FOI #16064

Information:

First Name: Connor
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Mailing Address 1: Eighth Ave
Mailing Address 2:
City: York
State: No
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Phone: 5555555555
Required copies of the records: Yes

List of specific record(s):
Under the Freedom of Information Act, please provide the following information: 1. The pre-2001 Emergency Procedures Manual for the World Trade Centers 2. Any such document for the new WTCs

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY PRA #16064
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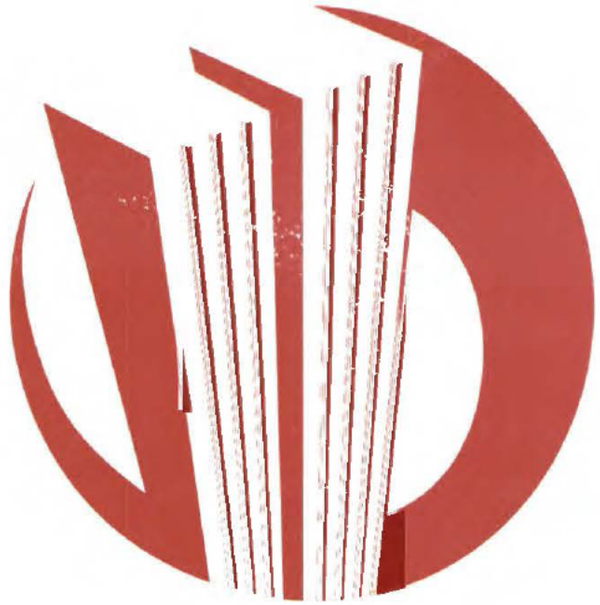
THE WORLD TRADE CENTER



FALL 1995

EMERGENCY PROCEDURES MANUAL

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY MEMORANDUM

TO: Attached Distribution List
FROM: Tom Cancelliere
DATE: September 1, 1995
SUBJECT: **THE WORLD TRADE CENTER: FALL 1995 EDITION OF THE WTC EMERGENCY PROCEDURES MANUAL**

COPY TO: Chapter Coordinators

Transmitted herewith is(are) your copy(s) of the subject Manual. Two copies are provided; one for office and for home use (Certain staff only receive one copy as indicated in the distribution list). I urge you to immediately read this memo and the Introduction Section of the Manual to familiarize yourself with this year's revisions. Later, at a more convenient time, you can review the remainder of the Manual. At your convenience, please return your two (2) copies of the previous Manual to me by Port Authority Delivery (PAD) so I can reuse the binders and tabs next year.

Noteworthy improvements to this year's edition include:

- Chapters and Appendices were revised to reflect the current responsibilities of the Life Safety & Security Division, the Operations Division and the responsibility of the Environmental Coordinator, Plant and Structures Division.

- Revisions were made on Appendix A **EMERGENCY NOTIFICATION DIRECTORY** to reflect staff changes and new telephone numbers.

- The **CONDENSER WATER FAILURES** chapter was retitled **COOLING SYSTEM FAILURES** and was revised to include chilled water and river water system outages. The list of tenants connected to the condenser water system was updated.

- **EXHIBIT 6-0** was revised in the **ELEVATOR EMERGENCY** chapter to include all elevators serving subgrade areas.

- The **NATURAL DISASTERS** chapter was revised to assign responsibility to the Facility Engineering Section to perform condition surveys following natural disasters and to recommend the extent of an evacuation, if any, prior to a Tidal Surge event.

- The **POWER FAILURES** chapter was revised to reflect the decommissioning of the West Street temporary generators and the commissioning of the PSE&G service.

- New location plans were added to **APPENDIX B WORLD TRADE CENTER COMPLEX & DOWNTOWN MANHATTAN MAPS.**

- The **APPENDIX J EMERGENCY ANNOUNCEMENTS** was revised to enhance clarity.

This year's edition of the Manual was made possible by the efforts of Hamilton Abreu, our summer Engineering Intern, and the Chapter Coordinators listed on the attached.

Tom Cancelliere
Manager, Plant and Structures
The World Trade Center

ATTACHMENT:
- o 1994 Chapter Coordinators
- o Distribution List

TRANSMITTAL: Two (2) copies of WTC EMERGENCY PROCEDURES MANUAL: Fall 1995 Edition

Attachment

1995 UPDATE OF THE WTC EMERGENCY PROCEDURES MANUAL

CHAPTER COORDINATORS

CHAPTER	COORDINATORS
1. Asbestos Contamination	Phil Taylor
2. Bomb Threats	Lt. Gabora
3. Chemical and Fuel Releases	Phil Taylor
4. Cooling Systems Failures	Dennis Malopolski
5. Domestic Water Outages	Jeff Jasper
6. Elevator Emergencies	Ted Stam
7. Fire Emergencies	Mike Hurley
8. Floods	Jeff Jasper
9. Natural Gas Leaks	Dennis Malopolski
10. Labor Disputes and Demonstrations	Lt. Gabora
11. Medical Emergencies	Lt. Gabora
12. Natural Disaster	Francis Riccardelli
13. Power Failure	John Castaldo
14. Structural Integrity	Leandro Zucchi

APPENDIX	
A. Emergency Notification Directory	Edward Strauss
B. World Trade Center Complex and Downtown Manhattan Maps	Hamilton Abreu
C. Concourse Evacuation	Anthony Marciano
D. Observation Deck Evacuation	Valeria Roberts
E. Situation Room Activation	Russell Basnight
F. Emergency Tenant Communications Office Activation	Gail Mitchell
G. NYPD Emergency Service Unit	Lt. Gabora
H. Helicopter Operations	Leandro Zucchi
I. Support Staff	Diane Kovalski
J. Emergency Announcement	Mike Hurley
K. Subgrade Evacuation	Phil Taylor

THE WORLD TRADE CENTER

EMERGENCY PROCEDURES MANUAL

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TABLE OF CONTENTS

CHAPTER	TITLE
	Distribution Record
	Introduction
1	Asbestos Contamination
2	Bomb Threats
3	Chemical and Fuel Releases
4	Cooling System Failures
5	Domestic Water Outages
6	Elevator Emergencies
7	Fire Emergencies
8	Floods
9	Natural Gas Leaks
10	Labor Disputes and Demonstrations
11	Medical Emergencies
12	Natural Disasters
13	Power Failures
14	Structural Integrity
	Appendix A - Emergency Notification Directory
	Appendix B - World Trade Center Complex & Downtown Manhattan Maps

(Continued)

TABLE OF CONTENTS (Continued)

CHAPTER	TITLE
	Appendix C - Concourse Evacuation
	Appendix D - Observation Deck Evacuation
	Appendix E - Situation Room Activation
	Appendix F - Emergency Tenant Communications Office Activation
	Appendix G - NYPD Emergency Service Unit
	Appendix H - Helicopter Protocol
	Appendix I - Support For Staff
	Appendix J - Emergency Announcements
	Appendix K - Subgrade Evacuation

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- o Police Desk *
- o Fire Command Stations (1, 2, 4 & 5 WTC Lobbies) *
- o "7-3" Supervisor's Desk *
- o Police Tour Commander's Desk *
- o Situation Room *
- o Emergency Tenant Communications Office *
- o Electrical Base *
- o Mechanical Base *
- o Elevator Base *
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INTRODUCTION

The purpose of this Manual is to formalize emergency procedures which have evolved over the twenty-five year life of The World Trade Center and to guide staff in their emergency response. The Manual has been prepared in cooperation with operations, maintenance, security and police personnel who routinely respond to emergency conditions at the Center. Certain chapters of this Manual contain edited extracts of procedures originally prepared by others and for which we hereby acknowledge that contribution.

Each chapter is organized into two sections:

- **Summary**
- **Response**

The **Summary** section provides a quick reference that can be used by staff as a guide for initial response to an emergency. It is divided into the following three sections:

- The Scope section summarizes the content and applicability of the procedure.
- The Major Responsibilities section provides a brief overview of the responsibilities of each unit during the emergency.
- The Notifications section identifies emergency notifications which must be made by staff.

The **Response** section details the step by step emergency procedures.

Each page of this Manual is dated to keep track of future revisions. Staff is encouraged to submit suggested revisions to the Manager of Plant and Structures throughout the year. The annual updating of the Manual occurs on September 1 of each year. Outdated editions of the Manual must be returned to the Manager of Plant and Structures when a new addition is published and received. The original Manual was prepared in 1988 with the first update occurring the following year.

CHAPTER 1
ASBESTOS CONTAMINATION

SUMMARY 1-1

Scope 1-1.1
Major Responsibilities 1-1.2
Notifications 1-1.3

RESPONSE 1-2

Office Of Environmental Policy & Management (OEPM) 1-2.1

Operations Division 1-2.2
"7-3" Supervisor
"7-7" Supervisor

Plant & Structures Division 1-2.3
Mechanical Section
Electrical Section
General Maintenance Section
Manager's Office

Life Safety & Security Division 1-2.4

Police Division 1-2.5

Construction Division 1-2.6

Tenant Support & Project Management 1-2.7

1 ASBESTOS CONTAMINATION

1-1 SUMMARY

1-1.1 Scope

This response procedure covers potential Asbestos-Containing Material(ACM), contamination caused by sudden unexpected release or potential release of asbestos into the atmosphere. Contamination may result from:

- o damaged thermol insulation or fireproofing.
- o flood, fire or explosion damage within an area containing asbestos.

Note: For elevator shaft fire proofing fallout, refer to Chapter 6 for specific procedures.

Where an immediate threat to life and property exists, responding staff shall take initial action as covered in other chapters of this manual and shall consider these asbestos contamination procedures subordinate to overall life safety when stabilizing the initial emergency.

1-1.2 Major Responsibilities

Office Of Envirnmental Policy And Management : (OEPM)

Directs and monitors asbestos cleanup for compliance with Port Authority environmental policies and applicable state and federal regulations. Performs bulk and air sampling and analysis.

Operations Division :

Coordinates the overall emergency response, including the evacuation.

Plant & Structures Division :

Mechanical Section: Secures all affected mechanical systems.
Electrical Section: Secures all affected electrical systems.
General Maintenance Section: Secures all affected structural systems.
Manager's Office: Authorizes reoccupancy of evacuated space and ensures that proper procedures are implemented.

Plant & Structures Division (Continued)

Asbestos Program Administrator : Assesses condition and extent of contamination, determines cleanup procedures and coordinates the activities of the environmental field operations unit of OEPM.

Construction Division :

As requested by the Asbestos Program Coordinator, authorizes cleanup by contractors.

Life Safety & Security Division :

Fire & Life Safety ("S-4" Supervisor during off hours) : At the request of the Operations Division, assists in evacuation and securing contaminated areas.

Police Division :

As requested, assists in evacuation and prevents unauthorized re-entry of the contaminated area.

1-1.3 **Notifications**

Initial report of an asbestos release episode shall be made to the OCC "7-7" Supervisor (Operations Division), detailing the precise location, nature and extent of the incident in accordance with **Exhibit 1A** herein.

All of the notifications, which are to be made by the "7-7" Supervisor and the WTC Police Desk Officer, are listed in **Exhibit 1B** herein.

EXHIBIT 1A
KEY INFORMATION TO BE PROVIDED

TO ALLAY UNNECESSARY CONCERN IN AFFECTED AREAS, ALL RADIO TRANSMISSIONS SHOULD REFER TO "ASBESTOS " AS "ACM" (ASBESTOS CONTAINING MATERIALS).

Specifics of Incident	o Precise location of incident. o Identify type of ACM and incident: - Thermal Insulation - Fireproofing - Flood - Fire - Explosion o Quantify linear or square feet of Asbestos damage. o If fallout is in elevator cab pit or on top of cab, identify amount and whether passengers are involved. o If a Flood, identify specific type: - Small Flood : damage to approx. ten (10) ceiling tiles or less. - Medium Flood : damage of ten (10) to fifty (50) ceiling tiles. - Large Flood : damage of more than fifty (50) ceiling tiles. o If a fire, explosion or other type of impact, identify the floor and location where asbestos may have been disturbed.

EXHIBIT 1B
NOTIFICATIONS

TO ALLAY UNNECESSARY CONCERN IN AFFECTED AREAS, ALL RADIO TRANSMISSIONS SHOULD REFER TO POTENTIAL "**ASBESTOS CONTAMINATION**" AS "**ACM**" (ASBESTOS CONTAINING MATERIALS).

Refer to **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	PRIORITY	TO
"7-7" Supervisor	1st Priority	"7-3" Supervisor
		Mechanical Contractor Supv
		Electrical Contractor Supv
		WTC Police Desk
		Mech. PA Supv. (when on duty)
	2nd Priority	Asbestos Program Administrator
		Manager (Plant & Structures)
		Manager (Operations)
		Manager (Life Safety & Security)
		OEPM (regular hours only)
		Chief Mtnc. Supv. (Gen Mtc.)
		Chief Mtnc. Supv. (Mechanical)
		Chief Mtnc. Supv. (Electrical)
		General Manager, Tenant Support & Project Management
		Manager (Tenant Support Division)
		Gen. Mgr., Physical Facilities
		Supervisor, Fire & Life Safety

EXHIBIT 1B
NOTIFICATIONS (Continued)

WTC Police Desk Officer		Police Commanding Officer Tour Commander

Note: The OEPM notifies the New York State Department of Labor whenever significant asbestos contamination occurs.

EXHIBIT 1C
ASBESTOS CLEANING AND DISPOSAL METHODS: GENERAL

Approved Cleaning Methods

1. All decontamination procedures shall include wet-cleaning and/or HEPA(High Efficiency Particulate Absolute) vacuuming.
2. All water from an asbestos work area is considered contaminated and shall be disposed of as such.
3. All surfaces, fixtures, furnishings and equipment in the designated asbestos work area shall be decontaminated through wet-cleaning or damp wiping and/or HEPA vacuuming. Dry-sweeping, dry-ousting or non-HEPA filtered vacuuming is **PROHIBITED.**
4. All tools and equipment are to be decontaminated before being removed from the work area.

Decontamination Procedures for Tools and Equipment

1. All tools and equipment are to be HEPA vacuumed and/or wet-cleaned before being removed from the work area.
2. All HEPA vacuums are to be decontaminated before being removed from the work area.
3. Personal protection, except respirators, are to be removed and placed in a disposal bag before exiting the enclosure. Once outside the enclosure, remove the respirator and wipe it down.
4. Fire brigade equipment including Scot Air Pak's, Bunker Coats, boots and helmets are to be HEPA vacuumed and/or wet-cleaned before storing them on carts. Any cart inside work area must be wet-cleaned inside and out.
5. If an enclosure has been constructed, all surfaces must be wet-cleaned and HEPA vacuumed prior to dismantling.

Storage and Disposal of Asbestos Contaminated Waste

1. All asbestos contaminated waste must be disposed of in U.S. DOT/EPA "Asbestos" marked 6 mil. disposal bags. All bags shall be double bagged, goose necked and taped closed with duct tape.
2. All asbestos contaminated waste is to be adequately wetted down prior to sealing bags.
3. No metal debris shall be placed in plastic bags. Such debris shall either be wet cleaned and disposed of as construction debris or must be placed in properly marked fiber drums for asbestos disposal.
4. All asbestos waste must be kept separate from any other waste.
5. All asbestos waste is stored in a designated area at the World Trade Center designated by the Asbestos Program Administrator.

1-2 RESPONSE

1-2.1 ENVIRONMENTAL FIELD OPERATIONS (OEPM)

1. Responds to contaminated area and immediately evaluates extent of contamination and commences air monitoring inside and outside of affected area.
2. Assesses cleanup process, advises Asbestos Program Administrator of any required actions beyond those already taken.
3. Oversees environmental performance of cleanup contractors.
4. Determines if notification must be sent to New York State Department of Labor.
5. Ensures ACM is disposed of properly - refer to **Exhibit 1C ASBESTOS CLEANING AND DISPOSAL METHODS.**

1-2.2 OPERATIONS DIVISION

Note: Only staff who have been trained to handle asbestos should participate in asbestos contamination emergencies.

"7-3" Supervisor

1. Personally observes and assesses conditions to determine the nature and scope of the potential hazard with the appropriate section supervisory staff (Contract or PA). Obtains ACM survey data from "7-7" supervisor (on file at Operations Control Center).
2. Notifies "7-7" Supervisor that an actual ACM contamination emergency has occurred. Requests air monitoring to be conducted prior to cleanup.
3. Directs staff to evacuate and secure the area. In the case of contamination in an elevator cab, secures all elevators in common shaft.

   If the incident occurs from a **Flood** in:
   Open Areas:
   - o For Small Floods, evacuate the immediate area.
   - o For Medium Floods, evacuate the immediate and surrounding area (10 ft. radius).
   - o For Large Floods, evacuate the immediate and surrounding area (25 ft. radius).

   Single Occupant Offices, Rest Rooms, Janitor Closets, etc.:
   - o Request occupant(s) to evacuate the area and close (lock) the door to keep unauthorized people out.

4. If the incident occurs from a **Fire** or an **Explosion**, ensures that the HVAC system is operated on "SMOKE PURGE MODE" or as directed or approved by the FDNY Chief Officer in charge and/or the NYC Bomb Squad.
5. Directs the Mechanical Section to secure the HVAC supply system to the area and return fan on full exhaust.

   Note: Exhaust systems in toilets and service sink closets shall remain on during clean up.

OPERATIONS DIVISION - "7-3" Supervisor (Continued)

6. If cleanup of the affected area is not immediately done, directs O&M staff to cover the fallout debris with polyethylene sheeting to prevent disturbance by unauthorized personnel.
7. Directs Janitorial Contractor to:
   - o Respond to the area to contain any water with dikes and to remove it using proper procedures.
   - o Spread plastic sheeting and secure with duct tape to minimize water damage to furnishings and carpets.
   - o Remove all debris from desks, typewriters, telephones, papers, books, computers, carpet, etc.
8. Directs The "S-4" Supervisor to:
   - o Secure the entry and exit points to affected area to unauthorized personnel.
   - o Establish a demarcation line with warning signs/barriers.
   - o Assist in evacuation.
9. Makes all "2nd Priority" notifications listed in **Exhibit 1B.**
10. After repairs and cleaning are completed and clean air monitoring results indicate fiber counts below .01f/cc, area can safely be reoccupied. Have barriers removed, HVAC system restored and informs occupant that space can be safely reoccupied. Restores affected elevators to normal service. If pre clean up fiber counts are .01fcc or higher, then final air clearance is required.

Elevator Starter

1. Elevator Starter secures all elevators in common shaft.
2. Elevator starter collects information and reports to Operation Control Center: elevator number, building, number of passengers involved, necessary medical assistance and other pertinent information.
3. Complete Operations Form No.11, Fireproofing Fallout Procedures.

"7-7" Supervisor

1. Notifies "7-3" and "7-4" Supervisors.
2. Information regarding ACM should be referred to as Code 3.
3. Determines if shafts are deemed negative or positive for ACM based on survey information.

1-2.3 PLANT & STRUCTURES DIVISION

Asbestos Program Administrator

1. Assists OEPM staff in assessing nature and extent of ACM contamination and cleanup methods to be used.
2. Coordinates response of the OEPM.
3. Based upon nature and extent of the cleanup, requests the Construction Division support.
4. Recommends to the Manager of Plant & Structures when space can be reoccupied.
5. Supplies updated ACM survey data to Operations Division staff.

Mechanical Section

1. Responds to area.
2. Secures all affected mechanical equipment systems.
3. At a minimum, the HVAC supply system should be secured and return system should be activated on full exhaust.

   Note: If the emergency response is the result of a **Fire** or an **Explosion**, any actions taken concerning the HVAC system must first be approved by the FDNY Chief Officer.

4. Performs repairs and restores normal service when requested to do so by the Operations Division (Isolate the floor(s), if possible and restores HVAC to the unaffected areas).
5. Treats all potentially contaminated water using a HEPA water filter and disposes of water.

Electrical Section

1. Responds to area.
2. Secures all affected electrical systems (i.e. light fixtures, smoke detectors, etc.)
3. Performs repairs and restore normal services when requested to do so by the Operations Division.
4. Assists in the cleanup and/or response as directed by the Operations Division.

General Maintenance Section

1. Responds to area.
2. Secures all affected structural systems (i.e. shoreup sagging ceilings, removes loose ceiling tiles, installs temporary polyethylene sheeting in the ceiling, etc.) for small to medium floods.
3. Fabricates enclosure to facilitate clean up.
4. Assists in the cleanup and/or response as directed by the Operations Division.

Manager's Office

1. Ensures that staff follow procedures.
2. Authorizes when evacuated space can be safely reoccupied.

1-2.4 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Suprv. during off hours)

1. At the request of Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
2. Dispatches "key-runs".

1-2.5 POLICE DIVISION

1. The police are to be available to assist in evacuation.
2. Prevents unauthorized re-entry if requested by the Operations Division.

1-2.6 CONSTRUCTION DIVISION

1. When requested by the Asbestos Program Adm., directs asbestos contractor to perform cleanup under the supervision of AMD.

1-2.7 TENANT SUPPORT AND PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center (OCC) initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing by building and floor at the Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

CHAPTER 2
BOMB THREATS

SUMMARY 2-1

Scope 2-1.1
Major Responsibilities 2-1.2
Notifications 2-1.3

RESPONSE 2-2

Life Safety & Security Division 2-2.1
Manager's Office
Supervisor, Fire & Life Safety
Police Division

Operations Division 2-2.2
"7-7" Supervisor
"7-3" Supervisor
Manager's Office

Plant & Structures Division 2-2.3
Mechanical Section
Electrical Section

NYC Bomb Squad 2-2.4

Fire Department New York 2-2.5

Tenant Support & Project Management 2-2.6

2 BOMB THREATS

2-1 SUMMARY

2-1.1 Scope

This procedure covers the step by step response to a bomb threat.

2-1.2 Major Responsibilities

Life Safety & Security Division :

Manager's Office : Determines need for evacuation in general threat situations within public areas. In tenant spaces, presents available information to tenant representative who will make the evacuation decision for general bomb threat situations. Ensures safety & security staff follow procedures.

Supervisor, Fire & Life Safety : Responds to the affected FCS (Fire Command Station) and assumes the resposibility of the FSD (Fire Safety Director).

Police Division : Commanding Officer determines need for and the extent of evacuation in specific threats and/or discovery of a possible device.

Operations Division :

"7-7" Supervisor: As requested, arranges for emergency elevator service, assists in implementing an evacuation and makes notifications over the Public Address system.

"7-3" Supervisor: As requested, deploys and supervises civilian staff for an evacuation.

Plant & Structures Division : Determines risk to nearby utility systems and secures systems, if necessary. Operates fire protection systems.

NYC Bomb Squad : Makes all technical decisions and advises appropriate units.

Fire Department New York : Standby in the event of an explosion.

2-1.3 Notifications

Initial report of a bomb threat will be made to the WTC Police Desk Officer, detailing as much as possible the type of bomb threat and the information identified in **Exhibit 2A**.

All notifications to be made are listed in **Exhibit 2B**.

EXHIBIT 2A
BOMB THREAT CHECKLIST

Exact time of call _____

Exact words of caller _____
_____
_____

QUESTIONS TO ASK

1. When is the bomb going to explode? _____
2. Where is the bomb? _____
3. What does it look like? _____
4. What kind of bomb is it? _____
5. What will cause it to explode? _____
6. Did you place the bomb? _____
7. Why? _____
8. Where are you calling from? _____
9. What is your address? _____
10. What is your name? _____

CALLER'S VOICE (circle)

Calm	Disguised	Nasal	Angry	Broken
Stutter	Slow	Sincere	Lisp	Rapid
Giggling	Deep	Crying	Squeaky	Excited
Stressed	Accent	Loud	Slurred	Normal

If voice is familiar, whom did it sound like? _____

Were there any background noises? _____

Remarks: _____
_____

Person receiving call: _____

Telephone number call received at: _____

Date: _____

Report call immediately to WTC Police Desk 435-3540

NOTE: o DO NOT CAUSE UNNECESSARY CONCERN IN AFFECTED AREAS.
o ALL RADIO TRANSMISSIONS SHOULD REFER TO A **"BOMB THREAT"** AS A POSSIBLE **"8-28"**.

EXHIBIT 2B
NOTIFICATIONS

WARNING: Do not use radio or cellular phone to communicate notifications near a suspected bomb because the radio transmission frequency can cause premature detonation.

TO ALLAY ANY UNNECESSARY CONCERN IN AFFECTED AREAS, ALL RADIO TRANSMISSIONS SHOULD REFER TO A "BOMB THREAT" AS "8-28".

Refer to the **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs off-hours.

STAGE	FROM	TO
Bomb Threat	WTC Police Desk Officer	All Police Officer Police Commanding Officer Tour Commander "7-7" Supervisor Investigative Unit (Detectives) Central Police Desk NYC Police Dept. (1st Precinct) FBI (NYC)
	"7-7" Supervisor	Manager (Operations) "7-3" Supervisor Manager (Life Safety & Security) Manager (Tenant Support Division)

(Continued)

EXHIBIT 2B
NOTIFICATIONS (Continued)

Discovery of Possible Bomb (or when an evacuation is necessary)	WTC Police Desk Officer	NYCPD Emergency Service (determines response) NYC Bomb Squad Notify all those listed for Bomb Threats informing that a possible bomb was located. Fire Department New York Emergency Medical Services "7-7" Supervisor
	"7-7" Supervisor	Notify all those listed for Bomb Threats informing that a possible bomb was located. Supervisor, Fire & Life Safety Manager (Life Safety & Security) Assistant Director, Physical Facilities Manager (Plant & Structures) General Manager, Tenant Support & Project Management Manager (Tenant Support Division) Mechanical Contractor Supv Electrical Contractor Supv Structural Contractor Supv Elevator Contractor Supv

NOTE:

If the concourse or the entire complex is to be evacuated, notify the NYC Transit Authority, PATH, 3 WTC, 6 WTC (Customs House), 7 WTC, the World Financial Center and Bankers Trust Building.

EXHIBIT 2C
EVACUATION PROCEDURES

1. The time factor for evacuation is one half hour before reported time of detonation to one hour after.
2. A floor by floor, word of mouth notification will be the key to an orderly and safe operation. Upon the request of the Tour Commander, the "7-7" Supervisor (OCC) will make prepared public address announcements.
3. There are three types of evacuation: Localized, Building, or the Entire Complex.

Localized Evacuation:

- **Office Space:** Evacuate the entire floor. Three (3) floors above and three (3) floors below. Local elevator banks will be used and persons involved will assemble in the Sky Lobbies or Main Lobby. Fire Safety Floor Wardens will verify that all persons have been evacuated.
- **Specific Areas (Public):** The FBI recommends clearing a danger area in a radius of at least 1000 feet. Banks, restaurant, etc., require special attention to glass fragmentation and debris. Persons in area should be evacuated quickly to an assembly point so as not to expose them to risks of a blast.

Building or Entire Complex Evacuation:

When evacuating Towers 1, 2, 4 and 5 simultaneously, the Tour Commander will estimate the amount of staff needed and request mobilization of other units from the Central Police Desk. The Tour Commander will utilize the WTC Evacuation Procedure and notify the "7-3" or "7-7" to make the appropriate announcement for the evacuation. The types of evacuations are defined as follows:

- **Partial Evacuation:** Evacuation of floors within one zone serviced by one elevator bank.
- **Phased Evacuation:** Evacuation of all floors within one zone.
- **Mass Evacuation:** Evacuation of all zones within one building.
- **Total Evacuation:** Evacuation of all buildings within the complex.

NOTE: For **Building** or the **Entire Complex Evacuation**, assemble evacuees outside the appropriate building as follows:

- WTC #1: Exit through lobby portals, up the escalators and onto the pedestrian bridge leading to the World Financial Center.
- WTC #2: Exit to Liberty Street.
- WTC #3: (Vista Hotel) toward Gateway Plaza
- WTC #4: Elevator Bank "West" exit to Church Street. Elevator Bank "East" exit to Liberty Street.
- WTC #5: Exit through Vesey Street doors to West Broadway.
- Concourse: Use all exits and refer to **APPENDIX C** - Concourse Evacuation.

Refer to **APPENDIX B** for maps of the complex and lower Manhattan.

4. Police and Operations staff with bull horns should be posted inside and outside of each tower facing the greatest concentration of evacuees to make announcements.

2-2 RESPONSE

2-2.1 LIFE SAFETY & SECURITY DIVISION

Manager's Office

1. For public spaces, with the advice of the Police Division and the NYC Bomb Squad, determines if an evacuation is necessary.
2. For tenant spaces, presents available information to tenant representative who will make the decision whether or not to evacuate.

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

Police Division

Note: All threats should be treated as genuine until it can be established otherwise.

Note: Removal, disarming and all technical decisions regarding the possible bomb will be made only by a qualified bomb technician, i.e. NYC Bomb Squad.

Police Commanding Officer

Note: If Police Commanding Officer is not present, Tour Commander coordinates the entire emergency response.

Bomb Threat

1. Upon report of a **bomb threat**, directs WTC Police Desk Officer to make all "Bomb Threat" notifications listed in **Exhibit 2B**, informing that there is a "possible 8-28" and to make a chronological log of events.
2. Authorizes a search of each post, public area, lavatories, and stairways. A search team consists of two (2) police officers, the Tour Commander and a representative of a tenant, if the device is assumed to be in a tenant area. For all other areas, the "7-3" Supervisor accompanies the search team in lieu of the tenant.
3. Advises supervisory personnel in the affected area if applicable.
4. Consults with responsible management representatives, advising the representatives concerned and recommending evacuation if such action is warranted. **In cases of specific threats,** the Police Commanding Officer has the authority to mandate an evacuation.

Discovery of Possible Bomb

1. If an alleged bomb is discovered, directs WTC Police Desk Officer to make the "Discovery of Possible Bomb" notifications listed in Exhibit 2B.
2. Initiates an evacuation according to Exhibit 2C.
3. Directs Police staff to:
   - o Take necessary precautionary measures to assure that the device is not disturbed.
   - o Clear area of all unofficial and unnecessary people. The FBI recommends clearing a danger area in a radius of at least 1000'. When this situation is on one of the higher floors, three (3) floors above and three (3) floors below are to be cleared.
   - o Clear away any flammable materials that may be in the area.
   - o Arrange for fire protection near the scene (extinguishers, hose, fire cart, etc.)
   - o Provide first-aid equipment.
   - o Await arrival of the Bomb Squad at the scene and follow their directions.
4. Directs the Tour Commander to conduct a floor by floor, word of mouth evacuation. Requests assistance from the Operations Division for the evacuation and request the "7-7" Supervisor to provide prepared public address announcements, if appropriate.
5. Ensures Police personnel remain calm, maintaining an air of complete control. Directions to the persons involved must be clear and concise.

Actual Explosion

1. If an explosion occurs, immediately notifies the NYC Fire Department and directs Police personnel to:
   - o Evacuates those occupants in danger.
   - o Control fire (Fire Brigade should be alert to secondary device) until arrival of FDNY.
   - o Remove all injured victims.
   - o Remove the dead after Medical Examiner's approval.
2. Make the appropriate notifications as listed in Exhibit 2B.

Note: The scene of the explosion must be preserved as is. No cleaning will be done without the approval of the NYC Bomb Squad or FBI after the above has been accomplished.

2-2.2 OPERATIONS DIVISION

NOTE: Refer to Exhibit 2C - Evacuation Procedures.

"7-7" Supervisor

1. Directs appropriate elevator starter(s) to have designated cars standby for emergency use.
2. Makes the appropriate notifications as listed in Exhibit 2B.
3. At the request of the "7-3" Supervisor or the PA Police, makes the following Public Address announcement:

2-2.2 OPERATIONS DIVISION - "7-7" Supervisor (Continued)

[INITIAL GENERAL ANNOUNCEMENT]:

"Your attention please. We are experiencing a problem in the vicinity of ___ [FLOOR(S)]. Appropriate personnel have been dispatched to the scene and the situation is being addressed. However, for precautionary reasons, we are conducting an orderly evacuation of your floor. Please wait until we announce your floor number over the public address system. Then follow the instructions of your fire safety team. Fire safety team members should report all people on their floor who may need special assistance in leaving the floor.

We will continue to keep you advised. We apologize for the inconvenience and we thank you for your cooperation."

[WHEN SPECIFIC FLOOR(S) IS TO BE EVACUATED]:

"Your attention please. It is now time for your floor to be evacuated. In accordance with directions from your fire safety team, please take the exit stairs nearest you. Limited elevator service is available for those persons unable to take the stairs. These people should wait in the main corridor of their floor. We remind you that communications, emergency lighting and other essential systems are in service. We will continue to keep you advised. Again, we apologize for the inconvenience and we thank you for your patience and cooperation."

4. Notifies the Lobby Fire Safety Directors in Tower 1 & 2 so they may assemble appropriate information (e.g. plans, elevator availabilities, etc.) for the responding emergency personnel.
5. To reduce the anxiety of visitors at public facilities at the WTC, including WOW and the Observation Deck, notify the Restaurant and Deck Supervisors on Duty as appropriate, so they are aware of facility emergency. This is necessary when many emergency vehicles respond to the building entrance.

"7-3" Supervisor

1. At the request of the Police Division, assists in evacuation procedures and in keeping unauthorized people out of the affected area.
2. Deploys staff to each lobby and skylobby Elevator Starter's Console to receive Floor Warden reports.
3. Upon the request of the Tour Commander, instructs the "7-7" Supervisor (OCC) to make public address announcements.

2-2.2 OPERATIONS DIVISION - "7-3" Supervisor (Continued)

4. Monitors Police communications at the Police Desk, either personally or thru a subordinate and relays status of the situation to affected civilian staff.

2-2.3 PLANT & STRUCTURES DIVISION (For discovery of a possible bomb or when an evacuation is necessary.)

NOTE: Refer to **Exhibit 2C - Evacuation Procedures.**

Mechanical Section

1. Advises "7-7" Supervisor of nearby utility systems.
2. Operates fire protection systems (refer to Fire Emergency Chapter).
3. Determines need to secure affected mechanical systems and makes recommendations to "7-3" Supervisor.

Elevator Contractor

1. Advises "7-7" Supervisor of nearby elevator shafts and equipment.

Electrical Section

1. Advises "7-7" Supervisor of nearby utility systems.
2. Determines the need to secure affected electrical systems and makes recommendations to "7-3" Supervisor.
3. Stands by to operate emergency power systems and provide portable emergency power where needed.

2-2.4 NYC BOMB SQUAD

1. Upon notification of a suspected bomb, responds to the scene and takes appropriate action.
2. Advises the Police Unit and the "7-3" on duty if an evacuation is necessary.

2-2.5 FIRE DEPARTMENT NEW YORK

1. Standby in the event of an explosion.
2. Upon notification of an explosion, responds to the designated location immediately.

2-2.6 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing by building and floor at Operations Control Center (OCC), Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

CHAPTER 3
CHEMICAL AND FUEL RELEASES

SUMMARY 3-1

Scope 3-1.1
Major Responsibilities 3-1.2
Notifications 3-1.3

RESPONSE 3-2

Environmental Coordinator 3-2.1

Operations Division 3-2.2
"7-7" Supervisor
"7-3" Supervisor

Life Safety & Security Division 3-2.3

Police Division 3-2.4

Tenant Support & Project Management 3-2.5

3 CHEMICAL AND FUEL RELEASES

3-1 SUMMARY

3-1.1 Scope

This procedure covers the response to a hazardous chemical and/or fuel leak. Also included, is a section on Hazardous Materials Awareness which provides essential information in dealing with any chemical and/or gas leak.

Note: Without the proper training or equipment, aggressive action has no place at a chemical spill incident and will only lead to unnecessary exposure of personnel. There may be situations where, due to the nature of the chemical, the proper action may be **NO ACTION** other than to evacuate the affected area.

However, immediate action must be used during a fuel leak. The important actions during a fuel leak are to evacuate affected areas, eliminate potential ignition sourses and ventilate the area.

3-1.2 Major Responsibilities

Environmental Coordinator ("7-3" Supv. during off hours) :
- o Evaluates nature and extent of environmental and worker safety hazards.
- o Initiates appropriate containment and control measures, coordinates with staff department and regulatory agencies.

Supervisor, Fire & Life Safety ("S-4" Supv. during off hours) :
- o Responds to the FCS (Fire Command Station) in the Lobby of the affected building and assumes the resposibility of the FSD (Fire Safety Director).
- o Evaluates fire safety hazards.
- o Coordinates with FDNY.

Operations Division :
- o Makes notifications, assists in evacuations and when appropriate initiates defensive spill control procedures.
- o Fills in for Environmental Coordinator during off hours.

Police Division :
- o Makes notifications and prevents unauthorized access to the affected area.

FDNY Hazardous Materials Unit :
- o Makes all technical decisions involved with responding to the incident.

3-1.2 **Major Responsibilities** (Continued)

Mechanical Section :

- o At the request of the Operations Division, remotely operates ventilation & exhaust system as directed to prevent a build-up of vapor.

3-1.3 **Notifications**

Initial report of a chemical and/or feul leak will either be made to the "7-7" Supervisor at the OCC (Operations Division) or the WTC Police Desk Officer, identifying the condition and location of the spill. The presence of fire, smoke, fumes or pools of liquid are also to be reported immediately.

All notifications, listed in **Exhibit 3A**, are made by the "7-7" Supervisor (OCC), the WTC Police Desk Officer and the Environmental Coordinator.

EXHIBIT 3A
NOTIFICATIONS

Refer to APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TO
"7-7" Supervisor	WTC Police Desk
	"7-3" Supervisor
	"7-4" Supervisor
	Environmental Coordinator
	Supv., Fire & Life Safety ("S-4" during off hours)
	Mechanical Contractor Supv.
	Electrical Contractor Supv.
	Manager (Life Safety & Security)
	Manager (Plant & Structures Div.)
	Chief Mntc. Supv. (Mechanical)
	Manager (Operations)
	General Manager (Tenant Support & Project Management)
	Manager (Tenant Support Division)
WTC Police Desk Officer	"7-7" Supervisor
	Commanding Officer
	FDNY Hazardous Materials Unit (when necessary)
	EMS (when necessary)
	Central Police Desk
	Environmental Coordinator

(Continued)

EXHIBIT 3A
NOTIFICATIONS

FROM	TO
Environmental Coordinator	Office of Environmental Policy & Management (OEPM) Risk Management Division
	National Response Center (EPA)
	NY State DEC
	NYC DEP.

3-2 RESPONSE

3-2.1 ENVIRONMENTAL COORDINATOR

Note: During off-hours, the "7-3" Supervisor assumes the responsibility of the Environmental Coordinator.

1. Advises and ensures that protective clothing and equipment are utilized by all responding civilian personnel (i.e. self-contained breathing apparatus).
2. Attempts to identify the chemical and/or fuel involved by:
   - looking for any visible placards, labels, chemical or fuel names, identification numbers, symbols, information on the container, tank, drum, vehicle or published references.
3. Together with the Tour Commander and based on U.S.D.O.T. Guidelines, Exhibit B determines what actions will be taken to contain and clean up leak or spill.
4. Depending on the degree of imminent danger, orders an evacuation of the affected area.
5. Directs Mechanical Section to remotely operate ventilation & exhaust to prevent a build-up of vapors.
6. Ensures that no chemical or fuel will be disposed of without the direction and advice of the FDNY Hazardous Materials Unit and EMD Hazardous Materials Unit.
7. Upon consultation with EMD staff and the Manager, Plant & Structures, makes notifications to the National Response Center (EPA) and the NYS DEC, where necessary.
8. Ensures the proper collection and disposal, in accordance with Federal and State guidelines.

3-2.2 OPERATIONS DIVISION

"7-7" Supervisor

1. Upon receipt of the initial report of a chemical and/or gas leak, immediately makes all appropriate notifications listed in **Exhibit 3A.**
2. Directs the appropriate elevator operators to have certain elevators standby for emergency use by various units.

"7-3" Supervisor (during regular hours only)

1. Responds to affected area with protective gear.
2. As requested by the Police Division or the Coordinator of Environmental Safety, evacuates and assigns guards to prevent unauthorized access to the affected area. This includes directing the "7-7" Supervisor to inform appropriate elevator operators not to stop on the affected floor.
3. As requested, assigns personnel to assist in containing the chemical and/or gas leak utilizing proper protective clothing and equipment if such a response can be performed safely.
4. Directs Mechanical Supervisor to operate ventilation & exhaust to prevent vapor build-up.

3-2.3 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supv. during off hours)

1. Responds to the affected FCS and assumes the responsibility of the FSD.
2. At the request of Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

3-2.4 POLICE DIVISION

WTC Police Desk Officer

1. As requested, contacts FDNY Hazardous Materials Unit using the information provided by the Environmental Coordinator concerning the specifics of the chemical and/or gas leak.

Tour Commander

1. Responds to the affected area with protective gear and ensures that all Police personnel utilize proper gear.
2. Depending on the degree of danger, orders an evacuation of the affected area.
3. Assigns Police personnel to ensure the affected area is isolated and to prevent unauthorized entry.
4. Identifies the chemical and/or fuel involved.
5. Determines the need to call in FDNY Hazardous Materials unit.

3-2.5 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Market Bar Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notifications will be coordinated with Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing building and floor at the Operations Control Center (OCC), Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

EXHIBIT 3B (HAZARDOUS MATERIALS AWARENESS)

1.0 General Response Precautions

2.0 Identification Of Hazardous Materials By Responding Hazmat Unit
2.1 General Procedures
2.2 Hazardous Material Classifications
2.3 Combustible Liquids
2.4 Compressed Gas
2.5 Corrosive Materials
2.6 Explosives
2.7 Flammable Liquids
2.8 Flammable Solids
2.9 Oxidizing Materials
2.10 Poisons
2.11 Radioactive Materials
2.12 Other Related Materials

3.0 Handling And Disposal Procedures For Selected Hazardous Materials
3.1 Potential Hazards Of Gasoline ID# 1203
3.1-1 Emergency Action
3.2 Potencial Hazards Of Fuel Oil/Deisel Fuel ID# 1993
3.2-1 Emergency Action
3.3 Potencial Hazards Of Battery Fluid, Acid ID# 2796
3.3-1 Emergency Action
3.4 Potential Hazards Of Anti-Freeze ID# 1142
3.4-1 Emergency Action
3.5 Potential Hazards Liquefied Petroleum Gas (LPG) ID# 1075 And Propane ID# 1978
3.6 Potential Hazards Of Freon R-22
3.6-1 Emergency Action
3.7 Potencial Hazards Of Sodium Hypochlorite
3.7-1 Emergency Action

4.0 Handling And Disposal Procedures For Alternate Fueled Vehicles
4.1 Compressed Natural Gas Fueled Vehicles
4.2 Methanol Fueled Vehicles
4.2-1 Potencial Hazards Of Methanol ID# 1230

5.0 Hazardous Materials Locations at VTC

EXHIBIT 3B

HAZARDOUS MATERIALS AWARENESS

The role of any World Trade Center responders to a hazardous materials incident will be limited to preliminary identification, communications, possible evacuation and isolation of the affected area.

It is essential that all responders be aware of the potential danger of dealing with hazardous materials. The following information (received from FDNY Hazardous Materials Unit) in this exhibit should be used merely as a guideline toward a chemical spill response.

1.0 GENERAL RESPONSE PRECAUTIONS

o Water is frequently used to flush spills and to control vapors in spill situations. However, a number of hazardous materials can react violently or even explosively with water. In these cases, a burning fire or a spill might be better left alone until an expert advice can be obtained. Expert advice is necessary since:

1. Water getting inside the ruptured of leaking containers may cause an explosion.
2. Water may be needed to cool adjoining containers to prevent their rupturing (explosion) or further spread of the fire.
3. Water may be effective in mitigating an incident involving a water-reactive material only if it can be applied at a sufficient "flooding" rate.
4. The products of the reaction with water may be more toxic, corrosive or otherwise more undesirable than the product of the fire without water applied.

o When responding to incidents involving water-reactive chemicals, the existing conditions such as wind, precipitation, location and accessibility to the incident as well as the availability of other agents to control the fire and spill must be taken into account. Because of the great number of possible variables, the decision to use water on fires or spills involving these water-reactive materials should only be made by an authoritative source.

o Ignition sources are particularly dangerous near flammable vapors that are heavier than air because they tend to flow in relatively narrow currents along the ground, following ground depressions. Therefore, they may be ignited a distance from the source causing a "flashback". This may occur if vapors remain in a plumbing connection following improper chemical disposal.

o The recommendation to shut off the leak when no risk is involved will be determined by the authority in charge. The precaution to "keep upwind" is used for those chemicals whose vapors are toxic or highly irritating. If a flammable liquid is substantially soluble in water (approx. 20 percent or more) and is not highly toxic, the area may be flushed with water spray.

EXHIBIT 3B (Continued)

- o Flammable liquids with limited solubility in water will be handled differently. It is the recommendation to dike large spills and remove by pumping into salvage tanks.

- o Do not flush flammable chemicals down the sewer. This may cause explosions later.

- o If the chemical spill is a liquid, contain spillage with sand, absorbent clay, or speedy dry. If it is a solid, contain by covering with a heavy polyethylene sheet weighting edges and corners with sand. If the incident involves a gas, cool any tanks exposed to fire and allow them to empty on their own while keeping the area clear.

- o While safety is the first priority in responding to any accident, thinking safely is even more important when hazardous materials are, or might be involved. It is essential to know the properties of the materials involved. The scene of an accident involving hazardous materials could represent such a high degree of hazard that the only safe course is to protect the perimeter and evacuate those who may become exposed to the dangers. DO NOT enter the scene until proper identification of the hazardous material has been made. Even full "turn out gear" including Scott Air Pack may not be sufficient protection in some cases.

- o Handling of hazardous materials incidents cannot be compared to normal fire fighting operations. Unlike other emergency situations such as auto accidents or fires, a chemical release requires special talents and training which are uncommon to and beyond the responsibilities of Emergency Garage personnel.

- o All actions taken must be planned after properly identifying the substance involved. The planning procedure is time consuming but essential to the preservation of life and protection of property. If the emergency involves hazardous materials, help from the chemical manufacturer and transporter and from local state and federal agencies is only a phone call away.

- o "Rushing in" to a hazardous materials incident in an irresponsible manner without first obtaining the facts will only result in unnecessary risk, exposure, and possible injury or death to responding personnel.

- o The reminder of the exhibit is organized as follows and is a guideline for responding HAZMAT Unit, not for WTC staff.
- o Recognition and identification of hazardous materials by responding HAZMAT Unit
- o Handling and disposal procedures fro selected hazardous materials
  - Gasoline
  - Fuel oil/diesel fuel
  - Battery acid
  - Anti-freeze (or ethylene glycol)
  - Liquefied petroleum or propane

EXHIBIT 3B (Continued)

2.0 IDENTIFICATION OF HAZARDOUS MATERIALS BY RESPONDING HAZMAT UNIT

2.1 GENERAL PROCEDURE

Upon discovery of any incident:

- o Notify the Hazmat Unit immediately of:
  - type of event
  - location
  - vehicle(s) involved (if any)
  - any apparent life hazard
- o Make an initial survey of the scene to determine;
  - location of threatened or potentially threatened people
  - presence of fire, smoke, fumes, or pools of liquid
  - overall condition of vehicles and/or containers
  - wind direction, if outdoors
  - proximity to drains, waterways
- o Relay additional information back to Hazmat Unit.
  - look for any visible placards, labels chemical names, identification numbers, symbols, or other information on the container, tank, drum, or vehicle
  - take note of any leaks, odors, spillages, vapors, etc.
  - talk to driver, if possible. Ask the name of the material
- o Relay additional information back to Hazmat Unit.
- o Attempt to verify information by checking shipping papers for:
  - name of product
  - hazard class
  - hazard ID # (UN/NA)
  - any other indication that hazardous materials are being transported
  - Obtain as much information as possible to assist in identification. When relaying information, be exact. Spell the chemical name accurately. One letter can make a tremendous difference in properties and hazards. Recognizable signs such as vapor clouds, liquids, odors, fuming, etc., may or may not be present. The chemical involved could be odorless, colorless, or have invisible vapors. DO NOT ASSUME THAT NO CLEARLY RECOGNIZABLE SIGNS MEANS THERE IS NO HAZARD. Unseen hazards can be the greatest in certain incidents (for example, there is often no detectable warning sign for the presence of a cancer causing agent).

Until the hazardous material has been properly identified and all pertinent information is available, isolate all persons exposed to the material. Isolation will avoid spreading contamination until proper medical treatment has been arranged.

There may be times when an immediate life hazard situation presents itself. Before attempting a rescue, consider the possible risk of making the rescue efforts worse by exposing improperly equipped members to serious injury or death. There may be some situations where rescue efforts cannot be made until proper equipment is available. While some risk may be justified, it must be weighed against the expected results.

EXHIBIT 3B (Continued)

Use the best available protective clothing, including positive pressure breathing apparatus (Scott Air Pack with face mask).

Once again, DO NOT ATTEMPT TO HANDLE ANY HAZARDOUS MATERIALS INCIDENT UNTIL PROPER IDENTIFICATIONS MADE. CALL FOR ASSISTANCE.

2.2 Hazardous Material Classifications

Hazardous materials are placed under ten classifications according to hazard characteristics.

Combustible liquids
Compressed gases (Flammable or nonflammable)
Corrosive liquid (acids and alkalis)
Explosives (Classes A, B and C)
Flammable liquids
Flammable solids
Oxidizing materials (Oxidizers, Oxygen and Organic Peroxides)
Poisons materials (Classes A and B, Irritating materials)
Radioactive materials
Other regulated materials (Classes A, B, C, D and E)

2.3 COMBUSTIBLE LIQUIDS

Combustible liquids are liquids having a flash point above 100°F and below 200°F, which when mixed with air in the presence of a source of ignition, may burn. The primary problems created by them are fires, spills, or leaks. Examples of combustible liquids are diesel fuel oil, kerosene, and home heating fuel.

Keep in mind that combustible liquids may present other hazards to health and environmental contamination, such as the ability to contaminate water, toxicity (harmful if absorbed, ingested or inhaled), corrosiveness (can cause burns), or reactivity (may react with other substances).

The principal hazards to personnel are the possibility of ignition of escaping vapors and the irritant characteristics of some liquids on contact with the skein. The most effective protection is the elimination of sources of ignition which could ignite the vapors arising form the materials. Shut off engines, no smoking in hazard area, no flares, etc.

2.4 COMPRESSED GAS

A compressed gas is any material or mixture having in the container either an absolute pressure exceeding 40 pounds per square inch at 70°F, or an absolute pressure exceeding 104 pounds per square inch at 130°F, or any liquid flammable material having a vapor pressure exceeding 40 psi absolute at 100°F. Simply stated, a compressed gas is a gas within a container that is under pressure at room temperature. Some examples are oxygen, nitrogen and liquefied petroleum gas.

EXHIBIT 3B (Continued)

A flammable gas is a gas under pressure which will form a flammable mixture when released in air. Some examples are hydrogen, carbon monoxide and acetylene.

A nonflammable gas is a gas under pressure which will not form a flammable mixture in air but may support combustion. These gases may be oxidizers, poisons, corrosives, etc. Some examples are carbon dioxide.

A cryogenic gas is a liquefied gas at a temperature below -328°F. These gases present an extreme cold hazard to the point that they can freeze objects (including parts of the body) to a point of brittles where impact can shatter the frozen object. Some examples are liquid oxygen and carbon monoxide.

The multiple hazards of compressed gases are: BLEVE (boiling liquid expanding vapor explosion), asphyxiation, toxicity or corrosiveness, frostbite, reactivity, movement along the ground to an ignition source.

The more generally used liquefied petroleum gases (LPG), butane, propane and acetylene, account for over 90 percent of the flammable compressed gases that are transported by truck. All, upon release as a liquid or gas, are subject to ignition from many sources, including a static electricity discharge. Extreme caution is necessary where these gases are escaping into the atmosphere without ignition and burning to consume the gas. When LPG is released from pressure and not burning, it vaporizes, and may be visible as a white cloud. The vapor is heavier than air, and is likely to spread over the area, channel away with the wind, and settle to ground level. The vapor, when mixed with the proper proportion of air, is subject to ignition and vapor cloud explosion. The greatest hazard to personnel when LPG or other flammable compressed gases are released is that of fire or explosion.

However, if the gas is present in high concentrations, inhalation may cause nausea or suffocation. For that reason, LPG, in most cases, is odorized so that its presence can be easily detected.

2.5 CORROSIVE MATERIALS

A Corrosive material is a liquid or solid that causes visible destruction or irreversible alterations in human skin tissue at the site of contact, or in the case of leakage form its packaging, a liquid that has a severe corrosion rate on steel.

Corrosive liquids in contact with the body may cause serious or fatal burns.

This commodity classification includes both acids and alkalis which have a harmful effect on personnel, or which react with other materials with which they come in contact. Examples are battery acid, sulfuric and nitric acids.

Corrosives present multiple hazards since they may be toxic, release heat and splatter when diluted with water, become unstable and decompose then heated.

EXHIBIT 3B (Continued)

2.6 EXPLOSIVES

An explosive is any chemical compound, mixture, or device which functions by explosion with the instant release of gas and heat. High explosives are substances which detonate, releasing energy very rapidly and creating very high pressure. Low explosives burn at much lower rates, creating low pressure. There are three classes of explosives as described herein.

1. Class A explosives are the most hazardous of the three categories. While there are many types, they have one of two general characteristics in common. Action is initiated either by detonation (accompanied by a shock wave) or deflagration, which is instantaneous burning or vaporizing. Examples are black powder, bombs, mines, TNT, and dynamite.

2. Class B explosives function by rapid combustion rather than by detonation, and include pyrotechnics, flash powders, signal devices,and smokeless powders.

3. Class C explosives are manufactured articles which contain Class A or Class B explosives, or both, as components, but in restricted quantities. This class includes small arms, common fireworks, and time fuses.

