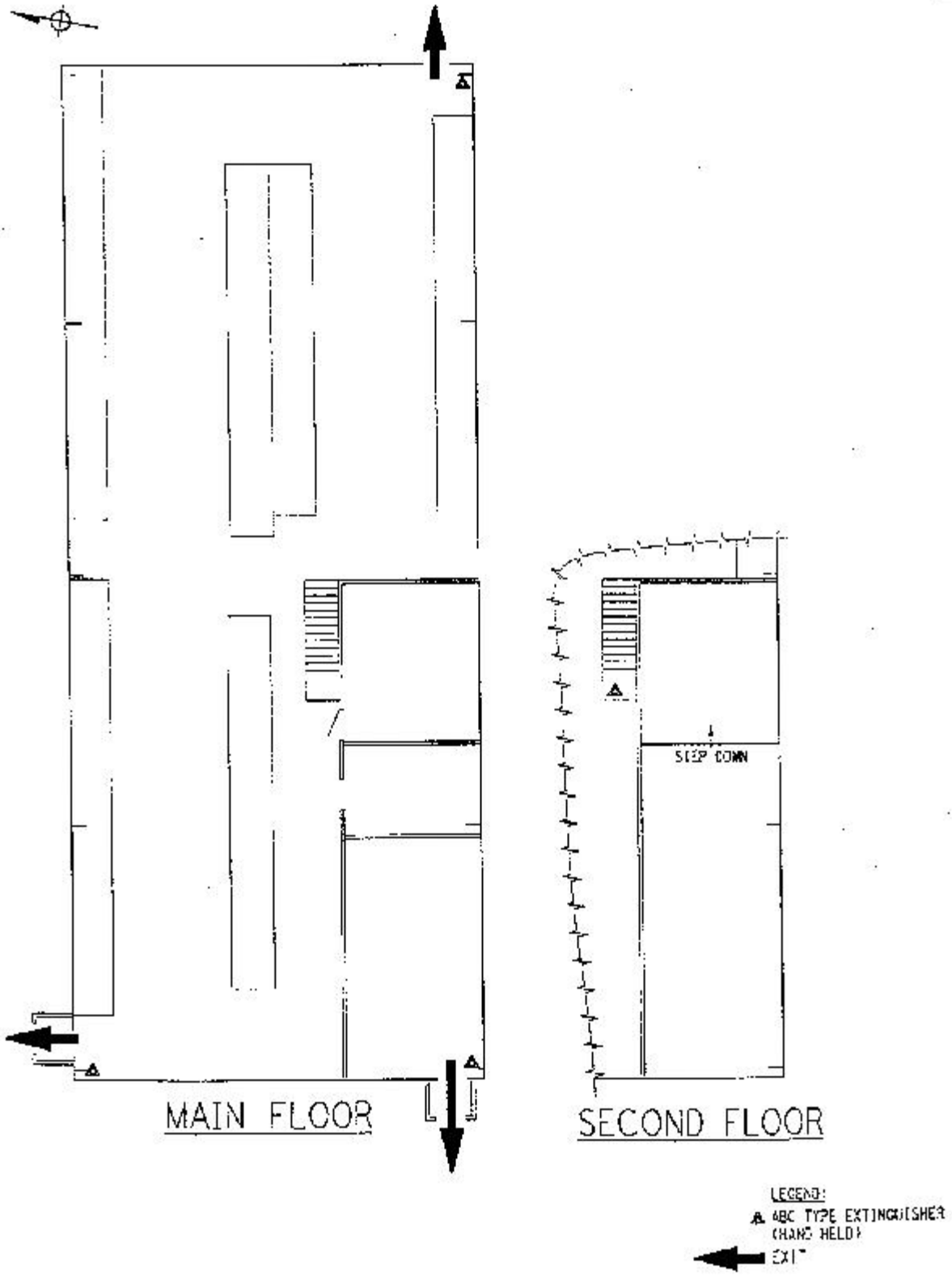


Figure 9-7-19
S-3 Plan

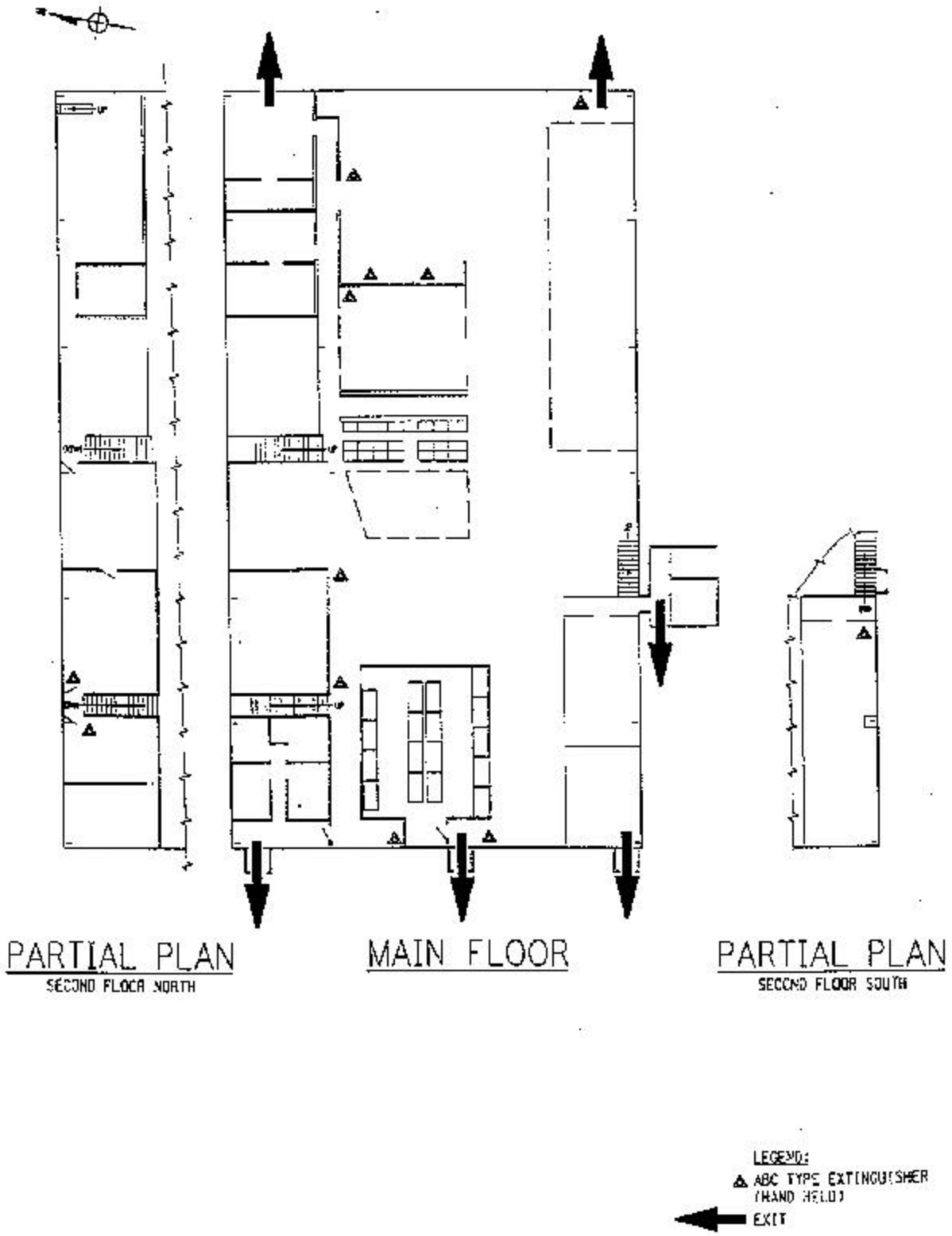


Figure 9-7-20
S-4 Plan