2.7 FLAMMABLE LIQUIDS

A flammable liquid is any liquid having a flashpoint below 100°F and which, when mixed with air in the presence of a source of ignition, may burn or explode. Examples are gasoline and lacquer thinners. The primary problems created by these liquids are spills and leaking containers. These liquids may also have characteristics of acidic, corrosive, poisonous, or radioactive materials, depending on their composition. Such liquids are generally contained in five gallon or smaller containers; however, the fuel tanks of many trucks may contain more than fifty gallons of gasoline. In case of accident, the tank may be ruptured and sizable quantities of gasoline will enter the roadway.

An empty or partially empty container can be more hazardous than a full one because the vapor-air mixture is more susceptible to ignition.

Possible multiple hazards of flammable liquids are: ability to contaminate water, toxicity, corrosiveness, reactivity, bleve or bleve-like explosion, and open air combustion explosion.

2.8 FLAMMABLE SOLIDS

A flammable solid is a substance other than an explosive (which can cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily) and when ignited burns so vigorously and persistently as to create a serious transportation hazard. This category includes: 1) dusts or fine powders (metals, cellulose, flour, etc.); 2) those that ignite spontaneously at low temperatures (white phosphorus); 3) films, fibers and fabrics of low ignition point materials.

EXHIBIT 3B (Continued)

These materials are not hazardous to personnel as long as there is no fire, or until a drum bursts, or certain of the materials are spilled. When a fire does start, many of the materials in this category become extremely hazardous, and burn at an accelerated rate. Spontaneously combustible substances ignite due to retained heat, oxidize to generate heat and ignite, or absorb moisture to generate heat and ignite. Pyrophoric substances are flammable solids which ignite spontaneously in contact with air at normal temperatures and do not require any other ignition source (white phosphorus, titanium dichloride).

Water reactive solids will chemically react with water to become spontaneously flammable or to give off flammable or toxic vapors.

Air reactive materials will ignite at normal temperatures when exposed to air. White phosphorous, a flammable solid and a poison is an example. Four potential multiple hazards of flammable solids are:

1. They ignite easily and burn with explosive violence.

2. They react with air and water. Those reacting with water should be labeled "Dangerous When Wet".

3. They may produce toxic or corrosive compounds.

4. They may initially be toxic or corrosive themselves.

2.9 OXIDIZING MATERIALS

An oxidizing material is a substance that yields oxygen readily and stimulates the combustion of organic matter. When combined with certain other materials, or when burned, this material releases oxygen which accelerates the burning action, and may result in explosions. Most oxidizers shipped as liquids will cause fire by contact with combustible materials. For example:

Organic peroxides heated above their transportation temperatures are likely to explode. If an accident occurs involving a refrigerated truck carrying organic peroxides and refrigeration is lost, there is a strong possibility that an explosion will occur. Call for assistance and follow procedures stipulated herein.

In addition to supplying oxygen, oxidizers have other hazards: some are explosively sensitive to heat, shock or friction, some react with combustible organic materials rapidly enough to cause spontaneous combustion. Most oxidizers will form an easily ignited or explosive mixture when united with finely divided organic materials

2.10 POISONS

Poisons are substances which in very small amounts are capable of causing injury to susceptible tissues by a chemical actions. Poison can enter the body by inhalation, absorption and ingestion, and are divided into three groups described as follows:

EXHIBIT 3B (Continued)

1. Poison A materials are extremely dangerous poisons consisting of poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life.

2. Poison B materials are less dangerous poisons consisting of substances, liquids or solids (including pastes and semisolids), other than Class A poisons or irritating materials, which are known to be so toxic to man as to afford a hazard to health during transportation; or which, in the absence of adequate data on human toxicity, are presumed to be toxic to man.

3. Irritating Materials are liquid or solid substances which upon contact with fire or when exposed to air give off dangerous or intensely irritating fumes.

It is important to recognize that a poison may be a gas or liquid of which only a very small amount of gas or vapor form the liquid mixed with air will be dangerous to life. Empty poison containers are extremely dangerous due to residue remaining.

2.11 RADIOACTIVE MATERIALS

A radioactive material is any material or combination of materials, that spontaneously emits ionizing radiation, and having a specific activity greater than 0.002 microcuries per gram.

Government regulation require that nearly all radioactive materials packages be labeled. Packages with a RADIOACTIVE WHITE-I label have almost no radiation outside the package; packages with a RADIOACTIVE YELLOW-II label have low radiation levels; and packages with a RADIOACTIVE YELLOW-III label have higher radiation. The radiation levels allowed outside packages are limited by Federal regulations. Radioactive material looks like any other material that is, it is in the form of a solid, liquid, gas, powder, etc.

If radioactive material leaked out of a package because of an accident, it would constitute radioactive contamination. That is, it behaves like any other contamination, such as a chemical spill or dirt, in that it can be tracked down, blown around, and otherwise spread. It will contaminate objects or people that it reaches. However, while you will become contaminated by coming in contact with a radioactive material you or the objects that it may contact do not become radioactive.

2.12 OTHER REGULATED MATERIALS

Other Regulated Materials (ORM) are hazardous materials that are regulated because they pose an unreasonable risk to health and safety or property, but they do not meet the definitions of other hazard classes in the DOT hazardous material regulations. ORMs are subdivided into five categories as described below:

1. ORM-A is a material which has an anesthetic, irritating, noxious, toxic, or other similar property and which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation.

EXHIBIT 3B (Continued)

2. ORM-B is material (including a solid when wet with water) capable of causing significant damage to a transport vehicle or vessel from leakage during tramsportation.

3. ORM-C is material which has other inherent characteristics not described as an ORM-A or ORM-B but which make it unsuitable for shipment, unless properly identified and prepared for transportation. Each ORM-C material is specifically named by federal regulation in the CFR Title 49.

4. ORM-D is a material such as a consumer commodity which, though otherwise subject to the regulations if this subchapter, presents a limited hazard during transportation due to its form, quantity and packaging.

5. ORM-E is a material that is not included in any other hazard class but that is subject to the requirements of the DOT regulations. Materials in this class include "hazardous waste" and other hazardous substances.

3.0 HANDLING AND DISPOSAL PROCEDURES FOR SELECTED HAZARDOUS MATERIALS

The following hazardous materials have been identified as the most frequently encountered in the Truck Dock:

- Gasoline
- Fuel oil/diesel fuel
- Battery acid
- Anti-freeze (or ethylene glycol)
- Liquefied petroleum gas or Propane
- Freon R-22

When considering procedures for handling and disposal of the aforementioned five hazardous materials, the type and size of the incident must be evaluated. The procedures set forth in this section are not intended to instruct facility personnel in handling a major emergency incident such as a fire involving a tanker truck loaded with gasoline or diesel fuel, etc. They are intended to provide instruction in the event of a vehicular accident in which the vehicle fuel tank has ruptured; a truck or car battery has split, releasing battery acid; a radiator has ruptured, causing an anti-freeze spill; or a small (less than 100 pounds) propane cylinder is leaking on a camper or in a vehicle. In situations of such magnitudes, these hazardous materials can be hackled safely, if, they are handled correctly.

The potential hazards, emergency actions, handling and disposal procedures for gasoline, fuel oil/diesel fuel, battery acid, anti-freeze (or ethyleme glycol), or liquefied petroleum gas or propane are provided in this section.

3.1 POTENTIAL HAZARDS OF GASOLINE ID# 1203

FIRES OR EXPLOSION

Gasoline is a flammable liquid that may be ignited by heat, sparks or flames.

EXHIBIT 3B (Continued)

Vapors are heavier than air and may travel to a source of ignition and flash back.

Containers may explode in heat of fire.

Run-off to sewer may create fire or explosion hazard.

HEALTH HAZARDS

Gasoline may be poisonous if inhaled as a liquid or absorbed through the skin.

Vapors may cause nose and throat irritation, drowsiness, nausea, dizziness or suffocation especially in enclosed spaces, such as the tunnels.

Gasoline may act as an irritant and cause itching and burning of skin and eyes.

Moderate eye irritation may be experienced after one hour of exposure.

If ingested, gasoline causes a burning sensation in the mouth, throat and stomach. Vomiting, diarrhea, drowsiness and intoxication may follow. As little as 3 to 4 ounces may be fatal.

Fire may produce irritating poisonous gases.

Run-off from fire control or dilution water may cause pollution.

3.1-1 EMERGENCY ACTION

PERSONAL PROTECTION

Keep unnecessary people away; isolate the hazard area and deny entry.

Stay upwind; keep out of low area.

Avoid breathing vapors and all bodily contact.

Wear Scott Air Pack with mask and full protective clothing (protective head gear, bunker pants, bunker coat, fire boots and fire gloves).

If water pollution occurs, notify the Communications Desk.

FIRE RESPONSE

Small fires involving gasoline are those resulting from vehicular accidents where the quantity is limited.

In such instances apply: 1. Purple K (Dry Chemical)
2. Foam
3. Water Fog

Large fires involving gasoline are considered to be any large scale incidents such as a gasoline tank truck fire where the cargo gasoline may be or may have the potential to be involved.

EXHIBIT 3B (Continued)

In such instances: 1. Call for assistance
2. Evacuate the area, withdraw and deny entry.

SPILL OR LEAK RESPONSE

Proceed with caution.

Restrict access to the area.

Keep unprotected personnel upwind of the spill area.

Avoid contact with the spill material.

Eliminate ignition sources; do not permit flares, smoking or flames in the hazard area.

Prevent liquid from entering sewers and confined spaces with absorbent pillows and pads.

Protect sewers and waterways from contaminated water run-off with absorbent pillows and pads.

Use water fog to reduce vapors.

Small spills involving gasoline are those resulting from a ruptured fuel tank or vehicular accidents where the quantity is limited. In such instances, soak up with sand or absorbs and place into 55 gallon drums (DOT-17H) for later disposal.

Large Spills involving gasoline are considered to be any large scale incidents such as a tank truck with a leaking cargo of gasoline. In such instances, dike far ahead of the spill for containment. Cleanup and disposal will be carried out by others. Blanket with foam from a safe distance.

FIRST AID

Call for emergency medical assistance.

If inhaled, move victim to fresh air; keep warm and at rest.

If not breathing, give rescue breathing.

If breathing is difficult, give oxygen.

In case of contact with the material, immediately flush eyes with running water for at least 15 minutes. Wash skin with large amounts of soap and water.

Remove and isolate gasoline contaminated clothing and shoes at the site.

EXHIBIT 3B (Continued)

3.2 POTENTIAL HAZARDS OF FUEL OIL/DIESEL FUEL ID# 1993

FIRE OR EXPLOSION

Fuel oil/diesel fuel is a combustible liquid that may be ignited by heat, sparks or flames.

Accumulations of vapors from the heated liquid in confined spaces may result in explosions if ignited.

Containers may explode in the heat of a fire.

Run-off into sewers or similar confined spaces may create fire or explosion hazard.

HEALTH HAZARDS

Fuel oil/diesel fuel vapors (in high concentration) may cause headache, slight giddiness, and possibly irritation of the eyes, nose, and lungs especially in enclosed spaces, such as the tunnels.

Contact with fuel oils may irritate or cause drying and cracking of the skin.

Contact with the eyes may result in slight irritation or no injury in most cases.

If ingested, fuel oils may cause nausea, vomiting, cramping and possible central nervous system depression. Aspiration into the lungs during vomiting may result in coughing, gagging, difficult breathing, etc. with possibly severe consequences.

Fire may produce irritating toxic constituents.

Run-off from fire control or dilution water may cause pollution.

3.2-1 EMERGENCY ACTION

PERSONAL PROTECTION

Keep unnecessary people away; isolate the hazard area and deny entry.

Stay upwind; keep out of low area.

Avoid breathing vapors and all bodily contact.

Wear Scott Air Pack with mask and full protective clothing (protective head gear, bunker pants, bunker coat, fire boots and fire gloves).

If water pollution occurs, notify the Communications Desk.

If inhaled, move victim to fresh air; keep warm and at rest.

If not breathing, give rescue breathing.

EXHIBIT 3B (Continued)

If breathing is difficult, give oxygen.

In case of contact with the material, immediately flush eyes with running water for at least 15 minutes. Wash skin with large amounts of soap and water.

Remove and isolate gasoline contaminated clothing and shoes at the site.

FIRE RESPONSE

Small fires involving gasoline are those resulting from vehicular accidents where the quantity is limited.

In such instances apply: 1. Purple K (Dry Chemical)
2. Foam
3. Water Fog

Large fires involving gasoline are considered to be any large scale incidents such as a gasoline tank truck fire where the cargo gasoline may be or may have the potential to be involved.

In such instances: 1. Call for assistance
2. Evacuate the area, withdraw and deny entry.

SPILL OR LEAK RESPONSE

Proceed with caution.

Restrict access to the area.

Keep unprotected personnel upwind of the spill area.

Avoid contact with the spill material.

Eliminate ignition sources; do not permit flares, smoking or flames in the hazard area.

Prevent liquid form entering sewers and confined spaces with absorbent pillows and pads.

Protect sewers and waterways from contaminated water run-off with absorbent pillows and pads.

Use water fog to reduce vapors.

Small spills involving gasoline are those resulting from a ruptured fuel tank or vehicular accidents where the quantity is limited. In such instances, soak up with sand or absorb and place into 55 gallon drums (DOT-17H) for later disposal.

Large Spills involving gasoline are considered to be any large scale incidents such as a tank truck with a leaking cargo of gasoline. In such instances, dike far ahead of the spill for containment. Cleanup and disposal will be carried out by others. Blanket with foam from a safe distance.

EXHIBIT 3B (Continued)

FIRST AID

Call for emergency medical assistance.

If inhaled, move victim to fresh air; keep warm and at rest.

If not breathing, give rescue breathing.

If breathing is difficult, give oxygen.

In case of contact with the material, immediately flush eyes with running water for at least 15 minutes. Wash skin with large amounts of soap and water.

Remove and isolate fuel contaminated clothing and shoes at the site.

3.3 POTENTIAL HAZARDS OF BATTERY FLUID, ACID ID# 2796

FIRE OR EXPLOSION

Battery acid is a combustible material that may burn but does not ignite readily.

Highly corrosive to many metals and bodily tissues.

Battery acid is a strong oxidizer and a highly reactive substance.

May ignite other combustible materials (wood, paper, oil, etc.)

Reacts violently with water.

Flammable poisonous gases may accumulate in tanks used to transport battery acid.

Run-off into sewers or similar confined spaces may create a fire or explosion hazard.

HEALTH HAZARDS

Poisonous if inhaled or swallowed.

If ingested, battery acid may cause burns of the mouth and throat and cause other severe consequences.

Contact with skin or eyes causes sever burns.

Fumes and mists may cause irritation of the eyes, nose, throat and respiratory tract.

Run-off from fire control or dilution water may cause pollution.

EXHIBIT 3B (Continued)

3.3-1 EMERGENCY ACTION

PERSONAL PROTECTION

Keep unnecessary people away; isolate the hazard area and deny entry.

Stay upwind; keep out of low area.

Avoid breathing vapors and all bodily contact.

Ventilate closed spaces before entering them.

Wear Scott Air Pack with mask and full protective clothing (protective head gear, bunker pants, bunker coat, fire boots and fire gloves).

If water pollution occurs, notify the Communication Desk.

FIRE RESPONSE

DO NOT GET WATER INSIDE CONTAINERS OF BATTERY ACID.

Small fires involving gasoline are those resulting from vehicular accidents where the quantity is limited.

In such instances apply: 1. Purple K (Dry Chemical)
2. Water in flooding quantities as fog or spray.

Large fires involving gasoline are considered to be any large scale incidents such as a gasoline tank truck fire where the cargo gasoline may be or may have the potential to be involved.

In such instances: 1. CALL FOR ASSISTANCE
2. Evacuate the area, withdraw and deny entry.
3. Stay upwind.

SPILL OR LEAK RESPONSE

Proceed with caution.

Restrict access to the area.

Keep unprotected personnel upwind of the spill area.

Avoid contact with the spill material (do not touch the spilled material).

Prevent liquid form entering sewers and confined spaces with absorbent pillows and pads.

Protect sewers and waterways from contaminated water run-off with absorbent pillows and pads.

Take into account while planning the response that battery acid is corrosive and reactive.

EXHIBIT 3B (Continued)

Use water fog to reduce vapors but do not put water directly on the leak or spill area.

Small Spills involving battery acid are those resulting from vehicular accidents where the quantity is limited. In such instances, dike the spill with sand or absorbent material neutralize contained battery acid with soda ash; do not apply water. Place collected material into 55 gallon drums (DOT-17H) for later disposal.

Large Spills involving battery acid are considered to be any large scale incidents such as a leaking drum or tank trucks loaded with battery acid that are leaking. In such instances, dike far ahead of the spill for containment using sand or absorbent material. Evacuate the area, withdraw and deny entry. Cleanup and disposal will be carried out by others.

FIRST AID

Call for emergency medical assistance.

If inhaled, move victim to fresh air; keep warm and at rest.

If not breathing, give rescue breathing.

If breathing is difficult, give oxygen.

Speed in removing the material from the skin is of extreme importance.

In case of contact with the material, immediately flush the affected area with large amounts of water.

In case the material contacts the eyes, immediately flush the eyes with water for at least 15 minutes occasionally lifting the eyelids; immediately obtain emergency medical assistance.

Remove and isolate battery acid contaminated clothing and shoes at the site; place in 55 gallon drums (DOT-17H) for disposal. See "Hazardous Waste Disposal Procedures".

3.4 POTENTIAL HAZARDS OF ANTI-FREEZE ID# 1142

FIRE OR EXPLOSION

Anti-freeze is also known as ethylene glycol. It can be a flammable or combustible material and may be ignited by heat, sparks or flames.

Vapors may travel to a source of ignition and flash back.

Containers may explode in the heat of a fire.

Vapor explosion hazard indoors, or outdoors in sewers or similar confined spaces.

Run-off into sewers or similar drainage structures may create fire or explosion hazard.

EXHIBIT 3B (Continued)

HEALTH HAZARDS

Anti-freeze may be poisonous if inhaled, ingested, or absorbed through the skin.

Vapors may cause dizziness or suffocation especially in enclosed spaces such as tunnels.

If ingested, Anti-freeze may cause intoxication, 3-4 ounces may fatal.

Fire may produce irritating or poisonous gases.

Run-off from fire control or dilution water may cause pollution.

3.4-1 EMERGENCY ACTION

PERSONAL PROTECTION

Keep unnecessary people away; isolate the hazard area and deny entry.

Stay upwind; keep out of low area, avoid breathing vapors and all bodily contact.

Wear Scott Air Pack with mask and full protective clothing (protective head gear, bunker pants, bunker coat, fire boots and fire gloves).

If water pollution occurs, notify the Communications Desk.

FIRE RESPONSE

Small fires involving Anti-freeze or ethylene glycol are those resulting from vehicular accidents.

In such instances apply: 1. Purple K (Dry Chemical)
2. Water Fog

Large fires involving Anti-freeze or ethylene glycol are considered to be any large scale incidents such as drum or tank trucks loaded with Anti-freeze that are involved in a fire,

In such instances: 1. Call for assistance
2. Evacuate the area, withdraw and deny entry.

SPILL OR LEAK RESPONSE

Proceed with caution.

Restrict access to the area.

Keep unprotected personnel upwind of the spill area.

Avoid contact with the spill material.

Eliminate ignition sources; do not permit flares, smoking or flames in the hazard area.

EXHIBIT 3B (Continued)

Prevent liquid form entering sewers and confined spaces with absorbent pillows and pads.

Protect sewers and waterways from contaminated water run-off with absorbent pillows and pads.

Use water fog to reduce vapors.

Small Spills of Anti-freeze or ethylene glycol are those resulting from vehicular accident in which the quantity is limited. In such instances, soak up with sand or absorb and dispose.

Large Spills involving Anti-freeze or ethylene glycol are considered to be any large scale incidents such as a those involving leaking shipments of Anti-freeze or ethylene glycol in drums or other shipping containers. In such instances, dike far ahead of the spill for containment. Cleanup and disposal will be carried out by others.

FIRST AID

Call for emergency medical assistance.

If inhaled, move victim to fresh air; keep warm and at rest. If not breathing, give rescue breathing. If breathing is difficult, give oxygen.

In case of contact with the material, immediately flush eyes with running water for at least 15 minutes.

In case of skin contact, rinse the area with water; then wash with soap and water.

Remove and isolate anti-freeze contaminated clothing and shoes at the site.

3.5 POTENTIAL HAZARDOUS LIQUEFIED PETROLEUM GAS (LPG) ID# 1075 AND PROPANE ID# 1978

FIRE OR EXPLOSION

Liquefied petroleum gas (LPG) and propane are extremely flammable gases which may be ignited by heat, sparks or flames.

Vapors of LPG and propane are heavier than air and may travel to a source of ignition and flash back.

LPG or propane fires burn hotter and noisier than most fires.

Containers may explode in the heat of a fire.

Vapor explosion hazard exists indoors or outdoors in sewers and similar drainage structures.

When the material is involved in a fire condition the containment cylinder, tank, or tank car may violently rupture and rocket.

EXHIBIT 3B (Continued)

HEALTH HAZARDS

Vapors of LPG or propane may cause dizziness, drowsiness, unconsciousness, or suffocation; can asphyxiate by the displacement of air. Contact with liquid LPG or propane may cause frostbite as well as skin and eye irritation.

PERSONAL PROTECTION

Keep unnecessary people away; isolate the hazard area and deny entry.

Stay upwind; keep out of low area.

Avoid breathing vapors and all bodily contact.

Wear Scott Air Pack with mask and full protective clothing (protective head gear, bunker pants, bunker coat, fire boots and fire gloves).

FIRE RESPONSE

Small fires involving LPG or propane are those that involve cylinders of 100 lb. capacity or less such as those that may be carried on the outside of campers or recreational vehicles.

In such instances apply:
1. Purple K (Dry Chemical)
2. Water Fog
3. Foam

Approach any LPG or propane fire with the wing at your back.

Keep all persons out of the vapor cloud area.

Eliminate ignition sources; do not permit flares, smoking or flames in the hazard area.

STAY AWAY FROM THE ENDS OF THE CYLINDERS.

When LPG or propane are involved in a fire condition, cylinders or tanks may violently rupture and rocket.

Apply Purple K, water fog or foam while facing the side of the container.

Remember that LPG and propane are heavier than hair.

Control of the cylinder is the first objective, not extinguishing the fire. Gain control by keeping the cylinder cool and shutting off the source of the fuel.

Most small LPG or propane fires CAM be controlled if there is ample water available. Use water to keep the cylinder cool and to dissipate any unburned fuel.

Approach the cylinder to close the shutoff valve behind a water fog or safety. Keep the fog spray level as you approach he cylinder. Leave the container in the same way, behind the water fog of safety.

EXHIBIT 3B (Continued)

The shutoff valve closes just like a water faucet. Turn it clockwise.

Unburned fuel can present a danger if not dissipated. Continue to wash it down even after the fire is extinguished. Carefully check and wash down all low areas such as sewers or similar drainage systems.

Cleanup is vital if you are to prevent a second fire which could be worse than the first.

NOTE: Some LPG or propane fires - due to their location, lack of adequate water and certain other conditions - cannot be controlled. In such instances, CALL FOR ASSISTANCE. Evacuate the area, withdraw and deny entry. Do not fight a loser.

Large fires involving LPG or propane are those that involve cylinders of 100 lb. capacity or more. For instance, the cargo of a tank truck loaded with LPG or propane or shipments of LPG or propane greater than a 100 lb. cylinder.

In such instances: 1. Call for assistance
2. Evacuate the area, withdraw and deny entry.

STAY AWAY FROM THE ENDS OF THE CYLINDERS OR TANKS.

Under fire conditions, cylinders or tanks may violently rupture and rocket.

Isolate the area for 1/2 mile in all directions if a tank truck is involved in a fire.

SMALL SPILL OR LEAK RESPONSE (100 lb. cylinder or less)

Response with full protective clothing.

Restrict access to the area.

Keep unprotected personnel upwind of the spill area.

Avoid contact with the spill material.

Eliminate ignition sources; do not permit flares, smoking or flames in the hazard area. Explosion may result if vapors are ignited in confined areas (such as the tunnels). Take into account the extremely volatile and flammable nature of LPG and propane when planning the response.

Beware of possible heavy gas accumulations in low areas, especially in confined areas of the tunnels.

Use water fog to reduce vapors and fumes.

Consult qualified experts for assistance.

LARGE SPILL OR LEAK RESPONSE (greater than 100 lb. cylinder)

CALL FOR ASSISTANCE

EXHIBIT 3B (Continued)

Evacuate the area for 1/2 mile in all directions.

Withdraw from the area and deny entry.

FIRST AID

Call for emergency medical assistance.

If inhaled, move victim to fresh air; keep warm and at rest.

If not breathing, give rescue breathing.

If breathing is difficult, give oxygen.

In case of contact with eyes, immediately flush eyes with running water for at least 15 minutes occasionally lifting the eyelids.

Remove and isolate liquefied petroleum gas (LPG) and propane contaminated clothing and shoes at the site.

3.6 POTENTIAL HAZARDOUS OF FREON R-22

GENERAL

FIRE OR EXPLOSION

Freon R-22 is a colorless and nonflammable material that has slight ethereal odor.

HEALTH HAZARDS

Vaporization of excessive amounts of this product can deplete or replace oxygen necessary for breathing. It may cause light-headedness and giddiness. In confined/enclosed spaces or areas with ventilation, Freon R-22 may be hazardous to health. Exposure to concentration of this product may induce cardiac arrhythmias in some individuals.

3.6-1 EMERGENCY ACTION

PERSONAL PROTECTION

When handling liquid, have gloves and eye protection. Use air mask with independent air supply in high concentrations.

SPILL OR LEAK RESPONSE

Ventilate area, especially low places where heavy vapors might collect. Remove open flames.

FIRST AID

If inhaled, remove to fresh air, call a physician. Do not give epinephrine or similar drugs. In case of skin or eye contact with the material, flush with water.

EXHIBIT 3B (Continued)

SPECIAL PRECAUTIONS

Store containers in a clean, dry area. Do not heat above 125°F.

SPECIFIC

In the event of a major refrigeration leak to atmosphere in the Central Refrigeration Plant (B-5) or the Auxiliary Refrigeration Plant (B-6), evacuate area and report the location & size of leak to the OCC desk. Re-entry to the space by emergency responders should be made utilizing Self Contained Breathing Units (Scott Paks) or with instruments to measure oxygen level (must be over 17%).

3.7 POTENCIAL HAZARDS OF SODIUM HYPERCHLORITE

Inhalation: Fumes from spill are very irritating to mucous membranes. Very little hazard from properly stored solution.
Skin Contact: Irritant, reddening of skin, skin damage.
Eye Contact: Severe irritation.
Ingestion: Causes irritation of membranes of the mouth, thoat, and stomach pain and possible ulceration. LD_{50} (oral, rat) for 5.25% NaOCL is approximately 13g\kg body weight and for 12.5% NaOCL is approximately 5g\kg body weight.

FIRE AND EXPLOSION

Flashpoint: Nonflammable.
Special Fire Fighting Procedures: Avoid fumes from spilled or exposed liquid, dilute copiously, ventilate, and be prepared to use respiratory protection if needed. Acid contamination will produce very irritating fumes similar to clorine gas.
Unusual Fire And Explosion Hazards: Bleach decomposes when heated; decomposition products may cause containers to rupture or explode. Vigorus reaction possible with organic materials or oxidizing agents; may result in a fire.

SPILL OR LEAK RESPONSE

Waste Disposal Methiod: Reduce with chemicals listed below. Keep on alkaline side and dilute with copious quantities of water. Main end product is salt water (NaCL).
Handaling Spills: Flush with water to dilute as much as possible, avoid heat and contamination with acid materials. Do not use combustible materials such as sawdust to absorb hypochlorite.
Neutralizing Chemicals: Reducing agents such as bisulfites or ferrous salt solutions; some heat will be produced.

3.7-1 EMERGENCY ACTION

FIRST AID

EYES: Copious eye wash with water for at least 15 minutes. Consult an eye specialist immediately.
Inhalation: Remove person to fresh air.

Exhibit 3B (Continued)

Ingestion: If accidentally swalloved, drink water, milk and obtain medical attention. DO NOT USE BAKING SODA OR ACIDIC ANTIDOTES.

SPECIAL PRECAUTIONS

Ventilation: No special ventilation required unless bleach is exposed to decomposition condition; i.e., spills or acidic conditions.
Respitory: When fumes are present use NIOSH approved respirator with acid type canister.
Eyes: Use goggles when dispensing solutions stronger than household bleach (7%).
Gloves: Use rubber or plastic gloves when exposed to solutions stronger than household bleach (7%).

EXHIBIT 3B (Continued)

4.0 HANDLING AND DISPOSAL PROCEDURE FOR ALTERNATE FUELED VEHICLES

This exhibit contains guidelines and procedures to be used if a leak of a fire is encountered on an alternate fueled vehicle. Vehicles may be fueled by compressed natural gas and gasoline or methanol. These instructions are for handling of fires/leaks when methanol or Compressed Natural Gas is used as a vehicle fuel and not as cargo.

4.1 COMPRESSED NATURAL GAS FUELED VEHICLES

Compressed Natural Gas (CNG) fueled vehicles are duel fueled and use CNG and gasoline alternately. They will have dual storage tanks, CNG and gasoline.

CNG vehicles are marked by a diamond shaped symbol with CNG written on the label with white lettering. The vehicle may also be marked by a New York State DOT label or a flammable label.

Natural gas is a flammable, non-toxic, and lighter than air product. The following should be noted for CNG fueled vehicles:

- o they may have more than one cylinder
- o manual shutoff valves can be in different locations
- o valves do not have to be color coded, this depends upon the size and style of the vehicle

CNG tanks are equipped with pressure relief devices. They have combination rupture disc/fusible plugs which activate at a pressure of 5000 psi. Release of the pressure relief valve releases the CNG in the cylinder.

PERSONAL PROTECTION

Wear Scott Air Pak with mask and full protective clothing (protective headgear, bunker pants, bunker coat, fire boots and fire gloves).

Keep unnecessary people away; isolate hazard area, and deny entry.

Stay upwind, keep out of low areas.

ENGINE COMPARTMENT

Fire

Turn off the MANUAL SHUTOFF VALVE (clockwise 1/4 turn) to shut off the CNG supply to the engine. Follow standard operating procedure for extinguishing engine and ignition fires. The flow of natural gas should shut off when the engine stops or when the supply is shut off. If the natural gas cannot shut off and is burning, allow the natural gas to burn and protect the exposure.

EXHIBIT 3B (Continued)

Leak

Evacuate immediate aea downvind.
Eliminate all ignition.
Shut off the engine ignition switch and turn off the MANUAL SHUTOFF VALVE (clockwise 1/4 turn) to shut off the CNG supply to the engine. If the manual shutoff valve cannot be located or does not operate, shut off the supply by turning the individual tank(s) valves clockwise.

TANK COMPARTMENT

Fire

If tank is exposed to fire, cool with a fog stream and shut off the MANUAL SHUTOFF VALVE or the individual tank valve(s) (turn clockwise)

If the tank is not accessible, or if the pressure relief valves have opened, use the fog stream to protect exposures and allow the natural gas to burn at vents.

Leak

Using a fog stream, disperse the leaking natural gas until it dissipates.

NOTE:

If the pressure relief valve has activated it will not reset and all the gas from the cylinder will be released. Once activated, the flow cannot be stopped by turning off the manual shutoff valve or the individual cylinder valves.

4.2 METHANOL FUELED VEHICLES

Unlike CNG vehicles, Methanol fueled vehicles are fueled by methanol only. Methanol is a poisonous chemical that can affect the body acutely and chronically through inhalation, ingestion, or repeated or prolonged skin absorption.

Methanol fueled vehicles are marked with a Methanol Fueled Vehicle Label and buses are identified by lettering on the front, rear, and both sides as methanol powered in colors contrasting to the bus color.

4.2-1 POTENTIAL HAZARDS OF METHANOL ID# 1230

Methanol is a highly flammable liquid with a flash point of 54 degrees F.

Methanol is soluble in liquid.

Methanol vapors are slightly heavier than air and will flow along the ground collecting in low areas.

Methanol burns clearly (little smoke) and its pale blue flame may be difficult to see in bright sunlight.

EXHIBIT 3B (Continued)

HEALTH HAZARD

Methanol is both an eye and skin irritant.

Inhalation of vapor concentration can produce drunkenness, drowsiness, blurred vision and unconsciousness or death.

The effects of methanol exposure may be delayed 24 hours or longer.

PERSONAL PROTECTION

Wear Scott Air Pak with mask and full protective clothing.

Keep unnecessary people away; isolate hazard area, and deny entry.

Stay upwind, keep out of low areas.

SPILL/LEAKS

Eliminate ignition sources in the immediate area and downwind of the spill.

Evacuate area:

- o down wimd
- o where tme life hazard is the greatest
- o expand evacuation as necessary

Approach from upwind.

Use fog stream to channel the vapors away from possible ignition sources. Since methanol is soluble in water, a fog stream will absorb and dilute methanol vapors. To be most effective, apply fog stream down wind of spill.

Dike spills with sand, dirt or other materials.

Keep the spill as cool as possible.

Blanket pools of liquid with alcohol foam to inhibit vapor generation.

FIRES

METHANOL IS DESTRUCTIVE TO ORDINARY FOAM. ALCOHOL TYPE FOAM MUST BE USED.
For small fires, Type B dry chemical extinguishers are adequate. Purple K is the most effective form of the dry chemical extinguishing agents. Most methanol fueled buses are equipped with a Purple K extinguisher, which is usuallly located in the area of the operator's seat.

Application of large amounts of water will dilute the methanol, rendering it nonflammable, therefore, adequate water supply must be available. Run-off should be contained by diking or other means to prevent entry into sewers and to assist in the dilution.
NOTE: A methanol fire may be invisible during daylight hours.
PROCEED WITH CAUTION

EXHIBIT 3B (Continued)

5.0 LIST OF HAZARDOUS CHEMICALS AND LOCATIONS AT THE WTC

FIRE HAZARDS

Hazardous Chemical Name	Location	Hazardous Ingredient
Diesel Fuel	B6-Gen Plant	Petroleum Distillates
Ethylene Glycol	B3-1 WTC 9th FL., 5 WTC	Ethylene Glycol

SUDDEN RELEASE OF PRESSURE

Freon R-22	B4/B6 - Chiller Plant	Chlorodifluoro-methane

REACTIVITY

NONE

IMMEDIATE (ACUTE) HEALTH HAZARDS

Ethylene Glycol	B3-1 WTC 9th Fl.-5 WTC	Ethylene Glycol
Freon R-22	B4/B6 - Chiller Plant	Chlorodifluoro-methane
Sodium Hypochlorite	River Pump Station	Sodium Hypochlorite

DELAYED (CHRONIC) HEALTH HAZARDS

NONE

CHAPTER 4
COOLING SYSTEM FAILURES

SUMMARY 4-1

Scope 4-1.1
Major Responsibilities 4-1.2
Notifications 4-1.3

RESPONSE 4-2

Operations Division 4-2.1

Plant & Structures Division 4-2.2
Mechanical Section
Electrical Section

Tenant Support & Project Management 4-2.3

4 COOLING SYSTEM FAILURES

4-1 SUMMARY

4-1.1 Scope

This procedure covers one or more cooling system failures caused by pump failure, high water temperatures, ruptured pipes, etc. for the following cooling systems:

- o River Water
- o Chilled Water
- o Condensor Water

4-1.2 Major Responsibilities

Operations Division : Makes all response notifications.

Plant & Structures Division :

Mechanical Section: Determines whether a cooling system failure has occurred and restores all affected cooling systems. For System 1 condensor water outages only, provides emergency condenser water service.

Electrical Section: Restores all affected electrical systems. For System 1 condensor water outages only, operates Emergency Generator Plant.

Tenant Support & Project Management : Notifies appropriate tenants.

4-1.3 Notifications

Initial report of a cooling system failure will be made to the Operations Control Center, identifying the affected system and any unusual conditions.

All notifications are to be made by the Operations Control Center and are listed in **Exhibit 4A**.

EXHIBIT 4A
NOTIFICATIONS

Refer to **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TO
"7-7" Supervisor	Mechanical Contractor Supervisor
	Electrical Contractor Supervisor
	Mechanical PA Supervisor (when on duty only)
	Chief Mtnc. Supv. (Mechanical)
	Manager (Plant & Structures)
	Manager (Operations)
	General Manager, Tenant Support & Project Mgmt.
	Manager (Tenant Support Division)
	Chief Mtnc. Supv. (Electrical)
	Affected Condenser Water Tenants (off-hours only)
Tenant Support & Project Mgt.	Affected Tenants

4-2 RESPONSE

4-2.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Receives report of possible cooloing system failure.
2. Requests the Mechanical Contractor Supervisor to determine whether a cooling system failure has actually occurred.
3. In case of an actual cooling system failure, makes all notifications listed in **Exhibit 4A.**

4-2.2 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Responds to the affected cooling system room to determine whether an actual failure has occurred, based on the following standard:

   Condensor Water
   - o any condenser water system flow interruption
   - o any condenser water supply temperature in excess of 10° above design, namely:
     - o 90° F on primary
     - o 95° F on secondary
     - o 100° F on tertiary.

   Chilled Water
   - o any chilled water flow interruption
   - o any chilled water supply temperature in excess of 50°F

   River Water
   - o any river water flow interruption

2. Notifies Operations Control Center if an actual cooling system failure has occurred.
3. Identifies which cooling system is affected by the outage.
4. Restores service as soon as possible.
   - o For failures due to river water strainer failure on Systems 1, 3 & 7, activates chilled water heat exchangers immediately (when chilled water is available). Do System #1 first (Bank of America).
5. For Condensor Water System 1 (Bank of America) outages, immediately restores one Condenser Water Pump to operation (these pumps should automatically switch to emergency power). Then, performs the following within the next one half hour period:
   - o Swing river water heat exchanger to domestic water cooling.
   - o Reposition valves as indicated via the Emergency River Water Control Panel in the Central Refrigeration Plant Control Booth.
   - o Activate one or both Emergency River Water Pumps on emergency power.

PLANT & STRUCTURES - MECHANICAL SECTION (Continued)

During the next hour:
- o Physically verify that all valves, strainers, heat exchangers, and pumps are functioning properly and swing over Condenser Water System 1 from domestic water to river water.

6. Keeps "7-7" Supervisor at Operations Control Center (OCC) and the Plant & Structures Division Manager informed of the probable and actual restoration times.
7. Coordinates service restoration with Bank of America staff.

Electrical Section

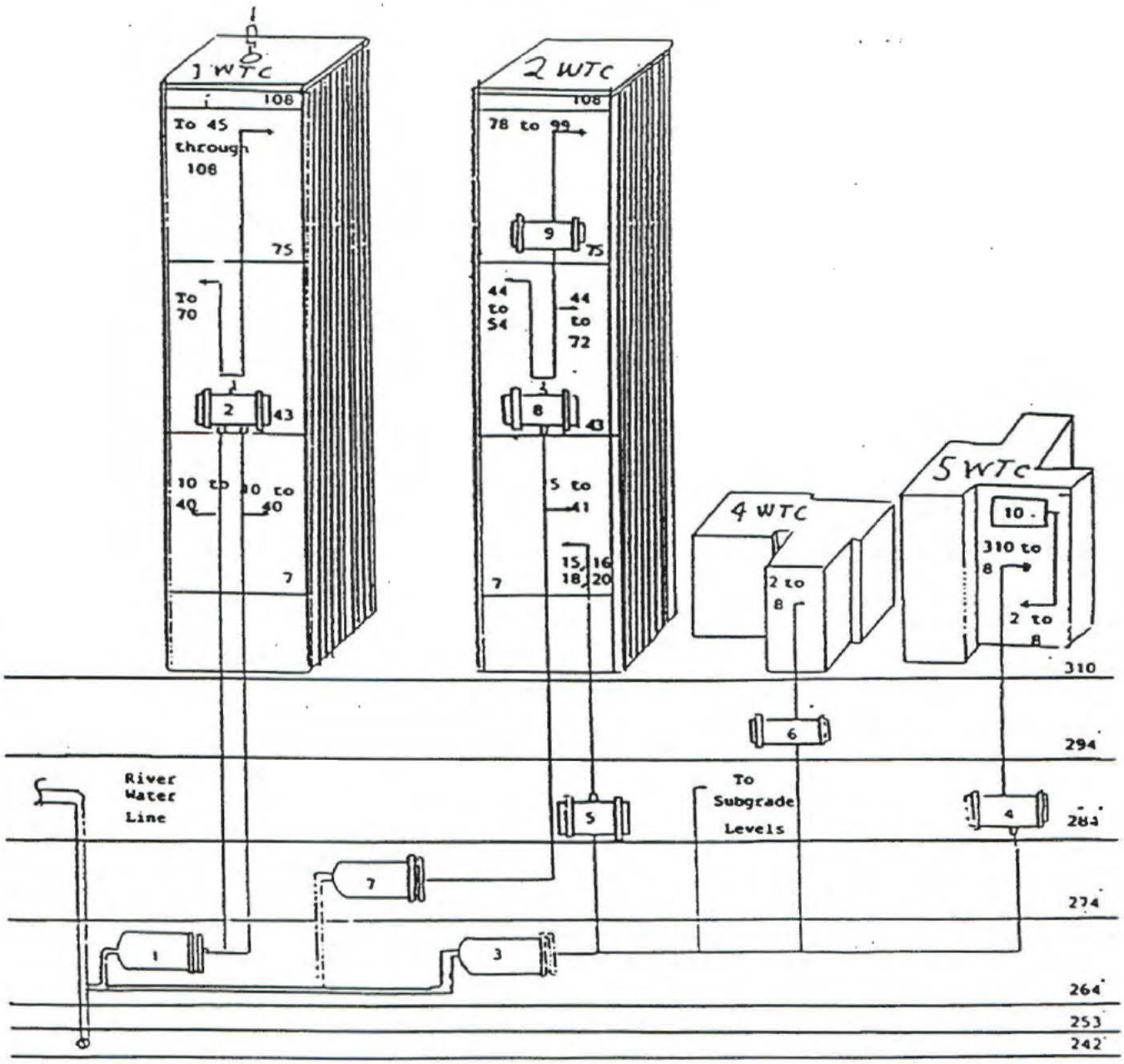
1. Responds to the affected condenser water room to evaluate and assists the Mechanical Section in the restoration of service.
2. For System 1 outages only, ensures that ATS(Automatic Transfer Switch) which serves Condenser Water System 1 and loads served by the Emergency River Water Control Panel in the Central Refrigeration Plant Control Booth, and the RWPS(River Water Pump Station), have switched to emergency power source.
3. Operates Emergency Generator Plant.

4-2.3 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing by building and floor at Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

EXHIBIT 4B

CONDENSER WATER SCHEMATIC



SYSTEM	NORMAL MAXIMUM SUPPLY WATER TEMPERATURE	OVERTEMPERATURE CONDITION WHICH CONSTITUTES AN OUTAGE
1	80	90
2	85	95
3	80	90
4	85	95
5	85	95
6	85	95
7	80	90
8	85	95
9	90	100
10	80	90

EXHIBIT 4C

CONDENSER WATER SCHEDULE OF FLOORS SERVED

System No.	System 1
Location	Elev. 264' MER
Fls. Served	10th Fl. to 40th Fl.
Building	Tower 1

System No.	System 2
Location	43rd Fl. MER
Fls. Served	44th to 106 th Fl.
Building	Tower 1

System No.	System 3
Location	Elev. 264' MER
Fls. Served	Subgrade Levels
Building	Subgrade

System No.	System 4
Location	Elev. 289' MER
Fls. Served	Elev. 310' to 8th Fl.
Building	N.E. Plaza

System No.	System 5
Location	Elev. 284' MER
Fls. Served	14th to 21st Fl.
Building	Tower B

System No.	System 6
Location	Elev. 294' MER
Fls. Served	2nd to 8th Fl.
Building	S.E. Plaza Bldg.

System No.	System 7
Location	Elev. 274' MER
Fls. Served	5th Fl. to 41st Fl.
Building	Tower 2

System No.	System 8
Location	43rd Fl. MER
Fls. Served	44th to 73rd Fl.
Building	Tower 2

System No.	System 9
Location	75th Fl.
Fls. Served	78th to 99th Fl.
Building	Tower 2

System No.	System 10
Location	9th Fl. MER
Fls. Served	2nd to 8th Fl.
Building	N.E. Plaza

EXHIBIT 4D
CONDENSER WATER TENANT SYSTEMS
CONNECTED LOADS AS OF 9/1/95

SYSTEM 1 TOWER A ZONE 1	ELEV OR FLOOR	TENANT
	9-14,18,23	Bank of America
	16	Zim-American, Israeli Shipping
	17	Mancini Duffy, Inc.
	21	C.A. Shea & Co., Inc.
	22	Mitsui OSK Trust
	24	Charles Schwa
	28	Bank of Hawaii
	29	Berel & Mullen
	29	Taipei Bank
	30	McMullen, John J. Asso.
	32	Cantor Fitzgerald
	32	Chang Hwa Commercial Bank
	34	Port Authority
	34	Telex/Fax
	35	Port Authority
	37	S. Stern Custom Brokers
	38	Chase Manhattan
	38	John Hancock
	39	Northern Trust Int'l Bank
	40	Nozaki America
	43	Port Athority
	44	Security Analysts

NOTE: Under the lease, the Port Authority is obliged to continuously provide Bank of America with Condenser Water Service even during a power outage.

SYSTEM 2 TOWER A ZONE II	ELEV OR FLOOR	TENANT
	45	Manufacturers Hanover
	45	Estee Lauder
	46	Financial Technologies Intl.
	46	Kyowa Bank
	47	Kemper Securities
	48	Dai-Ichi Kangyo Bank
	49	Dai-Ichi Kangyo Bank
	50	Dai-Ichi Kangyo Bank
	50	Amer Holding (Fortis)
	51	Teleport Communications
	52	Teleport Communications
	53	Bank of Taiwan
	56	Prescott, Ball & Turben
	57,58,59	Brown & Wood
	60	Kyowa Bank
	66	Port Authority

EXHIBIT 4D
CONDENSER WATER TENANT SYSTEMS (Continued)

68	Port Authority
70	Port Authority (MISD)
72	Port Authority (CADD Area)
74	Port Authority
79	Iyo Bank
80	Bank of Yokahama
80	Zenshinren Bank
81	Associated Container
81	Ashikaga Bank
82	Port Authority
82	NY Metro Transportation Council
83	Chemical Bank
84	Adams & Porter (Bank of Tokyo)
84	San-In Godo Bank
85	Sumitomo Bank
85	Hyakugo Bank
86	Hachijuni Bank
87	Bank of Kinki Ltd.
87	Okasan Int'l
88	Yasuda Trust & Bank
89	Municipal Asst. Corp.
90	Chugoku Bank
91	New Japan Securities
91	Shiga Bank
102	Nishi-Nippon Bank
103	Federal Home Loan Bank
104	Telerate
104	Cantor Fitzgerald
105	Cantor Fitzgerald
107	Restaurant

SYSTEM 3 SUBGRADE/CONCOURSE	ELEV	TENANT
	B6	WTC (Amplifier Room)
	B6	WTC (Air Compressors)
	B6	Teleport Communications
	B3	First Boston
	B3	PA Pool Parking
	B2	Dataport
	B1	Inhilco (Commissary)
	CONC	Mrs. Fields Cookies
	CONC	Fanny Farmer
	CONC	Chemical Bank
	CONC	Citibank
	CONC	Au Cotton

EXHIBIT 4D
CONDENSER WATER TENANT SYSTEMS (Continued)

SYSTEM 4 Northeast Plaza Bldg.	ELEV OR FLOOR	TENANT
	CONC	Charles Schwab
	Conc	Menchanko Tei
	4-6	Dean Witter
	6	First Boston Corp.

SYSTEM 10 Northeast Plaza Glycol System	ELEV OR FLOOR	TENANT
	4-6	Dean Witter

SYSTEM 5 TOWER B	ELEV OR FLOOR	TENANT
	20	NY Shipping Assoc.

SYSTEM 6 Southeast Plaza 4 WTC	ELEV OR FLOOR	TENANT
	B4	Dataport
	B2	Metro Fiber Systems
	CONC	Coffee Bar
	5	CEC Inc.
	5	Mocatta Metals
	5	Mocatta Metals/Falconwood
	6	W.H. McGee & Co.
	6	Shearson Lehman Brothers
	7	Board of Trade
	7	C.E.C.
	7	Coffee, Sugar & Cocoa
	7	Cotton, Exchange ANS
	7	NYMEX
	7	N.Y. Futures Exchange
	7-9	Commodities Exchange
	8	NYMEX (Trading Fir)

EXHIBIT 4D
CONDENSER WATER TENANT SYSTEMS (Continued)

SYSTEM 7 TOWER B ZONE I	ELEV OR FLOOR	TENANT
	14	Bank of California
	14	Quantum Financial Services
	17	Dean Witter
	21	CP-USA
	22	Dean Witter
	22	Solar International
	22	Yamatare Securities
	24	SCOR Us Corp.
	25	Daiwa Security
	26	CNA Insurance Corp.
	27	Journal of Commerce
	28	Hua Nan Commercial Bank
	28,31,38	Lumbermans Mutual
	28-30	N.Y. Stock Exchange
	33	First Commercial Bank
	34	Oppenheimer Corp.
	39,40	Thacher, Proffitt & Wood

SYSTEM 8 TOWER B ZONE II	ELEV OR FLOOR	TENANT
	43-46,56,59-61	Dean Witter Reynolds
	49-54	Guy Carpenter & Co.
	63-74	Dean Witter Reynolds

SYSTEM 9 TOWER B ZONE III	ELEV OR FLOOR	TENANT
	80-82	Fuji Bank/Fuji Bank & Trust
	84	Eurobrokers

CHAPTER 5
DOMESTIC WATER OUTAGES

SUMMARY 5-1

Scope 5-1.1
Major Responsibilities 5-1.2
Notifications 5-1.3

RESPONSE 5-2

Operations Division 5-2.1
"7-7" Supervisor
"7-3" Supervisor

Plant & Structures Division 5-2.2
Mechanical Section
Electrical Section

Tenant Support & Project Management 5-2.3

5 DOMESTIC WATER OUTAGES

5-1 SUMMARY

5-1.1 Scope

This procedure covers unscheduled domestic water outages (generally IKOR pump station failure) affecting all domestic water service in one or more building zones.

5-1.2 Major Responsibilities

Operations Division : Make all response notifications.

Plant & Structures Division :

Mechanical Section:
- o Responds to pumping stations in affected tower and determines that an actual outage has occurred and notifies the Operations Control Center (OCC).
- o Restores normal water service.

Electrical Section:
- o Responds to pumping stations in affected tower and restores all affected electrical systems.

Tenant Support & Project Management: Notifies appropriate tenants.

5-1.3 Notifications

Initial report of a domestic water outage will be made to the "7-7" Supervisor (OCC), identifying the affected pump station and any unusual conditions.

All notifications are to be made by the "7-7" Supervisor (OCC) and are listed in **Exhibit 5A.**

EXHIBIT 5A
NOTIFICATIONS

Refer to APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TO
"7-7" Supervisor	Electrical Contractor Supervisor
	Mechanical Contractor Supervisor
	Mechanical PA Supervisor (when on duty only)
	*Chief Mtnc. Supv. (Mechanical)
	*Chief Mtnc. Supv. (Electrical)
	*Manager (Plant & Structures)
	*Manager (Operations)
	*General Manager, Tenant Support & Project Management
	*Manager (Tenant Support Division)
Tenant Support & Project Management	*Affected Tenants

* During the off hours, make these notifications only when outages exceed or are expected to exceed one hour.

5-2 RESPONSE

5-2.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Alarm sounds at appropriate pump station, mechanical space, and/or at the Operations Control Center (OCC).
2. Immediately makes notifications listed in **Exhibit 5A.**

"7-3" Supervisor

1. If requested, directs staff to secure and clean any areas where water or other damage has occurred.
2. Assists Mechanical and/or Electrical Sections (Plant & Structures Divisions) when necessary.

5-2.2 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Mechanical Base dispatches one craftsperson to each pump station in the affected tower. Superintendent and Chief Maintenance Supervisor respond to lowest pump station affected.
2. Notifies Operations Division (off-hours), Tenant Support & Project Management (normal business hours) and Manager, Plant & Structures Division (all hours) of affected floors and probable length of outage.
3. Monitors pump performance and water flow at each affected pump station.
4. Vents air from system and pumps as needed.
5. Determines the cause of the shutdown to prevent recurrence.
6. Performs repairs, as needed.
7. Dispatches contract staff to each zone affected by the shutdown to secure and/or repair running flushometers (all rest rooms).
8. Keeps the Managers of Tenant Support & Project Management, Operations Division and Plant & Structures Division informed of probable restoration time of the outage if it is a mechanical failure.

Electrical Section

1. Electrical Base dispatches one electrician to each pump station in the affected tower. Superintendent and Chief Maintenance Supervisor respond to the lowest pump station affected.
2. The electrician restarts the pumps in the "MANUAL" mode, maintaining a minimum of 20 psi pressure and a maximum of 50 psi pressure.

5-2.2 PLANT & STRUCTURES DIVISION - Electrical Section (Continued)

3. Once the Mechanical Section has determined the normal flow rates have resumed, the pumps are set to "AUTOMATIC" mode of operation.
4. These procedures are coordinated with the Mechanical Section to ensure that the pumps do not run dry and the chance of flooding is minimized while restoring service.
5. Keeps the Managers of the Tenant Support & Project Management, Operations Division and Plant & Structures Division informed of probable restoration time of the outage if is an electrical failure.

5-2.3 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off hours, the OCC initiates notifications until the Tenant Support Division staff either arrive at the WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains up-to-date tenant listing by building and floor at the Operations Control Center (OCC), Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

CHAPTER 6
ELEVATOR EMERGENCIES

SUMMARY	6-1
Scope	6-1.1
Major Responsibilities	6-1.2
Notifications	6-1.3
RESPONSE	
CODE 1 PASSENGER ENTRAPMENT OR SLOW SPEED RUN	6-2
Operations Division	6-2.1
Police Division	6-2.2
Plant & Structures Division	6-2.3
Elevator Maintenance Contractor	
Electrical Section	
CODE 2 SERVICE INTERRUPTIONS	6-3
Operations Division	6-3.1
Plant & Structures Division	6-3.2
Elevator Maintenance Contractor	
Facility Engineering Section	
Tenant Support & Project Management	6-3.3
CODE 3 FIREPROOFING FALLOUT	6-4
Operations Division	6-4.1
Plant & Structures	6-4.2
Elevator Maintenance Contractor	
Facility Engineering Section	
PHASE I & PHASE II TOWER SWAY	6-5
Operations Division	6-5.1
Plant & Structures Division	6-5.2
Elevator Maintenance Contractor	
Facility Engineering Section	
Manager's Office	
Tenant Support & Project Management	6-5.3
USE OF ELEVATORS DURING EMERGENCIES	6-6
Operations Division	6-6.1

6 ELEVATOR EMERGENCIES

6-1 SUMMARY

6-1.1 Scope

This procedure covers elevator emergencies caused by:

- o Passenger Entrapment - Code 1, or Slow Speed Run
- o Service Interruptions - Code 2
- o Fireproofing Fallout - Code 3
- o Tower Sway Emergencies - Phase I & II
- o Use of Elevators During Emergency

6-1.2 Major Responsibilities

Operations Division : Coordinates the entire emergency response.

Plant & Structures Division :

Elevator Maintenance Contractor : Responds to all elevator emergencies and secures equipment when necessary.

Facility Engineering Section: Provides technical advice to other units.

Electrical Section: Assists Police in securing and restoring power to stalled elevator when requested.

Police Division: With input from elevator contractor, determines need for evacuation.
Performs the rescue of passengers from a stalled elevator.

Tenant Support & Project Management: When requested, notifies tenants.

6-1.3 Notifications

Initial report of an elevator emergency will be made to the "7-7" Supervisor (Operations Division), identifying the affected elevator or elevator zone and its condition.

All notifications thereafter, are to be made by the "7-7" Supervisor as listed in **Exhibit 6A.**

EXHIBIT 6A
NOTIFICATIONS

Refer to **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM Duty "7-7" Supervisor	TO Those Listed Below
CODE 1 **PASSENGER ENTRAPMENT**	Elevator Maintenance Contractor "7-4" Supervisor "7-3" Supervisor WTC Police Desk Electrical Contr. Supv. Senior Eng. Tech. (reg. hrs. only)
CODE 2 **SERVICE INTERRUPTIONS** (See EXHIBIT 6B)	Elevator Maintenance Contractor "7-3" Supervisor Senior Eng. Tech. Manager, Tenant Support Manager (Plant & Structures)
CODE 3 **FIREPROOFING FALLOUT**	"7-3" Supervisor Elevator Maintenance Contractor Asbestos Program Coordinator AMD Senior Eng. Tech. Manager (Operations) Manager (Plant & Structures)

(Continued)

EXHIBIT 6A
NOTIFICATIONS (Continued)

FROM Duty "7-7" Supervisor	TO Those Listed Below
TOWER Phase I Sway	"7-3" Supervisor Elevator Maintenance Contractor (Reg hours only) Senior Eng. Tech. (Reg hours only) Restaurant Manager (operating hrs) OBS Deck Supervisor (operating hrs) Mgr., Tenant Support (Reg hours only)
TOWER Phase II SWAY	"7-3" Supervisor Elevator Maintenance Contractor Senior Eng. Tech. Elevator Maintenance Contractor Restaurant Manager (operating hrs) OBS Deck Supervisor (operating hrs) Manager, Tenant Support
FROM Tenant Support Division	Affected tenants

6-2 CODE 1 - PASSENGER ENTRAPMENT and SLOW SPEED RUN

6-2.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Upon receipt of an emergency call, obtains the following information from the trapped passenger(s) and confirming from appropriate elevator starter:

    - o Is elevator moving slowly (slow speed run) or at a complete stop (code 1).
    - o If stopped, what floor (look at car position indicator over door).
    - o If stopped, how many people in elevator.
    - o Are the trapped people comfortable.
    - o Is the cab interior lit?
    - o Is the fan operating?

2. Pages Elevator Maintenance Contractor on radio signaling either a slow speed run or a Code 1. Verifies Elevator Maintenance Contractor response. Notifies the 7-3 Supervisor. If the Maintenance Contractor is not on site, makes appropriate phone notifications.
3. If the car is determined to be on a slow speed run, makes the following announcement:

    "Due to a temporary problem, the safety features of your elevator are causing it to move at slow speed. Your elevator is perfectly safe and is continuing on its way to its destination. If anyone should need assistance, please use the emergency call button to contact us. We apologize for this inconvenience, and we thank you for your patience and cooperation. Once again, your elevator is perfectly safe and is on its way to its destination."

4. If the car is determined to be a Code 1, makes the following announcement:

    "We have experienced a problem which has caused your elevator to temporarily stop. Your elevator is perfectly safe. If anyone should need assistance, please use the emergency call button to contact us. We apologize for the inconvenience and we thank you for your patience and cooperation. Once again, your elevator is perfectly safe and should be moving again shortly."

5. Broadcasts an "all-page" code 1 and states the elevator affected. Confirms with the "7-4" Supervisor, "7-3" Supervisor and WTC Police Desk by radio that they are responding to the scene.
6. Updates passengers of any progress during the entrapment. Depending on the duration of the incident, makes any requested telephone calls for the trapped passengers.

6-2.1 OPERATIONS DIVISION - "7-7" Supervisor (Continued)

7. If stalled elevator cannot be moved in a reasonable time (customarily 2 hours), notifies the Police accordingly. If the Police call for an evacuation, makes the following announcement:

   [Stalled elevator(s) that must be evacuated due to mechanical malfunction]

   "Your attention please. Due to the safety features of your elevator, it cannot be moved. Therefore, Port Authority Safety Personnel will be bringing another elevator alongside yours. At that time, you will receive further instruction. If anyone should need assistance, please use the emergency call button to contact us. Your patience and cooperation is appreciated. Once again, your elevator is perfectly safe, and Safety Personnel are on their way."

8. Directs appropriate Starter to have the rescue car (elevator adjacent to stalled one) at the designated location for the Police.
9. Assists as necessary.
10. Fills out the Code 1 Elevator Outage Report and files in Code 1 Log file.

"7-3" Supervisor

1. Supervises entire field response to emergency.
2. Greets trapped passenger(s) and obtains personal data for possible follow-up by the Tenant Support & Project Management.

6-2.2 POLICE DIVISION

Note: All elevator passenger evacuations are called for and conducted by the Police Unit with the assistance of the Elevator Maintenance Contractor, if available. If Elevator Maintenance Contractor staff is not available, request Electrical Section staff to assist in securing power to stalled elevator.

Note: Passenger evacuation should only be called for if elevator service cannot be restored in a reasonable amount of time (customarily 2 hours) or if extenuating circumstances, ie. medical emergencies, deem it necessary.

Tour Commander

1. Determines the need for evacuation.
2. Directs two (2) Officers and one (1) elevator contractor mechanic (if available) to perform the rescue in the elevator adjacent to the stalled one.

6-2.2 **POLICE DIVISION** - Tour Commander (Continued))

3. Directs an officer and the Elevator Maintenance Contractor Mechanic(or electrician) to the Elevator Machine Room to place the Main Line Disconnect Switch of the stalled elevator to the **OFF** position during the rescue. The switches are clearly marked with the elevator number.

Note: Caution the responding officer that the Elevator Machine Room contains high voltage equipment.

Officers in Rescue Car

1. Respond to Emergency Equipment Room (across from Truck Dock Area on B1 Level) to pick up the appropriate elevator rescue bridge, hand rail and kit.
2. Respond to the appropriate rescue car.
3. Open side panel by unlocking the lock located at floor level. The key is in the rescue kit.
4. Open the Operator's Panel in the elevator and place the car in INDEPENDENT and INSPECTION mode. The GROUP/INDEPENDENT keyswitch may be located inside the operator's panel or outside on the car operator's panel.
5. Hold the side door interlock switch open using a stick or a pole while the side panel is swung open.
6. Move the car up or down using the up/down buttons until it is level with the stalled car. Stay inside car (including head and limbs) until car is safely positioned and the power is secured.
7. Verify that hoist ropes of the stalled car are taut and not slack. If slack, do not perform rescue; wait for elevator contractor.
8. Activate the Emergency Stop Button. Request the main line disconnect switch of the rescue car be placed in the OFF position.
9. Open the side panel to the stalled elevator and place the rescue bridge between the cars.
10. Attach the temporary guard rail between the cars and rescue passengers.
11. Remove the rescue bridge and place it in the rescue elevator.
12. Close the side exit door of both elevators. Request the mainline disconnect switch of the rescue car be placed in the ON position.
13. Deactivate the Emergency Stop Button.
14. Remove the rescue elevator from INSPECTION mode and return to the main lobby in the INDEPENDENT mode.
15. Get names, addresses and telephone numbers of the trapped passengers for appropriate reports to be filled out.

6-2.3 PLANT & STRUCTURES DIVISION

Elevator Maintenance Contractor

1. Upon receipt of a Code 1, passenger entrapment, responds to the appropriate Elevator Machine Room.
2. Tries to restore the elevator to service keeping the "7-7" Supervisor updated.
3. Updates "7-7" Supervisor.
4. Assists the Police in the evacuation.

Electrical Section

1. When Elevator Maintenance Contractor staff is not available, assists Police Division in securing power to stalled elevator and rescue elevator when requested.

6-3 CODE 2 - SERVICE INTERRUPTIONS RESPONSE

6-3.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Upon occurrence of a Code 2 (Critical elevator or critical service interruption), broadcasts an "all-page" and identifies the affected critical elevator or service interruption (Refer to **Exhibit 6B** for the critical elevators or service interruption which propagate Code 2).
2. Notifies the Elevator Maintenance Contractor immediately.

"7-3" Supervisor

1. Supervises field response to emergency.
2. Advises the Tenant Support & Project Management of probable duration of outage.
3. Arranges for alternate means of transportation and advises the Senior Engineering Technician on the probable effect of the interruptions on tenants and service.

6-3.2 PLANT & STRUCTURES DIVISION

Elevator Maintenance Contractor

1. Notifies Elevator Maintenance Contractor of Code 2 conditions.
2. Immediately responds and expedites repairs, working continuously 24 hours/day to restore service.

FACILITY ENGINEERING SECTION

Senior Engineering Technician

1. Ensures immediate Elevator Maintenance Contractor response and restoration.
2. Advises the Manager, Plant & Structures, the Manager, Operations Division, General Manager, Tenant Support & Project Management and Manager, Tenant Services Division of probable restoration time.

6-3.3 TENANT SUPPORT & PROJECT MANAGEMENT

1. Notifies tenants and patrons by telephone, Tenant's Bulletin, temporary signs, etc., if deemed necessary.
2. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

EXHIBIT 6B

CRITICAL ELEVATOR AND CRITICAL SERVICE INTERRUPTIONS

Critical Elevators

WTC 1 - 5,6,7,17,48,49,50, and 99
WTC 2 - 5,6,7,17,48,49,50, and 99

Critical Service Interruptions - 1 WTC

1. Removal of three (3) or more elevators in any six (6) car group.
2. Removal of one (1) or more Below Grade elevators - J1 to J3 or either J4 or FE8.
3. Removal of one (1) or more Zone III, D-Bank elevators, A93 to A98, when either A6 or A7 Shuttle elevators are out of service.
4. Removal of any of the following Shuttle elevators at anytime - A5, A6, A7, A17.
5. Removal of any of the following Freights elevators at anytime - FE 48, FE 49, FE 50, FE 99.
6. Removal of two (2) or more Low Rise Shuttle elevators - A1 to A4, A8 to A11.
7. Removal of two (2) or more High Rise Shuttle elevators - A12 to A16, A18 to A23.
8. Removal of both P11 and P18 escalators.
9. Removal of either A1 or A2 escalator.
10. Removal of two (2) or more escalators - P19 to P27.
11. Removal of two (2) or more escalators - P1 to P4, P28, P29.
12. Removal of two (2) or more escalators - P5 to P8.
13. Removal of two (2) or more escalators - P9 and P10.

Critical Service Interruptions - 2 WTC

1. Removal of three (3) or more elevators in any six (6) car group.
2. Removal of one (1) or more Below Grade elevators - K1 to K5 or FE2.
3. Removal of one (1) or more Zone III, D-Bank elevators, A93 to A98, when either B6 or B7 Shuttle elevators are out of service.
4. Removal of any of the following Shuttle elevators at anytime - B5, B6, B7, B17.
5. Removal of any of the following Freights elevators at anytime - FE 48, FE 49, FE 50, FE 99.
6. Removal of two (2) or more Low Rise Shuttle elevators - B1 to B4, B8 to B11.
7. Removal of two (2) or more High Rise Shuttle elevators - B12 to B16, B18 to B23.
8. Removal of B15 or B16 Escalators.
9. Removal of B17 or B18 Escalators.
10. Removal of B1 or B2 Escalators.

EXHIBIT 6B (Continued)
CRITICAL ELEVATOR AND CRITICAL SERVICE INTERRUPTIONS

Critical Service Interruptions - 4 WTC

1. Removal of any of the following elevators at any time - PE 7, PE 12, CE 2, CE 5, FE 3 and FE 4.
2. Removal of two (2) or more elevators in a three (3) or six (6) car group.
3. Removal of either E 14 or E 15 escalators.

Critical Service Interruptions - 5 WTC

1. Removal of any of the following elevators at any time-FE 10, FE 11.
   Removal of two (2) or more elevators in a three (3) or six (6) car group.
2. Removal of any two (2) escalators from E 3 to E 10, or E 11 to E 13.

Critical Service Interruptions: Dean Witter Reynolds

1. One (1) or more elevators in a low zone shuttle elevator bank in 2 WTC, 1-4, 8-11.
2. One (1) or more elevators in "A" bank, "B" bank, "C" bank or "D" bank in zone 2 in 2 WTC.
3. One (1) or more elevators in "A" bank or "B" bank in 5 WTC.
4. One (1) or more elevators in "B" bank zone 1 in 1 WTC.
5. Freight elevator FE 10 or FE 11 in 5 WTC.
6. One (1) or more escalators E3 thru E10 in 5 WTC.

6-4 CODE 3 - FIREPROOFING FALLOUT

6-4.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Upon occurrence of a Code 2 (Critical elevator or critical service interruption), broadcasts an "all-page" and identifies the affected critical elevator or service interruption (Refer to **Exhibit 6B** for the critical elevators or service interruption which propagate Code 2).
2. Notifies the Elevator Maintenance Contractor immediately.
3. Review ACM data survey to determine if negative or positive. If positive, refer to ACM chapter.

6-4.2 PLANT & STRUCTURES DIVISION

Elevator Maintenance Contractor

1. Notifies Elevator Maintenance Contractor Management of Code 2 conditions.
2. Immediately responds and expedites repairs, working continuously 24 hours/day to restore service.

FACILITY ENGINEERING SECTION

Senior Engineering Technician

1. Ensures immediate Elevator Maintenance Contractor response and restoration.
2. Inspects shaft to determine need for cleanup and repair of loose fireproofing.

6-4.3 TENANT SUPPORT & PROJECT MANAGEMENT

1. Notifies tenants and patrons by telephone, Tenant's Bulletin, temporary signs, etc., if deemed necessary.
2. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

6-5 TOWER SWAY EMERGENCIES RESPONSE : PHASE I & PHASE II

6-5.1 OPERATIONS DIVISION

"7-7" Supervisor

Initial High Wind Forecast

1. The "7-7" Supervisor routinely receives high wind forecasts from the National Weather Service or Weather Contractor on a 24 hrs/7 day a week basis.
2. On notification of a forecasted high wind condition, completes a Weather Forecast Form.

Phase I

1. Makes notifications as per Exhibit 6A Notifications.
2. Obtains and records from National Weather Service or Weather Contractor the forecasted wind speed and keeps necessary WTC staff informed.
3. Records all Phase I notifications, activities, and problems in the daily Elevator Malfunction/Outage Report and Log Book.
4. Closely monitors Stentofon panel and reports to the "7-3" Supervisor any elevators which have a call registered. This may indicate a broken traveling cable and/or potential passenger entrapment.
5. Broadcasts an all-page advising all units that "We have a PHASE I elevator condition". Rebroadcasts appropriate message whenever condition changes (only 7:30AM-5PM, M-F).
6. During off-hours, requests the Elevator Maintenance Contractor duty mechanics to monitor cable sway in the high-rise elevator pits and to report any problems to the "7-3" Supervisor.
7. When Phase I conditions are terminated by the "7-3" Supervisor, notifies all units to resume normal operations.
8. Notifies the Restaurant Manager and the Observation Deck Supervisor that Elevator Nos. 6 and 7 are operating at slow speed and may be shut down if winds worsen.

Phase II

1. Makes notifications as per Exhibit 6A Notifications (7:30am-5:00pm only).
2. Obtains and records from National Weather Service or Weather Contractor the forecasted wind speed and keep necessary WTC staff informed.
3. Records all Phase II notifications, activities, and problems in the Elevator Malfunction/Outage Report and Log Book.
4. Closely monitors Stentofon panel and reports to the "7-3" Supervisor (Operations Division) any elevators which have a call registered. This may indicate a broken traveling cable and/or potential passenger entrapment.
5. After 6PM, requests the Elevator Maintenance Contractor Duty Mechanics to monitor cable sway in the high-rise elevator pits and to report any problems to the "7-3" Supervisor.

6-5.1 OPERATIONS DIVISION - Phase II (Continued)

6. Broadcasts an all-page advising all units, "We have a PHASE II elevator condition." Rebroadcast appropriate message whenever condition changes (only 8AM-5PM, M-F).
7. Notifies the Elevator Maintenance Contractor Office at 7:30 AM on regular weekdays of a recorded Phase II mode between midnight and 7:30 AM during the previous tour.
8. Notifies the operators of freight elevators 50 A&B, 48 A&B and 5 A&B that they must stop every 10 floors to dampen rope sway.
9. Activates "Out of Service" signs for any freight elevator taken out of service as ordered by "7-3" Supervisor.
10. Notifies the Restaurant manager and the Observation Deck Supervisor if Elevator Nos. 6 and 7 will be shut down if ordered by "7-3" Supervisor.

Note: Patrons traveling to and from the 107th floor may use high-rise shuttles between the Main Lobby and 78th Floor Skylobby; and Local Elevators Nos. 93 and 98 from the 78th Floor Skylobby to the 107th floor. Remind the 107th floor managers that all signs and guide personnel in the skylobbies must be provided by the restaurant and observation deck, respectively.

11. Notifies the "7-3" Supervisor, Elevator Maintenance Contractor and both of the 107th floor managers that the Phase II has ended, indicating also whether a Phase I remains in effect or completely normal operations have been resumed.

Elevator Starter

Phase I

310 Starter (Tower A & B)

1. When directed by "7-3" Supervisor, positions speed control toggle switches to SLOW speed for elevators 12-16 and 18-23. Notify "7-7" Supervisor when switches are positioned to slow speed. Repositions switch to NORMAL speed at the end of Phase I.
2. Monitors starter's panel for stalled elevators and windspeed (WDS) indication.

All Starters

1. Resume normal operations upon notification from "7-7" Supervisor.

Elevator Starter (Continued)

Phase II

310 Starter (Tower A & B)

1. Positions toggle switch to slow speed, or when directed by 7-3 supervisor keys to OFF position, following standard procedures for removing high rise passenger elevators from service. All high-rise shuttle elevators are equipped with rope dampeners.
2. When directed by "7-3" Supervisor, places elevator 16, 18 or 19 A&B on interzone service (44th to 78th Floor Skylobbies only).

44th & 78th Floor Starters (Tower A & B)

1. Shutdown center cars in Banks C & D of Zones II & III (These cars are as follows: Zone II: # 64 & 67, 70 & 73; Zone III: 88 & 91, 94 & 97).

All Starters

1. Resume normal operations upon notification from "7-7" Supervisor.

"7-3" Supervisor

Phase I

1. During off-hours, notifies the Contractor Security Guard Supervisor of the need to post 2 security guards (from low priority stations) at each of the Main Concourse starter's control panels.
2. Directs Starters to position toggle switches to SLOW speed at the appropriate starters control panels.
3. Monitors Starters panel and investigates stalled elevators.
4. Based on weather forecast, determines if necessary to activate a Phase II alert, in advance of the high winds.
5. Decides when to resume normal operations and advise the Operations Control Center to make notifications.
6. Directs Security Guards to monitor all shuttle elevators and to report any out-of-service shuttles to the "7-7" Supervisor.
7. During regular hours, obtains verbal approval of the Manager, Plant & Structures Division to waive specified procedures.

Phase II

1. During off-hours, notifies the Contractor Security Guard Supervisor of the need to post 2 security guards (from low priority stations) at each of the Main Concourse starter's control panel.
2. Directs Starters to monitor all shuttle elevators and to report any out-of-service shuttles to the "7-7" Supervisor.
3. Verifies that elevator operators on Cars 5 A&B, 48 A&B and 50 A&B are in fact stopping at every ten (10) floors.

6-5.1 TOWER SWAY EMERGENCIES RESPONSE - "7-3" Supervisor (Continued)

4. Notifies the 310 Starters to immediately slow down or, if necessary, shut down all high-rise shuttle elevators and/or high rise freight elevators based on weather information and recommendations from the Elevator Maintenance Contractor. (Note: All high-rise shuttle passenger elevators are equipped with rope dampeners and can be operated if necessary. Freight elevators 17A/B, 49A/B, 6A/B and 7A/B are also equipped with rope dampeners) Notifies the Starter to place elevators 16, 18 or 19 A/B on interzone or full service as required.
5. Directs 44th and 78th floor Starters to shut down the center cars in banks C & D of Zone II & III in both Towers. (These cars are as follows: Zone II: Nos. 64 & 67, 70 & 73; Zone III: 88 & 91, 94 & 97.)
6. Monitors Starters panel and investigates stalled elevators.
7. Posts signs in skylobbies to direct tenants and patrons to proper access or egress routes.
8. Supervises crowd control as needed.
9. Decides when to resume normal operations or downgrade to Phase I and advises the "7-7" Supervisor to make appropriate notifications.
10. During regular hours, obtains verbal approval of the Manager, Plant & Structures Division to waive specified procedures.

TENANT SUPPORT & PROJECT MANAGEMENT

1. Notifies tenants and patrons by telephone, Tenant's Bulletin, temporary signs, etc., if deemed necessary.
2. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

6-5.2 PLANT & STRUCTURES DIVISION

Elevator Maintenance Contractor

Phase I

1. Verifies high-rise elevators are actually operating at slow speed. Reports any malfunctions to the "7-7" Supervisor and Elevator Maintenance Contractor management.
2. Monitors conditions in the critical elevator pits and recommends the shutdown of some or all of the high-rise shuttle elevators and local cars. Reports any malfunctions to the "7-7" Supervisor and Elevator Maintenance Contractor management.
3. Requests the "7-7" Supervisor to call Elevator Maintenance Contractor if additional mechanics are required.
4. Resumes normal operations upon notification from "7-7" Supervisor.

Phase II

1. Verifies that high-rise elevators are operating at slow speed. All high rise passenger elevators are equipped with rope dampeners.
2. Monitors conditions in the critical elevator pits and recommends the shutdown of some or all of the high-rise shuttle elevators and local cars. Reports any malfunctions to the "7-7" Supervisor and Elevator Maintenance Contractor management.
3. Requests the "7-7" supervisor to call Elevator Maintenance Contractor if additional mechanics are required.
4. Verifies shutdown of center cars in Banks C & D of Zone II and III (These cars are as follows: Zone II, Nos. 64 & 67, 70 & 73; Zone III: 88 & 91, 94 & 97).
5. Resumes normal operations upon notification from "7-7" Supervisor.

Note: Normally, Elevator Maintenance Contractor staff is not present between midnight and 7AM. Upon notification by the "7-7" Supervisor, Elevator Maintenance Contractor staff shall respond and perform any required duties.

FACILITY ENGINEERING SECTION

Senior Engineering Technician

Phase I

1. Establishes communications with Elevator Maintenance Contractor, the "7-7" Supervisor and the Operations Division to verify that:

    a. Elevator Maintenance Contractor is monitoring critical elevator pits.
    b. Existing elevator outages are identified, and procedures are adjusted accordingly.

2. Provides technical assistance to "7-3" Supervisor as needed.
3. Monitors accelerometer readings on a real time basis.
4. Keeps Supervising Engineer and Manager, Plant & Structures Division informed of changing conditions.

Phase II

Note: Based on expected passenger traffic, the severity of wind and existing elevator outages, the Senior Engineering Technician decides if his presence is required at the WTC to assist with the emergency.

1. Establishes communications with Elevator Maintenance Contractor the "7-7" Supervisor and the Operations Division to verify that:
    a. High-rise shuttle elevators are running on slow speed.
    b. Local elevators are shutdown - 64, 67, 70, 73, 88, 91, 94, 97.

FACILITY ENGINEERING SECTION - Senior Engineering Technician Phase II (Continued)

c. Freight elevators 50 A/B are parked at the B1 level. If elevators 5 A/B or 48 A/B are operated for emergency reasons, they must stop every 10 floors. Elevators 17 A/B, 49 A/B, 6A/B and 7 A/B are equipped with rope dampeners.
d. Cars 18 or 19 A&B are on interzone mode (44th to 78th only) as required.
e. Elevator Maintenance Contractor is monitoring critical elevator pits.
f. Existing elevator outages are identified, and procedures are adjusted accordingly.

2. Monitors accelerometer readings on a real time basis.
3. Keeps Supervising Engineer and Manager, Plant & Structures Division informed of changing conditions.

MANAGER'S OFFICE (PLANT & STRUCTURES)

Phase I & Phase II

Based on unique requirements at the time of each incident, may authorize the "7-3" Supervisor to waive or add specified procedures in the interest of meeting the transportation needs of patrons.

6-5.3 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at the WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains up-to-date tenant listing by building and floor at the Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

6-6 USE OF ELEVATORS DURING AN EMERGENCY

6-6.1 OPERATIONS DIVISION

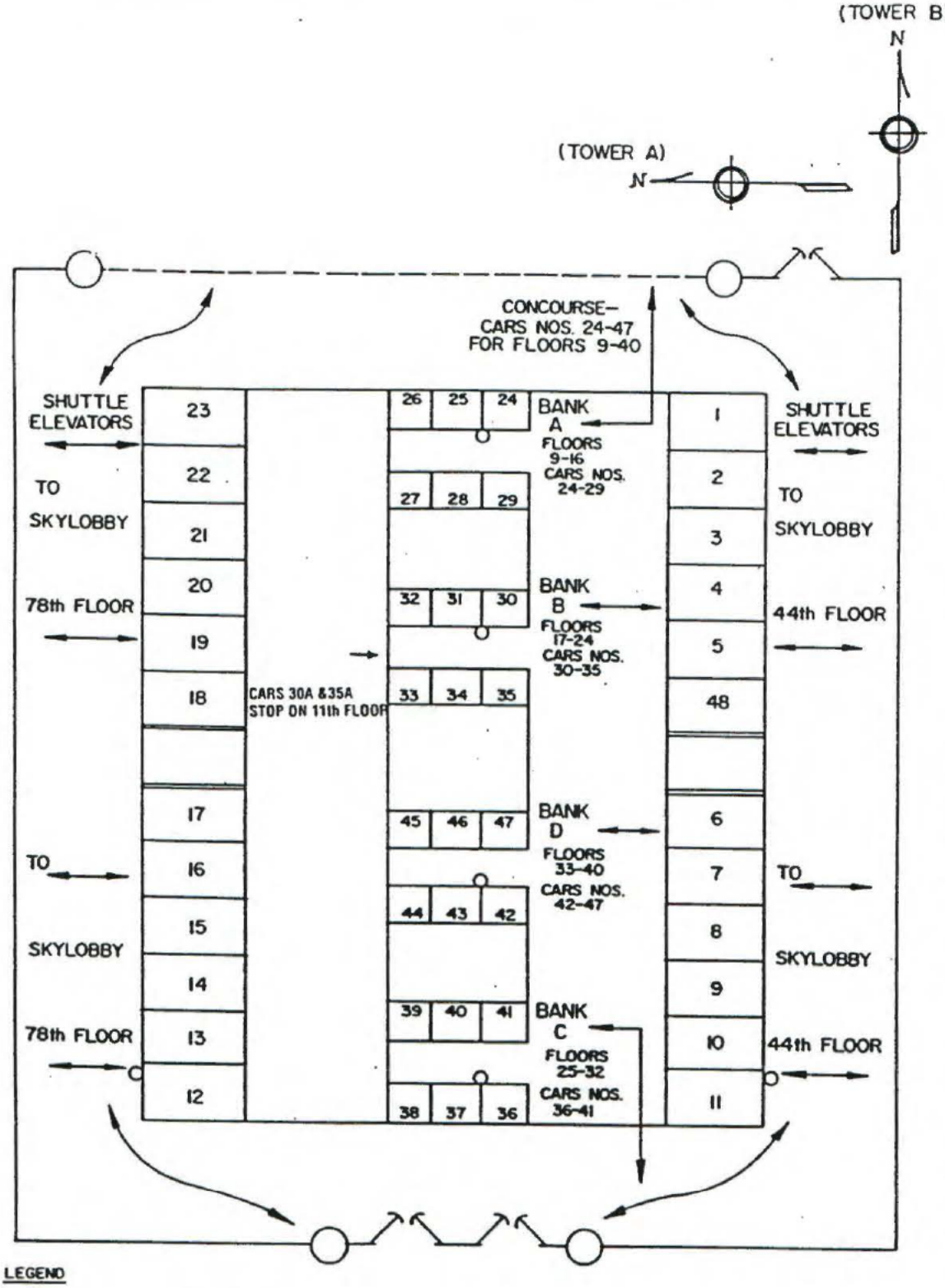
"7-7" Supervisor

1. Coordinates the use of elevators in an emergency situation through the use of the Stentofon Intercom System addressing appropriate Elevator Starters or Operators. Refer to **Exhibits 6C-60** for schematics of elevator runs and for elevator plan views of Lobbies and Skylobbies.

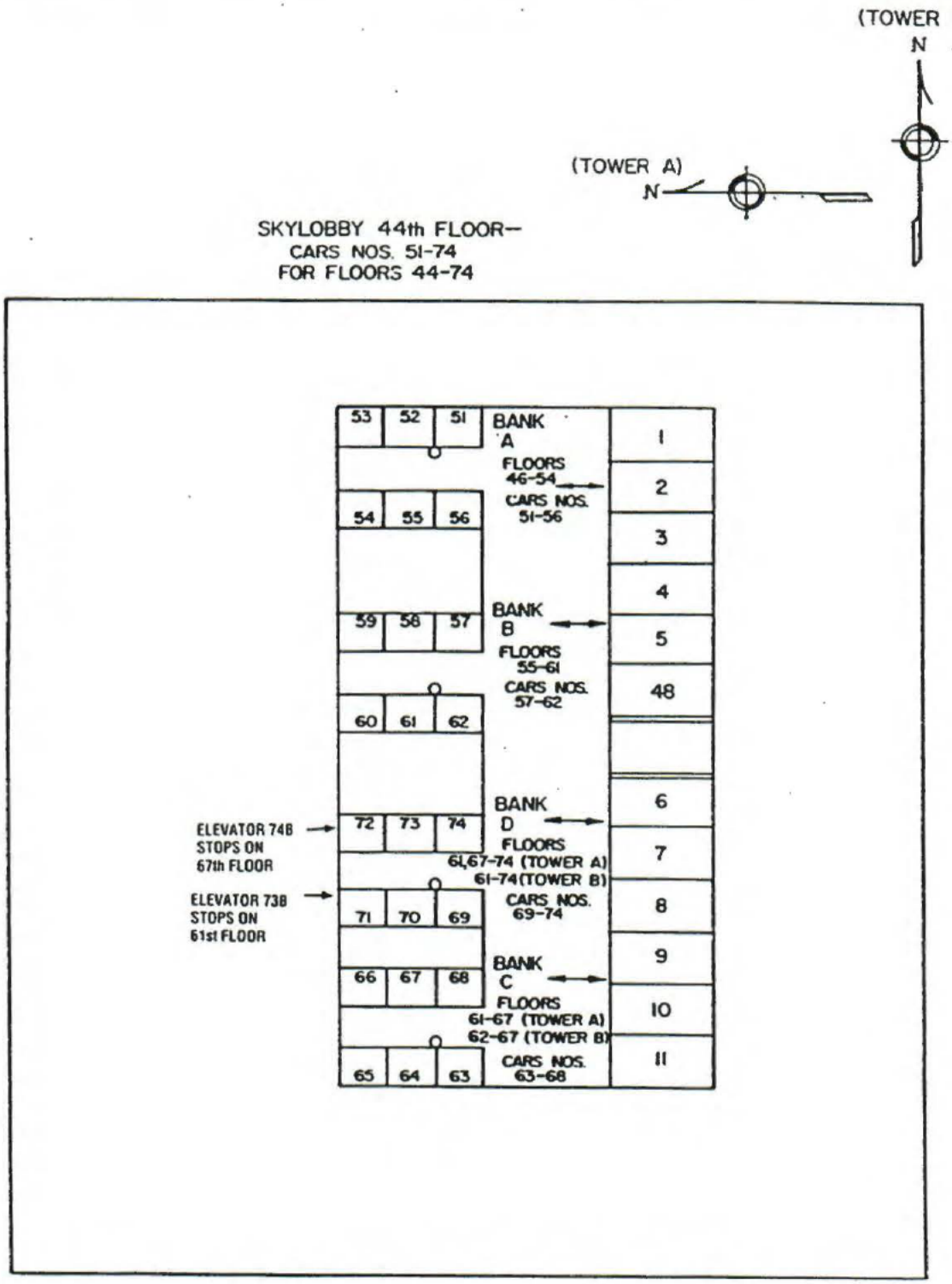
   Use the following table for assigning elevators in an emergency:

ELEVATOR & FLOORS SERVED		COMMENTS
ZONE I - BOTH TOWERS		
5	B1, 3-5 (B1-5 B Tower) 7, 9-40, 44	Best Choice
48	B1-7, 9-40	
50	B4-75, 78-108 (B4-108 B Tower)	
17	B1-5, 41, 43-78 (43-74, 78 B Tower)	
49	B1-5, 41-74	
6	B1-5, 44, 75, 77-107	Limited availability for freight use
ZONE II - BOTH TOWERS		
17	B1-5, 41, 43-78 (43-74, 78 B Tower only)	Best Choice
49	B1-5, 41-74	
50	B4-75, 78-108 (B4-108 B Tower only)	
6	B1-5, 44, 75, 77-107	Limited availability for freight use
ZONE III - BOTH TOWERS		
50	B6-75, 78-108 (B4-108 B Tower only)	Best Choice
6	B1-5, 44, 75, 77-107	Limited availability for freight use
99	106-110	Only Choice

Plan View -	Bank & Shuttle Elevator Locations Tower A & B, Concourse level	Exhibit 6C
Plan View -	Bank & Shuttle Elevator Locations Tower A & B, Skylobby 44th Floor	6D
Plan View -	Bank & Shuttle Elevator Locations Tower A & B, Skylobby 78th Floor	6E
Plan View -	Tower A & B Shuttle & Freight Elevator Locations	6F
Plan View -	4 World Trade Center Passenger & Freight Elevator Locations	6G
Plan View -	5 World Trade Center Passenger & Freight Elevator Locations	6H
Schematic -	Shuttle and Freight Elevator Riser Tower A, Level B6 - 110th Floor	6I
Schematic -	Bank Elevator Riser Tower A, Concourse - 107th Floor	6J
Schematic -	Shuttle and Freight Elevator Riser Tower B, Level B6 - 110th Floor	6K
Schematic -	Bank Elevator Riser Tower B, Concourse - 107th Floor	6L
Schematic -	Local Elevator Bank and Freight Riser Diagram 4 World Trade Center, B2 - 9th Floor	6M
Schematic -	Local Elevator Bank and Freight Riser Diagram 5 World Trade Center, B2 - 9th Floor	6N
Plan View -	Below Grade Passenger and Freight Elevator Locations Elevators Nos. J-1 to J-4; K-1 to K-5, P-1, FE1, FE@, FE5 and FE8 (ARMOR)	6O



Plan View—Bank & Shuttle Elevator Locations
Towers A & B, Concourse Level

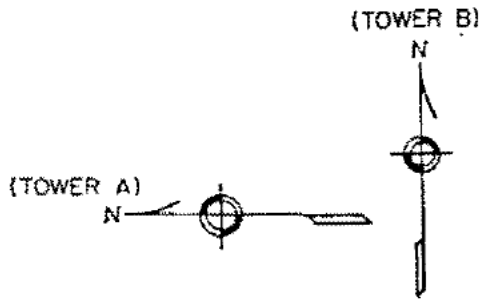


LEGEND

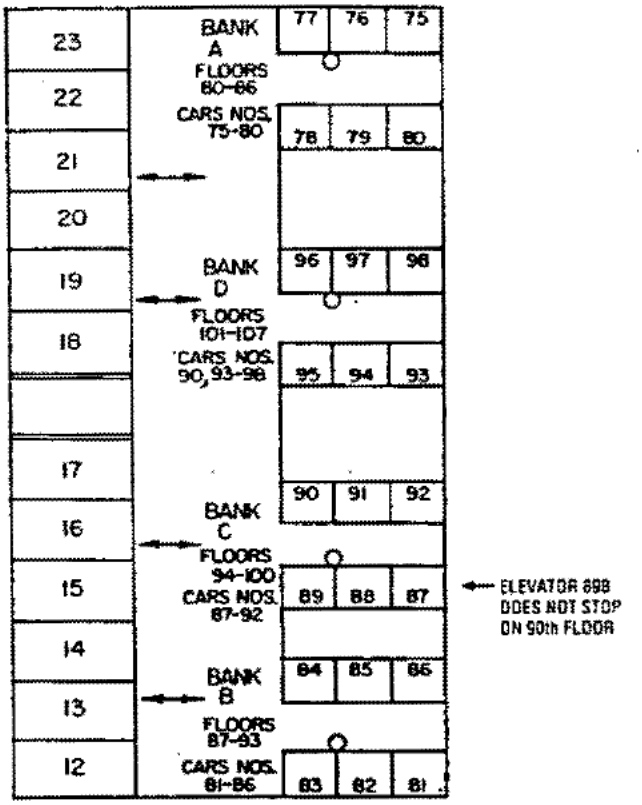
O ——FIRE DEPARTMENT KEY OPERATED SWITCH

←→ ——PASSENGER MOVEMENT

Plan View—Bank & Shuttle Elevator Locations Towers A & B, Skylobby 44th Floor



SKYLOBBY 78th FLOOR—
CARS NOS. 75-98
FOR FLOORS 77-107

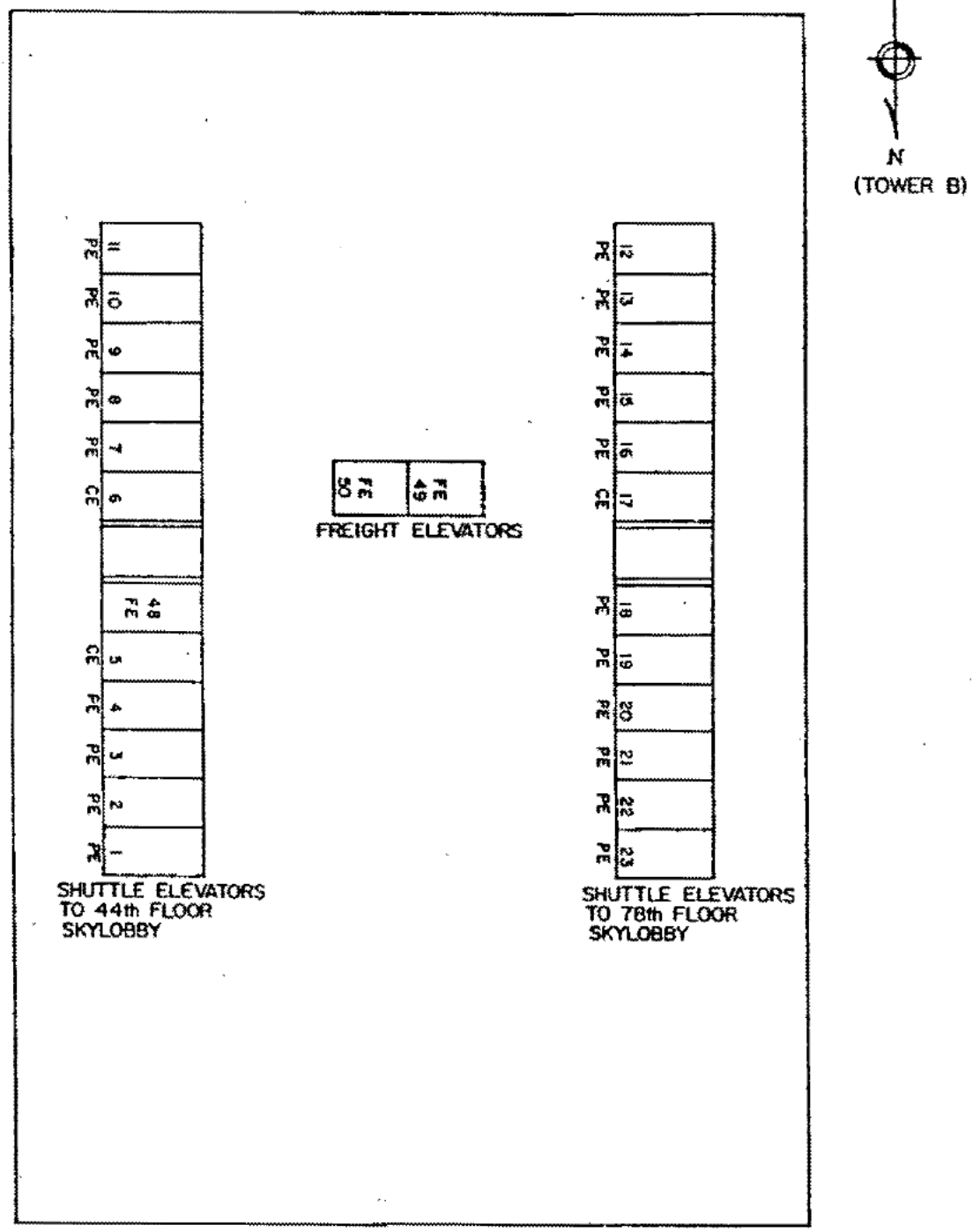


LEGEND

O —— FIRE DEPARTMENT KEY OPERATED SWITCH

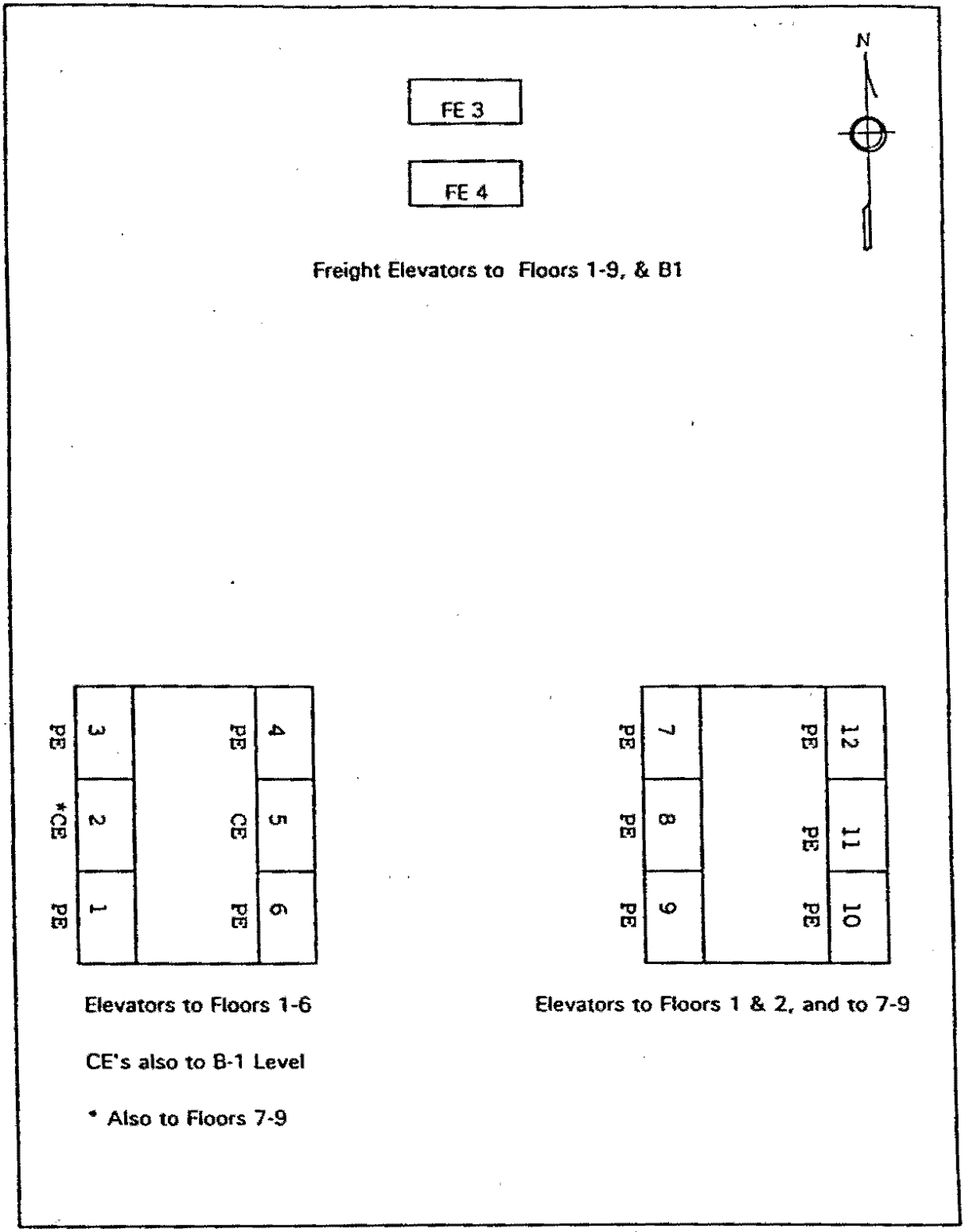
←→ —— PASSENGER MOVEMENT

Plan View—Bank & Shuttle Elevator Locations
Towers A & B, Skylobby 78th Floor



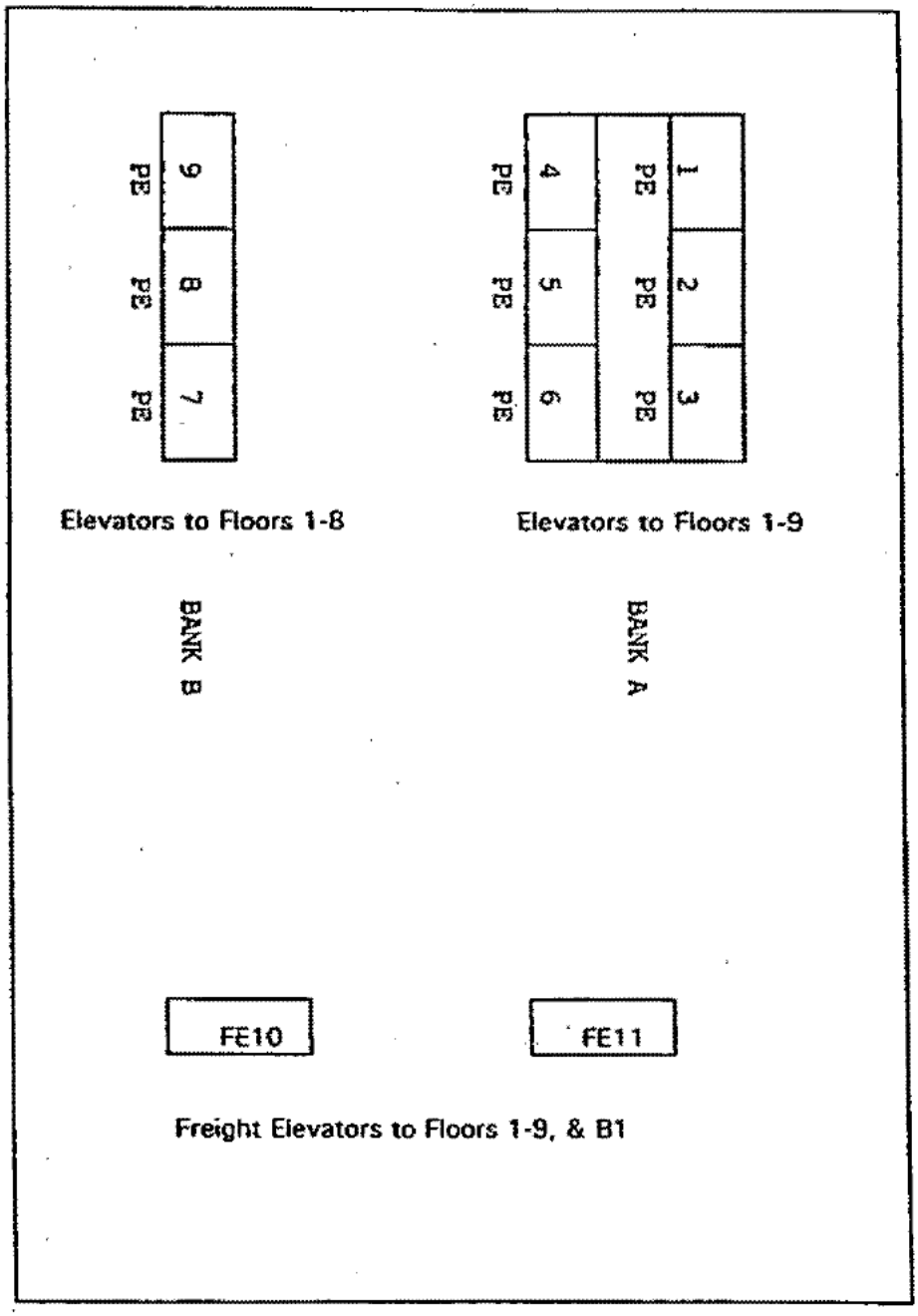
Plan View—Towers A & B
Shuttle & Freight Elevator Location