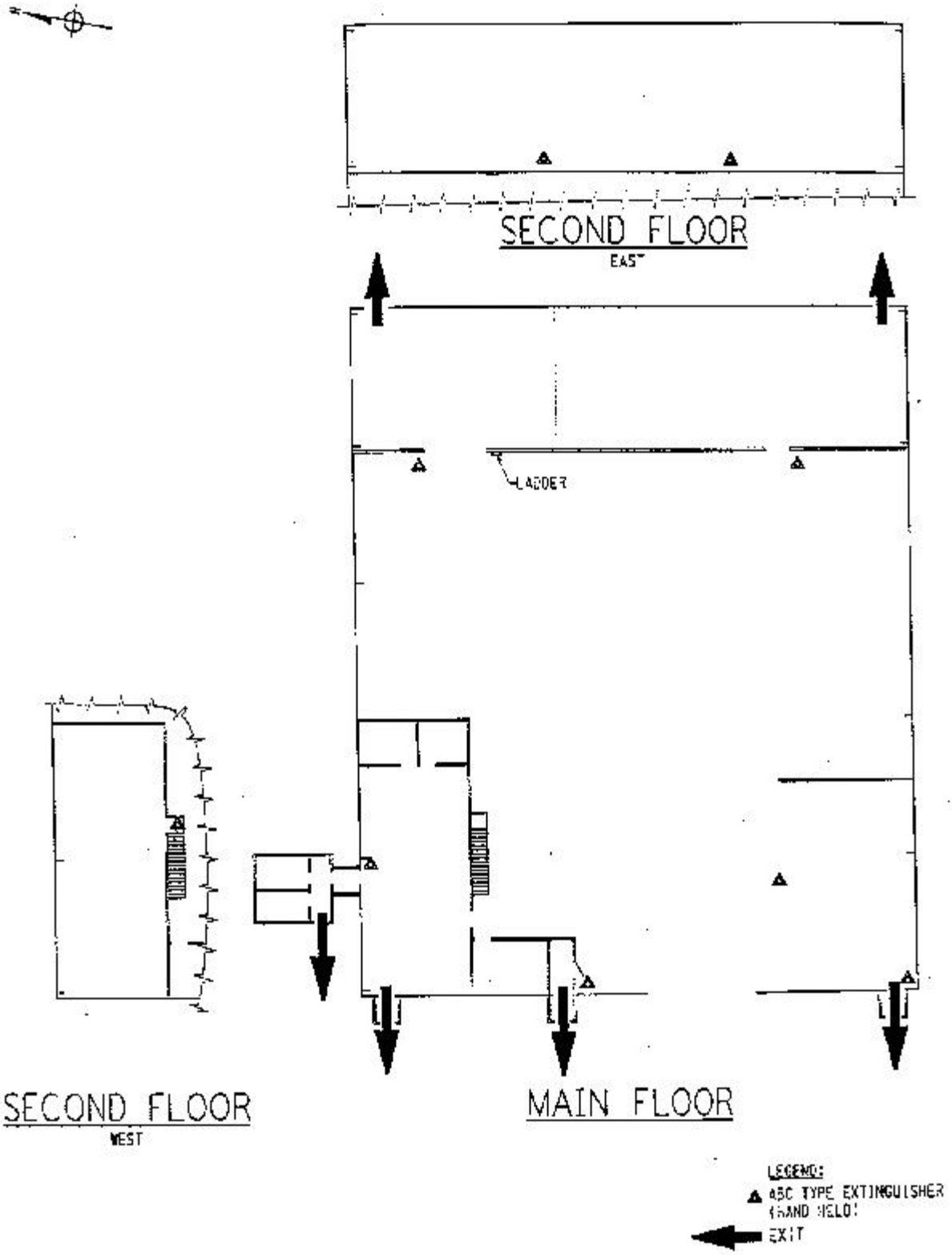


Figure 9-7-21
S-5 Plan

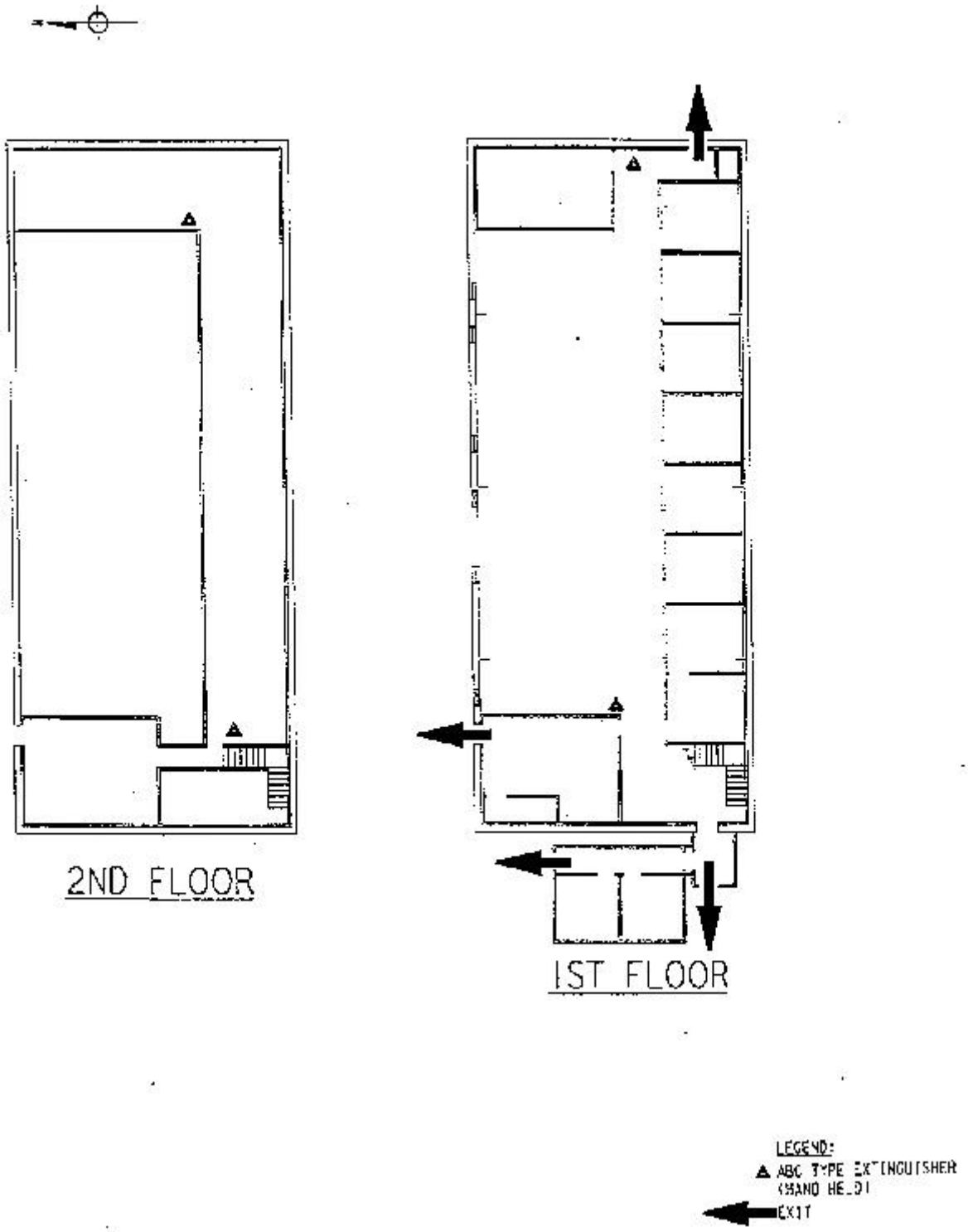


Figure 9-7-22
S-6 Plan

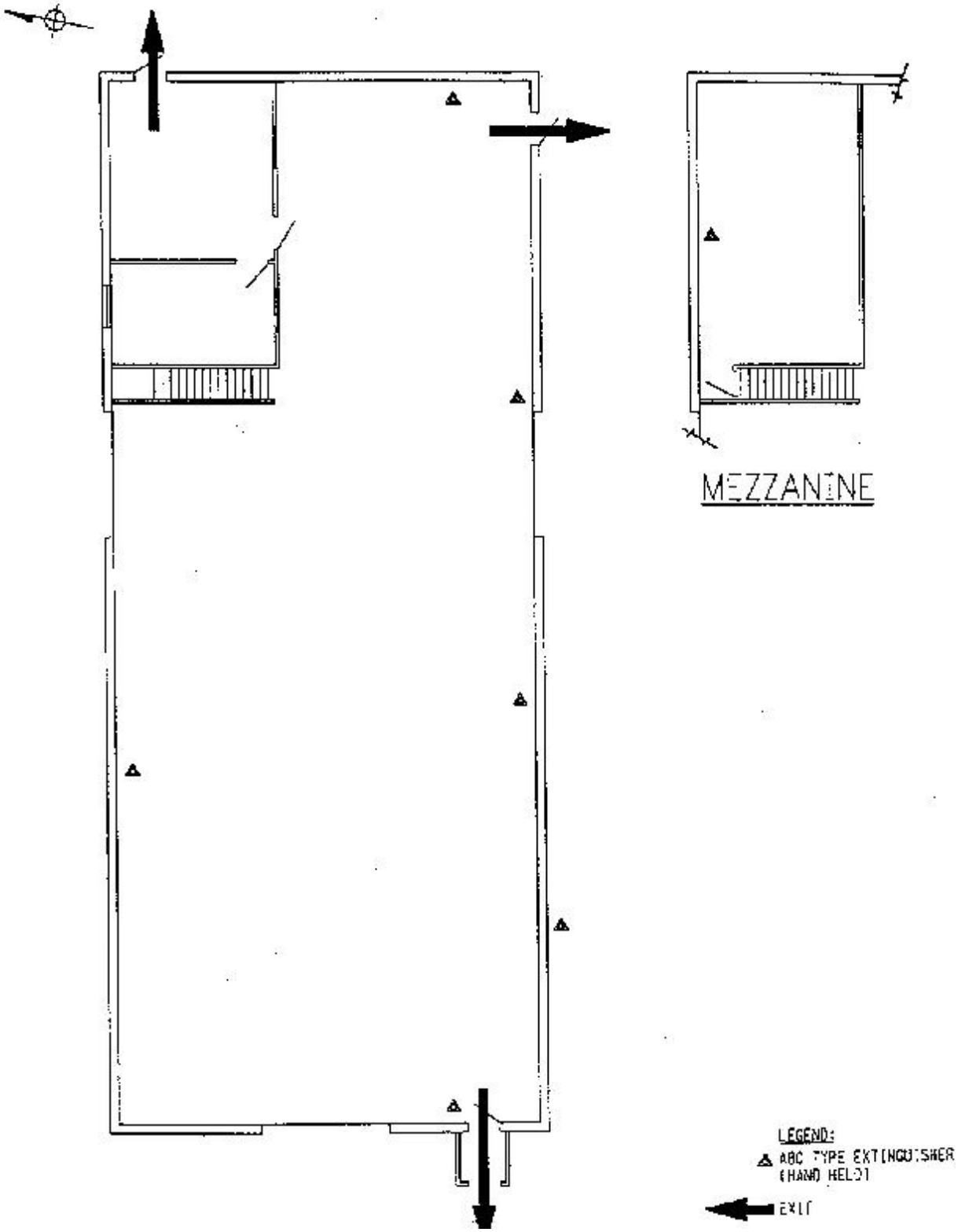


Figure 9-7-23
S-7

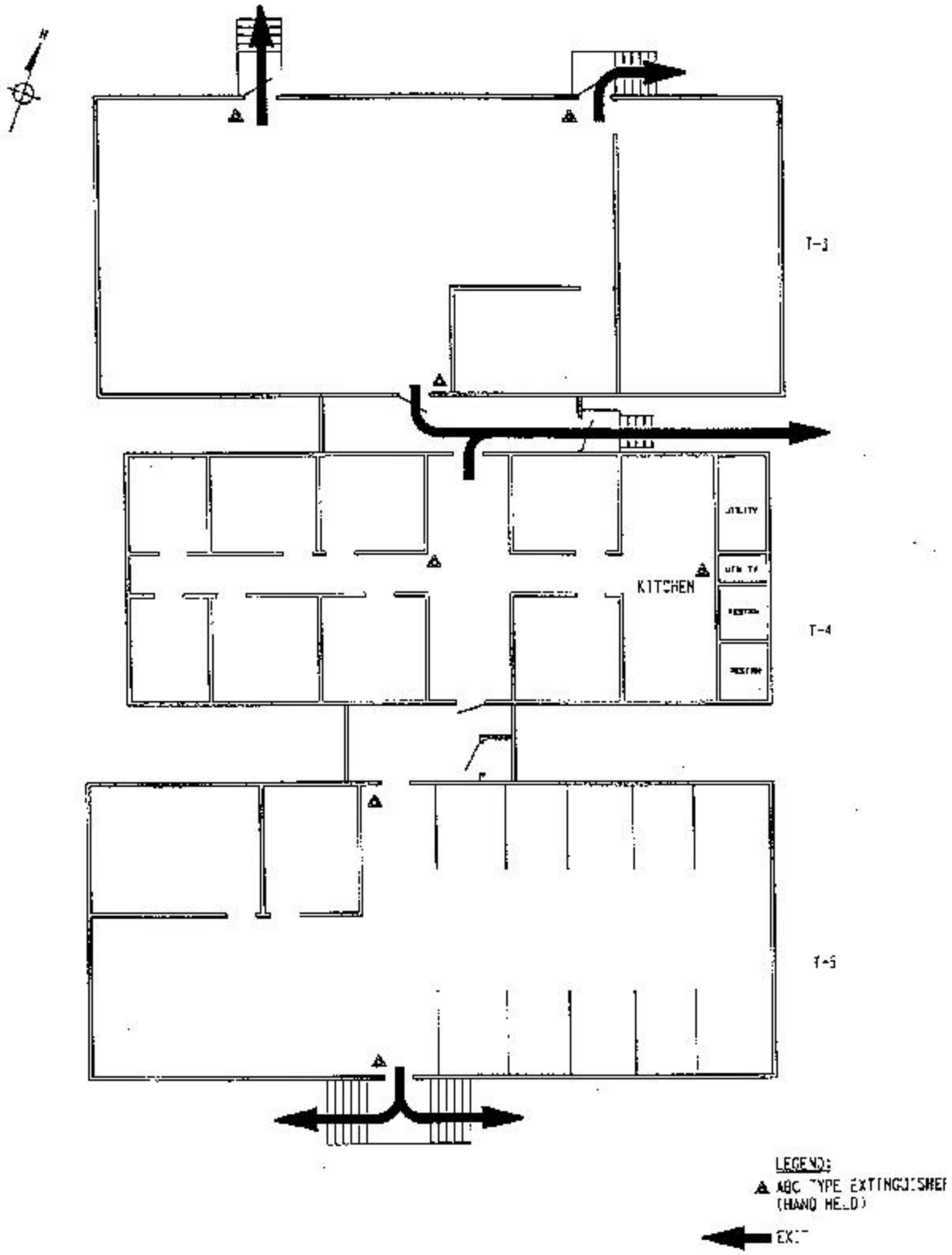


Figure 9-7-24
Quality/Environmental