EXHIBIT 6G



PLAN VIEW - 4 WORLD TRADE CENTER
PASSENGER & FREIGHT ELEVATOR LOCATION

EXHIBIT 6H

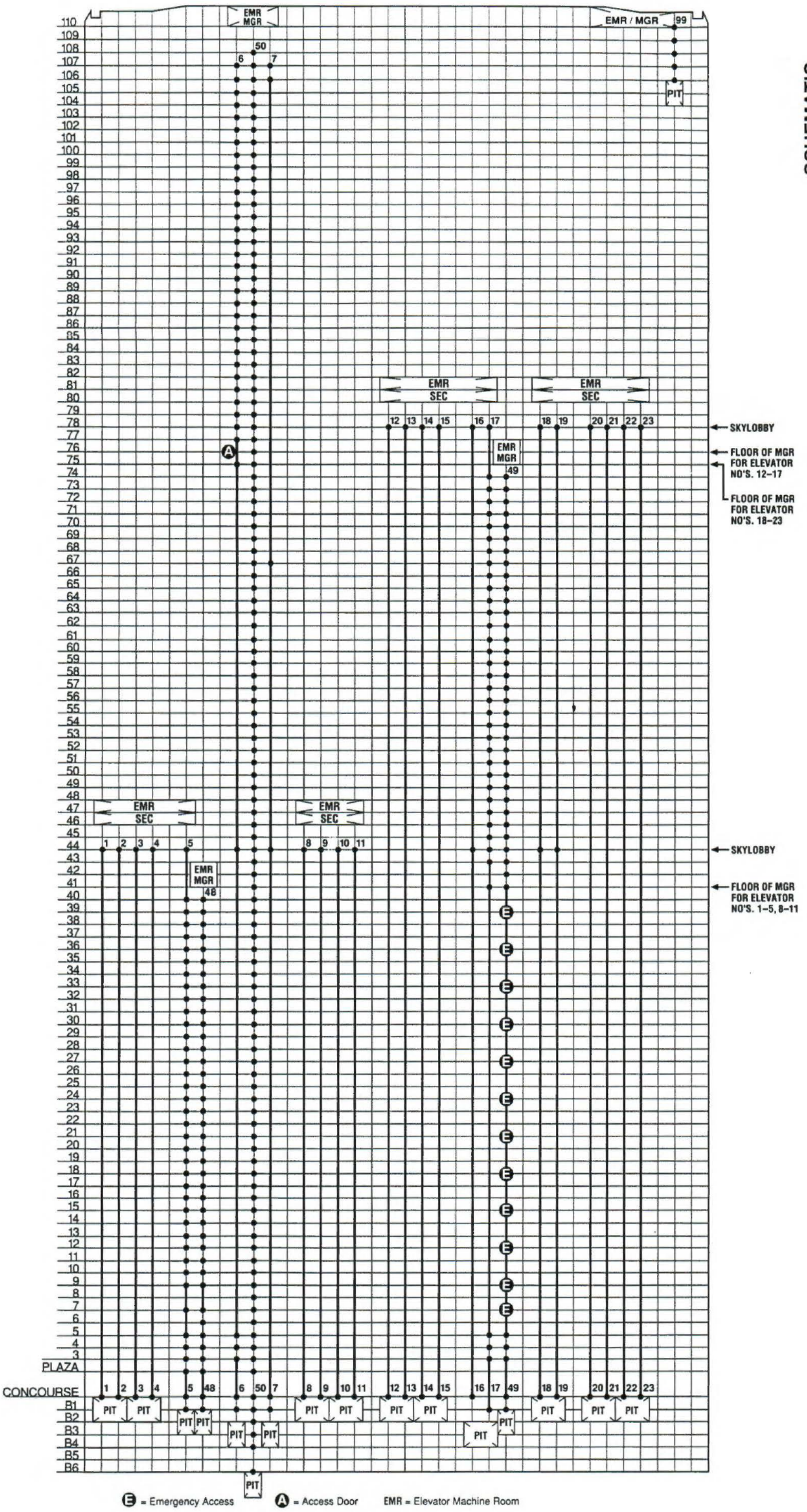


PLAN VIEW - 5 WORLD TRADE CENTER
PASSENGER & FREIGHT ELEVATOR LOCATION

1-Sept-1995

EXHIBIT 6I

Tower A, Level B6 - 110th Floor

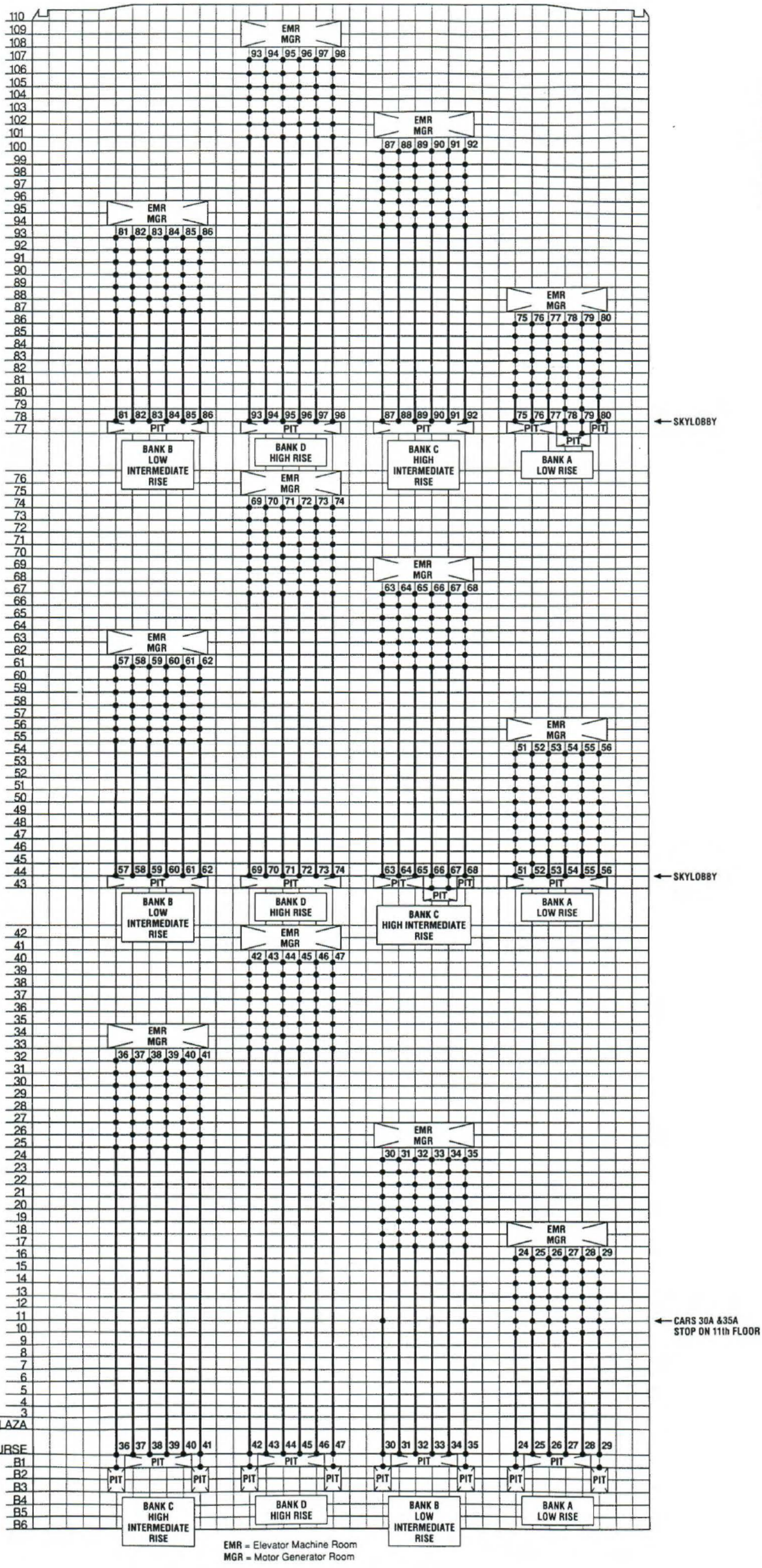


SCHEMATIC
Shuttle and Freight Elevator Riser
Tower A, Level B6 - 110th Floor

1-Sept-1995

EXHIBIT 6J

Tower A, Level B6 - 110th Floor



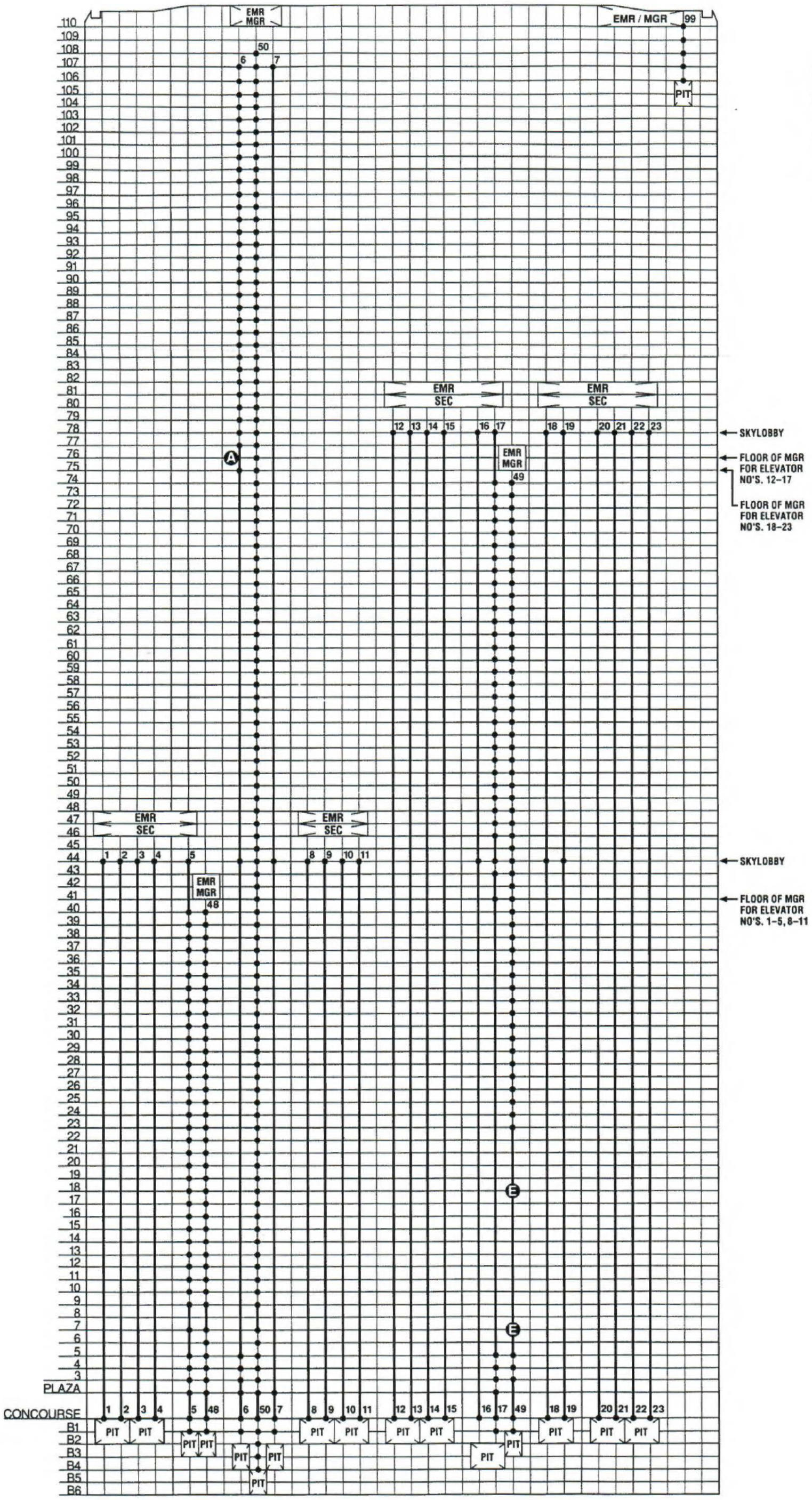
EMR = Elevator Machine Room
MGR = Motor Generator Room

SCHEMATIC
Bank Elevator Riser
Tower A, Level B6 - 110th Floor

1-Sept-1995

EXHIBIT 6K

Tower B, Level B6 - 110th Floor



E = Emergency Access A = Access Door EMR = Elevator Machine Room

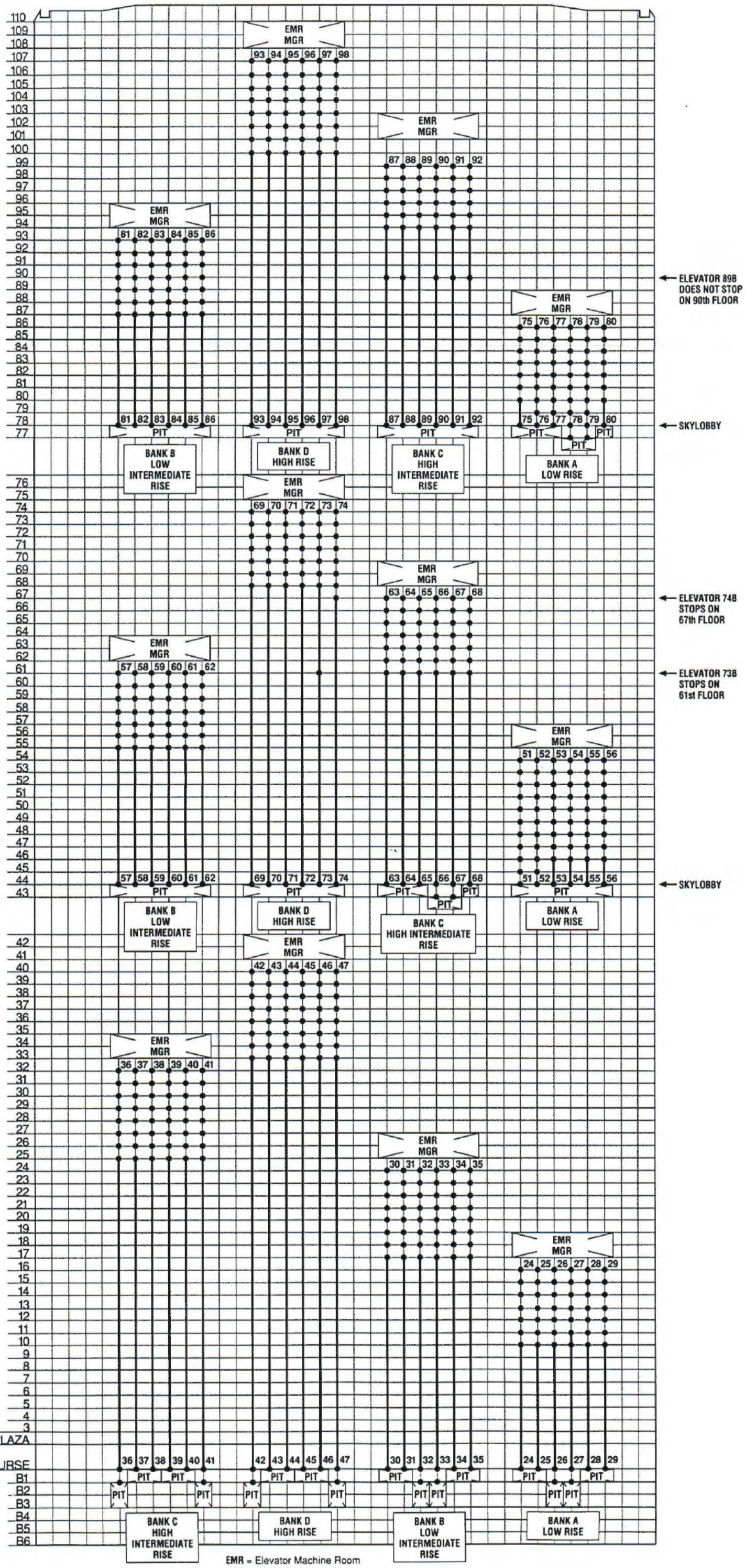
SEC = Elevator Secondary MGR = Motor Generator Room

SCHEMATIC
Shuttle and Freight Elevator Riser
Tower B, Level B6 - 110th Floor

1-Sept-1995

EXHIBIT 6L

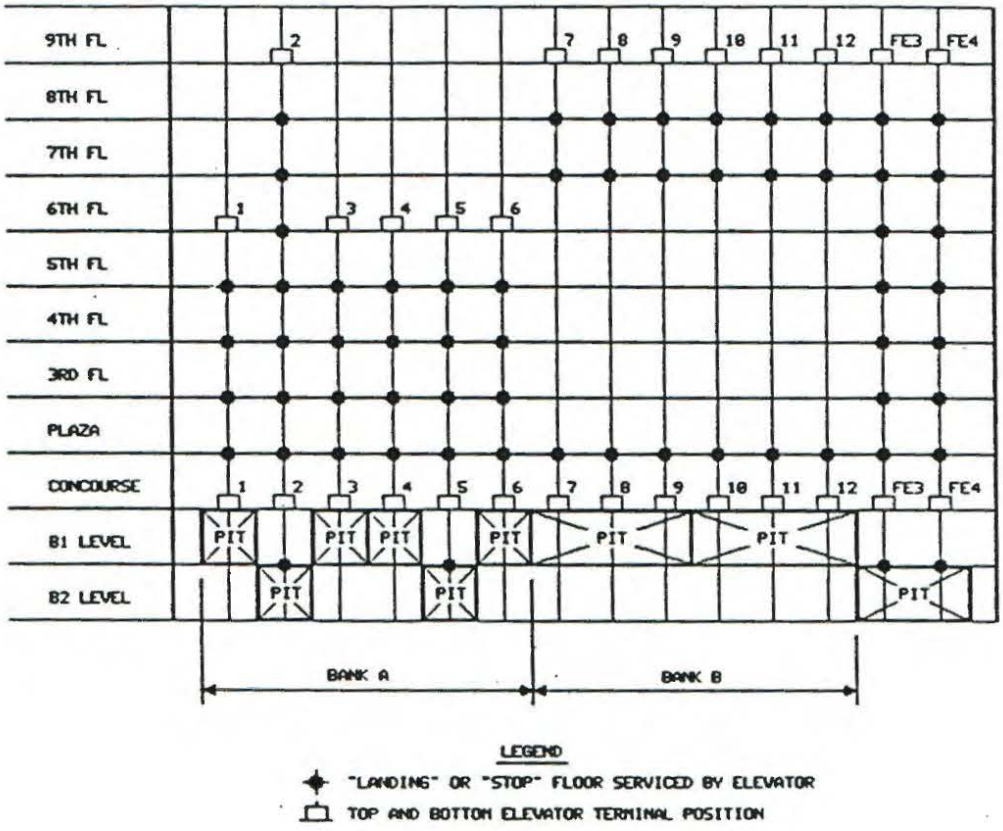
Tower B, Level B6 - 110th Floor



EMR = Elevator Machine Room
MGR = Motor Generator Room

SCHEMATIC
Bank Elevator Riser
Tower B, Level B6 - 110th Floor

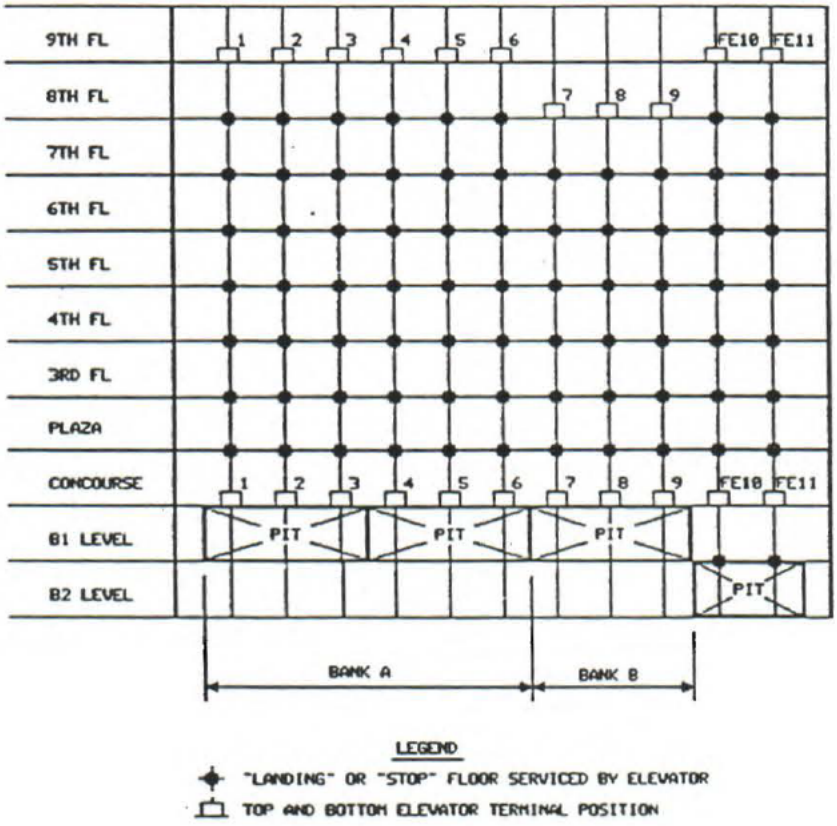
EXHIBIT 6M



SCHEMATIC - LOCAL ELEVATOR BANK AND FREIGHT RISER DIAGRAM

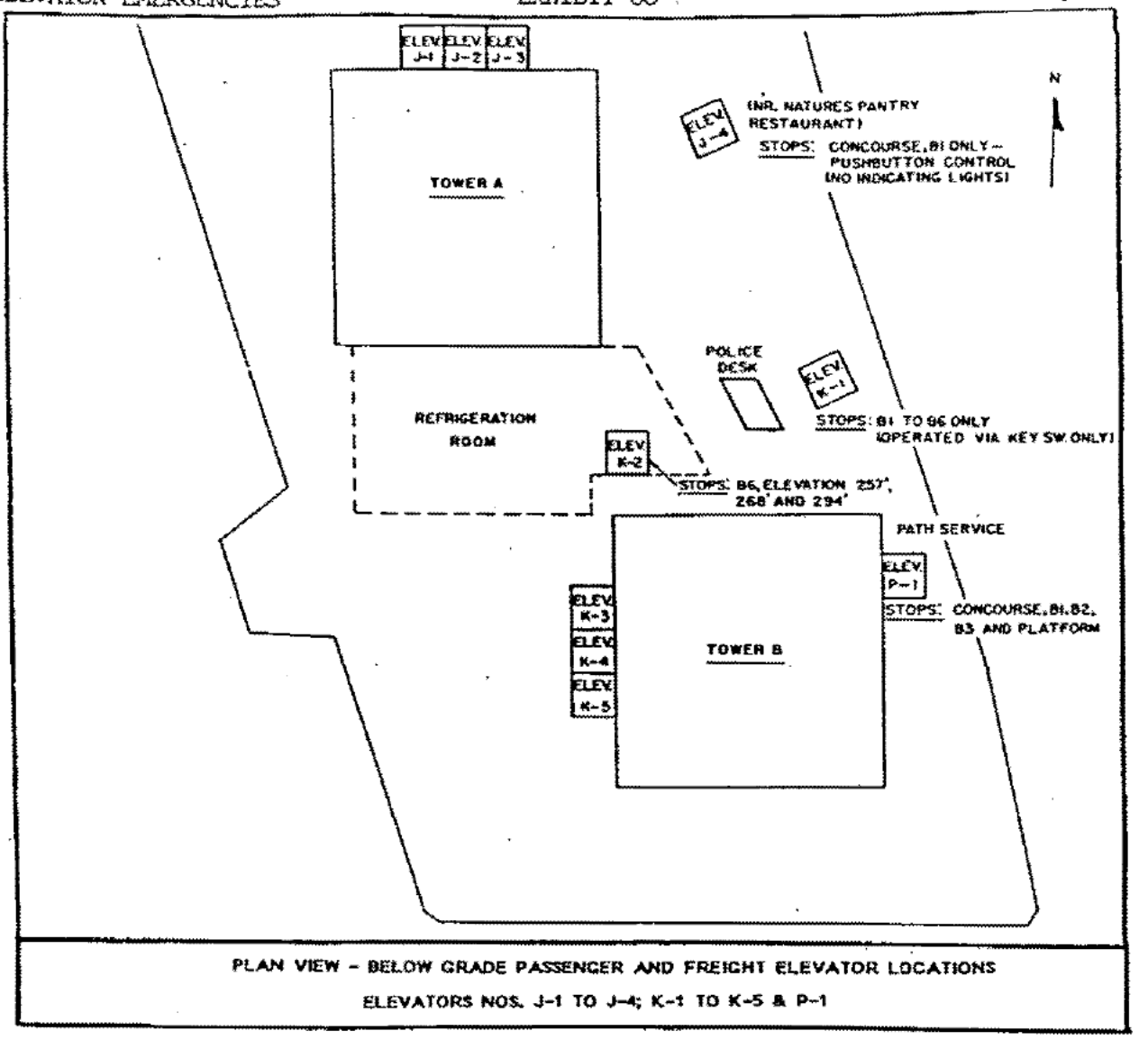
4 World Trade Center

EXHIBIT 6N



SCHEMATIC - LOCAL ELEVATOR BANK AND FREIGHT RISER DIAGRAM

5 World Trade Center



PLAN VIEW - BELOW GRADE PASSENGER AND FREIGHT ELEVATOR LOCATIONS

ELEVATORS NOS. J-1 TO J-4; K-1 TO K-5 & P-1

Note: Most elevators serving subgrade areas are shown on this and other exhibits in this chapter. Those that are not shown are the following:

Elevator #	Location	Floors
FE1	Dataport news stand by IND "E" subway	310' - B1 - B2
FE2	Republic Bank, In rear corridor	310' - B1 - B2
FE8 (Armor)	Coffee Express, In rear corridor	310' - B1
FE5	1 WTC subgrade	B1 - B2 - B3

CHAPTER 7
FIRE EMERGENCIES

SUMMARY 7-1

Scope 7-1.1
Major Responsibilities 7-1.2
Notifications 7-1.3

WORLD TRADE CENTER FIRE EMERGENCY RESPONSE 7-2

Life Safety & Security Division 7-2.1
Supv., Fire & Life Safety
Lobby Fire Command Station
Skylobby Fire Command Desk
Police Division 7-2.2
Operations Division 7-2.3
New York City Fire Department 7-2.4
Plant & Structures Division 7-2.5
Mechanical Section
Electrical Section
Tenant Support & Project Management 7-2.6
Tenant Floor Warden 7-2.7

PATH FIRE EMERGENCY ADDITIONAL RESPONSE 7-3

Life Safety & Security Division 7-3.1
Supv., Fire & Life Safety
Police Division 7-3.2
Operations Division 7-3.3
Plant & Structures Division 7-3.4
Mechanical Section
PATH 7-3.5

7 FIRE EMERGENCIES

7-1 SUMMARY

7-1.1 Scope

This procedure covers the response to a fire or smoke condition and is divided into two sections:

- o World Trade Center Fire Emergency Response
- o PATH Fire Emergency Response (incident occurring in the PATH area only)

7-1.2 Major Responsibilities

Life Safety & Security Division :

Supervisor, Fire & Life Safety : ("S-4" Supv. - off hours)

- o Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).
- o Investigates and reports on all actual fires.

Police Division :

- o Reports fire to FDNY.
- o Responds to and controls fire until FDNY arrives.

Operations Division :

- o Makes appropriate notifications and maintains a chronological record of events. Assists with tenant evacuation through the use of the OCC Public Address system. Arranges for emergency elevator service.

New York City Fire Department :

- o Responds to fire, extinguishes it and determines the need for smoke purge. Secures incident.

Plant & Structures Division :

Mechanical Section:

When requested, operates fire pumps and activates smoke purge. Secures sprinkler water shutoff valve at the request of the FDNY.

Electrical Section:

When fire is secured, resets smoke detectors or alarm panels. Responds to electrical incidents. Remotely secures equipment at the request of the FDNY or Police.

Tenant & Public Services Division :

- o Responds to tenant inquiries.

Tenant Floor Warden :

- o Reports a fire or smoke condition and performs an organized evacuation at the sound of an alarm or when instructed by WTC staff.

7-1.3 Notifications

Initial report of a fire or smoke condition is generally made one of three ways:

- o An alarm is activated on the Multiplex computer system at the O.C.C./or the MXL at the Fire Command Center.
- o A break-glass alarm sounds at the O.C.C.
- o Telephone call to the WTC Police Desk and the Lobby Fire Command Station or the Operation Control Center.

Notifications to be made for conditions in the World Trade Center are listed in **Exhibit 7A.** If the incident occurs in the PATH area, refer also to **PATH Fire Emergency Response** section for appropriate notifications.

EXHIBIT 7A
NOTIFICATIONS

ALL RADIO TRANSMISSIONS ARE TO REFER A "FIRE CONDITION" AS A "Possible 8-8" OR "Actual 8-8," as appropriate.

Refer to **APPENDIX A** for names and numbers.
Individuals or their alternates must be contacted at home if the incident occurs off-hours.

FROM	PRIORITY	TO
WTC Police Desk Officer	1st Priority (radio)	FDNY (by Hotline) Tour Commander "S-4" Supervisor "7-3" Supervisor "7-7" Supervisor Supervisor, Fire & Life Safety ("S-4" during off hours) Police Commanding Officer (reg. hrs. only)
	2nd Priority (radio or phone)	Manager (Life Safety & Security) Police Lieutenant (reg. hrs. only) Central Police Desk
"7-7" Supervisor	1st Priority	WTC Police Desk
	2nd Priority	Supervisor, Fire & Life Safety ("S-4" during off hours) Mechanical Contract Supervisor Electrical Contract Supervisor
	3rd Priority*	Chief Mtnc Supv. (Mechanical) Chief Mtnc Supv. (Electrical) Supervisor, Fire & Life Safety ("S-4" during off hours) Manager (Operations) Manager (Plant & Structures) General Mgr, Tenant Support & Project Management Manager (Tenant Support Division) Asst Director, Physical Facilities
Lobby Fire Command Station	1st Priority	WTC Police Desk OCC Desk
Supervisor, Fire & Life Safety ("S-4" during off hours)	1st Priority	Public Affairs (reg. hrs. only) Risk Management (reg. hrs. only)

* For notifications purposes only, fires with the following conditions are considered 3rd priority:

- sprinkler head water release
- use of hose line to extinguish fire
- electrical switchgear fire
- smoke purge utilized
- suspected arson

7-2 WORLD TRADE CENTER FIRE EMERGENCY RESPONSE

General: There is no Port Authority (P.A.) responsibility for fires at the Vista Hotel (WTC #3), US Customs House (WTC #6) and WTC #7. However, WTC Police will respond to assist in evacuations and crowd control. Fire alarms are transmitted to their proprietary central stations which then notifies the FDNY. The Fire Department responds directly to these buildings.

At no time are unauthorized individuals to respond to the fire scene without the approval of the Manager of Fire & Life Safety (or designated representative) or the Fire Department Chief. In a fire resulting from suspected arson, the area is deemed a "crime scene" (Police/Fire Marshal jurisdiction).

Evacuation chairs have been provided to all tenants who have requested for them for their mobility restricted employees. Additional chairs are at the Observation Deck and the WTC Police Fire Cart Response locations.

7-2.1 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" during off hours)

- o Responds to affected FCS and assumes responsibility of FSD.
- o Verifies that the FDNY has been notified of the alarm.
- o Ensures that the WTC Fire Brigade and Emergency Response Team are notified and respond.
- o Confers with WTC Tour Commander and affected Floor Warden to identify floors to be evacuated, route of evacuation, stairwells used and potential refuge floors.
- o Determines if the general public should be restricted from the affected area(s) and if so, utilizes appropriate security staff to restrict access.
- o If emergency occurs while the Visitors Desks are in operation, notifies staff to ceased issuing visitors passes to the affected area(s).
- o Once the emergency is secured, ensures that all alarm systems (break-glass boxes, NYC alarm boxes, public address system) are reset.
- o Prepares Port Authortity Fire Report (Form 1624).
- o Makes all necessary entries into appropriate log books.
- o In the event of an actual fire emergency, prepares a chronological report noting the following:
  - -how initial report of emergency was obtained
  - -initial time
  - -arrival time of Fire Department
  - -floors affected
  - -announcements made
  - -decision to evacuate floor(s)
  - -all details surrounding evacuation
  - -all details surrounding fire and extinguishment
  - -other potential details

7-2.1 LIFE SAFETY & SECURITY DIVISION
Supervisor, Fire & Life Safety (Continued)

- o Prepares and submits a memo with all appropriate details to the Manager, Life Safety & Security Division.

Vertical Patrol

1. Upon being notified of an emergency situation over the radio, the affected zone's vertical patrol guards will report to the Fire Command Station serving the affected area (44th & 78th floor skylobbies) and standby for further instructions.

"6-0" Supervisor (Security Supervisor)

1. Upon receipt of a fire alarm (signal "8-8"), responds to the Fire Command Station in the affected building's lobby and stands-by for assignment.

"6-4" "Key Run" (Security Guard)

1. Upon receipt of a fire alarm (signal "8-8"), responds to the Operations Control Center. Picks up FDNY radios and keys for affected building and responds to the Fire Command Station in the main lobby of the affected building and awaits the arrival of the FDNY.
2. Upon arrival, escorts the FDNY to the elevator only. Then the 6-4 returns to the main Lobby Fire Command Station and stands-by.
3. Retrieves all appropriate keys and radios once emergency is over.

Security Resident Manager

1. Responds to Contract Guard Command Post and awaits further instructions.

LOBBY FIRE COMMAND STATION

1. Upon receiving notification from the OCC of a possible fire or smoke condition, or by receipt of an alarm via the Pyrotronics System, immediately notifies the Police Desk and the OCC, who will make necessary notification as in **Exhibit 7A.** Records the type of alarm received (smoke detector/sprinkler), how it was transmitted, (phone or alarm system) and areas affected. With this information, requests that the appropriate elevator(s) respond to await the Fire Department personnel and makes available the appropriate floor plans, elevator service information, supply air fan data, details on the type of area affected, radios and "1620" firemen service keys to the arriving "S-4" Supervisors and the FDNY officer.
2. Notifies the affected Skylobby Fire Command Station, on skylobby 44 and/or 78, of an existing emergency situation and continues to update the Skylobby Fire Command Station on the conditions, as they become known. The information received from the Skylobby Communication's desk is then passed on to the FDNY and the "S-4" Supervisor.
3. Assists with crowd control and occupancy evacuation if needed.

SKYLOBBY FIRE COMMAND STATIONS (Sky Lobbies 44th and 78th floors)

Upon receiving notification of an emergency:
(e.g. via hot-line, telephone or radio)

1. Contacts Lobby Fire Command Station to receive and send all updated information about the emergency affected floors.
2. Contacts the Vertical Security Patrol, in his/her zone, via radio, to assist with crowd control or occupant evacuation, if necessary.
3. Passes this information to floor warden and tenants, via telephone (office or cellular systems), when tenant inquiry is received.
4. Presents all applicable floor plans, elevator availability information, air handling data, etc., to responding police, Fire Department and emergency response teams.
5. Remains updated as conditions change.
6. Assists elevator starters with restricting access to elevators which service the affected area.
7. Directs occupants to stairways and when possible, elevators being used for evacuation.
8. Assists in crowd control.

7-2.2 POLICE DIVISION

Note: The Police Fire Brigade consists of the Tour Commander and assigned Police Officers.

Note: There is no PA responsibility for fires at the Vista Hotel(WTC #3) and US Custom House(WTC #6). As for the Silverstein Building(WTC #7), the Police Division will only be notified of an actual "8-8". WTC Police will not be involved in fire fighting, but will assist in evacuations, if requested.

Tour Commander

1. Leads the Fire Brigade team of Police personnel.
2. Directs Officers to rendezvous at a specific location with Fire Response Carts. Refer to **Exhibit 7C** for locations of Fire Response Carts. Directs personnel to use elevators assigned by the OCC using the control of the **Fireman's Service Key**. In general, these elevators are normally assigned by the OCC:

   - o Zone 1 (both towers) - Cars 48 A&B (if not available, use Cars 5 A&B)
   - o Zone 2 (both towers) - Cars 17 A&B (if not available, use Cars 49 A&B)
   - o Zone 3 (both towers) - Cars 50 A&B (if not available, use Cars 6 A&B)

3. Determines the need for an evacuation and conducts it if required, advising the Fire Command Station of such actions on a real time basis.
4. Ensures that members of the Fire Brigade utilize all appropriate equipment and "turn out" gear provided in the fire carts. This includes bunker coats, helmet, boots, Scott Paks, gloves and SCBA.
5. Responds to the affected floor with one police officer and conducts a search. The remaining officer responds to the nearest standpipe with 3 lengths of hose and nozzle, connects this equipment and charges line if necessary.
6. Directs Police staff to extinguish or control the fire.
7. Upon the arrival of FDNY at the scene, relinquishes fire control duties to the ranking fire officer.
8. If fire condition occurs in the Vista Hotel(WTC #3) or WTC #7, dispatches one Officer to the Fire Command Station in the lobby of the affected building to relay information to the WTC Police Desk.

WTC Police Desk Officer

1. Upon report of a fire or smoke condition, transmits a possible or confirmed (actual) "8-8" on radio and paging channels.
2. Makes all appropriate notifications listed in **Exhibit 7A.**
3. Activates the Fire Alarm Control Annunciator. Advises Fire Department Dispatcher of the type of alarm received (smoke detector, sprinkler alarm, etc.) the affected building, floor number and other pertinent information.

7-2.2 POLICE DIVISION - WTC Police Desk Officer (Continued)

4. Transmits on channel XY or Z, notification of a possible or confirmed "8-8" indicating the affected building and floor number.
5. Keeps Operations Control Center and Fire Command Center(s) informed of condition status based upon reports from the Tour Commander.
6. Maintains a chronological log.

Police Commanding Officer and Lieutenant

1. Supervise the entire Police procedure at the Police Desk.

Police Officers

Note: Elevator response cars are to be operated under the control of the **Fireman's Service Key** using the following guidelines:

- o Zone 1 (both towers) - Cars 48 A&B (or Cars 5 A&B)
- o Zone 2 (both towers) - Cars 17 A&B (or Cars 49 A&B)
- o Zone 3 (both towers) - Cars 50 A&B (or Cars 6 A&B)

Post 1, 2, 4 or 5 (WTC #1, 2, 4 or 5)

Officers respond to one floor below the fire floor with a Fire Response Cart from that particular zone (Refer to **Exhibit 7C** for location of carts) and:

1. Rendezvous with the Tour Commander at a designated location.
2. Dons appropriate "turn out" gear and SCBA.
3. Walks up stairwell to the fire floor with the Tour Commander.
4. Conducts an evacuation if needed.
5. At the direction of the Tour Commander attempts to control or if possible, extinguish the fire. If the fire alarm is in another building, then the officer will respond to one floor below the "fire floor" and:
   A. Don appropriate "turn out" gear and SCBA.
   B. Remove and discard existing fire hose from the nearest standpipe to the affected quadrant. Replace with fire hose (3 lengths) and nozzle from fire cart.

Post 9 (Subgrade level)

The officers respond to a fire in the subgrade area with a fire response cart from the B1 Emergency Supply Room. If the fire alarm is not in the Subgrade, Post 9 responds to the Police Desk and stands by with the Subgrade Fire Cart and responds to the fire area at the request of the Tour Commander.

7-2.3 OPERATIONS DIVISION

"7-7" Operations Control Center

1. Through the use of radio/telephone hot-line the "7-7" Supervisor informs the WTC Police, the OCC desk and affected Lobby Fire Command Station of all alarms received through the break-glass, XL3 or the American Multiplex Computer Systems (smoke/sprinkler detection).
2. At the request of the Life Safety & Security Division the "7-7" Supervisor transmits appropriate message over the public address system, to the affected floors to be evacuated. At the same time prepares an appropriate information message to be transmitted to floors which may have an odor but are not to be evacuated.

SAMPLE MESSAGE

A. [LOCAL OR COMPLETE EVACUATION]

"Your attention please. We are experiencing a [localized] smoke situation in the vicinity of your floor. For precautionary reasons, we are conducting an orderly evacuation of your floor. Please wait until we announce your floor number over the public address system. Then follow the instructions of your fire safety team.

We will continue to keep you advised. We apologize for the inconvenience and we thank you for your cooperation."

[WHEN FLOOR IS TO BE EVACUATED]

"Your attention please. It is now time for your floor to be evacuated. In accordance with directions from your fire safety team, please take the exit stairs nearest you" [OR STAIRS DETERMINED BY "7-3"].

We remind you that communications, emergency lighting and other essential systems are in service. We will continue to keep you advised. Again, we apologize for the inconvenience, and we thank you for your patience and cooperation."

B. [SMOKE NOT REQUIRING EVACUATION]

"Your attention please. We are experiencing a minor incident that may result in the odor of smoke on your floor. Please remain in your offices and keep doors closed until further instructions are announced. We will make an announcement when the situation has cleared. We apologize for the inconvenience and we thank you for your patience and cooperation."

[WHEN SITUATION HAS CLEARED]:

"Your attention please. The smoke situation has cleared. Once again, we apologize for the inconvenience and we thank you for your patience and cooperation."

7-2.3 OPERATIONS DIVISION
"7-7" Operations Control Center (Continued)

3. When directed by the Supervisor of Fire & Life Safety or "S-4" Supervisor, makes announcements to the affected floors over the public address system.
4. Maintains contact with the affected floor using the "break-glass" intercom system.
5. Continues to update the Lobby Fire Command Stations (FCS's) of conditions on affected floor as they become known.
6. Maintains log of the time that the alarm was received, floor(s) contacted and message broadcasted.
7. Resets break-glass and Public Address systems board.

"7-7" Operations Control Center Supervisor (OCC)

1. After receiving an alarm notification, the "7-7" Supervisor, via radio, transmits an "All Page Alarm" to all supporting staff (Life Safety & Security, Operations, Mechanical, Electrical, etc.)
2. Upon directions from the "S-4" Supervisor, arranges for emergency elevator service using the elevator communication system (Stentofon).
3. In case of a confirmed emergency, makes all appropriate notifications as listed in **Exhibit 7A**.
4. Continues to transmit information as needed to units responding to the emergency situation (Life Safety & Security, Police, FDNY, Fire Lobby Command Stations, Electrical base, Mechanical base, Elevator base, etc.)

   NOTE: The "7-7" Supervisor notifies the Windows on the World and the Observation Deck Supervisors on duty, as appropriate, so they are aware of the facility emergency. This is necessary when emergency vehicles respond to the building entrance in order to reduce the anxiety to visitors to the WTC.

"7-3" Supervisor

1. Upon receipt of a fire alarm (signal "8-8"), responds to the affected building's Lobby Fire Command Station (Tower A - West Street; Tower B - Liberty Street; NEP - Vesey Street; SEP - Liberty Street) and oversees entire emergency response.
2. Establishes communications with the "S-4" Supervisor.
3. Ensures appropriate notifications are made and necessary entries into the Operations Log.

7-2.3 OPERATIONS DIVISION
"7-3" Supervisor (Continued)

4. In the event of an actual emergency, prepares a chronological report noting the following:
   - initial reported time of emergency
   - arrival of FDNY
   - floor(s) affected
   - name of contacts, if necessary
   - messages transmitted noting affected floors and time of transmission.
   - time of evacuation, if necessary.
5. Prepares and submits a final handwritten report, with the chronological log, to the Manager of Operations Division.

"7-4" Supervisor

General Procedure

1. Upon receipt of a fire alarm (signal "8-8"), responds to one floor below the affected floor by freight car or passenger car under Firemen's Service and awaits further instructions. Elevator response cars are operated under the control of the **Fireman's Service Key** using the following guidelines:

   o Zone 1 (both towers) - Cars 48 A&B (if not available, use Cars 5 A&B)
   o Zone 2 (both towers) - Cars 17 A&B (if not available, use Cars 49 A&B)
   o Zone 3 (both towers) - Cars 50 A&B (if not available, use Cars 6 A&B)
2. Upon notification to proceed to the affected floor, dons self-contained breathing apparatus, responds to the affected floor via stairway and establishes communication with the Operations Control Center via "break-glass" box.
3. Should an evacuation become necessary, assits with control of the evacuees and assists in removing them from the floor.
4. Once evacuation is completed, leaves the floor and assits with control of the evacuees on the safe refuge floor.

Note: There is no Port Authority responsibility for fires at the Vista Hotel(WTC #3), the US Customs House(WTC #6) or the Silverstein Building(WTC #7).

7-2.3 OPERATIONS DIVISION - "7-4" Supervisor General Procedure (Continued)

In the circumstances described below, the assigned Operations Group Supervisors ("7-4") for Buildings 1, 2, 4 and 5 would be responsible for executing the following:

"7-4" Assignments

Fire Alarm in 1 WTC:

1 WTC - Follows the Operations Group Supervisor Procedures previously described.

2 WTC - Responds to the Fire Command Station, main lobby of 1 WTC and assumes the duties of the "7-3" Supervisor until relieved. Then stands-by to provide assistance as required.

4 & 5 WTC - Responds to the skylobby below the affected floor in 1 WTC and stands-by to provide assistance as needed.

Fire Alarm in 2 WTC:

1 WTC - Responds to the Fire Command Station, main lobby of 2 WTC and assumes the duties of the "7-3" Supervisor until relieved. Then stands-by to provide assistance as required.

2 WTC - Follows the Operations Group Supervisor Procedures previously described.

4 & 5 WTC - Responds to the skylobby below the affected floor of 2 WTC and stands-by to provide assistance as required.

Fire Alarm in 4 WTC or 5 WTC:

1 WTC - Responds to the respective street level lobby for the affected building.

2 WTC - Responds to the Fire Command Station, main lobby and assumes the duties of the "7-3" Supervisor until relieved. Then stands-by to provide assistance as required.

4 & 5 WTC - Follows the Operations Group Supervisor Procedures previously described.

Fire Alarm on Concourse or Subgrade areas:

1 WTC - Responds to the Fire Command Station in lobby of 2 WTC.

2 WTC - Responds to the Fire Command Station, main lobby of 2 WTC and assumes the duties of the "7-3" Supervisor until relieved. Then stands-by to provide assistance as required.

4 & 5 WTC - Responds to the Fire Command Station, main lobby of 2 WTC and then stands-by to provide assistance as required.

7-2.4 NEW YORK CITY FIRE DEPARTMENT

General Procedure

1. Responds to fire, evacuates occupants, extinguishes fire and determines need for smoke purge.
2. Advises when fire incident can be "secured".

WTC #1 & #2 (Including Subgrade)

1. Primary Response - one Engine Company and one Ladder Company responds to the Fire Command Station in the lobby of the affected building.
2. Secondary Response - one Engine Company and one Ladder Company respond to the West Street side of WTC #1 (VIP Drive).

WTC #5 (Including PATH terminal)

1. Responds to the Vesey Street entrance of WTC #5.

WTC #4

1. Responds to the Church and Liberty Street entrance of WTC #4.

7-2.5 PLANT & STRUCTURES DIVISION

MECHANICAL SECTION

Mechanical Contractor Supervisor

1. Upon receipt of a signal "8-8", dispatches staff to operate the fire pumps in the affected building and stands by for directions.

   Note: For "8-8" conditions in PATH Terminal, a mechanic is dispatched to operate selected fans at the PATH Motor Control Center (242 Level MER - WTC #1).

   Note: Wooden pegs, hammers, bolt cutters and rain gear are on every fire cart in the complex. Their purpose is for use in temporarily stemming the flow of water from an activated sprinkler head, thereby minimizing damage. The fire cart is required to remain on the scene until the action of securing the water flow is completed.
2. As requested, directs personnel to activate the smoke purge fans.
3. Directs staff to secure sprinkler water shutoff valve at the request of the FDNY or Police Division.

PA Mechanical Supervisor

1. Upon receipt of an actual "8-8", responds to the Fire Command Station in the lobby of the affected building to assist as necessary.
2. In response to a Sprinkler Flow Alarm, ensures that one staff member is dispatched to one floor below the affected floor on all sprinkler alarms. This individual stands by and when advised by the appropriate WTC staff that the fire is secured, stops the flow of water from the activated heads by securing the valves subdividing the area.

7-2.5 PLANT & STRUCTURES DIVISION
PA Mechanical Supervisor (Continued)

3. Ensures that contract personnel operate appropriate fire pumps and activates smoke purge fans.

ELECTRICAL SECTION

Electrical Contract Supervisor

1. Upon receipt of a signal "8-8", will dispatch a staff member to respond to one floor below the affected floor and stand by. This individual is called upon to lend assistance should the emergency involve the electrical closets or fixtures. Subgrade areas: will dispatch a staff electrician to respond to the Lobby Command Center in the building nearest the affected area.
2. Upon receipt of an actual "8-8", will dispatch a contract electrician to respond to one floor below the affected floor, two electricians to the nearest Sub-Station below the affected floor and a foreman and two electricians to the Lobby Command Center of affected building to assist if necessary. Subgrade areas: Will dispatch a foreman and five electricians to respond to the Lobby Command Center in the building nearest the affected area.
3. Ensures that smoke detectors or alarm panels are reset and cleared once the situation is established as a non-emergency or at a point in time when the emergency is secured.
4. Responds to electrical incidents and secures equipment (remotely) at the request of the FDNY or Police Division.
5. In the event of a major disaster (Fire, Explosion, Power Failures, etc.). All staff electritions (excluding the response team) will respond to the electrical shop. If the building in which the shop is located is the scene of the emergency, all electricians shall respond to:
    1. Corner of Church & Liberty Streets. (if unaccessible)
    2. Church & Fulton Streets in front of 5 WTC entrance.
6. During an actual "8-8", insures the use of appropriate radio call signs to properly identify electrical personnel responding to the emergency.
7. Provides portable emergency power where needed.

PA Electrical Supervisor

1. Upon receipt of an actual "8-8", responds to the lobby of affected building to assist as necessary.
2. In response to fires threatening normal electrical service, ensures that electrical contract staff are dispatched and are standing by to secure power as requested.

Elevator Maintenance Contractor

1. Upon receipt of an actual "8-8", dispatches staff (mechanics) to their appropriate posts to assist, as needed.
2. Dispatches one elevator maintenance supervisor to the Lobby Fire Command Station to assist as needed.

7-2.6 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at the facility or acknowledge that they will perform such notifications from off-site.
2. Whenever possible, the specific wording of such notifications will be approved by the Assistant Director of the World Trade Department.
3. The Tenant Support Division will distribute tenant bulletins as appropriate.
4. Will maintain a log of all tenant notifications.
5. Maintains an up-to-date tenant information listing building and floor at the Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the situation room is activated or whenever the Tenant Services Office cannot be occupied.

Tenant Assistants

1. Report to the Emergency Tenant Response Center to assist the Tenant Account Managers in handling tenant inquiries.

Public Service Staff

1. Respond to the affected building to assist in crowd control and information dissemination.

7-2.7 TENANT FLOOR WARDEN

Note: Report any fire or smoke condition through break-glass alarm and/or telephone to the Police Desk.

Note: Each floor of a building shall be under the direction of a designated Floor Warden for the evacuation of occupants in the event of a fire. This individual shall be assisted in duties by Deputy Floor Wardens. Each Floor Warden and Deputy Floor Warden must be familiar with the Fire Safety Plan, the location of exits and the location and operation of any available fire alarm system.

1. Ensures that an alarm has been transmitted.

7-2.7 **TENANT FLOOR WARDEN** (Continued)

2. Ensures that all occupants are notified of the fire and that they proceed immediately to execute the Fire Safety Plan.
3. In the event of fire, or fire alarm, ascertains location of the fire and coordinates the evacuation of the floor in accordance with directions received and the following guidelines:

    - o The most critical evacuations must occur on the fire floor and the floor directly above.
    - o Evacuation from the other floors shall be instituted when instructions from the Fire Command Station or conditions indicate such action.
    - o Evacuation should be via uncontaminated stairs being sure to avoid stairs being used by the Fire Department. If this is not possible, the Fire Department personnel should be made aware before a door to the fire floor is opened.
    - o Evacuation to two or more levels below the fire floor is generally adequate.
    - o In the event that the stairways serving the floor and/or floors above are unusable due to contamination or cut off by fire and/or smoke, or that several floors above fire involving large numbers of occupants must be evacuated, consideration may be given to using elevators in accordance with the following:
    - o If the elevator servicing a floor also services the fire floor, it should not be used. However, elevators may be used if the Warden receives specific instructions from the Fire Department or building staff.
    - o If elevators do not service the fire floor and their shafts have no openings on the fire floor, they may be used at the direction of the Fire Department or building staff.
    - o Elevators operated by trained building personnel or firemen may also be used.
    - o The Floor Warden shall select the safest stairway to use for evacuation on the basis of the location of the fire and any information received from the Fire Command Station. The Floor Warden shall check the environment in the stair prior to entry for evacuation. If it is affected by smoke, an alternate stair shall be selected and the Fire Command Station notified.

4. Ensures that the Fire Command Station is informed of the means being employed for evacuation by the occupants of the floor.
5. Floor Wardens on floor above the fire shall, after executing the Fire Safety Plan, notify the Fire Command Station of the means of egress being used for evacuation and any other particulars.
6. Informs the Fire Command Station of the location of evacuees.

7-3 ADDITIONAL FIRE RESPONSE FOR PATH EMERGENCIES
(in addition to general fire response procedures)

7-3.1 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

- o Responds to affected FCS and assumes responsibility of FSD.
- o Verifies that the FDNY has been notified of the alarm.
- o Ensures that the WTC Fire Brigade and Emergency Response Team are notified and respond.
- o Confers with WTC Tour Commander and affected Floor Warden to identify floors to be evacuated, route of evacuation, stairwells used and potential refuge floors.
- o Determines if the general public should be restricted from the affected area(s) and if so, utilizes appropriate security staff to restrict access.
- o If emergency occurs while the Visitors Desks are in operation, notifies staff to ceased issuing visitors passes to the affected area(s).
- o Once the emergency is secured, ensures that all alarm systems (break-glass boxes, NYC alarm boxes, public address system) are reset.
- o Prepares Port Authortity Fire Report (Form 1624).
- o Makes all necessary entries into appropriate log books.
- o In the event of an actual fire emergency, prepares a chronological report noting the following:
  -how initial report of emergency was obtained
  -initial time
  -arrival time of Fire Department
  -floors affected
  -announcements made
  -decision to evacuate floor(s)
  -all details surrounding evacuation
  -all details surrounding fire and extinguishment
  -other potential details
- o Prepares and submits a memo with all appropriate details to the Manager, Life Safety & Security Division.

Vertical Patrol

1. Upon being notified of an emergency situation over the radio, the affected zone's vertical patrol guards will report to the Fire Command Station servicing the affected area (44th & 78th floor skylobbies) and standby for further instructions.

"6-0" Supervisor (Security Supervisor)

1. Upon receipt of a fire alarm (signal "8-8"), responds to the Fire Command Station in the affected building's lobby and stands-by for assignment.

"6-4" "Key Run" (Security Guard)

1. Upon receipt of a fire alarm (signal "8-8"), responds to the Operations Control Center. Picks up FDNY radios and keys for affected building and responds to the Fire Command Station in the main lobby of the affected building and awaits the arrival of the FDNY.
2. Upon arrival, escorts the FDNY to the elevator only. Then the "6-4" returns to the main Lobby Fire Command Station and stands-by.
3. Retrieves all appropriate keys and radios once emergency is over.

Security Resident Manager

1. Responds to Contract Guard Command Post and awaits further instructions.

7-3.2 POLICE DIVISION

Note: The WTC Police Division responds to all PATH fire alarms.

WTC Police Desk Officer

1. Notifies the FDNY, Supervisor, Fire & Life Safety, Mechanical Contract Supervisor and Chief Maintenance Supervisor (Mechanical).
2. Advises the PATH Police of the alarm and location if known.

7-3.3 OPERATIONS DIVISION

"7-7" Supervisor (B-1 OCC)

1. Upon receipt of an alarm or report of a fire or smoke condition in the PATH area, immediately notifies the WTC Police Desk Officer.
2. Advises the PATH Train Master of all alarms.

7-3.4 PLANT & STRUCTURES DIVISION

MECHANICAL SECTION

Mechanical Contractor Supervisor

1. Responds to the HVAC Fan Control Room and makes contact with the PATH Power Director utilizing the direct telephone line.
2. Directs contract personnel to sequence fans in conjunction with guidance from the Train Master.

7-3.5 PATH

Power Director's Office

1. Instructs the WTC Mechanical Contractor Supervisor to activate a specific ventilation mode based on the fire location zone indicated on Exhibit 7B, the HVAC System Chart. The fire location zone is the area identified by the PATH Train Master based on the notification of a fire and/or smoke condition.
2. Notifies PATH personnel and coordinates system power appropriately as directed by the PATH Train Master.
3. Dispatches electrical personnel to reset the fans in Substation #3 upon completion of the incident.

Train Master

1. Notifies PATH personnel of fire and/or smoke condition.
2. Guides the WTC Mechanical Contractor Supervisor in sequencing fans.
3. Informs the PATH Power Director of the specific fire location zone based on the notification of the fire and/or smoke condition.
4. In the event of a major incident, designates a PATH employee as the on-scene coordinator. This employee will be responsible for establishing a Communications Command Post to coordinate the response and to provide an open channel of communications between FDNY, Emergency Medical Service, WTC Police, WTC Life Safety & Security personnel, PATH Police and the Train Master.
5. Advises the Operations Control Center of alternate service strategies, if applicable.