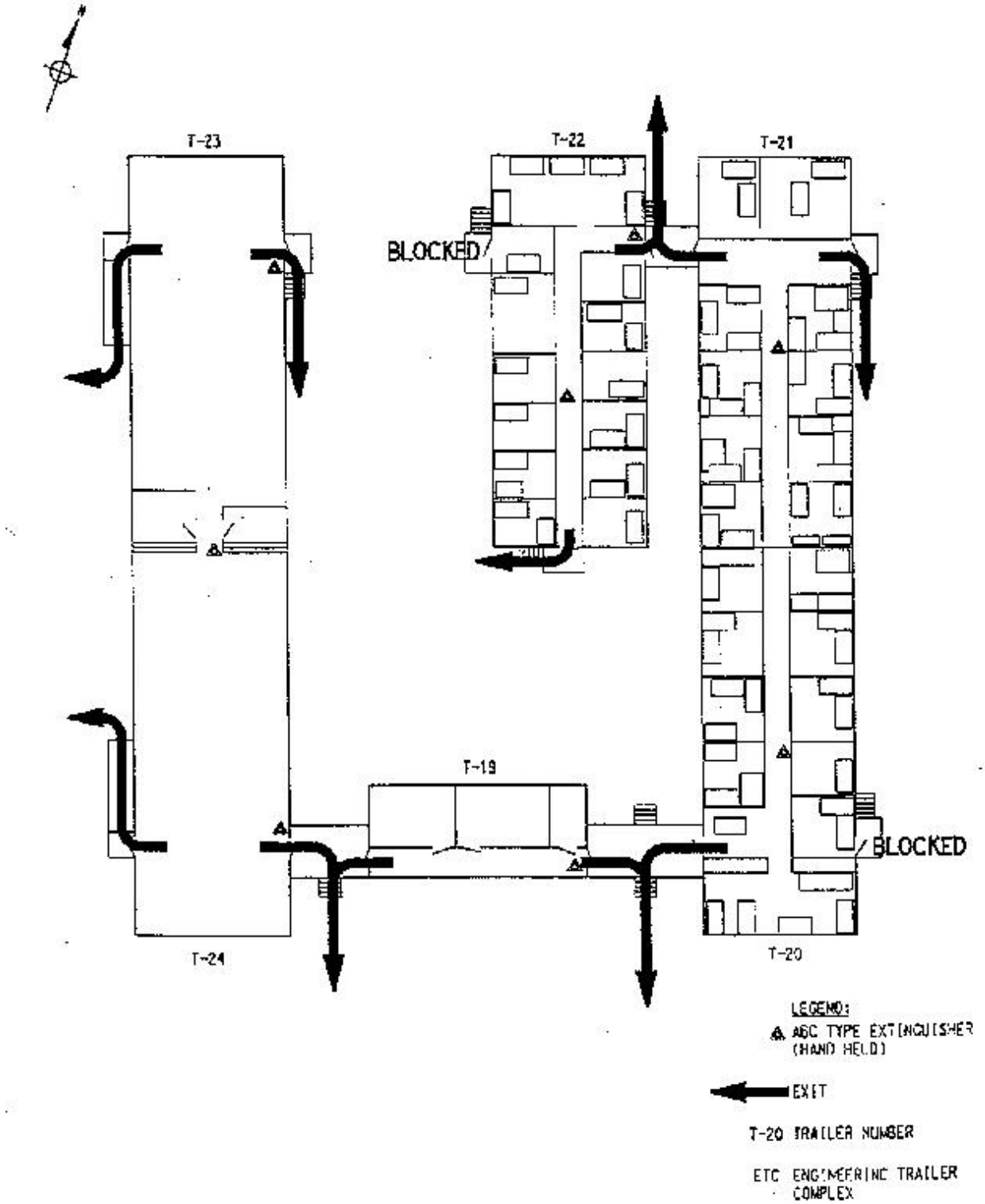


Figure 9-7-25
ETC

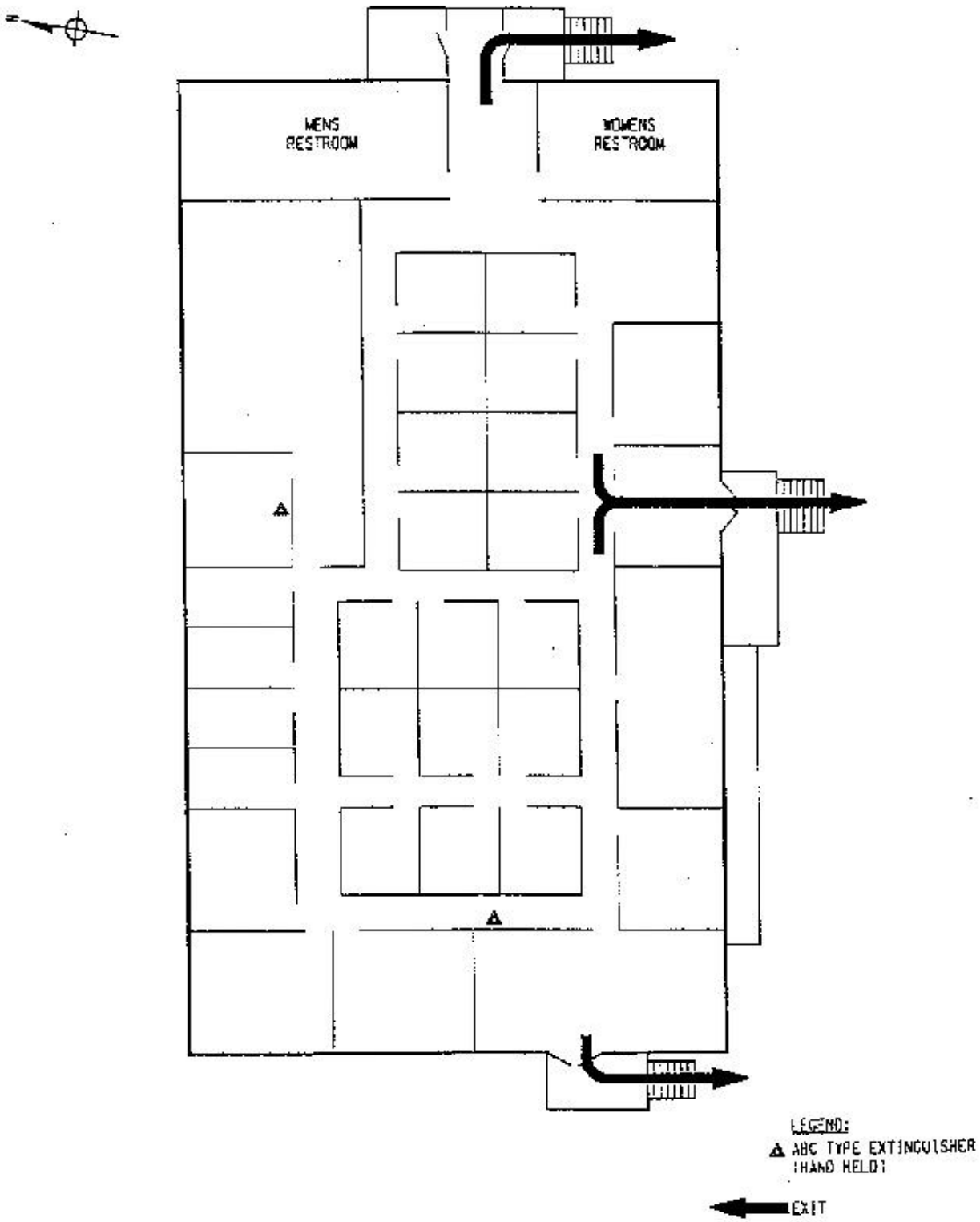


Figure 9-7-26
T-25