	Fire Location	PATH Mezz A.C. System			PATH Offices A.C. System			PATH Platform	PATH S.End Track	PATH Exhaust Fans Substation 3				Projection Fans	
		ACS-S5-S6	ACR-S5-S6	100% FRESH AIR	ACS-S5-S7	ACR-S5-S7	100% FRESH AIR	VS-S5-S11	VS-S5-S4	Track-side Damper	E-S5-16 *	E-S5-17 *	E-S5-18 *	N. Sta. E-S3-S2	S. Sta. E-S2-S6
FAN INFO.	Fan Label (on Sub 3 panel)	A	B	C	D	E	F	G	H	T	I	J	K	L	W
	Location of Controls (**)	B-2	B-2		B-2	B-2		B-2	LOCAL		LOCAL	LOCAL	LOCAL	B-2	B-2
EMERGENCY -	West St.	STOP	STOP		STOP	STOP		STOP	STOP	CLOSED			STOP		
	Platform			START			START	STOP	STOP	OPEN	START	START	START		
	Track North of Terminal			START			START	STOP	START	OPEN	START	START	STOP		
	Track South of Terminal			START			START	STOP	START	OPEN	START	START	START		
	Mezzanine or Commuters Cafe	STOP	STOP				START	START	START	CLOSED			STOP		
	Mezzanine Office or Coffee Shop/Trade Inn			START	STOP	STOP		START	START	CLOSED			STOP		
	Unknown			START			START	START	STOP	CLOSED			STOP		
	Sequence to establish normal fan operation	3 START	2 START	1 STOP	6 START	5 START	4 STOP	7 START	8 START	9 CLOSED	10 STOP	11 START	12 STOP	13 STOP	14 STOP

Notes: - Disregard blank spaces

- Normally, either fan I or J is running and should be left that way.
- Authorized instructions supercede these modes.

** At the time of this printing, it is expected that in early 1994 these fans will be operated from the Hoban Control Center.*

*** B-2: Refers to HVAC start/stop system located on the B-2 level of 1 WTC.*

' OCAL: Refers to local control provided at the motor control center in the 242 level MER.

EXHIBIT 7C
EMERGENCY FIRE RESPONSE CARTS

LOCATION	PURPOSE
WTC #1 & 2	
Lobby Level Emergency Room adjacent Freight elevator 48 car	For use on fires in Zone 1
44th Floor Skylobby Emergency Room - at main corridor intersection	For use on fires in Zone 2
78th floor Skylobby at main corridor intersection	For use on fires in Zone 3
WTC #4	
Lobby Level adjacent to freight elevators FE3 - FE4	For use on fires in WTC #4 and Concourse stores
WTC #5	
Lobby Level Emergency Room West wall adjacent to elevator lobby	For use on fires in WTC #5
Subgrade	
Emergency Supply Room East/West corridor B-1 Level near B-1 Level OCC Desk	For use on Subgrade fires in WTC #1 & 2, parking garages and truck dock
Subgrade & Outdoors	
Emergency Equitment supply room on B1 truck dock	For use on Subgrade fires and outdoor fires throughout facility

CHAPTER 8
FLOODS

SUMMARY 8-1

Scope 8-1.1
Major Responsibilities 8-1.2
Notifications 8-1.3

RESPONSE 8-2

Operations Division 8-2.1
"7-7" Supervisor
"7-3" Supervisor
"7-4" Supervisor

Plant & Structures Division 8-2.2
Mechanical Section
Electrical Section
General Maintenance Section
Elevator Maintenance Contractor

Life Safety & Security Division 8-2.3

Tenant Support & Project Management 8-2.4

8 FLOODS

8-1 SUMMARY

8-1.1 Scope

This procedure covers floods which generally occur due to:

- o Mechanical failures in the building and tenant water systems
- o Structural failures within the complex which may allow rain or ground water to enter and flood an area.

8-1.2 Major Responsibilities

Operations Division : Makes notifications listed in Exhibit 8A, ensures that initial response by the cleaning contractor is prompt and effective and arranges for emergency elevator service as needed.

Plant & Structures Division :

Mechanical Section: Secures mechanical systems.
Electrical Section: Prevents electrical hazards.
Structural Section: Repairs or replaces damaged ceiling tiles, walls or carpet.
Elevator Maintenance Contractor: Inspects and repairs damaged equipment.

Life Safety & Security Division :

Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director). Post security guards at the request of the Operations Division.

Tenant Support & Project Management :

Notifies appropriate tenants.

8-1.3 Notifications

Initial report of a flood will be made to the "7-7" Supervisor identifying the following three information items :

- o Location
- o Size of flood
- o Cause (if known)

The "7-7" Supervisor, "7-3" Supervisor and the "7-4" Supervisor make all notifications which are listed in **Exhibit 8A**.

EXHIBIT 8A
NOTIFICATIONS

Refer to **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TYPE	TO
"7-7" Supervisor	Any Flood	"7-3" Supervisor
		Building Services Office (regular hours only)
	Large Floods Only	Mechanical Contractor Supervisor
		Mechanical PA Supv. (when on duty)
		Chief Mtnc. Supv. (Mechanical)
		Electrical Contractor Supervisor
		Chief Mtnc. Supv. (Electrical)
		Elevator Maintenance Contractor
		Manager (Plant & Structures)
		Manager (Operations)
		Manager (Life Safety & Security)
		General Manager, Tenant Support & Project Management
		Manager (Tenant Support Division)
		Chief Mtnc. Supv. (Structural)
		WTC Police Desk
"7-3" Supervisor	Any Flood	"7-4" Supervisor
"7-4" Supervisor	Any Flood	Janitorial Contractor Supv.
		Security Contr Supv. (if required)

8-2 RESPONSE

8-2.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Upon report of a flood, contacts the "7-3" Supervisor immediately.
2. Makes notifications listed in **Exhibit 8A** and a radio "all-page" to alert affected facility staff.

"7-3" Supervisor

1. Dispatches "7-4" Supervisor to the area to determine the severity of the situation.
2. Directs "7-7" Supervisor to instruct different freight elevator operators to position elevators above the flood floor(s). If passenger elevators are affected, repositions them also.
3. If the flood is on an ACM floor, refers to the "ASBESTOS CONTAMINATION" chapter for proper procedure.
4. If any elevator cabs, shafts or pits show evidence of water, requests Elevator Maintenance Contractor to make repairs as soon as possible.
5. If absolutely necessary, evacuates tenants or patrons utilizing non-affected local elevators. Otherwise, directs evacuees to stairways to get to a different elevator bank or use freight elevators.

"7-4" Supervisor

1. Directs Janitorial Contractor immediately:

   - o Respond with flood cart.
   - o Secure the affected area.
   - o Pick up and remove water using wet vacs, pancake pumps, mops, buckets, etc.
   - o Cover furniture and other tenant property with polysheeting.

2. Directs Elevator Starters or security guards to park affected freight and passenger elevators at least one floor above the affected area to prevent water damage, as necessary.
3. Requests "S-4" Supervisor to secure affected area, as needed.
4. Once flood is secured, directs Janitorial Contract staff to clean up after craft and shampoo, as necessary.
5. Arranges for drying of carpeting.

8-2.2 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Chief Maintenance Supervisor (Mechanical) or Mechanical Contractor Supervisor on duty directs staff to:

   - o Respond immediately to flood location.
   - o Determine the origin of the leak and system(s) affected.
   - o Secure valving and quick drain at a suitable location if possible.
   - o Authorize the 24 hrs. operation of HVAC systems to speed the "drying out" of affected areas.

2. Provides a verbal report to the "7-3" Supervisor concerning origin of flood and expected duration of any system outage caused by securing of the water leak (i.e. Sprinkler or Domestic Water, etc.).

Electrical Section

1. Checks electric closets and floor power cells to see if affected by the water.
2. Diverts water and covers circuit breakers with plastic.
3. Secures power if electrical shock hazards exist.
4. Reports to "7-3" Supervisor the extent of related electrical outages caused by flood.
5. Provides temporary power, if needed, to facilitate cleanup and repair.
6. Cleans and repairs damaged electrical systems.

General Maintenance Section

1. Replaces damaged ceiling tiles.
2. Replaces damaged carpets.
3. Repairs any damage to sheetrock walls.

Elevator Maintenance Contractor

1. Inspects elevators and escalators for damage and performs repairs.

8-2.3 LIFE SAFETY & SECURITY DIVISION

Superwisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. In instances where fire protection services are compromised, responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

8-2.4 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or mamual means. During off hours, the Operations Control Center (OCC) initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains up-to-date tenant listing by building and floor at Operations Control Center (OCC), Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Temant Services Office cannot be occupied.

CHAPTER 9
NATURAL GAS LEAKS

SUMMARY 9-1

Scope 9-1.1
Major Responsibilities 9-1.2
Notifications 9-1.3

RESPONSE 9-2

Operations Division 9-2.1
"7-7" Supervisor
"7-3" Supervisor

Plant & Structures Division 9-2.2
Mechanical Section
Electrical Section

Life Safety & Security Division 9-2.3
Supv., Fire & Life Safety

Fire Department New York 9-2.4

Police Division 9-2.5

Con Edison 9-2.6

Tenant Support & Project Management 9-2.7

9 NATURAL GAS LEAKS

9-1 SUMMARY

9-1.1 Scope

This procedure covers the response to natural gas leaks.

9-1.2 Major Responsibilities

Operations Division : Orders and conducts an evacuation, makes all notifications, assists in securing the affected area and arranges for emergency elevator service. Locations of Main Gas Stop Valves are listed in **Exhibit 9B**.

Plant & Structures Division :

Mechanical Section: Recommends ventilation means and implements if requested.

Manager Plant & Structures Division: Authorizes re-entry to area.

Electrical Section: Resets gas detection devices at the request of the Operations Division.

Life Safety & Security Division:

Supervisor, Fire & Life Safety:

1. Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).
2. Coordinates response by FDNY.

Fire Department New York: Clears gas and secures leak.

Police Division: Secures affected area to prevent unauthorized entry.

Con Edison: Secures leaks upstream of Main Gas Stop Valve.

Tenant Support & Project Management: Notifies tenants.

9-1.3 Notifications

Initial report of a natural gas leak will be made to the "7-7" Supervisor at the Operations Control Center (OCC), identifying the location of the leak or odor.

All notifications are to be made by the "7-7" Supervisor and are listed in **Exhibit 9A**.

EXHIBIT 9A
NOTIFICATIONS

Refer to **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TO
"7-7" Supervisor	WTC Police Desk
	Fire Department New York
	Con Ed Gas Emergency Unit
	"7-3" Supervisor
	Mechanical Contract Supervisor
	Electrical Contract Supervisor
	Chief Mtnc. Supv. (Mechanical)
	Supervisor, Fire & Life Safety
	Manager (Life Safety & Security)
	Office of Environmental Policy & Management (OEPM)
	Manager (Plant & Structures)
	General Manager, Tenant Support & Project Management
	Manager (Tenant Support Division)

NOTE: If the incident occurs in 3 WTC (Vista Hotel), Hotel Chief Engineer should be contacted immediately

EXHIBIT 9B
MAIN GAS STOP VALVE LOCATIONS

3 WTC (Hotel)	6" shutoff valve located in closet on B1 level of Hotel parking lot adjacent to entrance ramp from Liberty Street, labeled "GAS METER ROOM, SHUTOFF VALVES INSIDE". Serves - Laundry Services - Kitchens in Lobby, Plaza & 1st floor levels
4 WTC	3" shutoff valve located in B1 level Mechanical Equipment Room between fans ACS #S2-3 and ASOA S2-1E located in overhead. Serves - Coffee Exchange
5 WTC	6" shutoff valve located on the Concourse at Vesey Street inside a closet marked "GAS METER ROOM, SHUTOFF VALVES INSIDE". Serves - Sbarro's - Menchaiko-Tei - Fine & Shapiro's

9-2 RESPONSE

9-2.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Upon detection, makes all notifications listed in **Exhibit 9A.**
2. To reduce the anxiety of visitors at public facilities at the WTC, including WOW and the Observation Deck, notify the Restaurant and Deck Supervisors on duty as appropriate, so they are aware of the facility emergency. This is necessary when many emergency vehicles respond to the building entrance.

   Note: Detection of gas leak by detector automatically shuts off gas and activates an alarm at the OCC (Sbarro's and Menchaiko-Tei tenant spaces only).

"7-3" Supervisor

1. Responds to the affected area and assists the Police Unit in securing the area so no one can enter without authorization (Scott Pacs may be required).
2. Based on the advice of the FDNY and/or Con Ed, requests recommendations for ventilation by the Mechanical Section.
3. If necessary, assists in conducting an evacuation.

9-2.2 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Recommends and provides ventilation to the affected area if requested by the "7-3" Supervisor. (Based on request by FDNY and/or Con Ed)
2. Repairs leak once area is deemed secured by the FDNY.
3. Verifies that no gas is leaking after gas service is restored.

Electrical Section

1. At the request of the Operations Division, resets gas detection devices.

9-2.3 **LIFE SAFETY & SECURITY DIVISION**

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

9-2.4 **FIRE DEPARTMENT NEW YORK**

1. Responds to affected area.
2. Clears area of gas and existing fire hazards.
3. Secures Main Gas Stop Valve(s). See **Exhibit 9B** for valve locations.

9-2.5 **POLICE DIVISION**

1. Responds to the affected area to verify the condition.
2. Secures area and evacuates if necessary. Requests assistance from the Operations Division if necessary.
3. Directs the FDNY or Con Edison to the location of the Main Gas Stop Valve(s). See **Exhibit 9B.**

9-2.6 **CON EDISON**

1. Secures gas leaks that are upstream of the Main Gas Stop Valve(s).

9-2.7 **TENANT SUPPORT & PROJECT MANAGEMENT**

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center (OCC) initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing by building and floor at Operations Control Center (OCC), Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

CHAPTER 10
LABOR DISPUTES AND DEMONSTRATIONS

SUMMARY 10-1

Scope 10-1.1
Major Responsibilities 10-1.2
Notifications 10-1.3

RESPONSE 10-2

Affected Division 10-2.1

Director's Office 10-2.2

Life Safety & Security Division 10-2.3

Police Division 10-2.4

Operations Division 10-2.5

Plant & Structures Division 10-2.6

Tenant Support & Project Management 10-2.7

10 LABOR DISPUTES AND DEMONSTRATIONS

10-1 SUMMARY

10-1.1 Scope

This procedure covers the response to labor disputes which occur in the form of:

- o Work stoppages
- o Picket lines
- o Sabotage

It also covers demonstrations and civil disorder which may require the full or partial closing of the Concourse and Plaza.

NOTE: Demonstrations are not allowed in the Concourse. However, free speech permits are issued through the Operations Division. The permits allow a maximum of 2 persons from the same organization to distribute material in each designated area (See **Exhibit 10D**).

Demonstrations are not allowed on the Plaza. However, lawful demonstrations under the supervision of WTC Police are allowed on the south end of Church St. (See **Exhibit 10E**).

10-1.2 Major Responsibilities

Affected Division : The unit nearest the labor dispute which has best access to information. Determines, with the advice of staff, an approach to resolve or reduce the effect of the labor dispute and/or demonstration.

Operations Division : In conjunction with the Police Division, meets with labor leaders in advance to communicate rules and regulations regarding such activities at the World Trade Center.

Plant & Structures Division : Increases frequency of door hardware inspections and repairs. Rekeys cylinders and invalidates certain electronic car access cards to MER's.

Director's Office : Ensures all units coordinate their activities, including with staff departments.

MAJOR RESPONSIBILITIES (Continued)

Life Safety & Security Division : Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).

Police Division : In conjunction with the Operations Division, meets with Labor Leaders in advance to communicate rules and regulations regarding such activities at the World Trade Center. Deploys staff to cover picket lines and demonstrations.

Tenant Support & Project Management : Notifies tenants as necessary.

10-1.3 Notifications

Initial report of a strike or picket line will be made by the appropriate Division Manager or Police Captain who will make the notifications as listed in **Exhibit 10A**, identifying the union or other group involved and the degree of actual or potential disruption.

EXHIBIT 10A
NOTIFICATIONS

Refer to the APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if incident occurs during off-hours.

FROM	TO
Affected Division	General Manager, Tenant Support & Project Mgmt. Manager (Tenant Support Division) Assistant Director, Physical Facilities Manager (Operations) Manager (Life Safety & Security) Manager (Plant & Structures) Police Division
Manager (Life Safety & Security)	Public Affairs Director, WTD
General Manager, Tenant Support & Project Management	Affected tenants

10-2 RESPONSE

10-2.1 AFFECTED DIVISION

1. Upon report of a labor dispute or possible demonstration, immediately discusses the situation with appropriate Contractor management, Police or other entities to understand the nature and extent of the dispute or possible demonstration.
2. Notifies according to **Exhibit 10A.**
3. Meets with the union representative(s) or other entities and identifies:

   - o the form of action: picket line, work stoppage, demonstration, etc.
   - o the anticipated time of implementation and its duration.
   - o the specific demands of the union or entity.

4. Attempts to resolve issues with Contractor management, entity or union representative(s).
5. Prepares a strategy to effectively maintain the Section's daily responsibilities. For example, if possible, requests a redistribution of personnel or responsibilities within the Section or among other non-affected Sections.
6. Prepares to secure certain areas during the labor dispute or demonstration. If necessary,

   - o Directs the Electrical Section to deactivate the corresponding personnel MER Access Cards.
   - o Directs the Operations Division to extend Security Guard service in designated areas.
   - o Requests the Police to prepare for possible emergency and provides available intelligence.
   - o Directs the Locksmiths (General Maintenance Section), to re-key certain entrances.

7. Discusses issues with the Law Department to determine whether legal remedies exist.
8. Meets with the Assistant Director and key personnel to finalize the plan of action which will minimize the effect on WTC tenants, patrons and WTC contractors.

10-2.2 DIRECTOR'S OFFICE

1. Monitors situation through daily reports from each unit.
2. Ensures proper actions are taken to minimize the effect on the facility.
3. If necessary, personally intercedes with union representatives or entities.
4. Ensures that all units, including the Law Department and Public Affairs, commits sufficient resources in the management of the problem.

10-2.3 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure Plaza, concourse or parts thereof.
3. Dispatches "key-runs".

10-2.4 POLICE DIVISION

1. Obtains information from Affected Division or other entities regarding nature and extent of possible demonstration.
2. Upon receipt of a notification of a picket line or demonstration, responds to the scene.
3. Monitors the situation and ensures such activity is conducted lawfully.
4. Establishes contact with union representatives or other entities (coordinates with Operations Division).
5. If necessary, requests Security Guard assistance.
6. Ensures that tenant and public access to the facility is unimpeded by picket lines or demonstrations. Ensures disabled access.

10-2.5 OPERATIONS DIVISION

1. Assists the Police in monitoring the labor dispute or demonstration directly.
2. Provides Contractor Security Guard service as needed.
3. Whenever possible, meets with labor leaders or group leaders, in advance, to communicate rules and regulations regarding such activities at the World Trade Center.
4. Meets with labor leaders (coordinates with Police Division).
5. Assigns designated areas for picketing and/or demonstrations, ensures disabled access and sets up appropriate barricades.

10-2.6 PLANT & STRUCTURES DIVISION

1. Determines need for re-keying utility spaces such as MER's.
2. Increases the frequency of inspecting and repairing door hardware.
3. Reviews electronic card access roster to determine whether certain cards should be invalidated.

10-2.7 TENANT SUPPORT & PROJECT MANAGEMENT

1. Contacts affected tenants to inform them of pending or actual dispute or demonstration.
2. Activates Emergency Tenant Communications Office (etco) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

EXHIBIT 10B
EMERGENCY CLOSING OF PLAZA

SECURITY ACTION AND LOCATION	STAFFING REQUIRED
o Church St. Plaza entrance: -Close ceremonial fence or install barricades	4 porters for barricades 2 guards for post (1 on each ramp)
o 1 WTC: -Secure revolving doors -Secure escalators -Secure gates (North & South of Tower) -Proper signage at the bottom of escalator	1 guard for securing revolving doors & gates 1 porter for signage 1 guard at the bottom of escalator
o 2 WTC: If obs deck is open, follow procedures for 1 WTC If obs deck is closed, -Proper signage at the bottom of escalator explaining plaza, obs deck, closed and TKTS open -Secure gates (East & West of Tower)	1 guard for securing doors and gates 1 porter for signage 1 guard at top of escalato 1 guard at each exist (East & West sides of Tower 2)
o 4 WTC: -Secure revolving doors leading to Plaza	1 guard ensuring no one exits
o 5 WTC: -Secure revolving doors	1 guard on post monitoring the area 1 guard for rear doors by plaza/Allstate
o Full Plaza Closing: -Notify: Allstate Bankers Trust Customs House (6 WTC) O & Y 7 WTC Vista So they may secure their entrances to the Plaza	6 guards to ensure that no one exits onto plaza except for emergency egress

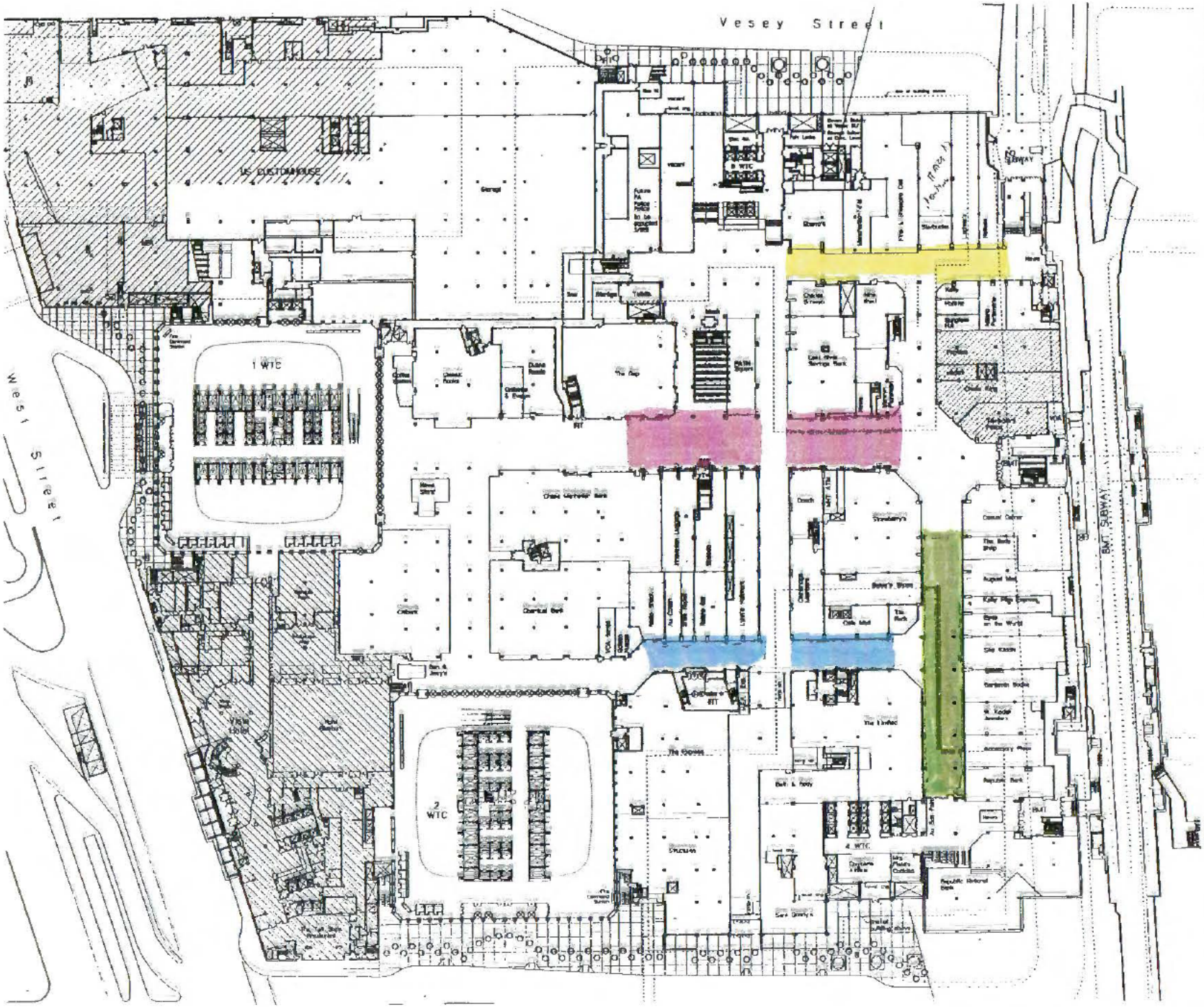
EXHIBIT 10C
EMERGENCY CLOSING OF CONCOURSE (Except PATH)

SECURITY ACTION AND LOCATION	STAFFING REQUIRED
o 1 WTC: -Barricade off revolving doors leading to Concourse	4 Porters for setup of barricades 3 guards in the Tower side of 1 WTC
o 2 WTC: -Barricade off revolving doors leading to Concourse	4 Porters for setup barricades 3 guards in the Tower side of 2 WTC
o 4 WTC: -Secure all doors (2 sets) leading to 4 WTC from Liberty St. -Proper signage stating Concourse closed	2 guards (1 on each entrance) 1 key run to secure doors 2 porters displaying signage
o 5 WTC: -Secure Concourse with barricades but allow PATH entrance via Vesey St.	4 porters for barricades 4 guards maintaining barricades
o Subways: -Close BMT Subways (2) -Close 8th Ave. Subway -Close IRT Subway (3) -Put in place Security gates from PATH square to 5 WTC stairs both sides	2 OGS securing doors to Subways 6 guards covering 6 Subway entrances 2 guards monitoring PATH
o Directional/Informational Signage at all closed or opened entrances Notify NYCTA to close WTC Stations (see **APPENDIX C** for station designations)	4 porters for barricades & appropriate Police Staff

NOTE:

- For PATH closing, follow as above and also notify PATH to suspend service to WTC, lock 5 WTC Vesey St. doors and post 1 guard at those doors.

- Ensure uninterrupted disabled access.

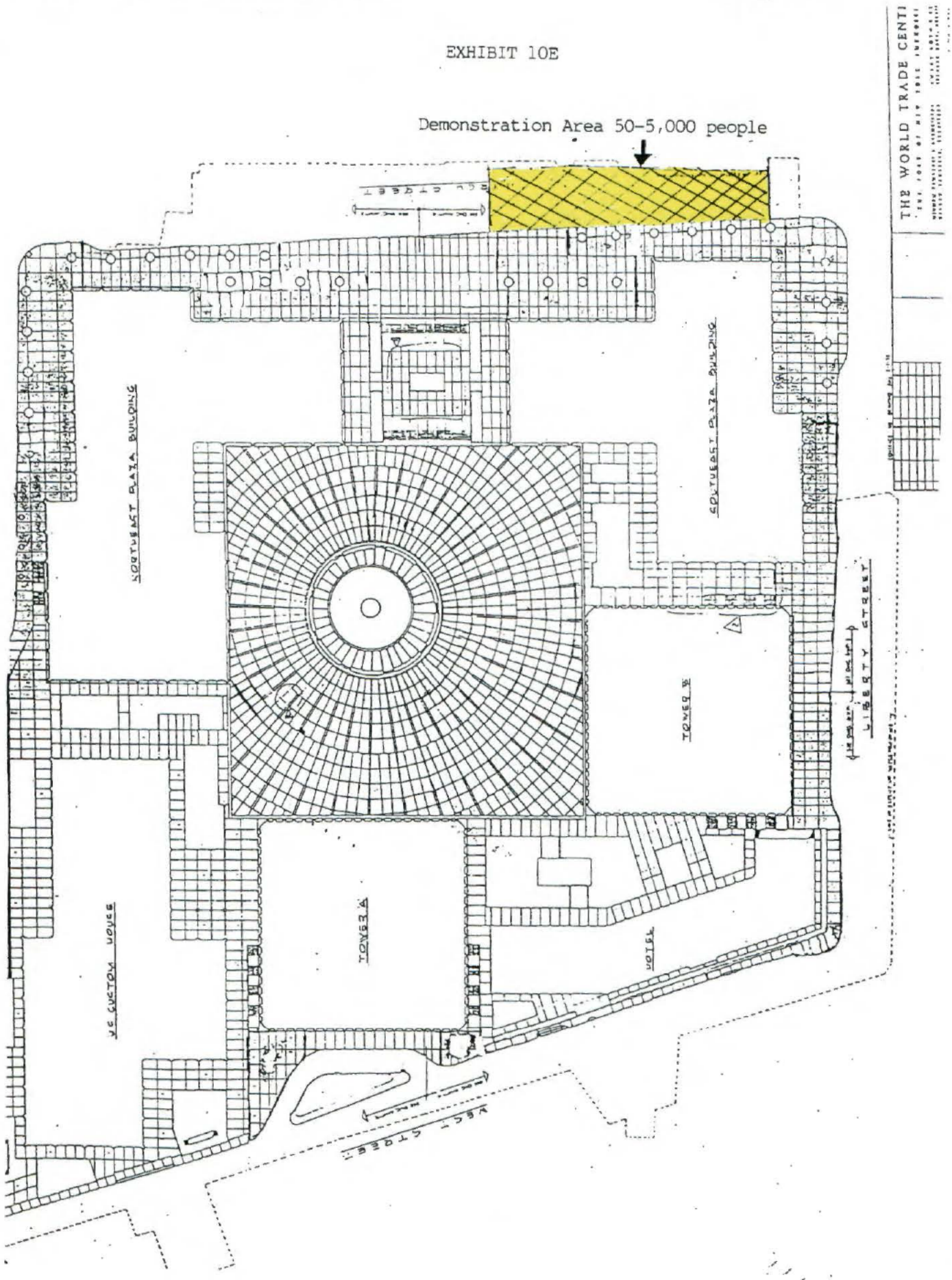


The Port Authority of New York and New Jersey

World Trade Center
Master Plan Development

EXHIBIT 10-D
Concourse Level

EXHIBIT 10E


Demonstration Area 50-5,000 people
THE WORLD TRADE CENTI
NORTHEAST PLAZA BUILDING
SOUTHEAST PLAZA BUILDING
TOWER
LIBERTY STREET
US CUSTOM HOUSE
TOWER A
HOTEL
WEST STREET

CHAPTER 11
MEDICAL EMERGENCIES

SUMMARY 11.1

Scope 11-1.1
Major Responsibilities 11-1.2
Notifications 11-1.3

RESPONSE 11.2

Operations Division 11-2.1
Life Safety & Security Division 11-2.2
Police Division 11-2.3
Paramedic Team 11-2.4
PA Medical Department 11-2.5
Emergency Medical Service (911) 11-2.6

11 MEDICAL EMERGENCIES

11-1 SUMMARY

11-1.1 Scope

This procedure covers the response to medical emergencies.

11-1.2 Major Responsibilities

Operations Division : o Arranges for emergency elevator service, when requested.
o Makes notifications when appropriate.

Life Safety & Security Division : When appropriate, responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).

Police Division : o Coordinates the overall response to the medical emergency.
o Determines the best arrival location for NYC Emergency Medical Service and assigns a Police Officer, when available, to meet the arriving EMS unit(s).

Paramedics : During **normal business hours** only, responds to all medical emergencies as requested by the Police Unit.

PA Medical Dept. : During **normal business hours** only, responds to medical emergencies for PA employees only.

NYC Emergency Medical Service (911) : During **off hours**, responds to all medical emergencies to a location designated by the Police.

11-1.3 Notifications

Initial report of a medical emergency will be made to the WTC Police Desk Officer identifying the information listed in **Exhibit 11A.**

Notifications thereafter are to be made by the WTC Police Desk Officer. Additional notifications are made by the "7-7" Supervisor in the event of a serious injury or fatality caused by an accident.

EXHIBIT 11A
KEY INFORMATION TO BE PROVIDED

Identification for initial notification to WTC Police Desk	o Name o Title o Exact location of incident o Telephone number
Specifics of Incident	o Nature of illness or injury o Age o Male/Female o Subject is conscious or unconscious o PA Employee o Previous history of illness or injury o Asbestos contaminated area or not

EXHIBIT 11B
NOTIFICATIONS

Refer to **APPENDIX A** for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM		TO
Police Desk Officer		Paramedic Team (regular hours only) 911 (off hours only) Post Officer on duty P.A. Medical Dept. (if P.A. employee) (regular hours only)
	For serious injury or fatality caused by accident, also notify:	Tour Commander/Police Captain NYPD "7-7" Supervisor Public Affiars Risk Management
"7-7" Supervisor	For serious injuries or fatality caused by accident, also notify:	"7-3" Supervisor Assistant Director, Physical Facilities Manager (Operations) Manager(Life Safety & Security) Manager (Plant & Structures) General Manager, Tenant Support & Project Management Manager (Tenant Support Division) Manager (Construction Division) (in cases of construction accident)

11-2 RESPONSE

11-2.1 OPERATIONS DIVISION

"7-7" Supervisor

1. Makes the necessary notifications where cases of serious injury or fatality caused by accident are involved, according to **Exhibit 11B.**
2. If the incident involves a PA employee, dispatches car 17A, 49A, or 50A to the 62nd floor and directs the Operator to stand by to pick up PA Medical response staff.
3. In cases of a construction accident, notifies the office of Planning, Design & Construction.
4. Requests starters to have certain elevators stand by for emergency response to the incident.

Note: The response in WTC #5 is via passenger elevator.

11-2.2 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. When appropriate, responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

11-2.3 POLICE DIVISION

Note: If the medical emergency is in an asbestos contaminated area, proper protective equipment and the Asbestos Emergency Response Kit (located behind WTC Police Desk and in the ambulance located on the B1 level) are to be utilized by properly trained personnel using proper decontamination procedures (If injury is life threatening, however, decontamination procedures may be waived).

WTC Police Desk Officer

1. Obtains key information listed in Exhibit 11A from initial report.
2. Makes notifications listed in Exhibit 11B.

POLICE DIVISION (Continued)

3. Dispatches a second Officer to escort the responding medical team. The routine escort pickup locations are as follows:

   WTC #1 - Handicapped doors
   WTC #2 - Handicapped doors
   WTC #4 - Entrance to freight elevators FE3 & FE4 oppisite the Coach Shop on the concourse.
   WTC #5 - Vesey St. entrance to 5 WTC

4. During major emergencies, directs access to the Truck Dock. The building may be congested with other responding units and the EMS Command Officer shall determine whether an alternate location is required.

Post Officer

1. Completes all appropriate PA forms i.e. forms #2696, #146, #147, and/or #621
2. Updates the "7-3" Supervisor.

Officer at the Scene

1. Responds to the medical emergency and provides first aid as needed.
2. Advises the WTC Police Desk Officer who makes any necessary notifications.
3. Assists in directing the PA Medical Response Team to the patron.

Assigned Escorting Officer (When available)

1. Renders whatever assistance is necessary.
2. If an ambulance is summoned, responds to the ambulance's response point and remains with its crew until the patient is transported to that location by the responding medical team if available.

Note: Unless otherwise directed by the responding medical team, or the Police Desk, ambulance response points remain the same as those in effect.

11-2.4 **PARAMEDIC TEAM** (Normal business hours only)

1. When an ambulance is required, uses radio to request its response.
2. If an ambulance is not available, uses the ambulance available on the Truck Dock which is used for transport.

Note: This is the only time the team leaves the complex and any other emergencies during this period are directed to the NYC Emergency Medical Service via landline.

3. Upon return, notifies the WTC Police Desk of arrival to the facility.

11-2.5 **PA MEDICAL DEPARTMENT** (Normal business hours only)

Note: The PA Medical Dept. only responds to medical emergencies involving PA employees.

1. Responds to elevator(s) indicated by the "7-7" Supervisor for escort to the scene of the incident.
2. If necessary, requests the Paramedics for ambulance service.

11-2.6 **EMERGENCY MEDICAL SERVICE** (Off hours only)

1. Responds to the designated location for medical service.
2. In instances of suspected asbestos contamination, the EMS Special Operations Division Emergency Response Squad responds and determines the asbestos procedures which are required for them and for the aided.

CHAPTER 12
NATURAL DISASTERS

SUMMARY 12-1

Scope 12-1.1
Major Responsibilities 12-1.2
Notifications 12-1.3

RESPONSE

GENERAL 12-2

Life Safety & Security Division 12-2.1
Police Division 12-2.2
Operations Division 12-2.3
Plant & Structures Division 12-2.4
Mechanical Section
Electrical Section
General Maintenance Section
Facility Engineering Section
Elevator Maintenance Contractor
Construction Division 12-2.5
Tenant Support and Project Management 12-2.6

HURRICANE 12-3

Operations Division 12-3.1
Life Safety & Security Division 12-3.2
Police Division 12-3.3
Plant & Structures Division 12-3.4
Mechanical Section
Electrical Section
General Maintenance Section
Facility Engineering Section
Elevator Maintenance Contractor
Construction Division 12.3.5
Tenant Support and Project Management 12-3.6

SUB-ZERO OUTDOOR TEMPERATURES 12-4

Operations Division 12-4.1
Plant & Structures Division 12-4.2
Mechanical Section
Electrical Section
Tenant Support and Project Management 12-4.3
Life Safety & Security Division 12-4.4

(Continued)

TIDAL SURGE	12-5
Operations Division	12-5.1
Life Safety & Security Division	12-5.2
Police Division	12-5.3
Plant & Structures Division	12-5.4
Mechanical Section	
Electrical Section	
General Maintenance Section	
Facility Engineering Section	
Elevator Maintenance Contractor	
Construction Division	12-5.5
Tenant Support and Project Management	12-5.6
EARTHQUAKE	12-6
Operations Division	12-6.1
Life Safety & Security Division	12-6.2
Police Division	12-6.3
Plant & Structures Division	12-6.4
Mechanical Section	
Electrical Section	
General Maintenance Section	
Elevator Maintenance Contractor	
Structural Integrity Coordinator	
Manager's Office	
Construction Division	12-6.5
Tenant Support & Project Management	12-6.6

12 NATURAL DISASTERS

12-1 SUMMARY

12-1.1 Scope

This procedure covers the general response to natural disasters such as hurricanes, tidal surges and earthquakes. It also covers the response to sub-zero outdoor air conditions.

It is subdivided into the following:

- o General Response
- o Hurricane Response
- o Sub-Zero Outdoor Temperature Response
- o Tidal Surge Response
- o Earthquake Response

12-1.2 Major Responsibilities

Life Safety & Security Division :
Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director). Supervises security staff.

Police Division :
Coordinates with FDNY and NYPD. Makes notifications. Assists in ensuring public safety.

Operations Division :
Makes notifications (see **Exhibit 12A**), responds, arranges for emergency elevator service and supervises janitorial contractor. Monitors and reports on status of weather to all units. Performs evacuation, following consultation with Plant & Structures Division staff.

Plant & Structures Division :
Mechanical Section: Secures mechanical systems.
Electrical Section: Secures electrical systems.
General Maintenance Section: Secures damaged ceilings, walls or carpet.
Facility Engineering Section: Performs condition survey(s) and determines equipment and systems to be secured, including elevators,
Elevator Maintenance Contractors : Secures affected elevators.

Tenant Support & Project Management :
Notifies tenants and public, and responds to inquiries.

Construction Division :
When requested, provides and directs construction support.

12-1.3 Notifications

All notifications will be made by the "7-7" Supervisor and the WTC Police Desk Officer and are listed in **Exhibit 12A.**

EXHIBIT 12A
NOTIFICATIONS

Refer to APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TO
"7-7" Supervisor	WTC Police Desk Officer
	"7-3" Supervisor
	Mechanical Contr. Supv.
	Electrical Contr. Supv.
	Manager (Plant & Structures)
	Manager (Operations)
	Manager (Life Safety & Security)
	Supervisor, Fire & Life Safety
	Chief Mtnc. Supv. (Mechanical)
	Chief Mtnc. Supv. (Electrical)
	Chief Mtnc. Supv. (Structural)
	General Manager (Tenant Support & Project Management)
	Public Affairs
	Manager of Construction
WTC Police Desk Officer	Tour Commander
	Commanding Officer
	Central Police Desk
	Office of Civil Preparedness (NYC Police Department)
	Defense Civil Preparedness Agency
	Emergency Medical Service

NOTE: For disasters that involve 3, 6 and 7 WTC, Banker's Trust building, the U.S. Steel building or the World Financial Center, make notifications to these building as appropriate.

12-2 GENERAL RESPONSE

12-2.1 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supv. during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

12-2.2 POLICE DIVISION

WTC Police Desk Officer

1. Makes all appropriate notifications listed in **Exhibit 12A.**

   Note: All notifications made by the Police Desk are to be logged by time, date, person spoken to and type of condition.

Tour Commander

1. Responds to the affected area and evaluates the situation.
2. Confers with the "7-3" Supervisor on duty who will advise the "S-4" to deploy security guards to direct pedestrians and secure area where necessary.
3. Coordinates preparedness and actions with appropriate facility personnel during the disaster.
4. Takes necessary action to insure the safety of personnel in the area.
5. If necessary, advises NYC Transit Authority and PATH of the condition and requests to have trains bypass the facility.
6. If necessary, closes a street or streets in the disaster area. If this occurs, the following notifications are to be made.

   - o First Precinct
   - o Fire Department of New York (FDNY)
   - o Emergency Medical Service
   - o Central Police Desk

   Included should be the street name, direction, time of closing, cross street, reason for closing, and estimated time of reopening.

12-2.3 OPERATIONS DIVISION

1. Directs overall response.
2. Makes notifications shown in Exhibit 12A.
3. Upon notification, responds to the affected area as requested.
4. If the report is of flying debris:
   - o Secures all equipment and materials which can create a hazard and cleans up debris.
5. If there is need for snow removal:
   - o Notifies the Janitorial Contractor as to what procedures must be followed.
   - o Directs Contract personnel to remove snow from area: Salt ramps, brush off walkways, shovel walkways and steps.
   - o Notifies Olympia-York and/or Banker's Trust and GSA if bridge traffic is affected or Plaza is closed.
6. If there is dangerous icing on a building:
   - o Dispatches porters to barricade areas where ice may fall.
   - o Allows ice to melt naturally off building.
   - o Notifies Olympia-York and/or Banker's Trust & GSA if bridge traffic is affected or Plaza closed.
7. If high winds exist, refers to the Elevator Chapter in this manual.
8. Directs Elevator Operators to stand by for emergency response.
9. Holds over cleaning personnel to stand by as needed. Requests "S-4" to hold over security staff.
10. Obtains additional support as needed from Plant & Structures Division and/or Construction Division.
11. Monitors weather status & calls in operations staff and additional staff from other divisions as required.
12. Following consultation with the Plant & Structures Division, performs evacuation.

12-2.4 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Operates the Fire Protection System as required.
2. Secures water distribution systems and equipment as needed to minimize leakage and floods.
3. Makes repairs as needed.
4. Assists other Sections if requested.

Electrical Section

1. Takes necessary action to minimize electrical hazards.
2. Maintains power and lighting during emergency procedures.
3. Makes repairs as needed.
4. Assists other Sections if requested.
5. Verifies Emergency Generator Plant availability.
6. Provides portable emergency power where needed.

General Maintenance Section

1. Upon notification, responds to the affected area.
2. If there are broken windows or doors:
   - o Notifies the WTC Police Desk.
   - o Surveys damage and barricades area.
   - o "Board up" if necessary
   - o Requests clean up from the Operations Division.
3. If there are damaged carpet or ceiling tiles:
   - o Knocks out wet ceiling tiles.
   - o Rolls back wet carpet.
   - o Cuts away underpadding.
   - o Allows up to 24 hours for residual water to stop before reinstallation or replacement.

Facility Engineering Section

1. Performs a physical facility condition survey to determine areas to be evacuated and equipment to be secured and reports findings to Operations Division.

Elevator Maintenance Contractor

1. Secures affected elevators.

12-2.5 CONSTRUCTION DIVISION

1. When requested by the Manager of Plant and Structures, provides construction services.

12-2.6 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing by building and floor at Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situtation Room is activated or whenever the Tenant Services Office cannot be occupied.

12-3 HURRICANE RESPONSE

12-3.1 OPERATIONS DIVISION

1. Makes all appropriate notifications listed in **Exhibit 12A.**
2. Secures parking garages and install sand bags as indicated in exhibits 12B and 12C.
3. Takes down flags.
4. Reviews the availability of emergency equipment and vehicles:

    - o 4 wheel drive
    - o tow truck
    - o aerial bucket
    - o auxiliary pumps.
    - o plywood, planks and sandbags

5. Garages the automatic window washer equipment.
6. Checks barricades, emergency signs and emergency lights to close off the peripheral roads and the Plaza.
7. Assigns porters to patrol vulnerable areas such as Windows on the World and the Observation Deck.
8. Assigns Porters to assit mechanical staff to clear all drains in Plaza, both Towers and truck ramps.
9. Checks all areas for loose debris (i.e. roofs, Plaza, outside areas, etc.) and secures all material from Plaza (i.e.; Chairs, tables, etc.)
10. Ensures all vehicles fueled with extra gas cans full.

12-3.2 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supv. during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

12-3.3 POLICE DIVISION

WTC Police Desk Officer

1. Makes all appropriate notifications listed in **Exhibit 12A.**

    Note: All notifications made by the Police Desk are to be logged by time, date, person spoken to and type of condition.

12-3.4 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Clears drains on the Plaza, Plaza stairways and ramps.
2. Clears West Street drains of sand, etc.
3. Tests all sump pumps and repair as required.
4. Installs water tight cover over river water pump motors.
5. Tests operation of the River Pump Water Station sluice gates.
6. Checks and cleans all roof drains.
7. Closes all outdoor air dampers in MER's.
8. Follows pump station procedure for High Tides.

Electrical Section

1. Tests ramp doors.
2. Top off diesel fuel in emergency generator storage tanks.
3. Tests emergency generator operation.
4. Clears roofs and observation deck of all light duty fixtures.
5. Provides portable emergency power where needed.

General Maintenance Section

1. Uses planks and plywood to make temporary repairs to broken plate glass windows as needed.
2. Cuts slots in ramp for barricade planks.

Facility Engineering Section

1. Performs and conducts a physical facility conditions survey to determine areas to be evacuated and equipment to be secured and reports findings to Operations Division.

Elevator Maintenance Contractor

1. Secures affected elevators.

12-3.5 CONSTRUCTION DIVISION

1. Provides assistance in barricading and repair as requested by the Plant & Structures Division.

12-3.6 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate and logs all notifications.
4. Maintains an up-to-date tenant listing by building and floor at Operations Control Center, Situation Room and Emergency Tenant Communications Office.
5. Activates Emergency Tenant Communications Office (ETC)) whenever the Situtation Room is activated or whenever the Tenant Services Office cannot be occupied.

EXHIBIT 12B

HURRICANE CATEGORIES

Hurricanes are rated on a 1 to 5 scale, with 1 being the weakest. Category 1, 2 and 3 hurricanes are most common in the New York/New Jersey metro area. The Saffir/Simpson Hurricane Scale shown below is used to illustrte a hurricane's damage potential.

Saffir/Simpson Hurricane Scale

Category	Barometric Pressure at Eye in Inches Mercury	Wind Speed MPH	Wind Speed KNOTS	Damage Potential
1	>28.94	74-95	64-82	minimal
2	28.50-28.91	96-110	83-95	moderate
3	27.91-28.47	111-130	96-113	extensive
4	27.17-27.88	131-155	114-135	extreme
5	<27.17	>155	>135	catastrophic

12-4 SUB-ZERO OUTDOOR TEMPERATURES RESPONSE

12-4.1 OPERATIONS DIVISION

1. Checks and secures all pedestrian and vehicle entrances to minimize cold air infiltration into the complex.
2. Ensures that the flood response cart and porters are readily available for flood response.
3. Immediately reports expansion tank room alarms to the PA Mechanical Supervisor by radio.

12-4.2 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Assigns staff to continuously patrol areas vulnerable to freeze-up.
2. Valves off any piping or equipment suspected of being damaged to prevent a sudden release of water upon thaw.
3. Operates HVAC according to guidelines in the "HVAC Operations Guide." i.e. heated secondary water, return air fans, etc.
4. Provides temporary heat in spaces which may fall below freezing.

Electrical Section

1. Verifies heat traced piping is energized.
2. Verifies operation of the standby electrical heaters for the antenna.
3. Provides priority support to other Sections.

12-4.3 TENANT SUPPORT & PROJECT MANAGEMENT

Supervisor, Fire & Life Safety ("S-4" Supv. during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

12-5 TIDAL SURGE RESPONSE

Note: Read Exhibit 12C now.

12-5.1 OPERATIONS DIVISION

1. Makes all appropriate notifications listed in **Exhibit 12A.**
2. Secures parking garages and installs sand bags as indicated in **Exhibits 12D & 12E.** Requests the assistance of WTC Plant & Structures and construction if necessary.
3. Checks barricades, emergency signs and emergency lights to close off the peripheral roads and the Plaza.
4. Directs Porters to clear all drains in Plaza, both Towers, and truck ramps.
5. Following consultation with Plant & Atructures Division, performs evacuation.

12-5.2 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supv. during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

12-5.3 POLICE DIVISION

WTC Police Desk Officer

1. Makes all appropriate notifications listed in Exhibit 12A.

   Note: All notifications made by the Police Desk are to be logged by time, date, person spoken to and type of condition.
2. If necessary, closes roadways and redirects traffic to facilitate the installation of sand bags.

12-5.4 PLANT & STRUCTURES DIVISION

Mechanical Section

o Supervisor reports to River Water Pump Station with two craftpersons and follow these procedures:

1. Verify that all 8 floor deck hatches in the un-diked areas to sluiceways and pump station chambers are secured and sealed.

PLANT & STRUCTURES DIVISION - Mechanical Section (Continued)

2. Verify that all water tight bulkhead doors are secured, namely to the switchgear room and to the traveling screen room.
3. Verify that climax plugs are secured in place in the floor drains located in the fresh air intake plenum areas No. 1 and 2.
4. Notify "7-7" Desk and Refrigeration Plant of high water condition.
5. Transmit north and south sluiceways high level alarm and diked area alarm to verify their performance result.
6. Place electrical disconnect switches in the off position for the two tubular chlorine pumps.
7. If sodium hypochlorite solution tanks are empty, or near empty, partially fill with fresh water to prevent buoyancy.
8. Provide an emergency water hookup from the hose bib at the water meter to the main flushing piping to the river water pump on line.
9. Place electrical disconnect switches in off position for the domestic water bearing lubricants and flush pumps supplying the main water pumps.
10. Prior to hurricane's onset, places plastic sheets and sandbags over fresh air intake plenum and the exhaust fan discharge grills on top deck of Pump Station.
11. Keep Pump Station chambers empty.
12. If tide water rises to one foot above capacity level, contact Mechanical Contractor Superintendent, Mechanical Chief Maintenance Supervisor or Maintenance Unit Supervisor.

Activities During Actual Tidal Surge (To be performed under the direct supervision of the Mechanical Contractor Superintendent)

1. Select a pump suction chamber that will be dewatered.
2. Notify Refrigeration Plant Engineer that all river water pump will be secured for a 10 to 15 minute period.
3. Secure all operating river water pumps.
4. Close sluicegate #3 or #5 depending on which pump suction chamber will be dewatered.
5. Close sluicegate #4.
6. Start necessary river water pumps in active pump suction chamber to support restoration of Refrigeration Plant.
7. Notify Refrigeration Plant to start necessary refrigeration machines to the limit that one active pump suction chamber can handle.
8. Start one river water pump in the pump suction chamber that will be dewatered.
9. Intermittently operate one river water pump to lower the water level to a depth of 12 feet below the slab.
10. The water level in the operating sluiceway should be below the operating floor deck but higher than the minimum level required to maintain adequate suction pressure.

In the Event of a Power Failure

1. Start one or both of the emergency pumps and keep operating them even if the water rises above the operating floor level.
2. Recheck the river water level in the sluiceway and throttle the associated sluice gate accordingly to prevent flooding.

Electrical Section

1. Secures affected electrical systems.
2. Operates Emergency Generator Plant as needed.
3. Provides portable emergency power where needed.

General Maintenance Section

1. Assists WTC Operations Division in installing sand bags as requested.

Facility Engineering Section

1. Based upon most current weather forecast, determines areas to be evacuated and equipment to be secured and reports findings to Operations Division and Director's Office.

Elevator Maintenance Contractor

1. Secures affected elevators.

12-5.5 CONSTRUCTION DIVISION

1. Assists WTC Operations Division in installing sand bags as requested.

12-5.6 TENANT SUPPORT & PROJECT MANAGEMENT

1. Makes appropriate tenant notifications, either manually or through the emergency tenant notification system.
2. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

EXHIBIT 12C

General Description of Tidal Surge Phenomenon

- o A hurricane moving northerly along the east coast of the United States has a counter clockwise wind direction around its eye. If such a hurricane **turns inward onto land along the New Jersey coast,** wind can push ocean water into New York Harbor and cause extremely high water levels in lower Manhattan. Such an event, though rare, can cause subways and basements to flood. If a tidal surge is expected in New York harbor, the National Weather Service will issue advisories to the public and to government agencies.
- o Depending upon the expected peak water elevation, the **range of precautions** that may be taken begins with **sand bagging** certain entrances to the WTC (see Exhibits 12D and 12E) to a **complete evacuation** of all buildings at the WTC, including the PATH, the subways, the Mall and the River Water Pump Station. The timing of evacuation decisions is critical because a proper evacuation would include a search of all occupied spaces which would take several hours to conduct.
- o The **accuracy of the forecasted water levels** and the timing thereof from the National Weather Service would probably leave the WTC staff with only a few hours to evacuate and conduct a search. All building staff, including police, should also be evacuated.
- o The **seriousness of the hazards** during such an event are best understood by recognizing that it may not be safe to be:
  1. indoors at the WTC as a result of the potential for basement flooding and the potential loss of both normal and emergency power.
  2. outdoors due to street flooding, high winds and flying debris, including broken glass. In addition, mass transit will likely be shut down due to the potential for subway and PATH flooding. The subways and PATH entrances will probably be secured to prevent people from entering who are seeking refuge. Stations and tunnels can flood in a matter of minutes. People who have not evacuated lower Manhattan may seek refuge in the WTC.
- o It is critical to note that the **rate of rise of the water level** during the tidal surge can reach 8 to 24 feet per hour, during categories 1, 2 and 3 hurricanes*. Ideally, with enough advance notice from the National Weather Service, a worst case assessment of a tidal surge will be made at least 12 to 16 hours in advance and a decision made to either not open the WTC or send people home while mass transit is still operating.
- o Clearly, **coordination and cooperation** among government, transportation and utilities, the media and the general public are critical.

* F.N. Source: Metro New York Hurricane Transportation Study 1994.

EXHIBIT 12D

WTC FACILITY 100 YEAR FLOOD PENETRATION POINTS (water elevation: 307'4")

RAMP - H TO VISTA (1.)
OPENING ---------- 16'
FLOODWATER HEIGHT - .85'
SANDBAG TO HEIGHT - 1.25'
SANDBAGS REQUIRED - 92

RAMP - A UP S. BOUND (2.)
OPENING ---------- 16.5'
FLOODWATER HEIGHT - 1.5'
SANDBAG TO HEIGHT - 2.0
SANDBAGS REQUIRED - 148

VISTA PARKING LOTS WEST ST. (3.)
OPENING ---------- 30'
FLOODWATER HEIGHT - .25'
SANDBAG TO HEIGHT - .50'
SANDBAGS REQUIRED - 86

SOUTH PROJECTION (4.)
OPENING ---------- 14'
FLOODWATER HEIGHT - 1.5'
SANDBAG TO HEIGHT - 2.0'
SANDBAGS REQUIRED - 124

RAMP - C DOWN N.BOUND (5.)
OPENING ---------- 15.5'
FLOODWATER HEIGHT - 1.25'
SANDBAG TO HEIGHT - 1.75'
SANDBAGS REQUIRED - 120

RAMP - B UP N. BOUND (6.)
OPENING ---------- 16'
FLOODWATER HEIGHT - 1.85'
SANDBAG TO HEIGHT - 2.40'
SANDBAGS REQUIRED - 184

RAMP - D DOWN S. BOUND (7.)
OPENING ---------- 16
FLOODWATER HEIGHT - 1.93'
SANDBAG TO HEIGHT - 2.50'
SANDBAGS REQUIRED - 184

NORTH PROJECTION VENT (8.)
OPENING ---------- 11'
FLOODWATER HEIGHT - 1.25'
SANDBAG TO HEIGHT - 1.75'
SANDBAGS REQUIRED - 80

NORTH PROJECTION DOOR (9.)
OPENING---------- 5'
FLOODWATER HEIGHT - 1.25'
SANDBAG TO HEIGHT - 1.75'
SANDBAGS REQUIRED - 38

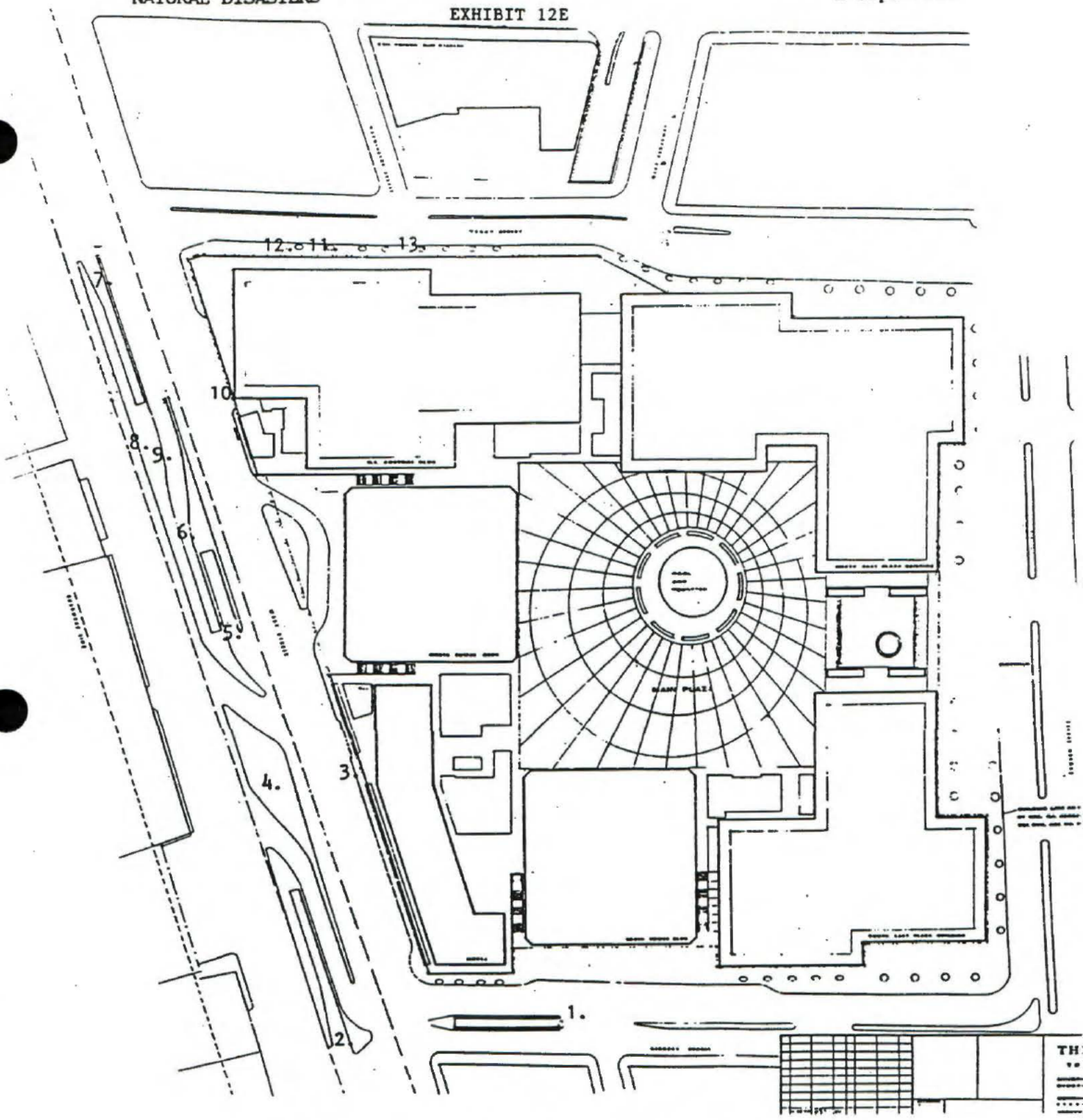
6 WTC WEST ST. GARAGE (10.)
OPENING---------- 60'
FLOODWATER HEIGHT - 1.05'
SANDBAG TO HEIGHT - 1.55'
SANDBAGS REQUIRED - 516

6 WTC VESEY ST. DOOR A (WEST) (11.)
OPENING---------- 3.5'
FLOODWATER HEIGHT - 2.45'
SANDBAG TO HEIGHT - 3.0'
SANDBAGS REQUIRED - 38

6 WTC VESEY ST. GARAGE DOORS (12.)
OPENING---------- 31'
FLOODWATER HEIGHT - 2.45'
SANDBAG TO HEIGHT - 3.0'
SANDBAGS REQUIRED - 412

6 WTC VESEY ST. GLASS DOORS (13.)
OPENING---------- 24'
FLOODWATER HEIGHT - 1.75
SANDBAG TO HEIGHT - 2.25'
SANDBAGS REQUIRED - 240

EXHIBIT 12E



WTC FACILITY 100 YEAR FLOOD PENETRATION POINTS

12-6 EARTHQUAKE RESPONSE

12-6.1 OPERATIONS DIVISION

1. Determines whether elevators have stalled and passengers are trapped and refers to elevator chapter to effect rescue. Be cautious in using adjacent elevators for rescues since they may be damaged. Secures elevators found to be damaged.
2. As a precaution, advises the Life Safety & Security Division to close the Liberty Street Pedestrian Bridge and the 7 WTC Bridge until they can be inspected. Notifies Bankers Trust and Silverstein.
3. Inspects the Tower Lobby and Mezzanine to verify that evacuation routes for Stairs A, B and C are clear. Looks for jammed egress doors and obvious cracks in plaster ceiling above these areas to determine whether any danger exists overhead.
4. Dispatches staff to look at PATH Tunnels via Emergency Exit stairs to North and South projections.
5. Communicates with tenants and makes public announcements.
6. Evacuates and secures affected areas.

12-6.2 LIFE SAFETY SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supv. during off hrs.)

1. Responds to the affected FCS and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

12-6.3 POLICE DIVISION

1. Determines the need to provide medical assistance. Contacts EMS. It may be necessary to set up a temporary local medical facility.
2. If necessary, closes roadways and re-directs traffic to facilitate the installation of sand bags.
3. Performs elevator rescues.

12-6.4 PLANT & STRUCTURES DIVISION

Mechanical Section

1. Verifies the integrity of fire protection systems.
2. Secures Central Steam System, River Water Pump Station and gas services as appropriate.
3. Inspects mechanical equipment and initiates repairs.

Electrical Section

1. Checks integrity of high tension distribution system.
2. Deploys people to Emergency Generator Plant.
3. Inspects Emergency Generators for damaged machines, exhaust systems, cooling lines, distribution panels etc.
4. Operates Emergency Generator Plant if necessary.
5. Verifies that fire alarm/communication systems are operating.
6. Removes or shores any light fixtures, signs and other electrical equipment which may be in danger of falling.
7. Provides portable emergency power where needed.
8. Inspects all electrical systems and initiates repairs.

General Maintenance Section

1. Removes debris from evacuation routes as reported by Operations.
2. Uses planks and plywood to make temporary repairs to broken plate glass windows as needed.
3. Removes any hanging ceilings, equipment and other materials which may be in danger of falling.
4. Inspects and initiates repairs.

Facility Engineering Section

1. Performs and conducts a physical facility conditions survey to determine areas to be evacuated and equipment to be secured and reports findings to Operations Division.

Structural Integrity Coordinator

1. Determines the extent of facility wide damage, directly and thru other units.
2. Contacts Planning Division and/or QAD Structural Engineers for advice.
3. Keeps the Manager, Plant & Structures and the Manager, Quality Assurance Division informed on the extent of damage.

Elevator Maintenance Contractor

1. Inspects elevator equipment to determine if damage exists and initiates repairs.

Manager's Office

1. With the advice the Structural Integrity Coordinator and QAD, determines what areas of the WTC can be reoccupied.

12-6.5 CONSTRUCTION DIVISION

1. Provides assistance in barricading, repair and debris removal as requested by the Plant & Structures Division.

12-6.6 TENANT SUPPORT & PROJECT MANAGEMENT

1. Refers to Tenant Support and Project Management Section under General Response (Section 12-2.6).

CHAPTER 13
POWER FAILURES

SUMMARY 13-1

Scope 13-1.1
Major Responsibilities 13-1.2
Notifications 13-1.3

RESPONSE 13-2

Life Safety & Security Division 13-2.1

Police Division 13-2.2

Operations Division 13-2.3

Plant & Structures Division 13-2.4
Mechanical Section
Electrical Section
Elevator Maintenance Contractor

Tenant Support & Project Management 13-2.5

Emergency Medical Services 13-2.6

Assistant Director & Managers 13-2.7

13 POWER FAILURES

13-1 SUMMARY

13-1.1 Scope

This procedure covers the response to power failures, including re-entry for essential tenant staff and their representatives. Power failures are defined as a complete lost of lighting and power from one or more substations.

13-1.2 Major Responsibilities

Assistant Director, Managers & All WTC Supervisory Staff: When on duty, respond to the Operations Control Center to oversee emergency response. Senior manager on duty authorizes limited and full occupant re-entry.

Life Safety & Security Division: Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).

Police Division: Performs police duties related to the safe and orderly evacuation of the facility.

Operations Division: Makes notifications and directs the evacuation and re-entry.

Plant & Structures Division:

- Mechanical Section: Operates life safety support systems on emergency power. Secures all other nonessential mechanical systems.
- Electrical Section: Operates emergency generator plant systems. Determines scope of power failure.
- General Maintenance Section: Supervisory staff and carpenters respond to the carpentry shop for deployment by Operations Division.
- Elevator Maintenance Contractor: Deploys staff for emergency elevator use and repair.

Tenant Support & Project Management:

- o Initiates personal and recorded telephone message statements to affected tenants during normal working hours.
- o Assembles volunteer WTEDD staff in anticipation of possible need by WTC units during normal working hours.

Emergency Medical Services: Establishes First Aid center in lobby.

13-1.3 Notifications

Initial report of a power failure will be made to the "7-7" Supervisor (Operations Division) identifying the extent of the incident.

All notifications are to be made by the "7-7" Supervisor and the WTC Police Desk Officer and are listed in **Exhibit 13A.**

EXHIBIT 13A
NOTIFICATIONS

Refer to APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM	TO
"7-7" Supervisor	WTC Police Desk Officer
	"7-3" Supervisor
	"7-4" Supervisor
	Electrical Contractor Supervisor
	Elevator Maintenance Contractor
	Mechanical Contractor Supervisor
	Manager (Life Safety & Security)
	Manager (Operations)
	Chief Mtnc. Supv. (Electrical)
	Chief Mtnc. Supv. (Mechanical)
	Supervisor, Fire & Life Safety
	Senior Engineering Technician
	Manager (Plant & Structures)
	Supv. Engr. (Plant & Structures)
	General Manager, Tenant Support & Project Management
	Manager (Tenant Support Division)
WTC Police Desk Officer	Tour Commander
	Police Commanding Officer
	Central Police Desk
	Public Affairs
	EMS
All WTC Division Managers	All Division staff

EXHIBIT 13B
ELEVATOR & BUILDING EVACUATION PROCEDURE

I. PASSENGER & FREIGHT ELEVATOR EVACUATION PROCEDURE

Advance Notice:

Whenever advance notice is given of an impending power failure, the senior manager on duty determines if the building(s) should be evacuated before the actual power failure. The emergency generator plant must be operated immediately and ready to pick up load when the power failure occurs. To avoid passenger entrapment in elevators, all non-critical elevators should be recalled on normal power using firemen's service, Phase 1 prior to the impending power failure.

Power Failure:

Nine elevator emergency power panels exist and are used to evacuate passengers from stalled elevators. They are located as follows:

#1 WTC,	Zone I -	310 Starter's Console
	Zone II -	44 Fl. Starter's Console
	Zone III -	78 Fl. Starter's Console
#2 WTC,	Zone I -	310 Starter's Console
	Zone II -	44 Fl. Starter's Console
	Zone III -	78 Fl. Starter's Console
#4 WTC (All elevators)		- Lobby Starter's Panel (Concourse Level)
#5 WTC (Elevators 1-6)		- Lobby Starter's Panel (Street Level)
#5 WTC (Elevators 7-9)		- Lobby Starter's Panel (Street Level)

All panels are accessible with a "1620" (Fireman's Service) key. If no key is available at the panels, one can be located in the break-glass box at the 310 level Starter's Consoles in #1 & #2 WTC.

Upon loss of normal power, the WTC emergency generators automatically start and supply emergency power to the elevator systems detailed in the section below. When emergency power is available, a red emergency power light will illuminate in each emergency power panel.

Evacuation Procedure

A. When emergency power is available:

Operations staff will evacuate passengers from elevators in this priority:

1. critical elevators
2. shuttle elevators
3. all other elevators

The goal is to obtain prompt use of critical elevators for emergency and handicapped evacuation followed by the use of shuttle elevators for skylobby evacuation and finally local elevators for evacuation of those occupants who chose not to use stairways.

EXHIBIT 13B
ELEVATOR & BUILDING EVACUATION PROCEDURE (Continued)

Critical Elevators 5, 17, 48, 49, 50, 6, 7, 99, J-1 (#1 WTC), K-5 (#2 WTC), FE10 (5 WTC) and CE-2 (4 WTC) should automatically switch over and operate on emergency power. If any of these elevators are out of service, the Operations Staff must select an alternate elevator manually using the applicable emergency power panel to ensure emergency elevator service is established and maintained to all floors throughout the emergency.

Due to the limited amount of emergency power available, power can only be supplied to the above critical elevators and, concurrently, all of the following non-critical elevators:

#1 & #2 WTC, Zone I	-	1 High Rise Shuttle
		1 Low Rise Shuttle
		1 Local Elevator
		1 Subgrade Freight
Zone II	-	1 Local Elevator
Zone III	-	1 Local Elevator
#4 WTC	-	1 high rise passenger elevator
	-	1 low rise passenger elevator
	-	1 freight elevator

Note: The FE1 & FE2 elevators are not equipped to run on emergency power.

5 WTC (elevators 1-6)	-	1 passenger elevator,
5 WTC (elevators 7-9)	-	1 passenger elevator
	-	1 freight FE10 or FE11

The emergency power evacuation procedure is posted in each panel. Generally, the procedure is as follows:

1. Open the panel and verify that emergency power is available (red light is illuminated). Immediately notify the operations control center if it is not illuminated.
2. Press the reset button for each group of elevators in the panel.
3. Press one button at a time in each group of buttons in the panel, preferably in order. The buttons are mechanically interlocked so no more than one in each group may be pushed at one time. The actual sequence can vary based on the specific nature of individual entrapment. However, it is desirable to clear a bank at a time to more efficiently utilize elevator maintenance staff and electrical staff.
4. Verify elevator motion by looking at the car position indicators at the console that the selected elevators are returning to their lobby. The digital L.E.D.'s of the selected should flash alternately between car position and "EMP". Immediately notify the operations control center of the elevators that do not return to the lobby. Elevators not returning to the lobby may be malfunctioning or may have been out of service prior to the power failure. This can be verified by the elevator maintenance contractor. Stentofon contact should be attempted. Each non-returning elevator must be verified to be free of passengers.
5. When the elevators reach the lobby, its doors should open automatically, releasing any trapped passenger and shut down.

EXHIBIT 13B
ELEVATOR & BUILDING EVACUATION PROCEDURE (Continued)

6. A security guard must verify that each and every set of elevator doors have opened and that passengers are freed. Immediately notify the operations control center of elevators which have doors that remained closed. Any elevator that does not return to lobby should be assumed to be a Code 1 and contain trapped passengers.
7. Select the next elevator in the group.
8. When all elevators in each group have returned to the lobby, press the reset button for each group.
9. When normal power is restored, the elevators automatically revert to their normal power source and the normal power indicators in the emergency panel light.
10. Close and lock the panels.

B. When normal and emergency power are not available

Elevator Contractors

- Go to the Elevator Machine Room (EMR) to determine which elevators are not at a landing. Elevators at a landing must have their doors forced open to free trapped passengers.
- Attempt to determine if passengers are trapped using the Stentofon, if possible.
- Notify the P.A. Police of the elevators affected and the entrapment status of passengers, if determined.
- When directed by PA Police or the FDNY, drift mechanically elevators up or down to the nearest landing.
- Force open the doors, at the landing, to free trapped passengers.

Electrical Section

- Determines the length of power outage.
- Provides information to all units when power is expected to return and the reason for outage.

Police Division

- Determines whether the elevators should be drifted mechanically and sets the order of evacuation.
- Directs the elevator contractor to mechanically drift the elevators up or down to the nearest landing.

NOTE:

Mechanical evacuation of elevators by drifting must be performed very carefully and only if absolutely necessary, (e.g. power will not be available for a long period of time, medical reasons, etc.).

EXHIBIT 13B
ELEVATOR & BUILDING EVACUATION PROCEDURE (Continued)

II. BUILDING EVACUATION PROCEDURES

General

The senior manager on duty determines if the building(s) should be evacuated.

The critical elevators shall be utilized for emergency response in this order of priority:

- o Fire
- o Police
- o Medical
- o Building staff
- o Evacuation of handicapped
- o Evacuation of all other occupants

Should additional emergency elevators be needed, non-critical elevators can be reassigned as critical elevators.

While the evacuation of passengers from the stalled elevators is underway, those still remaining in the affected building(s) must be evacuated, primarily using the stairways. Critical elevators should be utilized for emergency response and handicapped evacuation and should be coordinated with the floor by floor evacuation of all occupants (i.e. Elevators 6, 48, 49). Once the evacuation of passengers from stalled elevators in a zone is complete, non-critical elevators can also be operated for handicapped evacuations. Handicapped occupants are those unable to descend the stairways, i.e. disabled, pregnant women, elderly, etc. Those handicapped occupants who experience concurrent medical difficulties shall be evacuated by the Police using a critical elevator (i.e. Elevator 50).

Tower

In evacuating a tower, initially none of the local bank elevators can be used because passenger entrapment are still being cleared. Stairways are to be used to get to a skylobby to access limited shuttle elevator service or the main lobby. Only after all passenger entrapment are cleared in an elevator zone can a local elevator be placed in service for evacuation. Critical elevators serve all floors and are used to transport building employees responding to the emergency and for evacuation of handicapped occupants. Staff shall prioritize the evacuation of shuttle elevators to facilitate the transportation of handicapped and others from skylobbies and lobbies. All elevators shall have operators assigned by the "7-3" Supervisor.

Buildings

Stairways are used to evacuate the Plaza buildings. Elevators (No more than one per group) can be operated by manual selection of the elevator select button in the emergency power panel for fire, medical or police emergency, evacuation of the disabled and/or infirmed and to transport building employees responding to the emergency.

Concourse Evacuation

For Concourse evacuation procedures, refer to **APPENDIX C**. All elevators shall have operators assigned by the "7-3" Supervisor.

EXHIBIT 13B
ELEVATOR & BUILDING EVACUATION PROCEDURE (Continued)

Building Evacuation Completion

When evacuation of the towers is complete, the non-critical elevators still in operation are parked in their lower terminal stops and switched off. Certain critical elevators including elevator No. 50 are to be in operation at all times. Once limited re-entry is authorized and tenants and their representatives reoccupy certain floors, required freight elevators are operated.

III. STAFF DEPLOYMENT : GENERAL

The senior Operations Division staff member on the scene shall take charge of the emergency and deploy available PA and contractor staff to lobbies, skylobbies, concourse and stairways to conduct an orderly elevator and building evacuation. Available staff are assigned to the Operations Division by their Section Chief or Division Manager. Whenever possible, a WTC management staff member shall be assigned to each lobby and skylobby to direct and assess the elevator and building evacuation effort for each particular zone, keeping the Operations Control Center apprised of status and problems. Staff shall be assigned to critical and non-critical elevators for use in occupant evacuation.

Once limited re-entry is authorized, tenants with the Photo ID cards with an "E" on the back shall be allowed to re-enter. The Operations Division, or volunteer staff under their direction, shall be deployed to the street level lobby of One, Two, Four and Five World Trade Center, adjacent to the entry checkpoint to resolve re-entry problems with tenants and their representatives. The security staff allows essential tenant staff with the Photo ID cards with an "E" on the back to re-enter, keeping a written log of all re-entries.

NOTE: NO ONE is allowed re-entry until the senior manager on duty determines that the building is safe for limited re-entry.

The Tenant Support & Project Management staff reports to their command center on B2-211, #1 WTC, to initiate personal and recorded telephone message statements to tenants and to assemble volunteer WTEDD staff in anticipation of need by the Operations Division.

The Plant & Structures Division staff (including Elevator Maintenance Contractor) ensures that all emergency systems are functioning properly and reports problems and their status to the Operations Division. Unassigned staff (including supervisors and carpenters) reports to the Tenant Support & Project Management Emergency Tenant Communications Office in #1 WTC for deployment by the Operations Division.

The Police Division ranking officer on the scene shall handle police related matters and deploy staff to lobbies, skylobbies and concourse.

All Division Managers and the Assistant Director report to the Operations Control Center.

Refer to specific responsibilities contained in this chapter and other chapters of the Emergency Procedures Manual for further responsibilities.

EXHIBIT 13B
ELEVATOR & BUILDING EVACUATION PROCEDURE (Continued)
IV. PUBLIC AREA STAFF RESPONSIBILITIES

STAFF LOCATIONS	RESPONSIBILITIES
Operations Control Center	Coordinate entire emergency
Lobbies: #1, #2, #4, #5 WTC - Lobby #1, #2, #4, #5 WTC - Plaza level Total: 8 locations	o evacuate stalled elevators o prevent overcrowding by directing people to Concourse and outdoors o report lighting or other deficiencies to "7-7" Supervisor o supervise re-entry, once authorized
Skylobbies: #1, #2 WTC - 44 Fl. #1, #2 WTC - 78 Fl. Total: 4 locations	o evacuate stalled elevators o prevent overcrowding by directing people to stairways o establish queuing lines to shuttle elevators o report lighting or other deficiencies to "7-7" Supervisor
Elevators: 20 Critical Elevators 12 Non-critical Elevators Total: 32 locations	o verify that the elevator communication system is operational o transport emergency building staff o transport the handicapped to nearest skylobby or lobby o transport all occupants to nearest skylobby or lobby o transport tenants with gold starred ID up to floors once re-entry is authorized
Stairways #1, #2 WTC-6 zones X 3 stairs #4, #5 WTC-6 stairs Total: 24 locations	o report lighting deficiencies to "7-7" Supervisor o direct people to walk in the down direction only o report stairway overcrowding to "7-7" Supervisor
Floors being evacuated: #1, #2 WTC - 6 zones #4, #5 WTC - 2 Total: 8 locations	o check each floor, one at a time, to verify handicapped and others are evacuated and doors to tenant spaces are locked o note whether emergency lighting and public address systems are operational and report deficiencies to "7-7" Supervisor (a deficient floor will not be authorized for limited re-entry.)
Concourse: Also see APPENDIX C Total: 8 deployments	o direct people to subways and outdoors o report overcrowding to "7-7" Supervisor

EXHIBIT 13C

RE-ENTRY CHECKLIST

The following is the guideline to be used by the senior manager on duty during a power failure to determine whether a limited re-entry procedure should be allowed to one or more floors or buildings. The request to allow **Essential Persons** re-entry to certain floors originates with the Tenant Support & Project Management staff in the Emergency Tenant Communications Office. At that location, the Tenant Support & Project Management staff maintain the list of Essential Persons, which is updated monthly.

1. Are standpipe, sprinkler and smoke detection systems operational in areas to be reoccupied? (Mechanical and Electrical Sections)

2. Has it been verified that the public address system is operational in area to be reoccupied? (Electrical Section)

3. Are emergency lighting systems operating in the areas to be reoccupied? (Electrical Section)

4. Are emergency lighting systems operating in the adjacent corridors and stairways? (Electrical Section)

5. Is elevator capacity available to transport occupants in and out of the space? ("7-7" Supervisor)

6. Are building staff fully deployed and ready to accept occupant re-entry? ("7-3" Supervisor)

7. Is the emergency generator plant operating normally with at least one standby generator? (Electrical Section)

8. Is someone assigned to keep a log of who enters the building and what space they will occupy? ("7-3" Supervisor)

13-2 RESPONSE

13-2.1 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

13-2.2 POLICE DIVISION

Tour Commander

1. Cancels all relief periods and evaluates personnel needs.
2. Deploys personnel to areas of high priority in order to obtain the maximum effort in assistance.
3. Directs the WTC Police Desk Officer to make the proper notifications to the Commanding Officer, Central Police Desk and Public Affairs.
4. Requests additional Police support from the Central Police Desk if necessary.
5. Assists in the evacuation. See **Exhibit 13B**. Refer to **APPENDIX C** for the Concourse evacuation procedures.

   Note: In assigning extra Police personnel who are not familiar with the complex, the Tour Commander ensures that a responsible WTC staff member (Security Guard, Operations Supervisor or other management staff) is assigned with these officers.

Tours

1. Each post reports to their designated location
   - Post 1 - Concourse WTC #1
   - Post 2 - Concourse WTC #2
   - Post 4 - Main Lobby WTC #4
   - Post 5 - Main Lobby WTC #5
   - Post 10 - Patrols Concourse

   - Post 9 - #1 WTC lobby and set up a First Aid Area.
   - Post 10 - 44th Floor Skylobby WTC #1
   - Post 11 - 44th Floor Skylobby WTC #2

   Note: Post 9, 10, 11 are available during regular hours only.

2. Take related reports, supervise first aid rendered to injured persons and follow directions of Tour Commander unless stated otherwise.

WTC Police Desk Officer

1. Makes all appropriate notifications listed in **Exhibit 13A.**
2. Maintains a chronological log of events, including the names of handicapped staff physically removed from building.
3. Guided by the Tour Commander, deploys Police personnel to critical areas. Refer to **Exhibit 13B - IV. Public Area Staff Responsibilities.**
4. Ensures that the multi-channel tape recorder is operating to record all telephone and radio transmissions.

13-2.3 OPERATIONS DIVISION

"7-7" Supervisor

1. Makes all notifications listed in **Exhibit 13A.**
2. Acknowledges emergency calls from each stalled elevator using the Stentofon Elevator Intercom System. Makes the following appropriate announcement.

   A. [TEMPORARILY STALLED ELEVATOR(S)]:

   "We have experienced a problem which has caused your elevator to temporarily stop. Your elevator is perfectly safe. If anyone should need assistance, please use the emergency call button to contact us. We apologize for the inconvenience and we thank you for your patience and cooperation. Once again, your elevator is perfectly safe and will be moving again shortly."

   B. [STALLED ELEVATOR(S) DUE TO SHORT-TERM POWER OUTAGE]:

   "Your attention please. We are experiencing a temporary power outage which has caused your elevator to stop. Your elevator is perfectly safe and we expect it to resume operation when power is restored in approximately _____ [AMOUNT OF TIME]. In the meantime, back-up power and lights are in service. If anyone should need assistance, please use the emergency call button to contact us. We apologize for the inconvenience and we thank you for your patience and cooperation. Once again, your elevator is perfectly safe and will be moving again shortly [OR IN _____ MINUTES]."

3. Based on nature of each entrapment, notifies the respective Starter's Station and orders a priority elevator evacuation
4. Reports to Elevator Maintenance Contractor those elevators which cannot be evacuated, those critical and non-critical elevators which cannot be operated.
5. Coordinates use of elevators for building evacuation using the Stentofon Elevator Intercom System.
6. Makes the appropriate public address announcements to tenants and patrons.

13-2.3 OPERATIONS DIVISION - "7-7" Supervisor (Continued)

A. [POWER DIP OR BRIEF POWER OUTAGE - length of outage known]:

"Your attention please. There has been a brief interruption of power to your floor. We expect to have a return to normal power in approximately _____ [AMOUNT OF TIME]. Until that time, there may be a temporary interruption of some services on your floor. Communications, emergency lighting and other essential systems are not affected. We apologize for any inconvenience and we thank you for your patience and cooperation."

B. [POWER OUTAGE - length of outage unknown]:

"Your attention please. There has been an interruption of power to _____ [FLOOR(S)/BUILDING(S)]. We are trying to determine when power will be restored. Please remain on your floor for further instructions. There may be an interruption of some services on your floor. Communications, emergency lighting and other essential systems are not affected. We apologize for any inconvenience and we thank you for your patience and cooperation."

[WHEN POWER IS RESTORED]:

"Full power to your floor has been restored. We apologize for the inconvenience and we thank you again for your patience and cooperation".

C. [LONG-TERM POWER OUTAGE AND EVACUATION]:

"Your attention please. Due to _____ [GIVE REASON, IF KNOWN], we will be conducting an orderly evacuation of your floor. Please remain on your floor until we announce over the public address system that it is time to leave your floor. When the announcement to leave your floor is made, please follow the directions given by your fire safety team. Fire safety team members should report all people on their floor who may need special assistance in leaving.

Before leaving, please remember to take your coats and other personal possessions you wish to bring with you. Also, lock or secure your work areas before leaving.

Once again, we apologize for the inconvenience and we thank you for your patience and cooperation."

13-2.3 OPERATIONS DIVISION - "7-7" SUPERVISOR (Continued)

[WHEN FLOOR IS TO BE EVACUATED]:

"Your attention please. It is now time for your floor to be evacuated. In accordance with directions from your fire safety team, please take the exit stairs nearest you. Limited elevator service is available for those persons unable to take the stairs. These people should wait in the main corridor of their floor. We remind you that communications, emergency lighting and other essential systems are in service. We will continue to keep you advised. Again, we apologize for the inconvenience and we thank you for your patience and cooperation."

7. Monitors fire alarm system.
8. Monitors radio communications system and broadcasts announcements to minimize radio jamming.
9. Reports electrical and mechanical problems to the appropriate section.
10. Assists in the evacuation. See **Exhibit 13B**. Refer to APPENDIX C if the concourse is to be evacuated.
11. To reduce the anxiety of visitors at public facilities at WTC, including WOW and the Observation Deck, notify the Restaurant and Deck Supervisors on duty as appropriate, so they are aware of facility emergency. This is necessary when many emergency vehicles respond to the building entrance.

NOTE: All equipment and systems at the Operations Control Center remain operable during power failures.

"7-3" Supervisor

1. After receiving notification of a power failure in effect, supervises the entire response to the emergency, keeping management staff apprised of the situation.
2. Assigns and supervises contract guards and other available building staff to necessary posts. Refer to **Exhibit 13B - IV. Public Area Staff Responsibilities.**
3. Restricts the entry of passenger vehicles into the WTC.
4. Ensures all ramp doors are open to facilitate proper ventilation of the subgrade.
5. Implements elevator and building evacuation (**Exhibit 13B**), Concourse evacuation (APPENDIX C) and building re-entry (**Exhibit 13C**).
6. Secures ACM abatement floors and prevents re-entry.

13-2.4 PLANT & STRUCTURES DIVISION

Mechanical Section

First Priority:

1. Check B6 Level "Joy" air compressors; place system in domestic water cooling mode.

13-2.4 PLANT & STRUCTURES DIVISION - Mechanical Section
First Priority: (Continued)

2. Check B6 Level "Fire Alarm Communications and Emergency Public Address System" amplifier room air conditioner units; place units in domestic water cooling mode.
3. Respond to #1 & #2 WTC, B1 Level pump rooms; place sprinkler and fire pumps on emergency power and test operate.

Second Priority:

1. Assign mechanics to River Water Pump House to place equipment in "Safe" position; lower sluice gates to minimum position, monitor water levels and set equipment in position for startup.
2. Ensure River Water Pump Station has emergency power.
3. Assign mechanics to Refrigeration Plant to place in "Safe" condition. Secure valves and associated equipment in preparation for Startup.
4. Monitor sump #5 operation to ensure proper elimination of steam condensate and generator cooling water.
5. Check operation of B6 level "J" and "K" area sumps and ejectors; Use gasoline driven pumps and hoses in event of overflowing.
6. Check operation of 4 & 5 WTC sumps and ejectors.
7. Report to "7-7" Supervisor when Mechanical 1st and 2nd priority check list is completed.

Electrical Section

NOTE: In the event of a facility-wide power failure, all electricians respond to the electrical shop (except for the Generator Plant Response Team who respond to the Generator Plant). If the building in which the shop is located is the scene of the emergency all electricians shall respond to:
- o Corner of Church & Liberty Streets (if inaccessable, report to: Church & Fulton Streets, in front of 5 WTC).

First Priority:

1. One electrician responds to Emergency Generator Plant to ensure the proper operation of the Emergency Power System.
2. Second electricion responds to affected substation(s) and PDC to determine scope and nature of failure and keeps the OCC informed of situation.
3. In the event that the B6 generator does not come on line, responds to West Street generator plant and check the following:
   a) that the 2 generators are running and both generators are closed to bus
   b) ventilation louvers are open
   c) fuel level is adequate
   d) voltage & frequency is correct
   e) the transfer switches on B4 level plenum over B6 generator plant are in proper positions.

   (At the time of printing a connection to PSE&G Power was being installed. Once installed, it will provide tertiary power back-up and the West St. generators will be disconnected)
4. Check that two automatic transfer switches behind generator board are in emergency position.

13-2.4 PLANT & STRUCTURES DIVISION - Electrical Section (Continued)

5. Check engine monitoring panel for proper operation of engines.
6. Check loading of emergency system to ensure system load does not exceed capacity of numbers of generators on line.
7. Check city water pump operation.
8. Check generator room air compressor operation.
9. Check WTC & Telco generator exhaust fans S-13 & S-24 operation.
10. Place "Joy" air compressors on emergency power.
11. Check that all Sump #5 pumps have transferred to emergency power.
12. Verify that all automatic transfer switches are properly positioned for emergency use. Manually transfer switches as needed.
13. Inspect engines on line. Check for leaks excessive vibration and noise.
14. Check fuel level in day tanks.
15. Open sound proof booth and prepare to operate from booth.
16. Check emergency power feed to the TV Broadcaster transformer.
17. Contacts Con Edison to learn when restoration of power will likely occur and advises "7-7" Supervisor.

Note: The West Street generator plant only supplies emergency power (in the event the main plant fails to start) to 1 & 2 WTC, emergency lighting risers, 1 & 2 WTC elevator #50, to the B1 level - OCC life safety feeder (e.g. FA computer, FAC system) and 4 & 5 WTC emergency risers.

Second Priority:

1. Check that the Operations Control Center and Police Desk are functioning properly.
2. Check that the maintenance shops and offices (#1 WTC, B2 Level) are completely on emergency power.
3. Check that Elevator Maintenance Contractor Office is operating on emergency power.
4. Place all subgrade MCC boards on emergency power; restart fans.
5. Report to "7-7" Supervisor when both the 1st & 2nd priority check lists are completed.
6. Compiles a list of all reported public area lighting and public address system deficiencies for use by the manager to determine whether limited occupant re-entry shall be authorized.

Elevator Maintenance Contractor

1. During **normal business hours**, directs the maintenance mechanics to their assigned emergency posts.

Elevator Maintenance Contractor	Posts	
1	#1 WTC,	Zone 1	Bank D
2	#1 WTC,	Zone 2	Bank D
3	#1 WTC,	Zone 3	Bank C
4	#1 WTC,	47th Fl.	Shuttle Machine Room
5	#1 WTC,	81st Fl.	Shuttle Machine Room
6	#2 WTC,	Zone 1	Bank D
7	#2 WTC,	Zone 2	Bank D
8	#2 WTC,	Zone 3	Bank C
9	#2 WTC,	47th Fl.	Shuttle Machine Room
10	#2 WTC,	81st Fl.	Shuttle Machine Room
11	Operations	Control Center	294 Level

2. Directs staff to:
   - o Immediately check to assure that the critical elevators are operating.
   - o Assist the Police in conducting rescues involving elevators which cannot be operated.
   - o Assures that all non-critical elevators have been secured at their lobby with the doors open (shuttle elevators, then local elevators.
   - o Assist in evacuation. Refer to **APPENDIX C** for the Concourse evacuation procedures.

13-2.5 TENANT SUPPORT & PROJECT MANAGEMENT

1. The Tenant Support Division notifies tenants via automated or manual means. During off-hours, the Operations Control Center initiates notifications until the Tenant Support Division Staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains an up-to-date tenant listing by building and floor at the Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

13-2.6 EMERGENCY MEDICAL SERVICES

1. As requested by Police Unit, establish a medical first aid center in lobby of affected building, generally #1 WTC, equipped with at least six (6) cots, blankets and medical supplies.
2. Arranges for additional staff from nearby hospital and/or 911.

13-2.7 ASSISTANT DIRECTOR & MANAGERS

1. Supervise the overall evacuation. Refer to **Exhibit 13B - IV. Public Area Staff Responsibilities, APPENDIX C - Concourse Evacuation, Appendix D Observation Deck Evacuation and Appendix K Subgrade Evacuation.**
2. Based on the recommendations of the Mechanical, Electrical and Facility Engineering Sections regarding the performance of building life safety systems and other systems (such as elevator availability), the senior manager on duty determines when the building can safely be re-entered by essential tenant staff and their representatives and finally when the building can be restored to normal operation. See **Exhibit 13C.**

CHAPTER 14
STRUCTURAL INTEGRITY

SUMMARY 14-1

Scope 14-1.1
Major Responsibilities 14-1.2
Notifications 14-1.3

RESPONSE 14-2

Plant & Structures Division 14-2.1
Facility Engineering Section
General Maintenance Section
Manager's Office

Quality Assurance Division 14-2.2

Planning Division 14-2.3

Operations Division 14-2.4

Construction Division 14-2.5

Life Safety & Security Division 14-2.6

Police Division 14-2.7

Tenant Support Division 14-2.8

14 STRUCTURAL INTEGRITY

14-1 SUMMARY

14-1.1 Scope

This procedure covers the response to potential and actual structural integrity failures. Typical failures include sagging ceilings, cracked and displaced stone panels, spalled concrete or any other failure which could cause substantial risk of harm to the public or other users.

14-1.2 Major Responsibilities

Plant & Structures Division :

- Facility Engineering Section: The Structural Integrity Coordinator manages entire response to potential and actual structural integrity failures and determines whether an evacuation is required.
- General Maintenance Section: Arranges for repair work to be performed as requested. Assists in performing engineering inspections as requested.
- Manager's Office: Ensures that proper remedial response is implemented. Determines if an area is safe for re-entry.

Quality Assurance Division: As requested, makes the initial on-the-scene assessment as to whether the structural condition requires immediate response.

Planning Division: As requested by the Structural Integrity Coordinator, assists in the evaluation of structural integrity failures and arranges for the design of repairs as recommended by the Quality Assurance Division.

Operations Division: Determines whether an evacuation is required and manages the entire response until the arrival of the Structural Integrity Coordinator.

Construction Division: As requested by the Structural Integrity Coordinator, performs remedial and/or permanent repairs such as demolition and other work.

Life Safety & Security Division: At the request of Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.

Police Division: As requested by the Operations Division, assists in evacuating and securing the affected area(s).

14-1.3 Notifications

All reports of potential and actual structural integrity failures are made to the Structural Integrity Coordinator (Facility Engineering Section) pursuant to **Exhibit 14A.**

EXHIBIT 14A

NOTIFICATIONS

Refer to APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs during off-hours.

FROM		TO
"7-7" Supervisor		Structural Integrity Coord. Manager (Plant & Structures) Manager (Operations) Manager (Life Safety & Security)
Structural Integrity Coordinator		Structural Engineer (Planning & Design Div.) Project Manager (Quality Assurance Div.)
	If classified as an immediate response item also notify:	Manager (Plant & Structures) Manager (Operations) Manager (Life Safety & Security) Operations Control Center Supervising Eng. (Facility Engineering Section) Assistant Director, Physical Facilities Manager (Planning) Manager (Quality Assurance Division) Manager (Tenant Services)

14-2 RESPONSE

14-2.1 PLANT & STRUCTURES DIVISION

14-2.1.1 FACILITY ENGINEERING SECTION (Structural Integrity Coordinator)

1. Upon notification of a potential or actual structural integrity failure responds to the affected location and determines if the condition requires further specialized investigation.
2. Contacts Planning Division Structural Engineer for advice.
3. If further investigation is required, contacts the Quality Assurance Division to have the condition inspected.
   - o If determined as an **Immediate** structural integrity problem, coordinates emergency remedial measures.
     - Requests an immediate evacuation of the affected area (using Security Guards or Police Division if necessary) with the consent of the Plant & Structures Manager.
     - Contacts Planning Division and requests a thorough investigation and evaluation.
     - Makes notifications. See **Exhibit 14A.**
   - o If determined as a **Priority** problem, coordinates remedial measures through Plant & Structures Division or Construction Division.
   - o If determined as a **Routine**, directs the General Maintenance Section and/or the Construction Division to make the appropriate repairs.

   Note: It is the responsibility of the Quality Assurance Division to determine if the problem is Immediate, Priority, or Routine; **not** the Structural Integrity Coordinator.
4. Makes notifications as per Exhibit 14A.
5. If the problem does not require further investigation, directs the General Maintenance Section and/or the Construction Division to perform the necessary repairs.

14-2.1.2 GENERAL MAINTENANCE SECTION

1. Reports all structural integrity concerns to the Structural Integrity Coordinator.
2. Performs any requested remedial work.

Note: No section member has the authority to determine whether a structural integrity situation is immediate, priority or routine. This determination is made by the Quality Assurance Division.

14-2.1.3 MANAGER'S OFFICE

1. With the advice of the Structural Integrity Coordinator and the Quality Assurance Division, determines if a space can be reoccupied.

14-2.1.3 MANAGER'S OFFICE (Continued)

2. Authorizes further investigation of the condition by the Planning Division and ensures remedial measures are implemented.

14-2.2 QUALITY ASSURANCE DIVISION

1. When requested by the Structural Integrity Coordinator (Facility Engineering Section), responds immediately to affected area.
2. Makes an initial assessment determining if the condition is:
   - o Immediate (ie: requiring evacuation & immediate response)
   - o Priority
   - o Routine
3. Provides technical advice to the Structural Integrity Coordinator.

14-2.3 PLANNING DIVISION

1. When requested by the Structural Integrity Coordinator (Facility Engineering Section), thoroughly inspects and evaluates the potential structural integrity problem.
2. Provides design services for interim or permanent remedial actions.

14-2.4 OPERATIONS DIVISION

1. In the absence of the Structural Integrity Coordinator, determines whether an evacuation is required.
2. Advises the Life Safety & Security Division to conduct an evacuation and to secure area(s).
3. Makes notifications as per Exhibit 14A.

14-2.5 CONSTRUCTION DIVISION

1. When requested by the Structural Integrity Coordinator, performs remedial work.

14-2.6 LIFE SAFETY & SECURITY DIVISION

Manager's Office

1. At the request of Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.

14-2.7 POLICE DIVISION

1. At the request of the Operations Division, assists in the evacuation and securing of area.

14-2.8 TENANT SUPPORT DIVISION

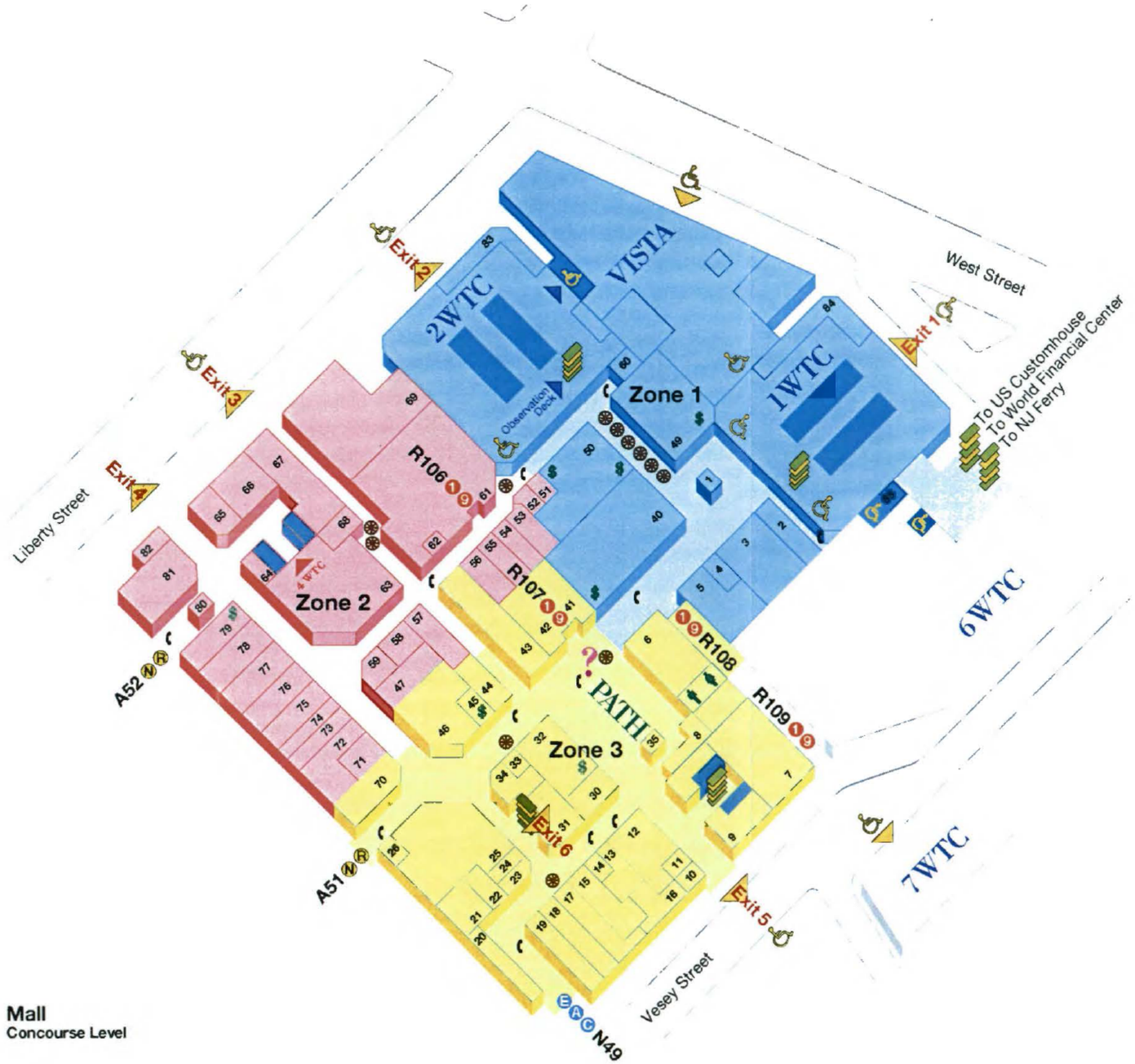
1. The Tenant Support Division notifies tenants via automated or manual means (other than public address announcements). During off hours, the Operations Control Center initiates notifications until the Tenant Support Division staff either arrive at WTC or acknowledge that they will perform such notifications from off-site.
2. The specific wording of such notification will be coordinated with the Assistant Director of Physical Facilities.
3. The Tenant Support Division distributes tenant bulletins as appropriate.
4. All tenant notifications are logged.
5. Maintains up-to-date tenant listing by building and floor at Operations Control Center, Situation Room and Emergency Tenant Communications Office.
6. Activates Emergency Tenant Communications Office (ETCO) whenever the Situation Room is activated or whenever the Tenant Services Office cannot be occupied.