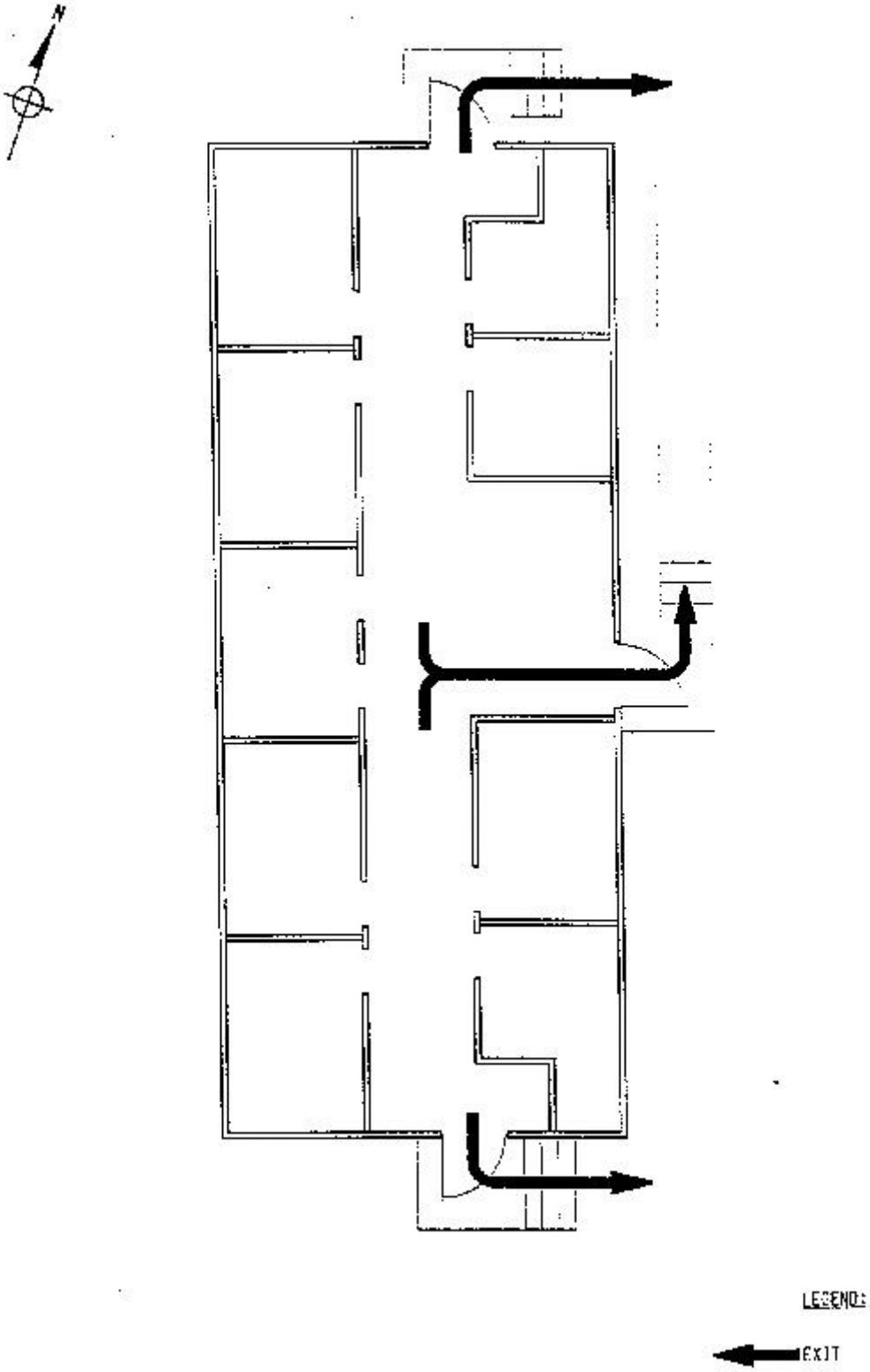


Figure 9-7-27
T-26

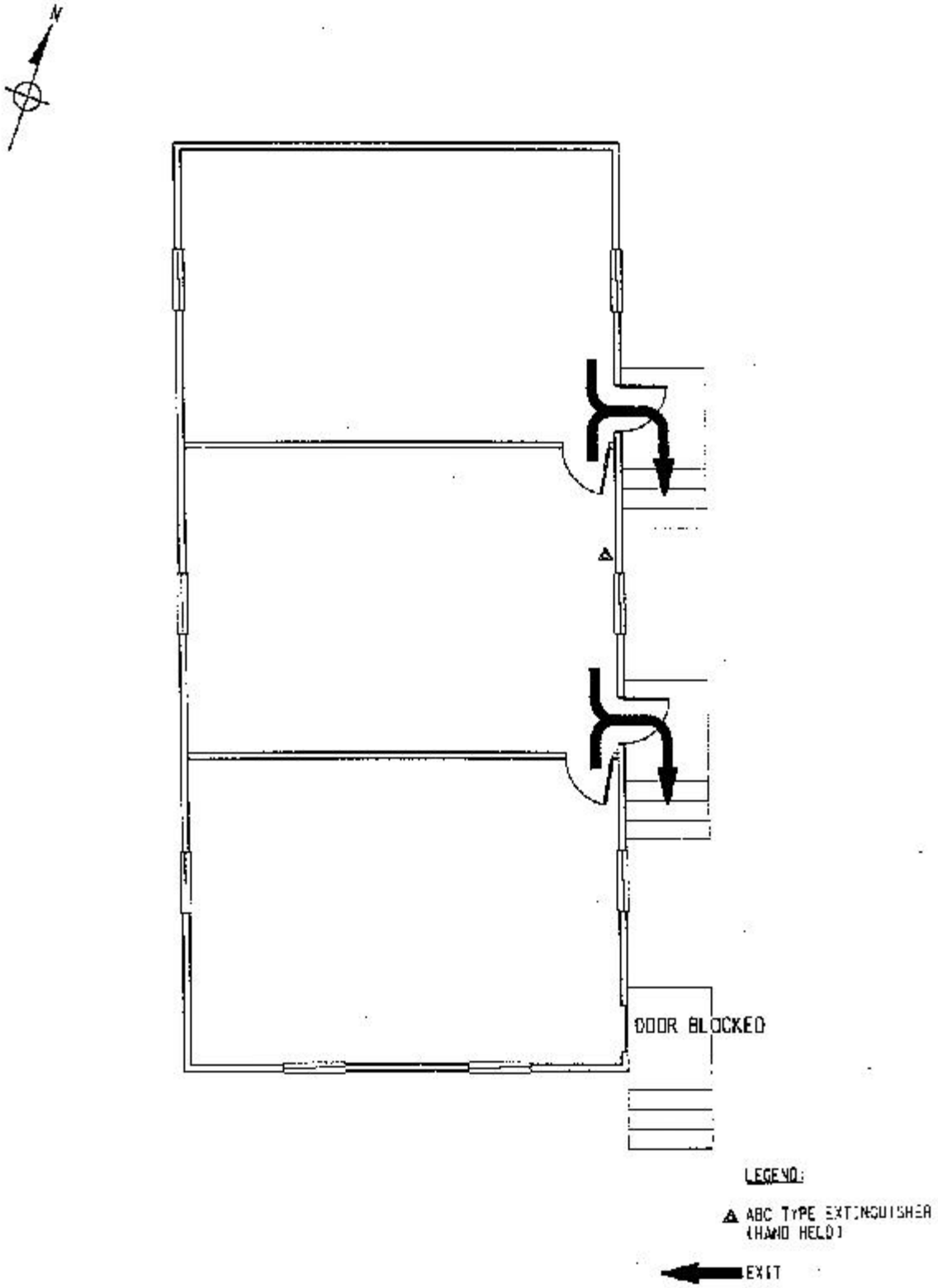


Figure 9-7-28
T-27

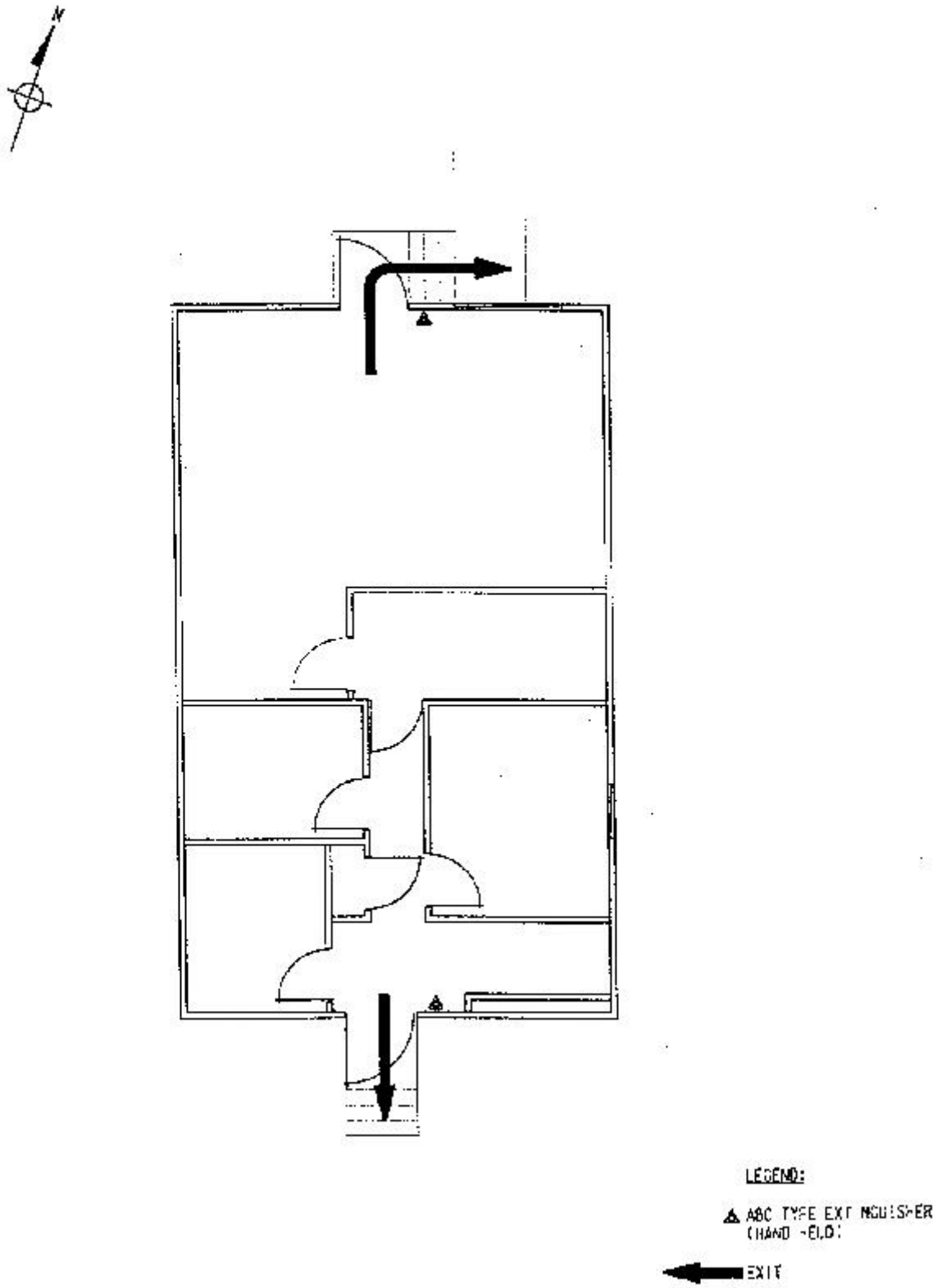
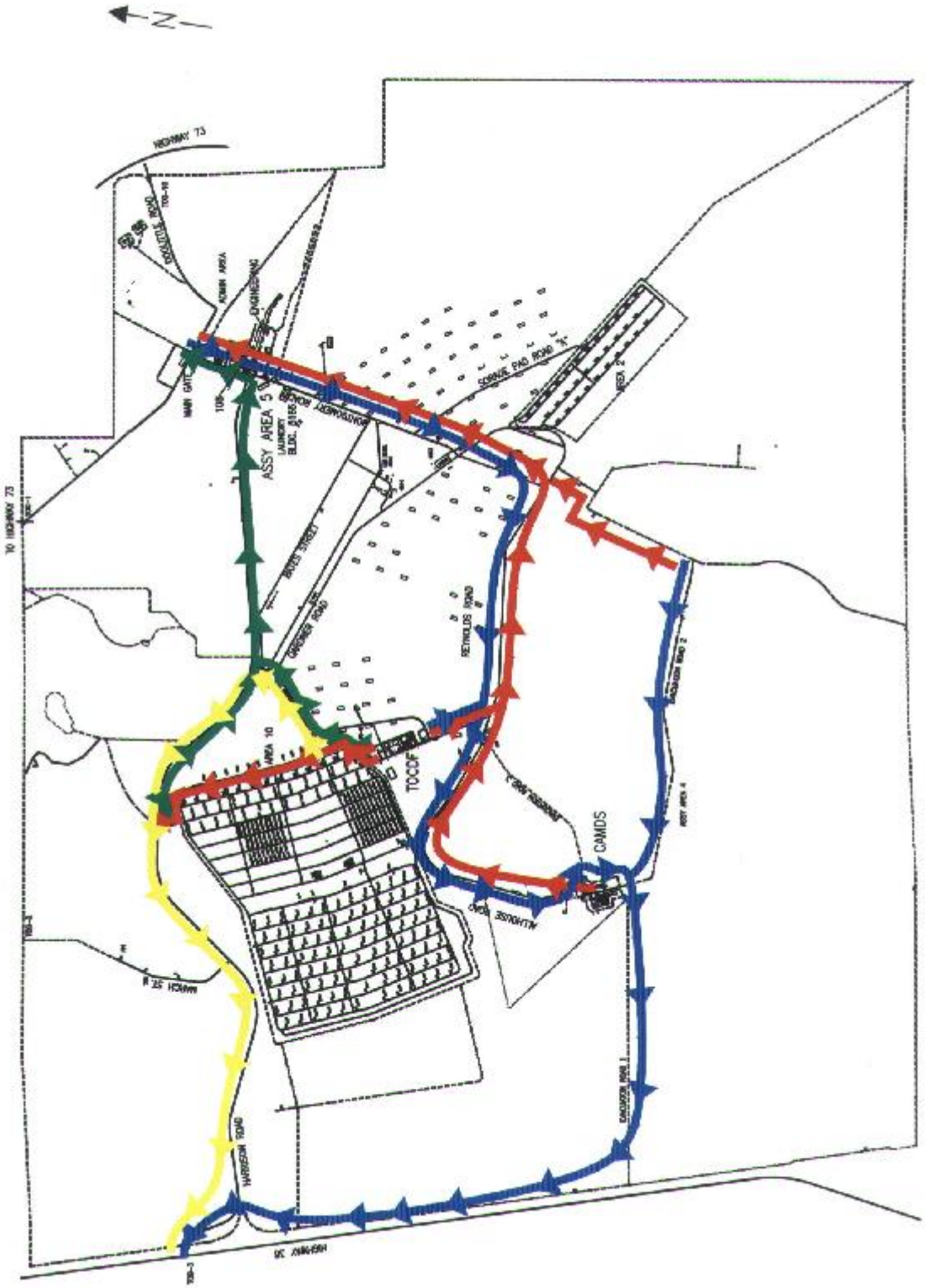
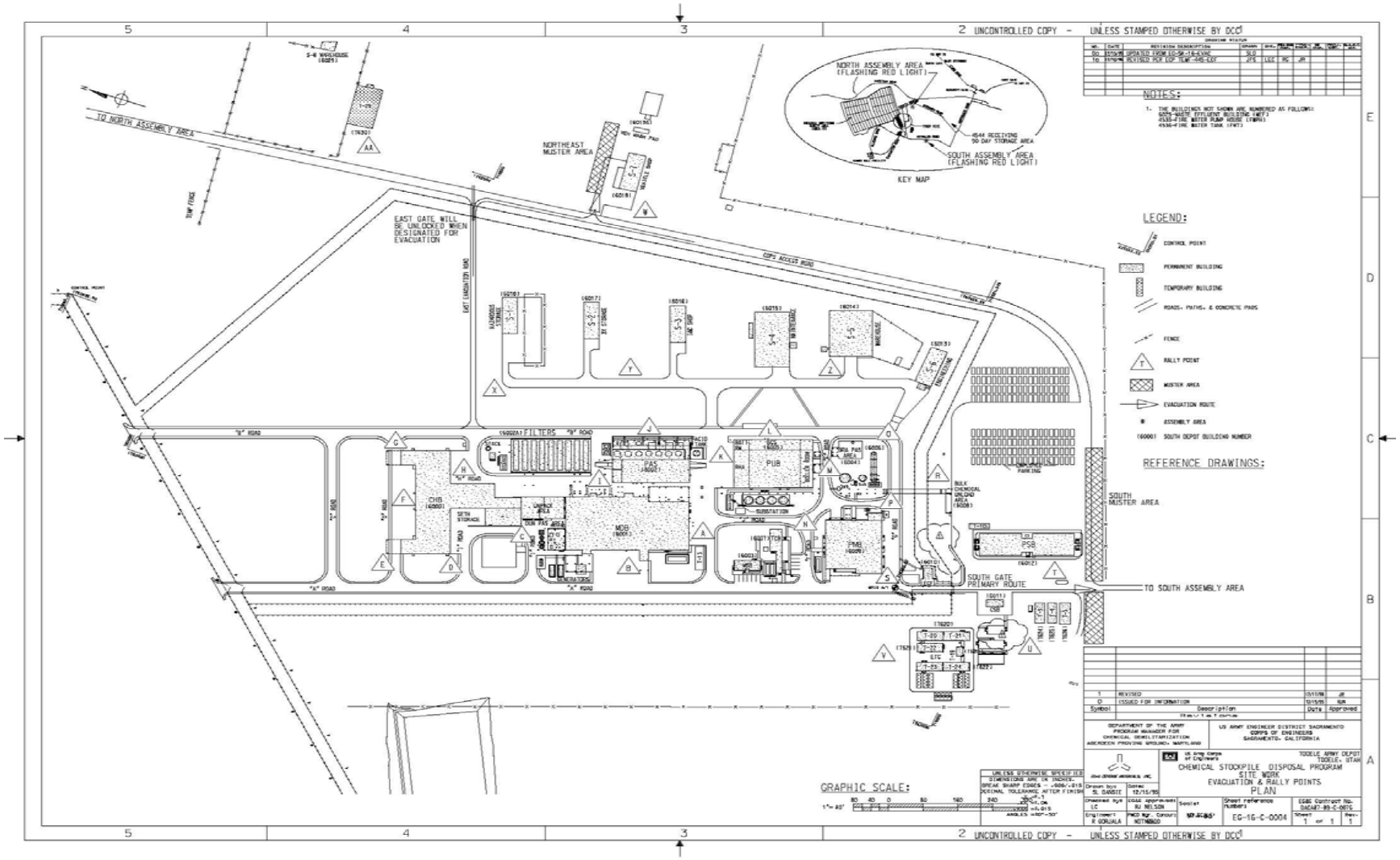


Figure 9-7-29
T-28


N
HIGHWAY 73
TO HIGHWAY 73
ASSY AREA 5
TOCDF
CAMDS
AREA 10
HARRISON ROAD
HIGHWAY 34
REYNOLDS ROAD
ALLHOUSE ROAD
ENGINEERING
ADMIN AREA
MAIN GATE
CORNER PAD ROAD "A"
ROAD 2
WEST AREA 4
EASTERN ROAD 1
EASTERN ROAD 2



EG-16-C-0004
Evacuation & Rally Points Plan