Exhibit B as of 9/1/95

1 Eastern News, West
2 Tower Coffee Express
3 Classic Books
4 Crabtree & Evelyn
5 Duane Reade Drugs
6 Gap
7 Vacant
8 The Court
Coffee Arts, Taco Bell,
Everything Yogurt,
McDonalds
9 Vacant
10 Daniel Pehr Locksmith
11 Martins News
12 Sbarro
13 Menchanko Tei
14 Sushi Tei
15 Fine & Shapiro
16 Devon & Blakely
17 Vacant
18 Lechters Housewares
19 Natisse International
20 Tri State News
21 Vacant
22 Perfumeria Milano
23 Hoffritz
24 Sunglas Hut
25 Warner Brothers
26 Volunteers of America
30 Charles Schwab & Co. Inc.
31 Nine West
32 East River Savings Bank
33 Eastern News, PATH
34 Harwyn Florsheim
35 Mandarin Express
40 Chase Manhattan Bank
41 Innovation
42 Speedo
43 Lynn's Hallmark Shop
44 Coach
45 Chemical Bank ATM
46 Strawberry's
47 Bakers Shoes
49 Citibank
50 Chemical Bank
51 Vacant
52 Golden Nugget Jewelers
53 Radio Shack
54 Vacant
55 Minas Shoe Repair
56 Cornucopia
57 Cambridge Members
58 Vacant
59 Tie Rack
60 Ben & Jerry's Ice Cream
61 Limited Express
62 Eastern News, Liberty
63 The Limited
64 Au Bon Pain
65 Crosstown Sports
66 Mrs. Fields Cookies
67 Sam Goody
68 Bath & Body Works
69 Structure
70 Casual Corner
71 The Body Shop
72 August Max Woman
73 Flowers of the World
74 Eyes of the World
75 Papillon
76 Benjamin Books
77 Vacant
78 Accessory Place
79 Republic National Bank
80 Eastern News, Church
81 Republic Bank of Savings
82 Kelly Direct
83 Courier & Postal Services
84 Airline Service Center
85 PATH Wheelchair Entrance

Exits and Egress Capacity

1	CPM	1000
2	CPM	1000
3	CPM	590
4	CPM	1800
5	CPM	800
6	PPM	800

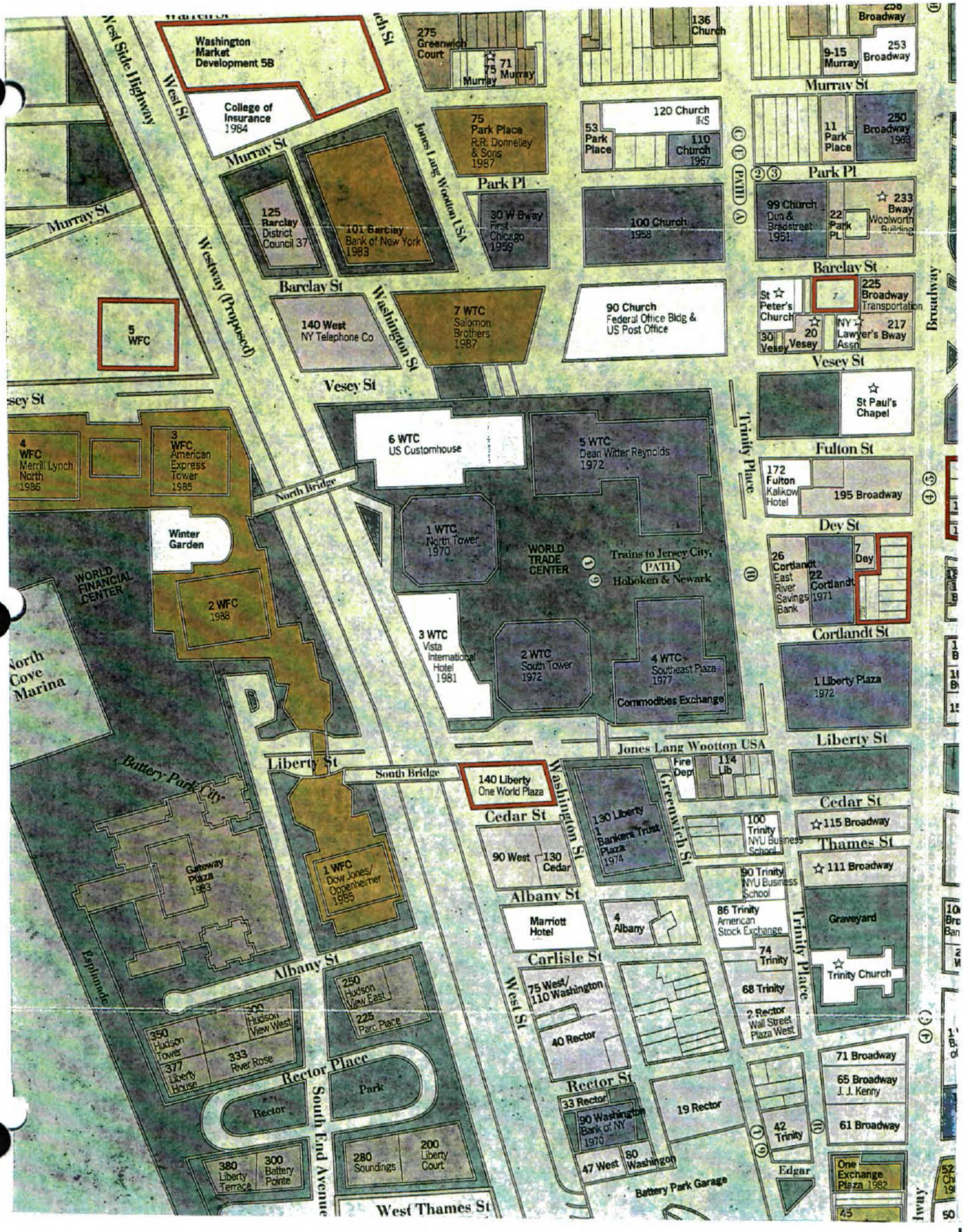


Mall
Concourse Level

Legend

- Entrance & Exit
- Escalators to Plaza
- Elevators
- Disabled Access
- Information
- 24 Hour ATM
- BMT Subway
- IND Subway
- IRT Subway
- Temporary Pushcart
- Public Restrooms

THE PORT AUTHORITY OF NY & NJ


Washington Market Development 5B
College of Insurance 1984
West Side Highway
West St
Murray St
275 Greenwich Court
71 Murray
75 Murray
136 Church
256 Broadway
9-15 Murray
253 Broadway
Murray St
75 Park Place R.R. Donnelley & Sons 1987
120 Church IRS
53 Park Place
110 Church 1967
11 Park Place
250 Broadway 1968
Park Pl
125 Barclay District Council 37
101 Barclay Bank of New York 1983
Jones Lang Wootton USA
30 W Bway First Chicago 1959
100 Church 1958
99 Church Dun & Bradstreet 1951
22 Park PL
233 Bway Woolworth Building
Barclay St
Westway (Proposed)
Washington St
140 West NY Telephone Co
7 WTC Salomon Brothers 1987
90 Church Federal Office Bldg & US Post Office
St Peter's Church
225 Broadway Transportation
30 Vesey
20 Vesey
NY Lawyer's Bway Assn
217
Broadway
Vesey St
5 WFC
St Paul's Chapel
Trinity Place
6 WTC US Customhouse
5 WTC Dean Witter Reynolds 1972
4 WFC Merrill Lynch North 1986
3 WFC American Express Tower 1985
North Bridge
Fulton St
172 Fulton Kalikow Hotel
195 Broadway
Winter Garden
1 WTC North Tower 1970
WORLD TRADE CENTER
Trains to Jersey City, PATH Hoboken & Newark
Dey St
26 Cortlandt East River Savings Bank
22 Cortlandt 1971
7 Dey
WORLD FINANCIAL CENTER
2 WFC 1988
3 WTC Vista International Hotel 1981
2 WTC South Tower 1972
4 WTC Southeast Plaza 1977
Commodities Exchange
Cortlandt St
1 Liberty Plaza 1972
North Cove Marina
Liberty St
Jones Lang Wootton USA
Battery Park City
South Bridge
140 Liberty One World Plaza
Fire Dept
114 Lib
Cedar St
115 Broadway
Thames St
1 WFC Dow Jones/ Oppenheimer 1985
Gateway Plaza 1983
90 West
130 Cedar
130 Liberty 1 Bankers Trust Plaza 1974
100 Trinity NYU Business School
90 Trinity NYU Business School
111 Broadway
Albany St
Marriott Hotel
4 Albany
86 Trinity American Stock Exchange
Graveyard
Esplanade
Carlisle St
74 Trinity
Trinity Church
75 West/ 110 Washington
68 Trinity
2 Rector Wall Street Plaza West
350 Hudson Tower
300 Hudson View West
377 Liberty House
333 River Rose
250 Hudson View East
225 Parc Place
40 Rector
Rector Place
Park
Rector St
71 Broadway
65 Broadway J. J. Kenny
61 Broadway
33 Rector
90 Washington Bank of NY 1970
19 Rector
42 Trinity
Rector
South End Avenue
280 Soundings
200 Liberty Court
380 Liberty Terrace
300 Battery Pointe
47 West
80 Washington
Edgar
One Exchange Plaza 1982
Battery Park Garage
West Thames St

Lower Manhattan
Financial District
New York Civic Center
World Trade Center
CONFUCIUS PLAZA
CHATHAM TOWERS
CHATHAM GREEN HOUSES
POLICE HEADQUARTERS
POLICE PLAZA
GOV. ALFRED E. SMITH HOUSES
CITY HALL
CIVIC CENTER SITE
WORLD TRADE CENTER
SOUTH STREET SEAPORT HISTORICAL DISTRICT
SOUTHBRIDGE TOWERS
BROOKLYN
BROADWAY
WALL STREET
BATTERY
HUDSON RIVER (NORTH RIVER)
EAST RIVER
BROOKLYN-BATTERY TUNNEL
Staten Island Ferry
U.S. Coast Guard Battery Park Bldg.
Pier 18
Pier 17
Pier 16
Pier 15
Pier 14
Pier 13
Pier 9
Pier 6
Pier A
Pier 1
Pier 2
Pier 3
Pier 4
Pier 5
Pier 6
Pier 7
Pier 8
Pier 9
Pier 10
Pier 11
Pier 12
Pier 13
Pier 14
Pier 15
Pier 16
Pier 17
Pier 18
Churches
Main Routes
Closed to Traffic (Pedestrians only)
IRT Subway (West Side)
IRT Subway (East Side)
BMT Subway
IND Subway
Subway Stations
Entrances & Exits to Subway Side
P.A.T.H. Tubes
Hub of Hudson
Parking
New York City Landmark
SCALES (APPROXIMATE)

APPENDIX C
CONCOURSE EVACUATION

SUMMARY	C-1
Scope	C-1.1
Major Responsibilities	C-1.2
Notifications	C-1.3
RESPONSE	C-2
Life Safety & Security Division	C-2.1
Police Division	C-2.2
Operations Division	C-2.3

C CONCOURSE EVACUATION

C-1 SUMMARY

C-1.1 Scope

The procedure, used in conjunction with the appropriate emergency chapter, assures the safe and orderly evacuation of the World Trade Center Concourse or a sector thereof. The Concourse shops are included in this evacuation plan. The determination of the need for a Concourse evacuation will be made as specified in the appropriate emergency chapter. **Exhibit C-B** contained herein divides the Concourse into three sectors. Evacuations are conducted by shop, building, sector or entire Concourse.

C-1.2 Major Responsibilities

Life Safety & Security Division :

Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).

Police Division :

Performs police duties related to the safe and orderly evacuation of the Concourse.

Operations Division :

Coordinates the overall response and makes appropriate notifications.

C-1.3 Notifications

These notifications supplement those notifications made in the appropriate emergency chapter. The WTC Police Desk Officer and the "7-7" Supervisor make the additional notifications listed in **Exhibit C-A.**

EXHIBIT C-A
NOTIFICATIONS

Refer to APPENDIX A for names and numbers.

Individuals or their alternates must be contacted at home if the incident occurs off-hours.

FROM	TO
WTC Police Desk Officer	Central Police Desk
	PATH Police Desk
	1st Precinct, NYPD
	NYC Transit Authority
	Police Commanding Officer
"7-7" Supervisor	"7-3" Supervisor
	Manager (Operations)
	Assistant Director, Physical Facilities
	Manager (Life Safety & Security)
	Supervisor, Fire & Life Safety
	Manager (Plant & Structures)
	Gen Mgr, Ten Sup & Proj Management
	Manager (Tenant Support Division)
	Chief Mtnc. Supervisor (Mechanical)
	Chief Mtnc. Supervisor (Electrical)
	Chief Mtnc. Supervisor (Gen. Mtc.)
	Olympia & York
	Public Affairs
	#6 WTC (U.S. Customs House)
	#7 WTC
	Vista Hotel
	Bankers Trust

C-2 RESPONSE

C-2.1 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs".

C-2.2 POLICE DIVISION

Tour Commander

1. Cancels all relief periods.
2. Evaluates staff needs and deployment. Requests additional staff as necessary.
3. Assigns necessary Police Officers to the sector(s) to be evacuated and post as necessary. Refer to **Exhibit C-B**.
4. Assigns an officer to the Police Desk to assist in maintaining chronological log and to make the appropriate notifications listed in **Exhibit C-A**.
5. Coordinates the evacuation and the placement of non-police personnel with the "7-3" Supervisor.
6. If PATH patrons exiting to the Concourse must be stopped, determines whether to have PATH halt train traffic to the WTC or perform the following procedure:

    - Requests assistance from the "7-3" Supervisor.
    - Directs the stopping of all incoming and outgoing traffic on the Barclay Street ramp and the interior vehicle ramps along the route between Barclay Street and the PATH emergency exits on the B-4 level.
    - Dispatches two (2) officers equipped with bull horns to the emergency exit doors on the PATH Concourse level leading to the B-4 parking garage.

Desk Officer

1. Makes the appropriate notifications. Refer to **Exhibit C-A** and the appropriate emergency chapter. Requests additional staff if necessary.
2 Notifies the 1st Precinct, NYPD and advises that the evacuation may cause pedestrian and traffic problems.

POLICE DIVISION (Continued)

3. Informs the NYC Transit Authority that the subway station exits into the WTC are being temporarily closed. All subway stations have alternate access stairways to the street.
4. Maintains a chronological record of events.
5. In the event the evacuation requires the rerouting of PATH trains, directs PATH to halt train services to the World Trade Center.

C-2.3 OPERATION DIVISION

"7-7" Supervisor

1. Makes the appropriate notifications. Refer to **Exhibit C-A.**
2. Makes announcements over the Public Address System:

   "Attention, attention, the Concourse is temporarily closed. Please follow the instructions of the emergency staff and leave the Concourse immediately."

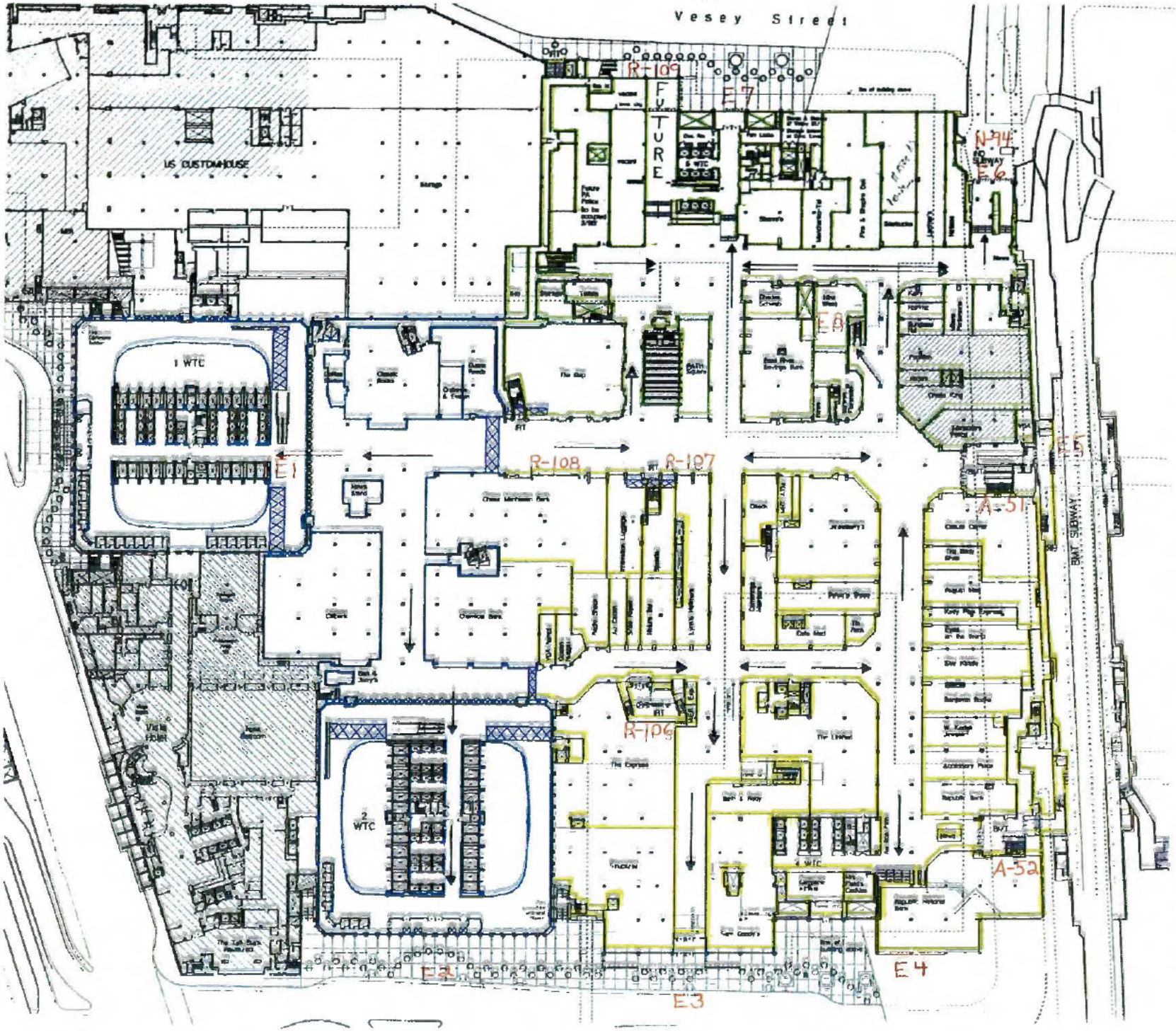
3. Maintains a chronological log of events

"7-3" Supervisor

1. Coordinates overall response.
2. Deploys the following staff to the affected sector(s), refers to **Exhibit C-B:**

   1. Three (3) to five (5) "7-4" Supervisors
   2. Nine (9) PA Maintenance Supervisors
   3. Ten (10) Cleaning Contract Porters and five (5) Cleaning Contract Supervisors
   4. Two (2) Elevator Starters

3. For PATH terminal evacuation via the emergency exit in the B-4 level parking garage, deploys staff to the parking garage ramps to direct evacuees to the Barclay Street ramp exit. Vehicular ramps will be closed to traffic.
4. Together with Life Safety & Security and Police staff, informs shop keepers to secure their shops and leave the Concourse immediately.



The Port Authority of New York and New Jersey

World Trade Center

EGRESS CAPACITY

EXITS	CPM
1. W Concourse thru Lobby of 1 WTC to West St.	1000
2. S Concourse thru Lobby of 2 WTC to Liberty St.	1000
3. SE Concourse to Liberty St.	1500
4. SE Concourse to Church St. and Liberty St.	1800
5. S Concourse thru BMT	800
6. NE Concourse to IND Subway	1650
7. N Concourse thru Lobby of NEPB to Vesey St.	590
8. NE Concourse up stairs thru lobby of NEPB to Church St.	150

Desig.	Subway
A-51	Downtown R
A-52	Downtown R
N-94	Uptown E
R-106	Uptown IRT
R-107	Uptown IRT
R-108	Downtown IRT
R-109	Up/Downtown IRT

Concourse Emergency Sectors

A
B
C

Exits 1-8 (E#)

Barricades

Routes

0 40 80 100

EXHIBIT C-B

Concourse Level

APPENDIX D
OBSERVATION DECK EVACUATION

General Procedures	D-1
Core Area	D-2
Roof Promenade	D-3
Requirements of Observation Deck Staff	D-4

OBSERVATION DECK EVACUATION PROCEDURES

D-1 General

The Observation Deck is divided into four areas: core area (the safe area) and three areas of refuge on the Deck. See attached floor plan. The roll down doors (located on the North & South side of the Deck) segregate the Deck into three areas of refuge. If a partial or full evacuation is deemed necessary, the core area cannot accommodate the entire population of the Deck. Therefore, there must be staged evacuations. The following will take place:

a) Warning tones will sound intermittently and public address announcements will be made containing specific instructions.
b) Observation Deck Employees under the supervision of the Observation Deck Floor Warden, who is a qualified Fire Safety Director, take immediate control to avoid panic and to ensure patrons move quickly from the affected deck area to the core safe area and to other areas of refuge.
c) The first area to be evacuated must be the area of the fire. If necessary, the remaining two areas of refuge will be evacuated, one area at a time as directed.
d) The evacuation route will be from the area of refuge (Deck) to the safe (core) area, down the stairways, three flights or more below the fire. If necessary, the patrons will then be moved down to the 78th floor Skylobby for transportation to the 310 Lobby.

NOTE:

If the evacuation of handicapped personnel is required, Observation Deck personnel will remove them from the affected area into the safe area. Advise the fire command post of this action, members of the responding fire brigade and Operations personnel will remove the handicapped to three or more levels below the fire floor.

Emergency response personnel will be stationed in stairways, Skylobby and 310 Lobby to assist and direct Deck patrons.

There shall be written assignments of Observation Deck staff as to their area of responsibilities and duties. The deck must be adequately manned by Observation Deck Fire Safety Team personnel at all times.

D-2 CORE AREA

For fires in the core, the patrons are to be evacuated down a stairway or to any one of the Deck areas of refuge.

D-3 ROOF PROMENADE

If it is necessary to evacuate patrons from the roof promenade due to a fire on the 107th floor, they are to be directed down the escalator from the 110th floor landing, through the emergency exit doors, down the stairways, three flights or more below the fire. If necessary, the patrons will then be moved down to the 78th floor Skylobby for transportation to the 310 Lobby.

D-4 Requirements of Observation Deck Staff

Depending on the number of guard/guide responding to the emergency, the responsibilities are as follows:

A. Fire Safety Director on Deck (Floor Warden)

1. Immediately reports smoke, odor of smoke or fires to the Lobby Fire Command Station.
2. Directs Observation Deck evacuation if needed.
3. Maintains communications with Lobby Fire Command Station.

B. 1 Guide/Supervisor

1. Immediately reports smoke, odor of smoke or fire to the Floor Warden or Supervisor or Police Desk, whichever is quicker.
2. Begins evacuation of customers to the safe area (core corridor) and down the three (3) emergency stairways.
3. Responds to each of the remaining area of refuge.
4. Tells patrons to remain calm and not leave the area unless instructed to do so.

C. 2 Guides/Supervisor (When available)

1. Immediately reports smoke, odor of smoke or fire to the Floor Warden or Supervisor or Police Desk, whichever is quicker.
2. First guard/guide responds to affected area and performs the duties as described in **Item A.**
3. The second guard/guide responds to each of the two unaffected areas of refuge.
4. Advises patron to remain calm and not leave the area unless instructed to do so.
5. If evacuation of additional area of refuge is necessary, assists the first guard/guide in the evacuation.
6. Then responds to the third area of refuge.

D-4 REQUIREMENTS OF OBSERVATION DECK STAFF (Continued)

D. 3 Guides/Supervisor (When available)

1. Immediately reports smoke, odor of smoke or fire to the Floor Warden or Supervisor or Police Desk, whichever is quicker.
2. First guard/guide responds to affected area and performs the duties as described in Item A.
3. Second guard/guide responds to unaffected area and performs duties described in Item B.
4. Third guard/guide responds to remaining unaffected areas and performs duties described in Item B.

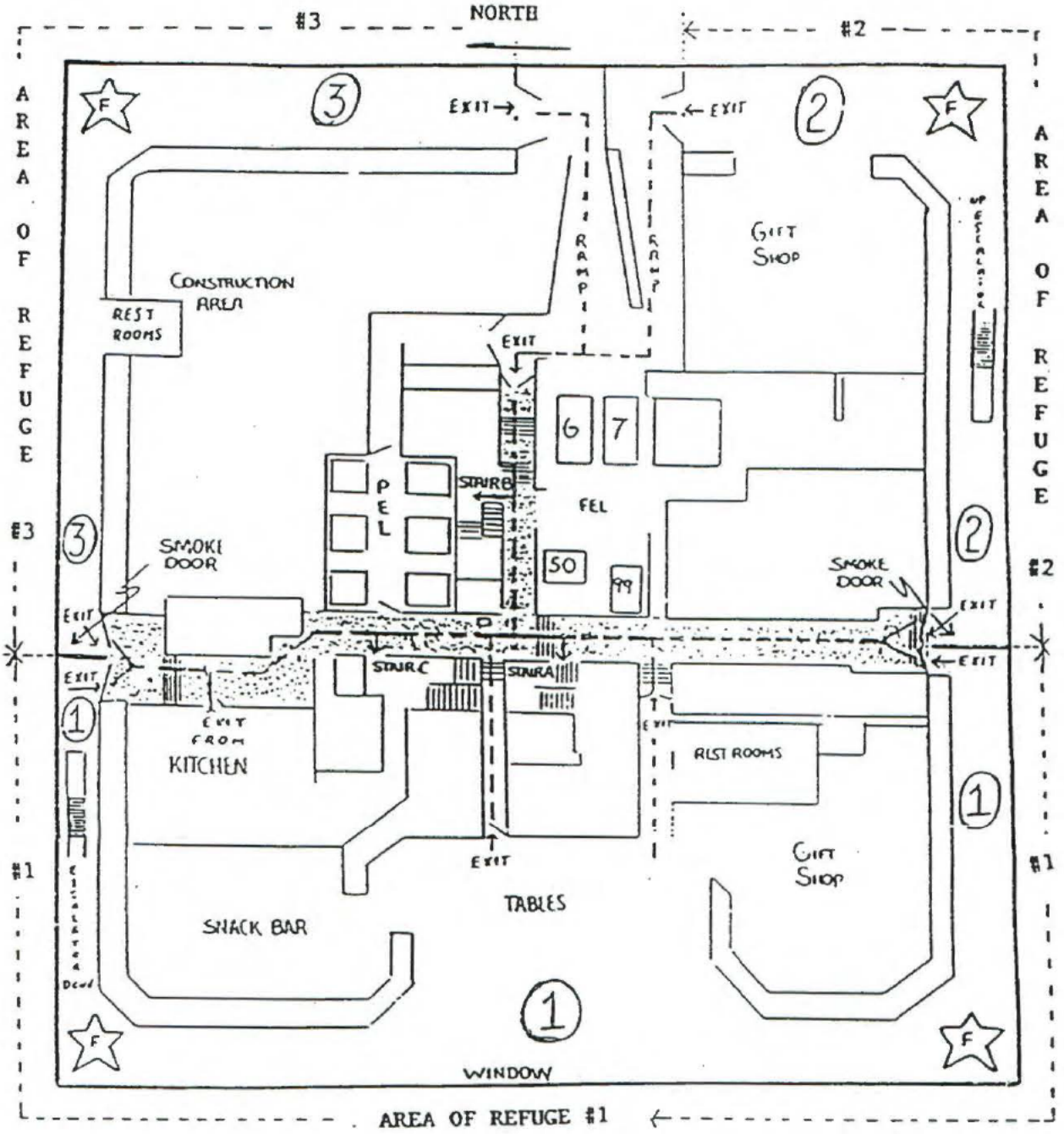
OBSERVATION DECK EVACUATION

1-Sept-1995

OBSERVATION DECK AREAS OF REFUGE AND EVACUATION ROUTES

LEGEND

Areas of refuge, 1-2-3, are enclosed by a circle.
Routes from exits to stairways ------
Safe area (core corridor) ::::
Breakglass alarm box ▭
Fire Safety Team member (not a fixed point) ☆F



APPENDIX E
SITUATION ROOM ACTIVATION

Scope	E-1
Activation Phase	E-2
Activation Procedures	E-2.1
Telephone System	E-3
Inventory Checklist	E-4
Office Equipment	E-4.1
WTC Technical Manuals	E-4.2
Bulding System Drawings	E-4.3

E-1 Scope

The Situation Room, located in the vicinity of the Operations Control Center(OCC), is activated during major emergencies. The staff in the room are responsible for emergency management oversight and supplement the normal 24 hr/day civilian & police supervisory staff on duty to:

1. Protect life & property
2. Minimize business interruption
3. Keep the Executive Director & Department Directors informed of the situation
4. Coordinate activities with other neighboring properties such as 3, 6 (Customs House), 7 WTC, O&Y and Banker's Trust as appropriate
5. Arrange media relations
6. Approve content & timing of information distributed to tenants & patrons
7. Approve service & utility restoration plans
8. Approve reoccupancy of tenant essential persons

The "7-3" Supervisor on duty or any World Trade Department Manager may activate the Situation Room. The Operations Supervisor inventories the Situation Room monthly, to ensure its inventory is available (see E-4).

E-2 Situation Room Activation Phase

1. Notify the Operations Control Center (OCC) and the Police Desk.
2. Follow the appropriate emergency notification procedures contained in the WTC Emergency Procedures Manual or Fire Response Plan.
3. Follow the Situation Room Activation Procedures.
4. For major emergencies, notify: Director, Asst. Directors, General Manager-Tenant Support & Project Management, General Manager-Leasing, General Manager-Retail Services, General Manager-Physical Facilities, Manager-Operations, Manager-Construction, Manager-Plant & Structures and Manager-Life Safety & Security.

E-2.1 Situation Room Activation Procedures

Keys

1. Obtain keys from the Operations Control Center (OCC).
2. Turn off the security alarm switch .

E-2.1 Situation Room Activation Procedures (Continued)

Situation Room

1. Unlock entrance door to the Situation Room.
2. Begin notifications that Situation Room is activated.
3. Check Hot Line Phones to Operations Control Center and Emergency Tenant Support Room.
4. Immediately maintain incident log of relevant information regarding emergency notifications

---

E-3 Situation Telephone System

The telephone system consists of the following:
o 27 direct outside telephone lines

E-4 Situation Room Inventory

E-4.1 Office Equipment

1	Conference Room with Table and 13 Chairs
1	Bulletin Board
1	Black Board
1	Storage Cabinet
13	Work Stations with Chairs
1	Private Office with Desk
1	Couch
1	Coat Rack
1	Presentation Easel with Paper
1	Clock
	misc. office equipment (pens, pencils, pads, etc.)

E-4.2 WTC Technical Manuals

Manual No.	Title	Revision/Publication Date
1	River Water Pump Station, WTC	Oct. 1977
2	Remote Lighting Control System, WTC	July 1975
3	Mechanical Systems, Central Refrigeration Plant, WTC	Dec. 1978
4	Electrical Systems, Central Refrigeration Plant, WTC	Dec. 1977
4a	Supplementary Publications, Electrical Systems, Central Refrigeration Plant	Nov. 1976
5	High Voltage Distribution System, WTC	May 1978
6	Low Voltage Distribution System Towers A & B, WTC	Sept. 1978
7	Fire Alarm & Communications System, WTC	
8	Emergency Power Distribution Systems, WTC	Nov. 1979
9	Plaza Sculpture Fountain System WTC	March 1980
10	Low Voltage Distribution System NEPB & SEPB, WTC	Oct. 1984
11	Low Voltage Distribution System Subgrade Levels, WTC	Nov. 1984
12	Smoke Detection System Observation Deck, Tower B	Aug. 1981
13	Halon Fire Protection System Computer Center, WTC	Dec. 1981
14	Domestic Water System Towers A & B, WTC	Nov. 1983
15	HVAC System, Towers A & B, WTC	
16	Electrical & Mechanical Systems Club/ Restaurant	
17	HVAC Systems, Subgrade Levels	
18	Fire Sprinkler Systems, WTC	

WTC Technical Manuals (Continued)

Manual No.	Title	Revision/Publication Date
19	Fire Standpipe System, WTC	
20	Elevator System, (Instructions/Procedures)	
21	Antenna Heating System, WTC	Oct. 1986
22	Compressed Air System, WTC	Dec. 1986
23	Fire Protection System, WTC	Feb. 1986
24	Fire Alarm System, PA Tel. Rm. 74th Floor, Tower A	
25	Sewage and Sump Systems Sublevels, Towers A & B	Aug. 1985
26	WTC/Hotel Utility Interface	
27	Domestic Water System NEPB	June 1988
31	Window Washer & Exterior Platform Platform Equipment	Nov. 1987

E-4.3 List of Emergency Plan Drawings

1. Building Index
2. Standpipe - A TWR, B TWR, NEPB, SEPB, Main Loop, B1 Loop Distribution Loop for B1 & Concourse
3. Electrical - Feeder Diagram, EX Drawings for Distribution & Risers Systems, Fire Pumps. Transfer Switch, Vault & Switchboard schedules, Protection & Grounding, Emergency Control & Emergency Single Line
4. Mechanical - Mech: NEPB, A TWR, B TWR, Subgrade, SEPB Plumbing: Subgrade, SEPB Sprinkler-NEPB
5. Architectural - Architectural/Asbestos
6. Passenger & Freight Elevator - A TWR & B TWR Pit, Riser, Machine Room and Secondary Room, Elevations and Shuttle Elevator Hoistway Plans.
7. Escalators - A TWR & B TWR Escalator Details and Plot Plans.

APPENDIX F
EMERGENCY TENANT COMMUNICATIONS OFFICE ACTIVATION

Scope	F-1
Activation Procedure	F-2
Emergency Tenant Communications Office Staff	F-3
Emergency Tenant Communications Office Room Features	F-4

F-1 Scope

The function of the Emergency Tenant Communications Office is to be the primary link between the WTC and the tenants during a major emergency. It will be used to advise tenants of ongoing problems or events taking place inside or outside the WTC that could affect tenant operations. These situations can include electrical outages, loss of condenser water and civil disturbances.

The office:

1. Notifies tenant principals of the emergency
2. Keeps tenant principals informed of the status of the emergency
3. Receives information from tenants
4. Notifies tenant principals when essential persons can re-enter tenant premises before formal reopening

Tenant notifications are made by the Tenant Support Staff by telephone. Tenant Support Staff utilizes a computerized emergency tenant notification system as well as initiates direct personal calls to tenants on a time available basis.

F-2 Activation Procedure

1. The Emergency Tenant Communications Office (ETCO) is activated when the Situation Room is activated. ETCO is at the rear of the Operations Control Center.
2. The office is activated by the General Manager of the Tenant Support & Project Management Division or the Manager of the Tenant Support Division.
3. If there is a loss of phone coverage to tenants or a system failure of the non-routine work order system in 1 WTC, 35 floor, the General Manager of the Tenant Support & Project Management Divisions, will be located during building emergencies in the Situation Room and will have a direct dial line to ETCO. Information will be relayed by him to the Manager of the Tenant Support Division who will make appropriate notifications.

F-3 Emergency Tenant Communications Office Staff

Manager, Tenant Support Division
Manager, Tenant Project Management Division
Five Tenant Account Managers
Three Building Service Clerks
Five Tenant Project Management Staff
Tenant Support Administrator

F-4 Emergency Tenant Communications Office Room Features

Fax machine
TV monitor
VCR and camera showing Situation Room
12 telephones
Emergency Tenant Notification System
Pads and pens
Bulletin board
Large panel copy unit
Military clock
Conference room table with 15 chairs
Three storage cabinets
Nonroutine work order computer system
Telephone directories:
- WTC Tenant Listing (alphabetical by bldg)
- WTC Tenant Listing (alphabetical by bldg and floor)
- WTC Tenant Off-Hour Emergency Listing
- Disabled Persons - Private Tenants & Port Authority Commissioners (November 1993)
- Essential Persons List
- Port Authority Telephone Directory

APPENDIX G
NYPD EMERGENCY SERVICE UNIT

Scope	G-1
Hazardous Materials	G-1.1
Weapons & Tactics	G-1.2
Restraining the Disturbed	G-1.3
Medical Trauma	G-1.4
Rescue from Heights	G-1.5
Animal Control	G-1.6
Water Control	G-1.7
Miscellaneous Equipment	G-1.8

G-1 Scope

This appendix describes the specialized equipment and tactics of the NYC Police Emergency Service Unit which supports emergencies at the World Trade Center. The list is categorized by the nature of an emergency.

G-1.1 Hazardous Materials

- o butyl rubber suit
- o scuba tank covering
- o gas detection
- o aluminized "flashover suit" that reflects 85% of the heat from a fire or explosion up to 1500 degrees
- o water-gel blanket for smothering flames
- o light fire hose
- o extinguishers
- o hydrant tools

G-1.2 Weapons & Tactics

- o duties include raiding heavily armed suspects, hunting for snipers, hostage negotiating and protecting high risk foreign dignitaries
- o submachine gun, Remington 660 rifle with telescopic sight, Ithaco 12-guage shotgun
- o Kelvar blanket to create bullet-resistant shield
- o hand-pumped "rabbit", a set of claws that splint open door frames
- o two tear-gas guns

G-1.3 Restraining the Disturbed

- o water fire extinguisher for distracting emotionally disturbed people
- o nylon mesh blanket with velcro straps
- o shepherd's crook for trapping or grabbing hands holding weapons
- o plastic shield and Y shaped pipe for pinning armed disturbed people
- o tasers for stunning
- o chemical mace
- o chain mail gloves for grabbing knives

G-1.4 Medical Trauma

- o resuscitator, bandage & splint kit
- o aluminum stretcher
- o Stokes basket that victims can be lashed into and hoisted
- o body bag
- o Kendrix Extrication Device vest with wood slats that immobilize head & spine

---

G-1.5 Rescue from Heights

- o Lirakis safety harness
- o net
- o fan inflated airbags

G-1.6 Animal Control

- o air powered gun with up to 3 cc's of Ketaset tranquilizer
- o blank powered gun firing darts of up to 15 cc's
- o animal noose on aluminum pole

G-1.7 Water Rescue

- o dry suit, fins & tanks
- o inflatable boat
- o life ring and four life jackets
- o jet-ski
- o gumby suit, which is a floating survival suit for freezing water

---

G-1.8 Miscellaneous Equipment

- o Hurt Tool, which is a gasoline driven pump that drives hydraulic jaws, rams & cutter blades
- o air pressure jacks
- o chain saws, carborundum saws, air driven jackhammers and chisels
- o magnesium/oxygen tank
- o bolt cutters, sledgehammers, axes, crowbars, picks and shovels
- o water pumps and hoses
- o rope and ladder
- o fiberglass pole

Miscellaneous Equipment (Continued)

- o 1000 Watt sodium vapor lamp on a 20 foot extension pole
- o robots
- o two armored personnel carriers
- o bomb disposal truck
- o 16 shower decontamination trailer

APPENDIX H
HELICOPTER PROTOCOL

1. The **P.A. Police** determines the need for helicopter access to roofs of the Towers during times of emergency and rendezvous with responding units on the roof.

2. The **N.Y.P.D. Aviation Unit** provides helicopter service and controls the air space for its helicopters and those of other responding units.

3. The **FDNY** determines the precautionary fire safety measures to be taken on the roof during landings and takeoffs.

4. The **Operations Division** provides emergency elevator service from the 110th floor to the emergency location.

5. The **Wall St. heliport** is the designated "landing zone" during an emergency.

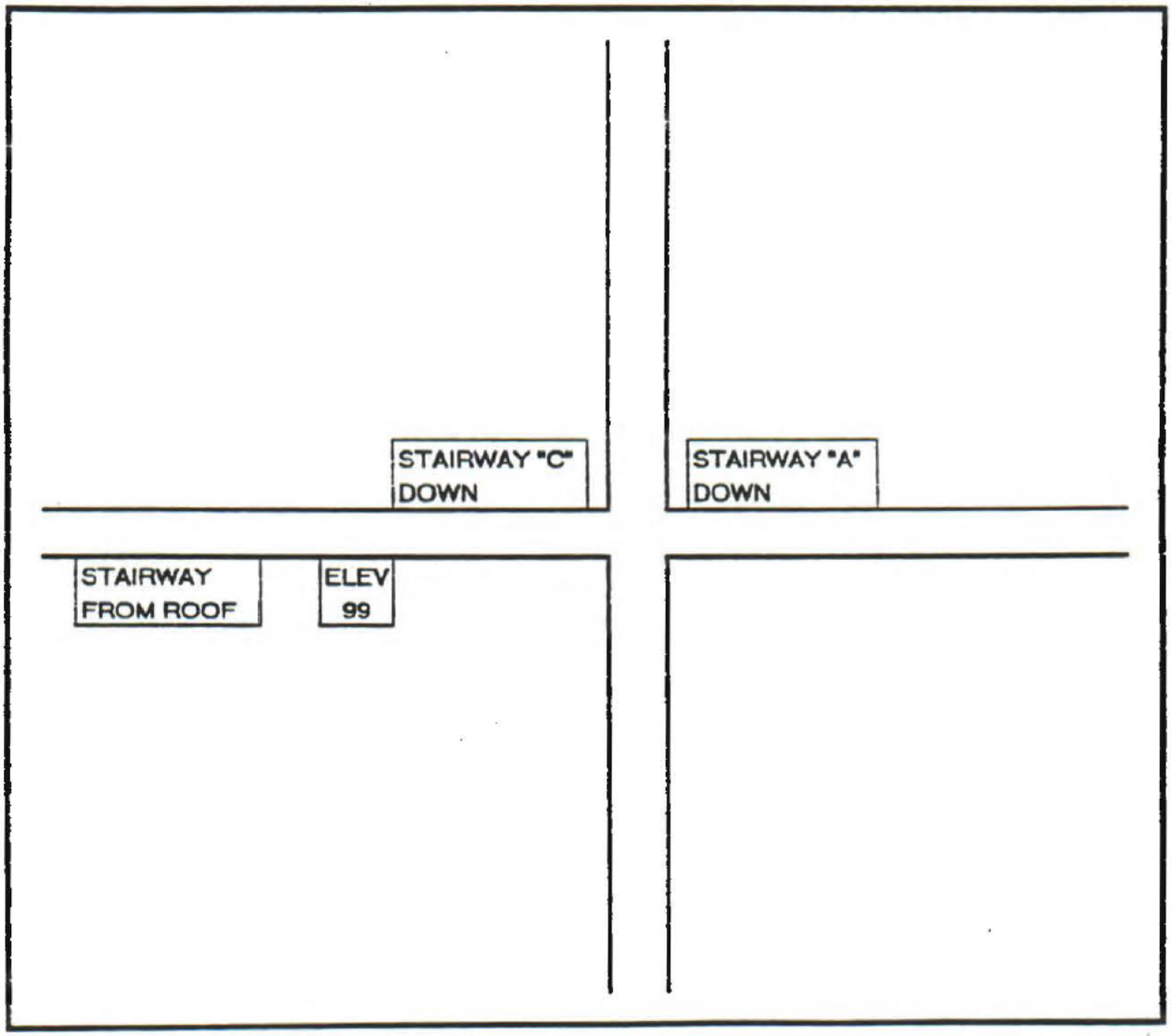
NOTE:

- Roof landing areas are inspected annually or more often as needed, by the P.A. Helicopter Operations, facility staff and the N.Y.P.D.) to ensure the continued safety of landing areas and paths leading to the roof access stairs.

- During landings and take-offs, it is desirable, but not required, to:

  - close the Plaza (Operations Division)

  - close of adjacent streets and sidewalks (N.Y.P.D.)



110th FLOOR 1 & 2 WTC

APPENDIX I
SUPPORT FOR STAFF

During emergencies, responding full time building staff (Port Authority and Contractor), require support facilities and services to sustain their response effort. The Manager of Administration provides or arranges for such support as outlined below:

A. Protective work clothes :

Protective work clothing and equipment include jackets, trousers, shirts, underwear, rain gear, gloves, boots, flashlights, hard hats, respirators, etc. These items can typically be obtained through the Purchase and Supply Services Division or local vendors.

B. Meals :

Meals, including sandwiches, coffee & cold beverages for short duration emergencies and hot meals for multi-shift emergencies.

C. Rest Rooms :

Rest room facilities should be provided near the emergency site to minimize staff travel. Wherever toilets are available, appropriate signage should be provided to indicate their locations.

D. Sanitation :

Cleaning service for temporary offices, shops and rest rooms as required.

E. Lodging :

In instances where personnel work 14 to 16 or more consecutive hours during an emergency, provide staff with overnight lodging, as appropriate.

F. Temporary Office Space & Services :

Provide an emergency office space, if one is required, complete with telephones, stationary supplies, personal computer, photocopy and fax machine, chairs, tables, etc., as required.

G. Radios :

Additional radios may be needed by certain responding units. Such radio needs can be satisfied by borrowing radios from other units at the WTC or at other facilities. Radios can also be leased or purchased.

H. Cellular phones and additional land lines :

If an adequate number of telephone lines are not available in areas temporarily designated as emergency office space, additional land-lines should be provided to essential facility personnel. Also, provide cellular telephones to key field supervisory staff.

I. Payroll/Petty Cash :

Arrange for a temporary payroll and petty cash reimbursement procedure, as appropriate, to prevent payroll and reimbursement delays.

J. Time off :

When the emergency response is longer that one week, ensure that scheduled time off is provided to allow staff to recuperate.

K. Loss of personal items and quick settlement of claims :

Staff should be compensated for their losses promptly. The Port Authority and contractors should quickly establish guidelines for reimbursement and assist staff in preparing claims and obtaining settlements.

L. Family notification :

Because the circumstances of emergencies can vary widely, it is impossible to prescribe the appropriate actions for every situation. However, when an emergency occurs resulting in the death or serious injury of a Port Authority or contractor employee, assure that the employee's family is quickly notified by a personal visit. Where multiple injuries or deaths occur, multiple teams must be dispatched to make notifications. The Police Division shall escort staff to perform the notifications.

Reminds those not seriously injured or killed to notify their families of their well being.

M. Parking :

Parking space should be made available, as appropriate, when an emergency requires call-in during the off-hours or when work shifts exceed 12 to 14 hours per day.

N. Vehicle and car service :

Vehicles and car service should be made available, as appropriate, when work shifts exceed 12 to 14 hours per day or arrival and departure times occur between 10 P.M. and 6 A.M.

APPENDIX J
EMERGENCY ANNOUNCEMENTS

INDEX

PUBLIC ADDRESS SYSTEM ANNOUNCEMENTS

Introduction : J-1
- o Message to precede all public address system emergency announcements J-1.1

POWER FAILURES J-2

- o Power dip or brief power outage--length of outage known J-2.1
- o Power outage--length out outage unknown J-2.2
- o Power is restored J-2.3
- o Long-term power outage and evacuation J-2.4
- o Floor is to be evacuated J-2.5

FIRE/SMOKE J-3

- o Local or complete evacuation--smoke or fire emergency J-3.1
- o Floor is to be evacuated J-3.2
- o Smoke or fire emergency not requiring evacuation J-3.3
- o Situation has cleared J-3.4
- o Smoke outside the complex J-3.5

OTHER J-4

- o Local evacuation: non-smoke/non-fire emergency (i.e. bomb threat) J-4.1
- o Floor is to be evacuated J-4.2
- o Temporary service interruption (elevators, heat, water, etc.) J-4.3
- o System is restored J-4.4

ELEVATOR INTERCOM ANNOUNCEMENTS J-5

- o Elevator(s) on slow-speed (inspection speed) run J-5.1
- o Temporarily stalled elevator(s) J-5.2
- o Stalled elevator(s) due to short-term outage J-5.3
- o Stalled elevator(s) due to long-term outage J-5.4
- o Stalled elevator(s) that must be opened J-5.5
- o Smoke in elevator shaft J-5.6

J-1 INTRODUCTION

- o These announcements were prepared as a guide to help you make clear, concise and informative announcements.
- o Chimes should be sounded before information announcements.
- o The warble tone should be sounded before evacuation announcements.

J-1.1 MESSAGE TO PRECEDE ALL EMERGENCY ANNOUNCEMENTS:

Your attention please. Your attention please. An important public address announcement will be made in the main corridor of your floor in a few moments.

J-2 POWER FAILURES

J-2.1 POWER DIP OR BRIEF POWER OUTAGE -- length of outage known:

Your attention please. There has been a brief interruption of power to your floor. We expect to have a return to normal power in approximately _____ [AMOUNT OF TIME]. Until that time, there may be a temporary interruption of some services on your floor. Communications, emergency lighting and other essential systems are not affected. We apologize for any inconvenience and we thank you for your patience and cooperation.

J-2.2 POWER OUTAGE -- length of outage unknown:

Your attention please. There has been an interruption of power to _____ [FLOOR(S)/BUILDING(S)]. We are trying to determine when power will be restored. Please remain on your floor for further instructions. There may be an interruption of some services on your floor. Communications, emergency lighting and other essential systems are not affected. We apologize for any inconvenience and we thank you for your patience and cooperation.

J-2.3 POWER IS RESTORED:

Full power to your floor has been restored. We apologize for the inconvenience and we thank you again for your patience and cooperation.

J-2.4 LONG-TERM POWER OUTAGE AND EVACUATION:

Your attention please. Due to _____ [GIVE REASON, IF KNOWN], we expect the power outage to last for a number of hours. Therefore, we will be conducting an orderly evacuation of your floor. To prevent overcrowding, please remain on your floor until we announce that it is time to leave your floor. During this time, please follow the directions given by your fire safety team. Please remember to take your personal possessions and lock your entrance door. Fire safety team members should report all people on their floor who may need special assistance in leaving.

POWER FAILURES - LONG-TERM POWER OUTAGE AND EVACUATION (Continued)

Please remember, to prevent stairway overcrowding, please remain on your floor until we announce that it is time for you to leave. Please follow the directions of your fire safety team.

Before leaving, please remember to take your coats and other personal possessions you wish to bring with you. Also, lock or secure your work areas before leaving.

Once again, we apologize for the inconvenience and we thank you for your patience and cooperation.

J-2.5 **FLOOR IS TO BE EVACUATED:**

Your attention please. It is now time for your floor to be evacuated. In accordance with directions form your fire safety team, please take the exit stairs nearest your. Limited elevator service is available for those persons unable to take the stairs. These people should wait in the main corridor of their floor. We remind you that communications, emergency lighting and other essential systems are in service. We will continue to keep you advised. Again, we apologize for the inconvenience and we thank you for your patience and cooperation.

J-3 **FIRE/SMOKE**

J-3.1 **LOCAL OR COMPLETE EVACUATION -- SMOKE OR FIRE EMERGENCY:**

Your attention please. We are experiencing a smoke situation in the vicinity of your floor. Building personnel have been dispatched to the scene and the situation is being addressed. However, for precautionary reasons, we are conducting an orderly evacuation of floors _____. Please wait until we announce your floor number over the public address system. Then follow the instructions of your fire safety team.

We will continue to keep you advised. We apologize for the inconvenience and we thank you for your cooperation.

J-3.2 **FLOOR IS TO EVACUATED:**

Your attention please. It is now time for your floor to be evacuated. In accordance with directions from your fire safety team, please take the exit stairs nearest your [OR STAIRS DETERMINED BY the FSD].

We remind you that communications, emergency lighting and other essential systems are in service. We will continue to keep you advised. Again, we apologize for the inconvenience and we thank you for your patience and cooperation.

J-3.3 **SMOKE OR FIRE EMERGENCY NOT REQUIRING EVACUATION**

Your attention please. We are experiencing a minor incident that may result in the odor of smoke on your floor. The situation is under control. Please remain in your offices and keep doors closed until further instructions are announced. We will advise you when the situation has cleared. We apologize for the inconvenience and we thank you for your patience and cooperation.

J-3.4 **SITUATION HAS CLEARED**

Your attention please. The smoke situation has cleared. Once again, we apologize for the inconvenience and we thank you for your patience and cooperation.

J-3.5 **SMOKE OUTSIDE THE COMPLEX:**

Your attention please. We have received a report of a smoke condition outside the complex. Because some smoke may be drawn into the building, we are taking the precaution of curtailing air conditioning [or heating] operations until the situation clears. [READ PERTINENT SECTION OF MESSAGES in J-3.2 and J-3.2A IF APPROPRIATE]. We apologize for the inconvenience and thank you for your patience and understanding.

J-4 **OTHER**

J-4.1 **LOCAL EVACUATION: NON-SMOKE/NON-FIRE EMERGENCY (I.E. BOMB THREAT, ETC.):**

Your attention please. We are experiencing a problem in the vicinity of FLOOR(S) _____. Appropriate personnel have been dispatched to the scene and the situation is being addressed. However, for precautionary reasons, we are conducting an orderly evacuation of your floor. Please wait until we announce your floor number over the public address system. Then follow the instruction of your fire safety team. Fire safety team members should report all people on their floor who may need special assistance in leaving the floor. We will continue to keep you advised. We apologize for the inconvenience and we thank you for your cooperation.

J-4.2 **FLOOR IS TO BE EVACUATED: (NON FIRE EMERGENCY)**

Your attention please. It is now time for your floor to be evacuated. In accordance with directions from your fire safety team, please take the exit stairs nearest you. Limited elevator service is available for those persons unable to take the stairs. These people should wait in the main corridor of their floor. We remind you that communications, emergency lighting and other essential systems are in service. We will continue to keep you advised. Again, we apologize for the inconvenience and we thank you for your patience and cooperation.

J-4.3 **TEMPORARY SERVICE INTERRUPTION (ELEVATORS/HEATING/AIR CONDITIONING/WATER):**

Your attention please. We are currently experiencing a temporary problem with the _____ [SYSTEM] on your floor. Building service personnel are on the scene and are addressing the problem. We expect service to return in approximately _____ [AMOUNT OF TIME, IF KNOWN]. We are sorry for the inconvenience and we thank you for your patience and cooperation.

J-4.4 **THE SYSTEM IS RESTORED**

Full _____ [SYSTEM] service to your floor has been restored. We apologize for the inconvenience and we thank you for your patience and cooperation.

J-5 **ELEVATOR INTERCOM ANNOUNCEMENTS**

EACH ANNOUNCEMENT SHOULD BE CUSTOM-TAILORED TO THE KNOWN CIRCUMSTANCES, PARTICULARLY IF ONLY A FEW ELEVATORS ARE INVOLVED. COMMUNICATIONS TO STALLED ELEVATORS SHOULD BE MADE VERY FEW MINUTES TO REDUCE PASSENGER ANXIETY, using the Stentofone Communication System.

J-5.1 **ELEVATOR(S) ON SLOW-SPEED (INSPECTION SPEED) RUN:**

Due to a temporary problem, the safety features of your elevator are causing it to move at slow speed. Your elevator is perfectly safe and is continuing on its way to its designation. [*] If anyone should need assistance, please use the emergency call button to contact us. We apologize for the inconvenience and we thank you for your patience and cooperation. Once again, your elevator is perfectly safe and is on its way to its destination.

J-5.2 **TEMPORARILY STALLED ELEVATOR(S):**

We have experienced a problem which has caused your elevator to temporarily stop. Your elevator is perfectly safe. [*] If anyone should need assistance, please use the emergency call button to contact us. We apologize for the inconvenience and we thank you for your patience and cooperation. Once again, your elevator is perfectly safe and will be moving again shortly.

J-5.3 **STALLED ELEVATOR(S) DUE TO SHORT-TERM POWER OUTAGE:**

Your attention please. We are experiencing a temporary power outage which has caused your elevator to stop. Your elevator is perfectly safe and we expect it to resume operation when power is restored in approximately _____ [AMOUNT OF TIME]. In the meantime, back-up power and lights are in service. [*] If anyone should need assistance, please use the emergency call button to contact us. We apologize for the inconvenience and we thank you for patience and cooperation. Once again, your elevator is perfectly safe and will be moving again shortly [OR IN _____ MINUTES].

J-5.4 **STALLED ELEVATOR(S) DUE TO LONG-TERM POWER OUTAGE (CODE 1):**

Due to _____ [GIVE REASON, IF APPROPRIATE] we expect the power outage to last a number of hours. Therefore, your elevator will be brought down using back-up power. This may take some time, so we appreciate your patience and cooperation while you wait for your elevator to be brought down. [*] If anyone should need assistance, please use the emergency call button to contact us. We remind you that your elevator is perfectly safe and that communications, emergency lighting and other essential systems are in service. Once again, we apologize for the inconvenience and we thank you for your patience and cooperation.

J-5.5 **STALLED ELEVATOR(S) THAT MUST BE OPENED:**

Your attention please. Due to the safety features of your elevator, it cannot be moved. Therefore, Port Authority Police will be bringing another elevator alongside yours. At that time, you will receive further instructions. [*] If anyone should need assistance, please use the emergency call button to contact us. Your patience and cooperation is appreciated. Once again, your elevator is perfectly safe and the Police are on their way.

J-5.6 **[*]: SMOKE IN ELEVATOR SHAFT (TO BE INSERTED AT [*] IN THE ABOVE MESSAGES WHEN NECESSARY):**

You may experience some odor of smoke. The Fire Department is on the scene and is addressing the situation.

APPENDIX K
SUBGRADE EVACUATION

SUMMARY

Scope	K-1
Major Responsibilities	K-2
Notifications	K-3

RESPONSE K-4

Life Safety & Security Division	K-4.1
Police Division	K-4.2
Operations Division	K-4.3

SUBGRADE EVACUATION GUIDELINE K-5

General	K-5.1
PATH Evacuation	K-5.2
Truck Dock And Parking Lot Evacuation	K-5.3
Schematic Drawings	Exhibit K-A
List of Areas with/without Public Address/ Sprinkler System	Exhibit K-B
Occupancy Characteristics	Exhibit K-C

K . SUBGRADE EVACUATION

SUMMARY

K-1 Scope

The purpose of this appendix is to guide staff in the safe and orderly evacuation of the subgrade. This appendix is to be used in conjunction with the emergency procedures specified in the appropriate chapters within this manual.

Exhibit K-A contains color coded schematic drawings of each subgrade level and the street/concourse which identify emergency stairwells, hazardous materials and areas normally occupied.

Exhibit K-B indicates public address/sprinkler system equipped areas.

Exhibit K-C indicates occupancy characteristics.

K-2 Major Responsibilities

Life Safety & Security Division :

Responds to the affected FCS (Fire Command Station) and assumes the responsibility of the FSD (Fire Safety Director).

Police Division :

Performs police duties related to the safe and orderly evacuation of the Subgrade.

Operations Division :

Directs the overall response.

K-3 Notifications

The notifications below, supplement those notifications made in the appropriate emergency chapter. If an evacuation of a subgrade level or sector therein is required, the WTC Police Desk Officer and the "7-7" Supervisor shall make the additional notifications as follows.

NOTIFICATIONS

Refer to APPENDIX A for names and numbers.
Individuals or their alternates must be contacted at home if the incident requiring a subgrade evacuation occurs off-hours.

FROM	TO
WTC Police Desk Officer	FDNY
	Central Police Desk
	PATH Police Desk
	1st Precinct, NYPD
	NYC Transit Authority
	Police Commanding Officer
	EMS
"7-7" Supervisor	"7-3" Supervisor
	Manager (Operations)
	Manager (Life Safety & Security)
	General Manager (Physical Facilities)
	Manager (Plant & Structures)
	General Manager (Ten. Sup. & Pro. Mgt.)
	Manager (Tenant Support Division)
	Supervisor, Fire & Life Safety
	Coordinator Environmental
	Chief Mtnc. Supervisor (Mechanical)
	Chief Mtnc. Supervisor (Structural)
	Chief Mtnc. Supervisor (Electrical)
	Chief Mtnc. Supervisor (Gen. Mtnc.)
	Public Affairs
	U.S. Custom House
	Olympia & York (If PATH Terminal is Evacuated)
	#7 WTC (If PATH Terminal is Evacuated)
	Bankers Trust (If PATH Terminal is Evacuated)
	Vista Hotel

K-4 RESPONSE

K-4.1 LIFE SAFETY & SECURITY DIVISION

Supervisor, Fire & Life Safety ("S-4" Supervisor during off hrs.)

1. Responds to affected Fire Command Station and assumes the responsibility of the FSD.
2. At the request of the Operations Division, deploys security staff to secure evacuated zones and to prevent reoccupancy.
3. Coordinates response with FDNY.
4. Dispatches "key-runs"..

K-4.2 POLICE DIVISION

Tour Commander

1. Cancels all relief periods.
2. Evaluates staff needs and initiates deployment. Requests additional staff as necessary.
3. Assigns necessary Police Officers to the sector(s) to be evacuated and post as necessary. Refer to **Exhibit K-A.**
4. Assigns an officer to the Police Desk to assist in maintaining chronological log and to make the appropriate notifications listed in **Section K-3.**
5. Conducts a search of area(s) to be evacuated ensuring all occupants have safely exited.
6. Coordinates the evacuation and the placement of non-police personnel with the "7-3" Supervisor.

Desk Officer

1. Makes the appropriate notifications. Refer to **Section K-3** and the applicable notifications described in the appropriate emergency chapter within this manual. Requests additional staff if necessary.

K-4.3 OPERATION DIVISION

"7-7" Supervisor

1. Makes the appropriate notifications. Refer to **Section K-3.**
2. At the request of the 7-3 Supervisor, makes announcements over the Public Address System, refer to **Appendix J** (Public Address Emergency Announcements):
3. Maintains a chronological log of events.

OPERATIONS DIVISION (Continued)

"7-3" Supervisor

1. Deploys available staff to the affected level(s) or sector(s), in coordination with the Life Safety & Security Division and the Police, in order to guide evacuees, lower overhead roll down doors and assist emergency responding units.

2. For PATH terminal evacuation via the emergency exit in the B-4 level parking garage, deploys staff to the parking garage ramps to direct evacuees to the Barclay Street ramp exit. Vehicular ramps must be closed to traffic.

K-5 SUBGRADE EVACUATION GUIDELINES

K-5.1 General

The subgrade consists of six separate levels beginning with the B-1 level and proceeding down to the B-6 level. Under 4 and 5 WTC, only two levels of subgrade exist. Schematic drawings (**Exhibit K-A**) for each subgrade level, the Concourse and the street level are attached.

Exhibit K-A also indicates the location of emergency stairwells, hazardous material locations, and areas normally occupied. **Exhibit K-B** lists for each subgrade level the areas equipped with public address and sprinkler systems. **Exhibit K-C** lists for each subgrade level the occupancy characteristics.

If an emergency occurs within subgrade, the following factors can affect the extent and route of the evacuation:

1. presence of fire, smoke, unusual odor
2. presence of hazardous materials
3. location of the emergency
4. sprinkler equipped area or not
5. public address equipped area or not
6. occupancy characteristics
7. availability of normal and emergency lighting

K-5.2 Path Evacuation

In the event that an evacuation is required in the WTC PATH Terminal:

- The preferable evacuation route is via escalators to the WTC Concourse.

- The next favorable evacuation route is via the PATH emergency exit doors located on the PATH Mezzanine which lead to the B-4 Blue parking lot. From the Blue parking lot the evacuation route is up the interior vehicle ramps leading up to Barclay Street. If the interior vehicle ramps are not available, the emergency stairwells within the B-4 Blue Lot and 1 WTC should be utilized.

- The least favorable evacuation route is via the track level stairwells located beyond the platform areas at either end of the terminal. This route is only used when it is not safe to evacuate via the PATH mezzanine and after track power has shut down.

The WTC Police will notify PATH Police to halt train traffic into the WTC by notifying the Hoban PATH Control Center located at Journal Square. The Hoban Control Center will in turn take appropriate PATH emergency response actions including public address announcements for the WTC PATH station.

K-5.3 Truck Dock And Parking Lot Evacuation

In the event of an emergency in the B1 Truck Dock, in addition to the prescribed emergency procedures to be followed for the specific condition, the following should occur:

1. The preferable evacuation route for the B1 Truck Dock is up the Barclay Street ramp, the alternate evacuation route would be via the stairwells within 1 and 2 WTC.

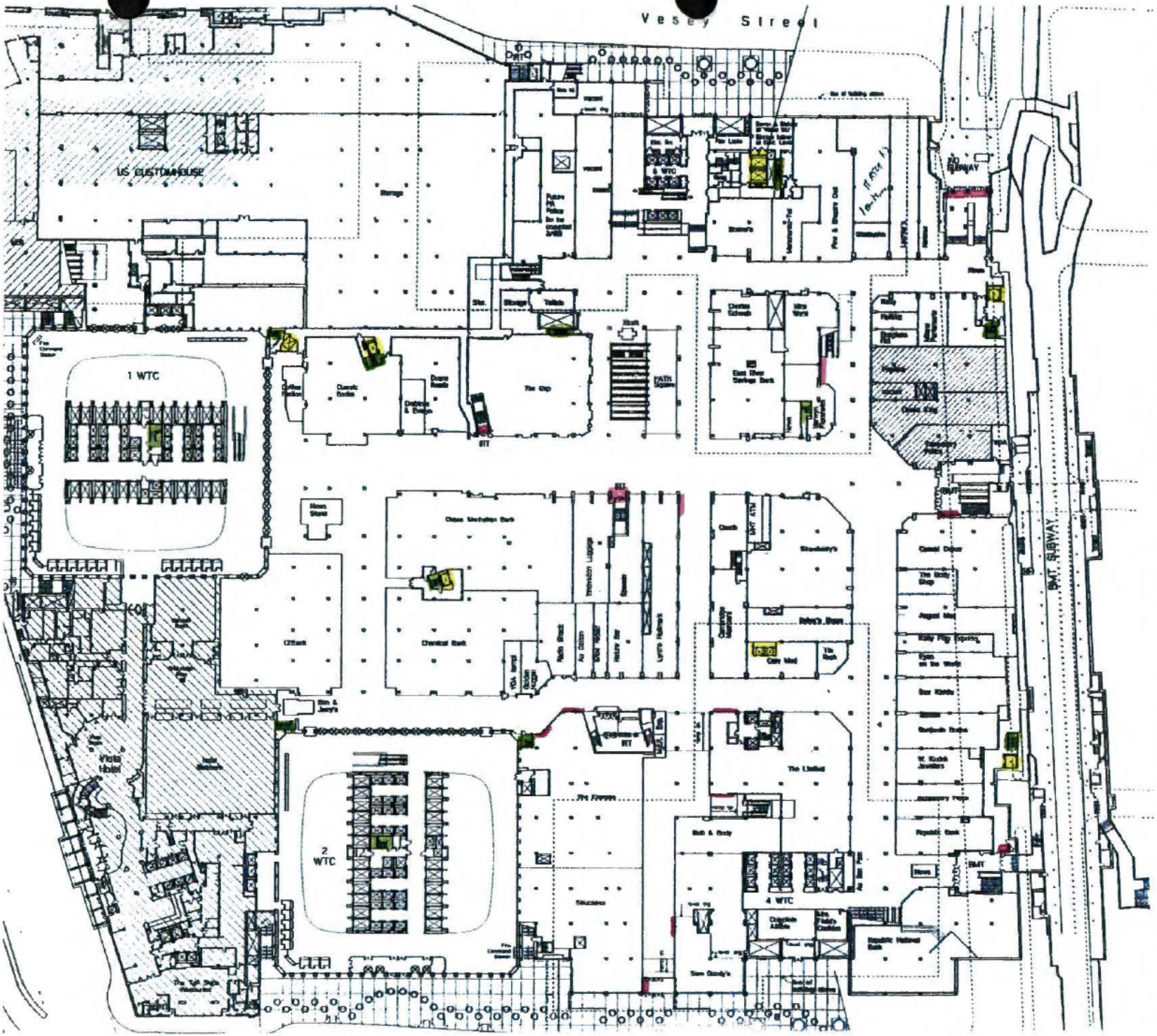
2. The preferable evacuation route for parking lots would be the stairwells within 1 and 2 WTC. Alternate routes would be stairwells within a parking lot and vehicle ramps leading up.

3. Overhead Roll-down doors leading to 1 and 2 WTC and to 6 WTC (Customs) parking area should be rolled down to prevent contamination of these areas.

4. Customs staff should be notified of the emergency condition.

5. The ramps leading to Barclay Street should remain open and clear for egress as well as an access point for emergency units/vehicles.

In the event of an emergency in the B-2 Truck Dock in 4 and 5 WTC, ramps should remain clear as a response route for emergency units/vehicles. The preferred exit route is via the stairwells located on the Truck Dock.



The Port Authority of New York and New Jersey

World Trade Center

STAIRWELL LIST:

- B exits 1 WTC Lobby
- B exits 2 WTC Lobby
- E7 exits Concourse (corridor behind "Sbarro's")
- E8 exits Concourse (by the "Gap")
- E9 exits Concourse between "Florsheim" and "News"
- F11 exits Concourse corridor leading to Republic Bank
- C10 exits Concourse by IND subway
- J4 exits on Concourse (Coffee Express)
- J5 exits Concourse (Duane Reade corridor)
- K2 exits Concourse (Chemical Bank corridor)
- K4 exits Concourse (Ben & Jerry's)
- K5 exits Concourse (across "Golden Nugget")

FREIGHT ELEVATORS

- FE-8 Corridor behind Coffee Express
- J-4 Corridor behind Coffee Express
- FE-10 Corridor behind Sbarro's
- FE-11 Corridor behind Sbarro's
- FE-1 Next to News by IND subway
- FE-2 Corridor behind Republic Bank
- FE-3 Across from Cafe Med
- FE-4 Across from Cafe Med
- K-1 Between Chase and Chemical Bank

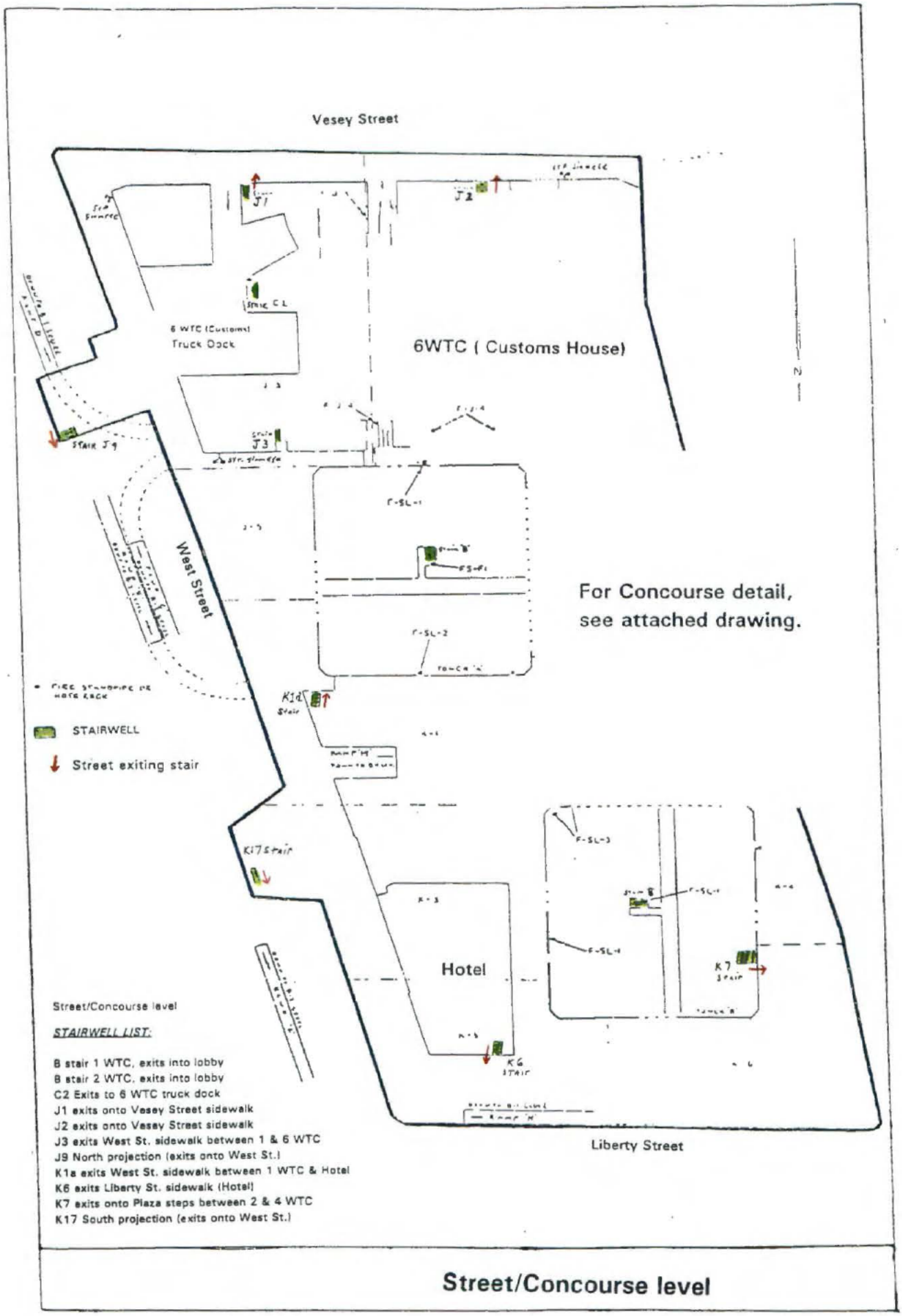
FIRE STANDPIPE & STANDPIPE CABINETS

- A IRT Subway entrance next to Duane Reade
- B IND Subway entrance
- C Next to escalator by Florshiem
- D BMT Subway entrance by Casual Corner
- E Exit from corridor behind Republic Bank
- F By entrance to bldg.-4 FEL
- G IRT Subway across from Radio Shack
- H Next to K-5 stairs
- I IRT Subway entrance next to Flower Shop
- J Across from Structures between Bath & Body and Sam Goody's
- K Next to stairwell between The Limited and Bath & Body
- L Exit between Sam Goody's

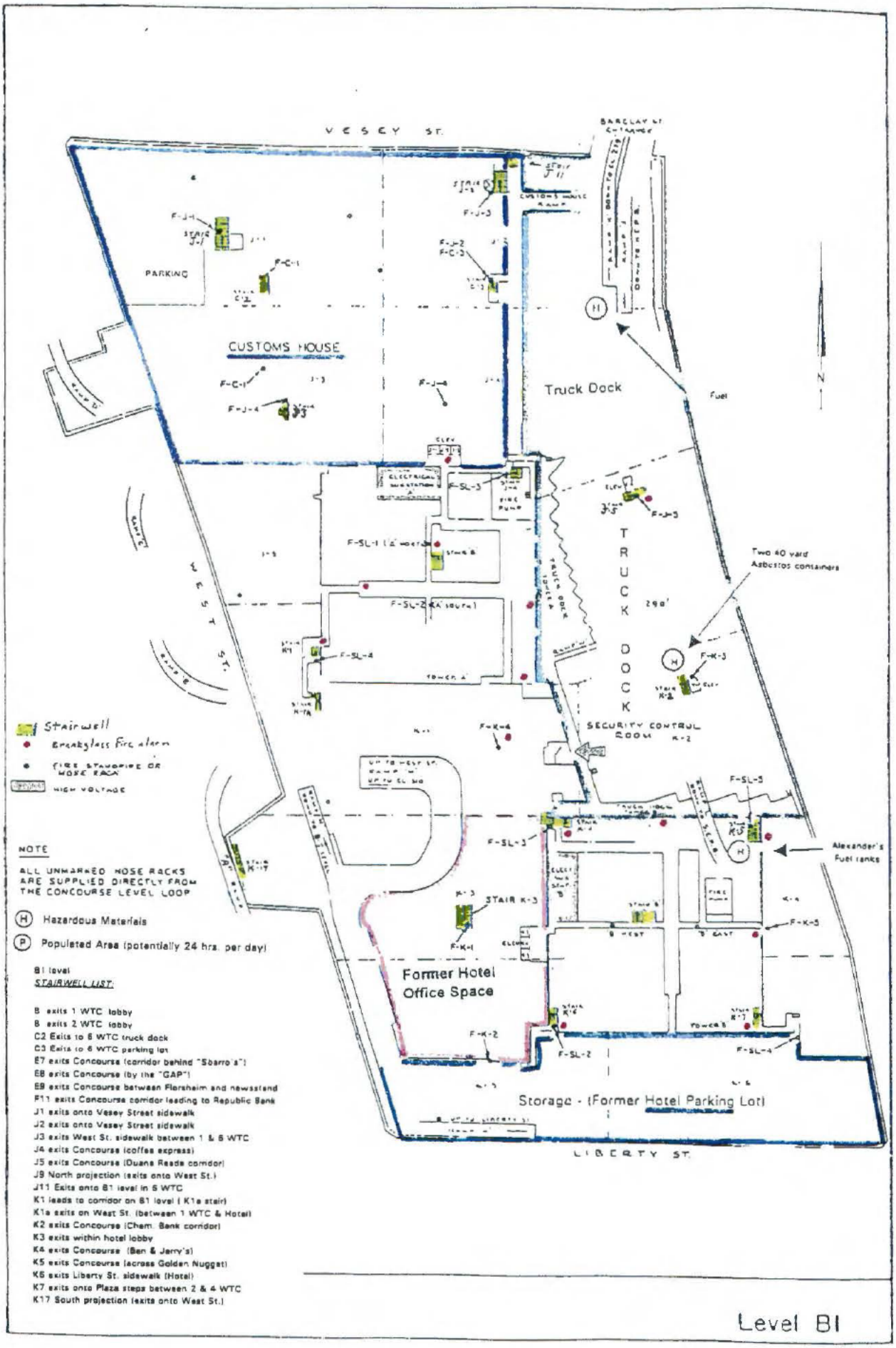
0 40 80 100

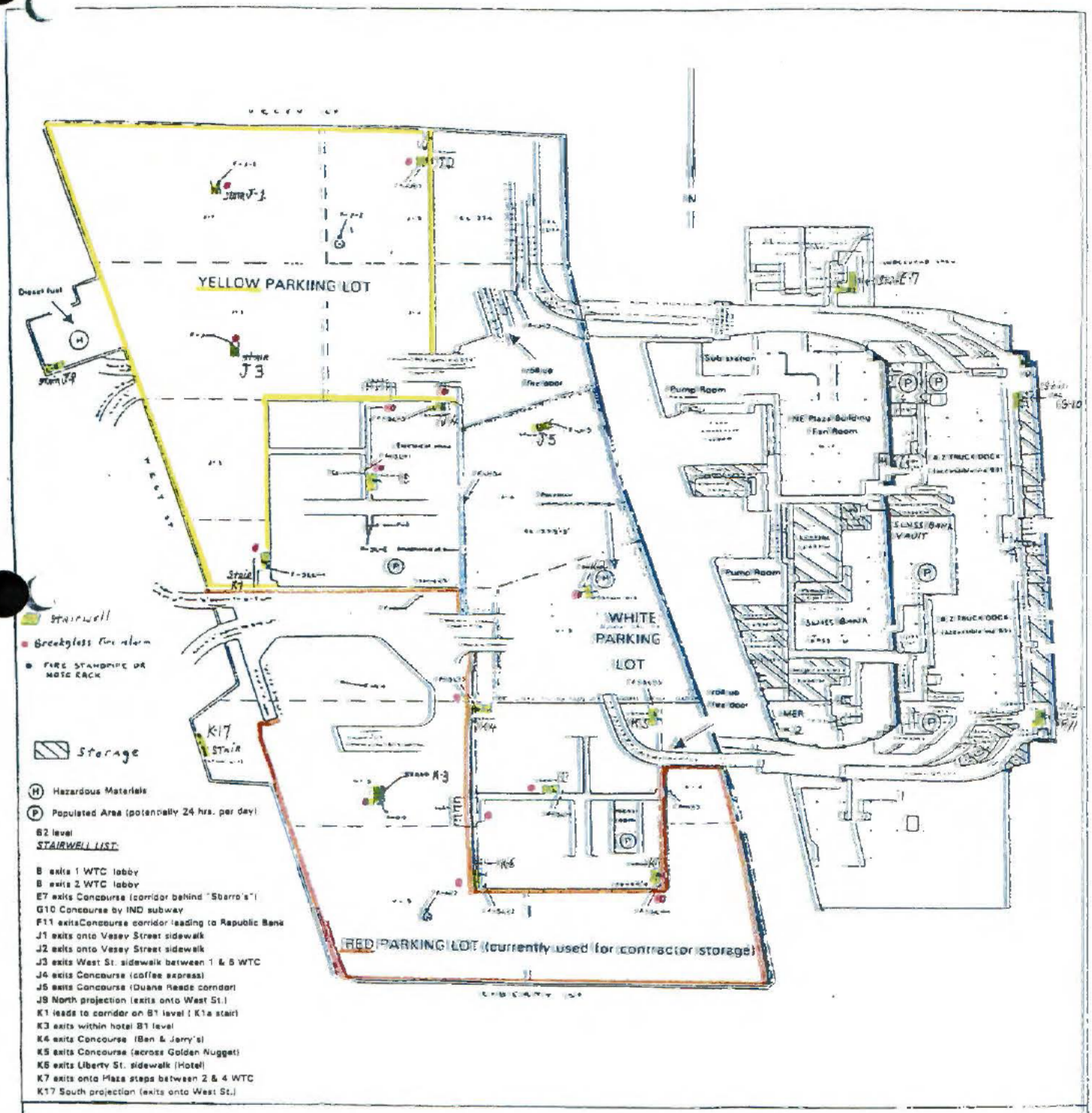
EXHIBIT K-1

Concourse Level

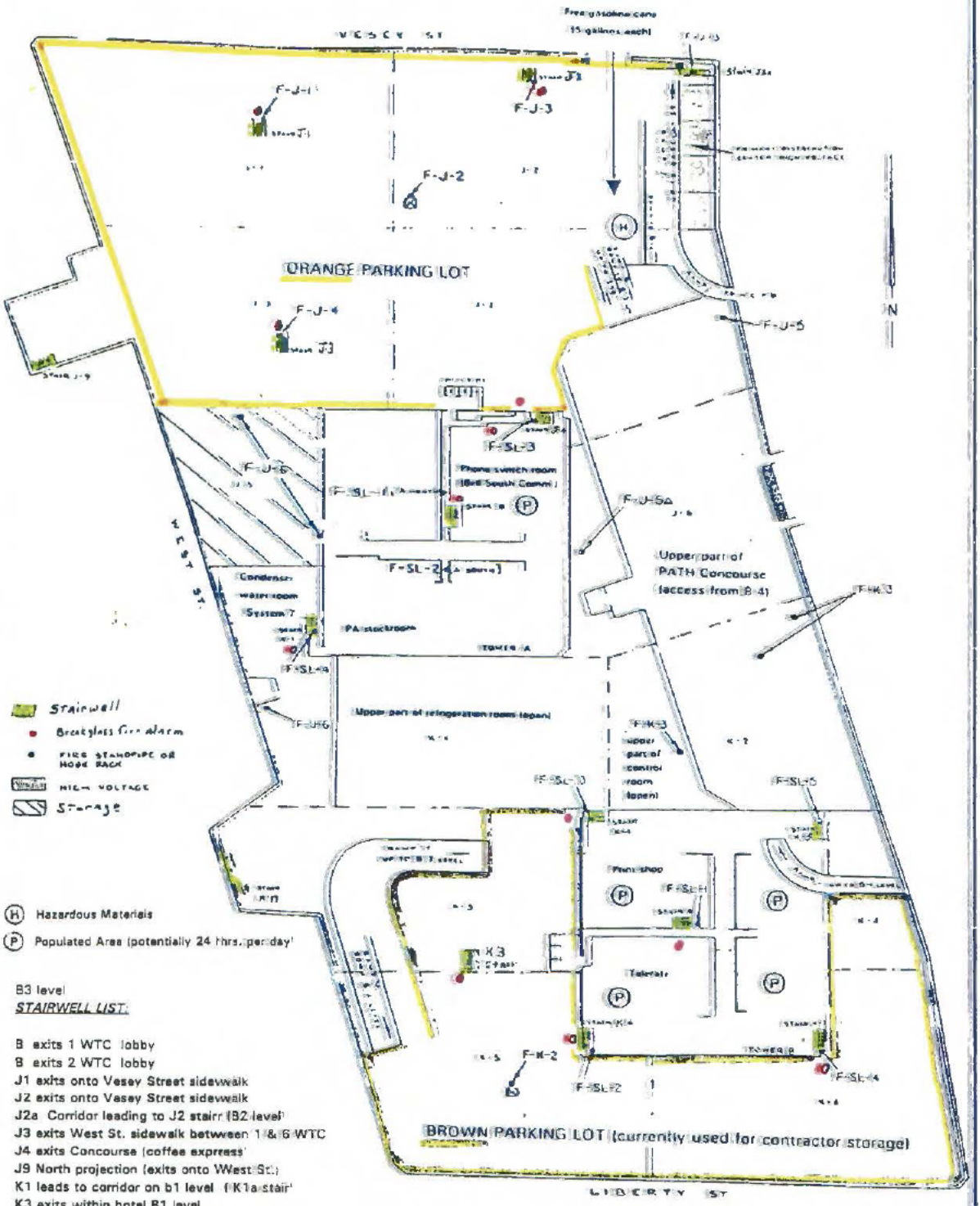


Street/Concourse level


VESEY ST.
BARCLAY ST
CUSTOMS HOUSE RAMP
PARKING
CUSTOMS HOUSE
Truck Dock
Fuel
N
WEST ST.
TRUCK DOCK
29a'
Two 40 yard Asbestos containers
SECURITY CONTROL ROOM K-2
Alexander's Fuel tanks
Former Hotel Office Space
Storage - (Former Hotel Parking Lot)
LIBERTY ST.
Stairwell
Breakglass Fire alarm
FIRE STANDPIPE OR HOSE RACK
HIGH VOLTAGE
NOTE
ALL UNMARKED HOSE RACKS ARE SUPPLIED DIRECTLY FROM THE CONCOURSE LEVEL LOOP
(H) Hazardous Materials
(P) Populated Area (potentially 24 hrs. per day)
B1 level
STAIRWELL LIST:
B exits 1 WTC lobby
B exits 2 WTC lobby
C2 Exits to 6 WTC truck dock
C3 Exits to 6 WTC parking lot
E7 exits Concourse (corridor behind "Sbarro's")
E8 exits Concourse (by the "GAP")
E9 exits Concourse between Florsheim and newsstand
F11 exits Concourse corridor leading to Republic Bank
J1 exits onto Vesey Street sidewalk
J2 exits onto Vesey Street sidewalk
J3 exits West St. sidewalk between 1 & 6 WTC
J4 exits Concourse (coffee express)
J5 exits Concourse (Duane Reade corridor)
J9 North projection (exits onto West St.)
J11 Exits onto B1 level in 6 WTC
K1 leads to corridor on B1 level (K1a stair)
K1a exits on West St. (between 1 WTC & Hotel)
K2 exits Concourse (Chem. Bank corridor)
K3 exits within hotel lobby
K4 exits Concourse (Ben & Jerry's)
K5 exits Concourse (across Golden Nugget)
K6 exits Liberty St. sidewalk (Hotel)
K7 exits onto Plaza steps between 2 & 4 WTC
K17 South projection (exits onto West St.)
Level B1


YELLOW PARKIING LOT
WHITE PARKING LOT
RED PARKING LOT (currently used for contractor storage)
Diesel fuel
Stair J-1
J3
J5
Stair K1
K17 Stair
K-3
Pump Room
NE Plaza Building Fan Room
Substation
Pump Room
SWISS BANK VAULT
SWISS BANK
MER
Stairwell
Breakglass fire alarm
FIRE STANDPIPE OR HOSE RACK
Storage
Hazardous Materials
Populated Area (potentially 24 hrs. per day)
B2 level
STAIRWELL LIST:
B exits 1 WTC lobby
B exits 2 WTC lobby
E7 exits Concourse (corridor behind "Sbarro's")
G10 Concourse by IND subway
F11 exitsConcourse corridor leading to Republic Bank
J1 exits onto Vesey Street sidewalk
J2 exits onto Vesey Street sidewalk
J3 exits West St. sidewalk between 1 & 5 WTC
J4 exits Concourse (coffee express)
J5 exits Concourse (Duane Reade corridor)
J9 North projection (exits onto West St.)
K1 leads to corridor on B1 level (K1a stair)
K3 exits within hotel B1 level
K4 exits Concourse (Ben & Jerry's)
K5 exits Concourse (across Golden Nugget)
K6 exits Liberty St. sidewalk (Hotel)
K7 exits onto Plaza steps between 2 & 4 WTC
K17 South projection (exits onto West St.)

LEVEL B 2



B3 level

STAIRWELL LIST:

B exits 1 WTC lobby
B exits 2 WTC lobby
J1 exits onto Vesey Street sidewalk
J2 exits onto Vesey Street sidewalk
J2a Corridor leading to J2 stair (B2 level)
J3 exits West St. sidewalk between 1 & 6 WTC
J4 exits Concourse (coffee express)
J9 North projection (exits onto West St.)
K1 leads to corridor on b1 level (K1a stair)
K3 exits within hotel B1 level
K4 exits Concourse (Ben & Jerry's)
K5 exits Concourse (across Golden Nugget)
K6 exits Liberty St. sidewalk (Hotel)
K7 exits onto Plaza steps between 2 & 4 WTC
K17 South projection (exits onto West St.)

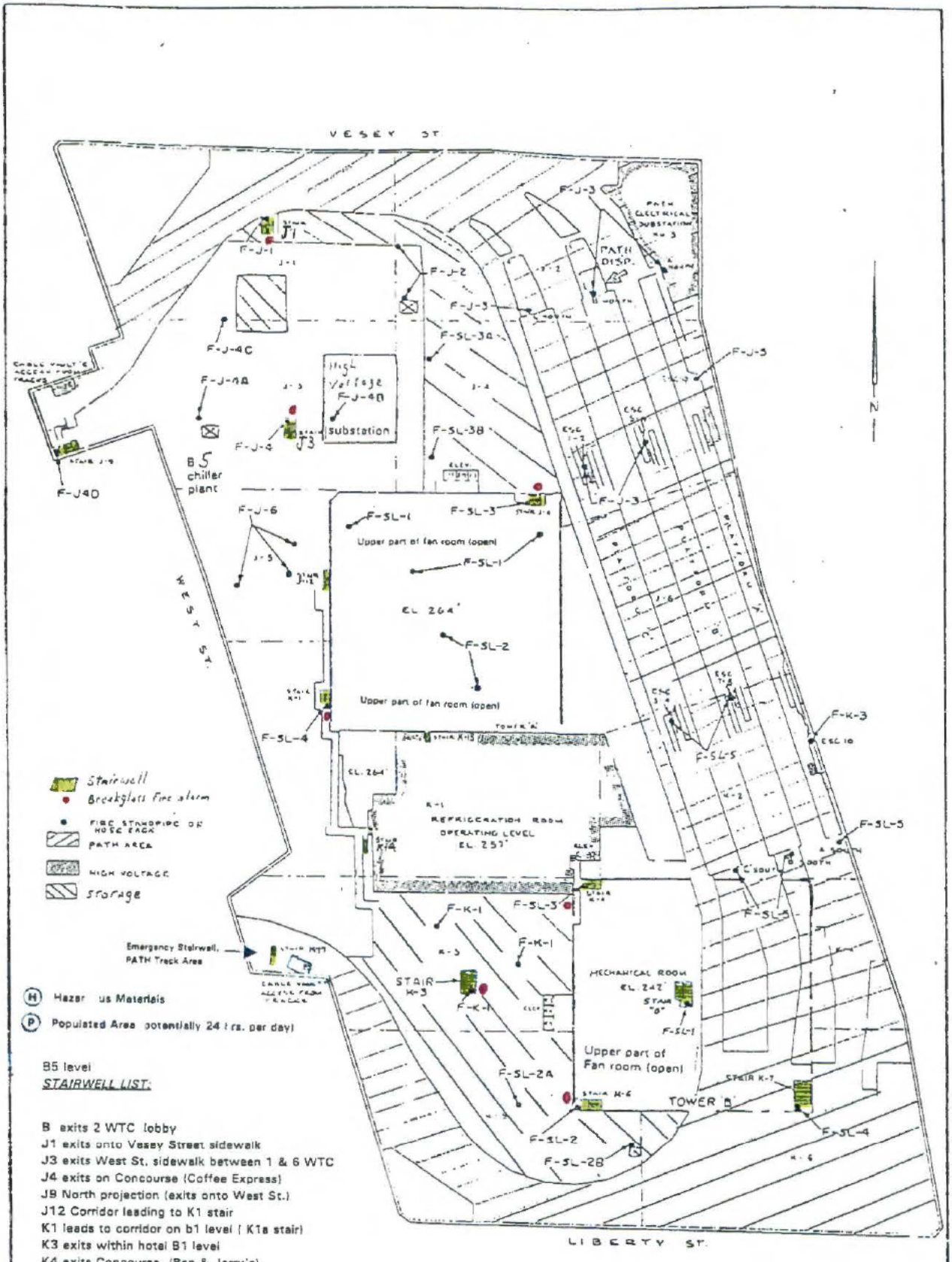
Level B3

B4 level

STAIRWELL LIST:

B exits 1 WTC lobby
B exits 2 WTC lobby
J1 exits onto Vesey Street sidewalk
J2 exits onto Vesey Street sidewalk
J3 exits West St. sidewalk between 1 & 6 WTC
J4 exits Concourse (coffee express)
J9 North projection (exits onto West St.)
K1 leads to corridor on b1 level (K1a stair)
K3 exits within hotel B1 level
K4 exits Concourse (Ben & Jerry's)
K5 exits Concourse (across Golden Nugget)
K6 exits Liberty St. sidewalk (Hotel)
K7 exits onto Plaza steps between 2 & 4 WTC

LEVEL B 4

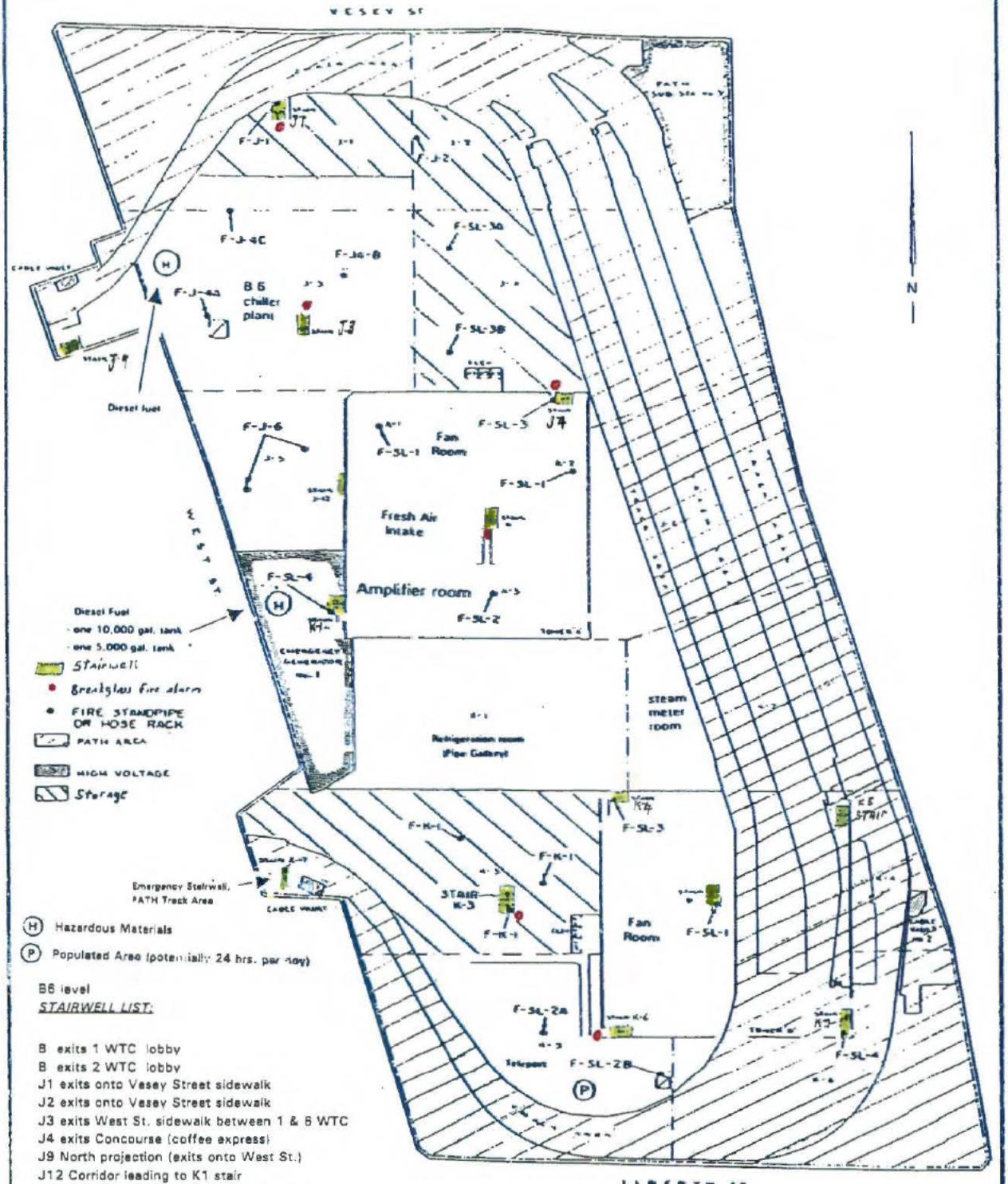


B5 level

STAIRWELL LIST:

B exits 2 WTC lobby
J1 exits onto Vesey Street sidewalk
J3 exits West St. sidewalk between 1 & 6 WTC
J4 exits on Concourse (Coffee Express)
J9 North projection (exits onto West St.)
J12 Corridor leading to K1 stair
K1 leads to corridor on b1 level (K1a stair)
K3 exits within hotel B1 level
K4 exits Concourse (Ben & Jerry's)
K6 exits Liberty St. sidewalk (Hotel)
K7 exits onto Plaza steps between 2 & 4 WTC
K13 from chiller plant to B4 level (1WTC)
K14 chiller plant to passageway to K1 stairs
K17 South projection (exits onto West St.)

Level B5



B6 level

STAIRWELL LIST:

B exits 1 WTC lobby
B exits 2 WTC lobby
J1 exits onto Vesey Street sidewalk
J2 exits onto Vesey Street sidewalk
J3 exits West St. sidewalk between 1 & 6 WTC
J4 exits Concourse (coffee express)
J9 North projection (exits onto West St.)
J12 Corridor leading to K1 stair
K1 leads to corridor on b1 level (K1a stair)
K3 exits within hotel B1 level
K4 exits Concourse (Ben & Jerry's)
K5 exits Concourse (across Golden Nugget)
K6 exits Liberty St. sidewalk (Hotel)
K7 exits onto Plaza steps between 2 & 4 WTC
K17 South projection (exits onto West St.)

Level B6

LIST OF AREAS WITH/WITHOUT PUBLIC ADDRESS / SPRINKLER SYSTEM

LEVEL	AREA	PA Speaker Equipped		Sprinkler Equipped	
		YES	NO	YES	NO
B 1	Tower A	X		X	
	Tower B	X		X	
	Truck Dock	X		X	
	Customs (6 WTC) *	X		X	
	Hotel Parking Lot		X	X	
	Hotel Office Area		X	X	
B 2	Tower A	X		X	
	Tower B	X		X	
	Red Lot	X		X	
	Yellow Lot	X		X	
	White Lot	X		X	
	Truck Dock (4 & 5 WTC)		X	X	
	Dataport (5 WTC)	X		X	
B 3	Tower A	X		X	
	Tower B	X		X	
	Orange Lot	X		X	
	Brown Lot	X		X	
B 4	Tower A	X		X	
	Tower B	X		X	
	Blue Lot	X		X	
	Condenser Water Rm.		X	X	
	Green Lot	X		X	
	Dataport ("Old H&M space")		X	X	
	PATH	X		X	
B 5	Tower A	X		X	
	Tower B	X		X	
	North Storage (J area)	X		X	
	Chiller Plant		X (1)		X
	South Storage (K area)	X		X	
B 6	Tower A	X			X
	Tower B	X			X
	Teleport	X		X	
	North Storage (J area)	X		X	
	Refrigeration Rm. (Pipe Gallery)	X			X
	Steam Meter Room	X			X
	South Storage (K area)	X		X	

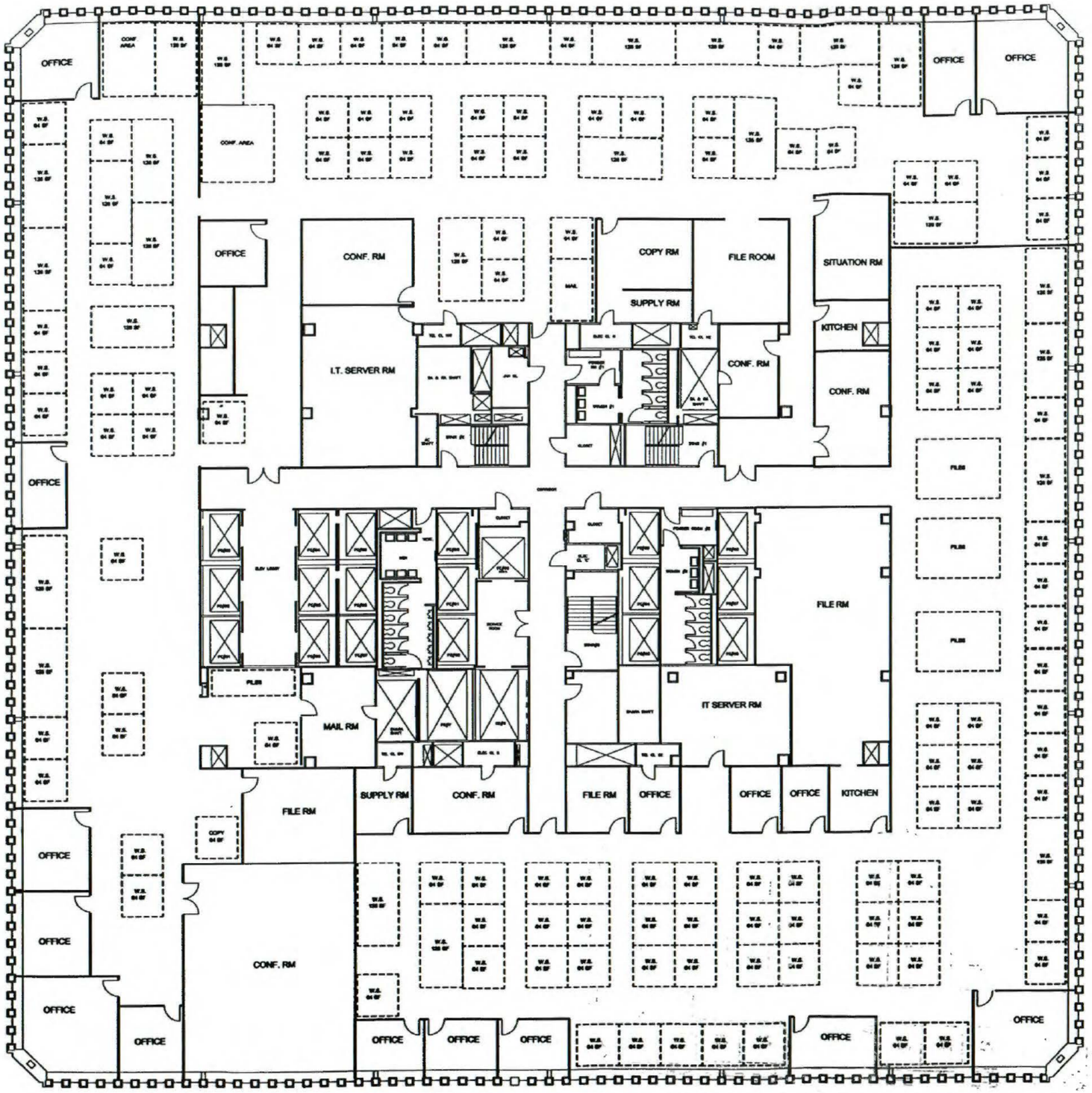
* 6 WTC's public address and fire alarm systems are independant of the rest of the WTC complex.

(1) Speakers present, however they are not functional.

WTC SUBGRADE OCCUPANCY CHARACTERISTICS

EXHIBIT K-C

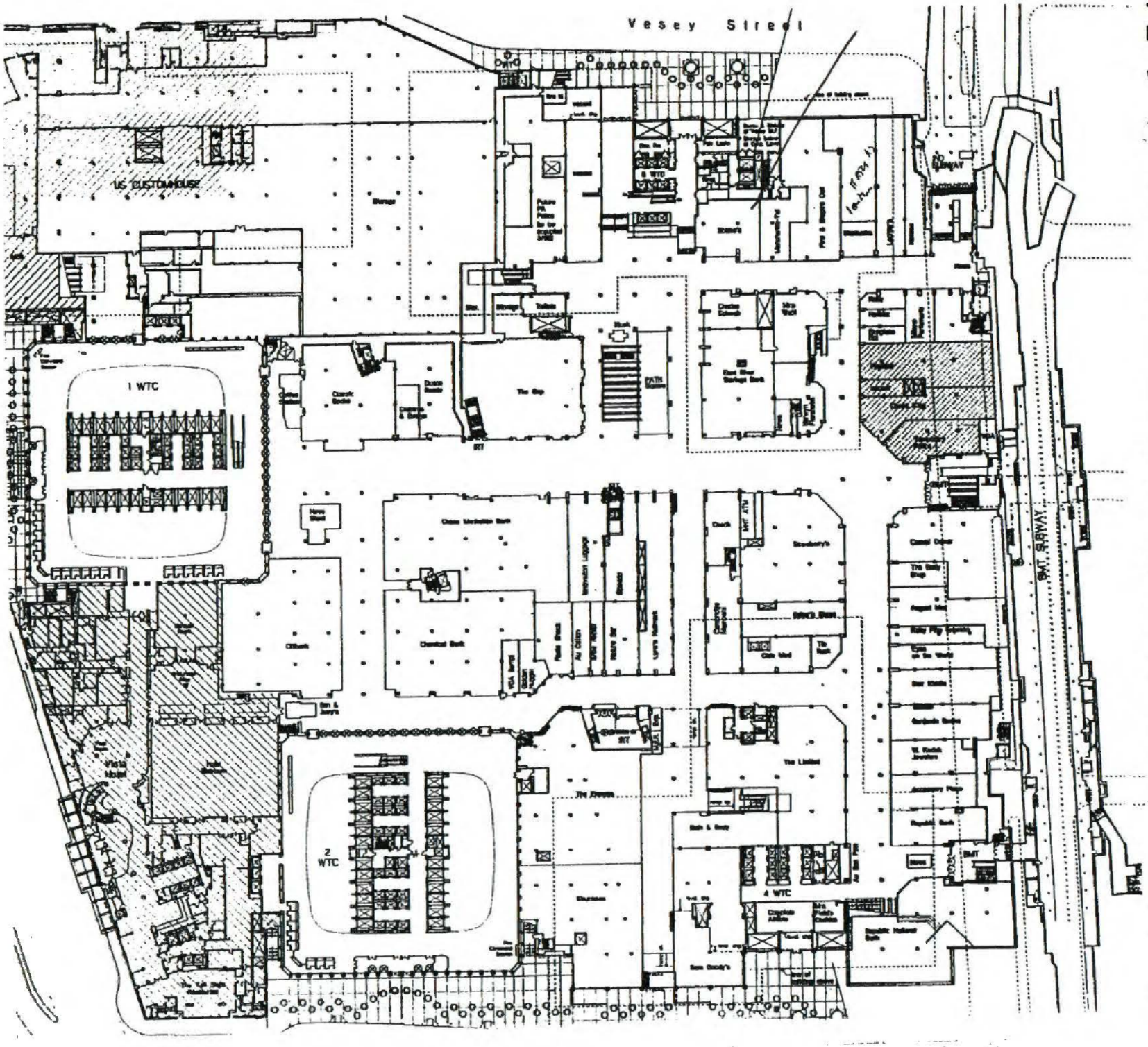
LEVEL	AREA	OCCUPANCY CHARACTERISTICS
B 1	Tower A	Contractor trade/maintenance staff, potentially ocupied
	Tower B	Contractor trade/maintenance staff, potentially ocupied
	Customs Parking	Variable occupancy levels
	Hotel Parking Lot	Contractor trade/maintenance staff, potentially ocupied
	Operations Control Center	Variable, minimum three employees
	Truck Dock	Variable occupancy levels
B 2	Tower A	Contractor trade/maintenance staff, potentially ocupied
	Tower B	Contractor trade/maintenance staff, potentially ocupied
	Yellow Lot	Variable occupancy, maximizing during rush hours
	Red Lot	Variable occupancy, maximizing during rush hours
	White lot	Variable occupancy
	Dataport (5 WTC)	15 daytime employees, 4 off hours
	Truck Dock (4 & 5 WTC)	Variable occupancy
B 3	Tower A	Bell South Communications, Inc., 10 to 20 employees daytime, potential off-hour and weekend occupancy
	Tower B	Xerox Inc., Print Shop & Telerate Inc., daytime levels of 80 to 100 employees
	Orange Lot	Variable occupancy, maximizing during rush hours
	Condenser Water Rm.	Contractor trade/maintenance staff, potentially ocupied
	Brown Lot	Contractor trade/maintenance staff, potentially ocupied
B 4	Tower A	Contractor trade staff and storage areas
	Tower B	Storage - potentially occupied
	Blue Lot	Variable occupancy, maximizing during rush hours
	Refrigeration Room	Contractor trade staff, potentially ocupied
	Green Lot	Storage - potentially occupied
	Swiss Bank Vault (5 WTC)	Occupied 24 hours per day
B 5	Tower A	Fan Room - potentially occupied with contractor trade staff
	Tower B	Fan Room - potentially occupied with contractor trade staff
	Chiller Plant	Contractor trade staff, potentially ocupied
	Storage Cages (J area)	Potentially occupied
	Refrigeration Room	Contractor trade staff, potentially ocupied
B 6	Tower A	Fan/Amplifier Room - potentially occupied with contractor trade staff
	Tower B	Fan Room - potentially occupied with contractor trade staff
	Storage Cages (J area)	Potentially occupied
	Refrigeration Room - (Pipe Gallery)	Contractor trade staff, potentially ocupied
	Storage Cages (K area)	Potentially occupied
	Teleport (K area)	Occupied 24 hours/day - up to 20 employees



NORTH

1 WORLD TRADE CENTER

88th. FLOOR



The Port Authority of New York and New Jersey

World Trade Center

STAIRWELLS

- A exits 1 WTC Lobby
- B exits 2 WTC Lobby
- E7 exits Concourse (corridor behind "Sbarro's")
- E8 exits Concourse (by the "Gap")
- E9 exits Concourse between "Florsheim" and "News"
- F11 exits Concourse corridor leading to Republic Bank
- G10 exits Concourse by IND subway
- J4 exits on Concourse (Coffee Express)
- J5 exits Concourse (Duane Reade corridor)
- K2 exits Concourse (Chemical Bank corridor)
- K4 exits Concourse (Ben & Jerry's)
- K5 exits Concourse (across "Golden Nugget")

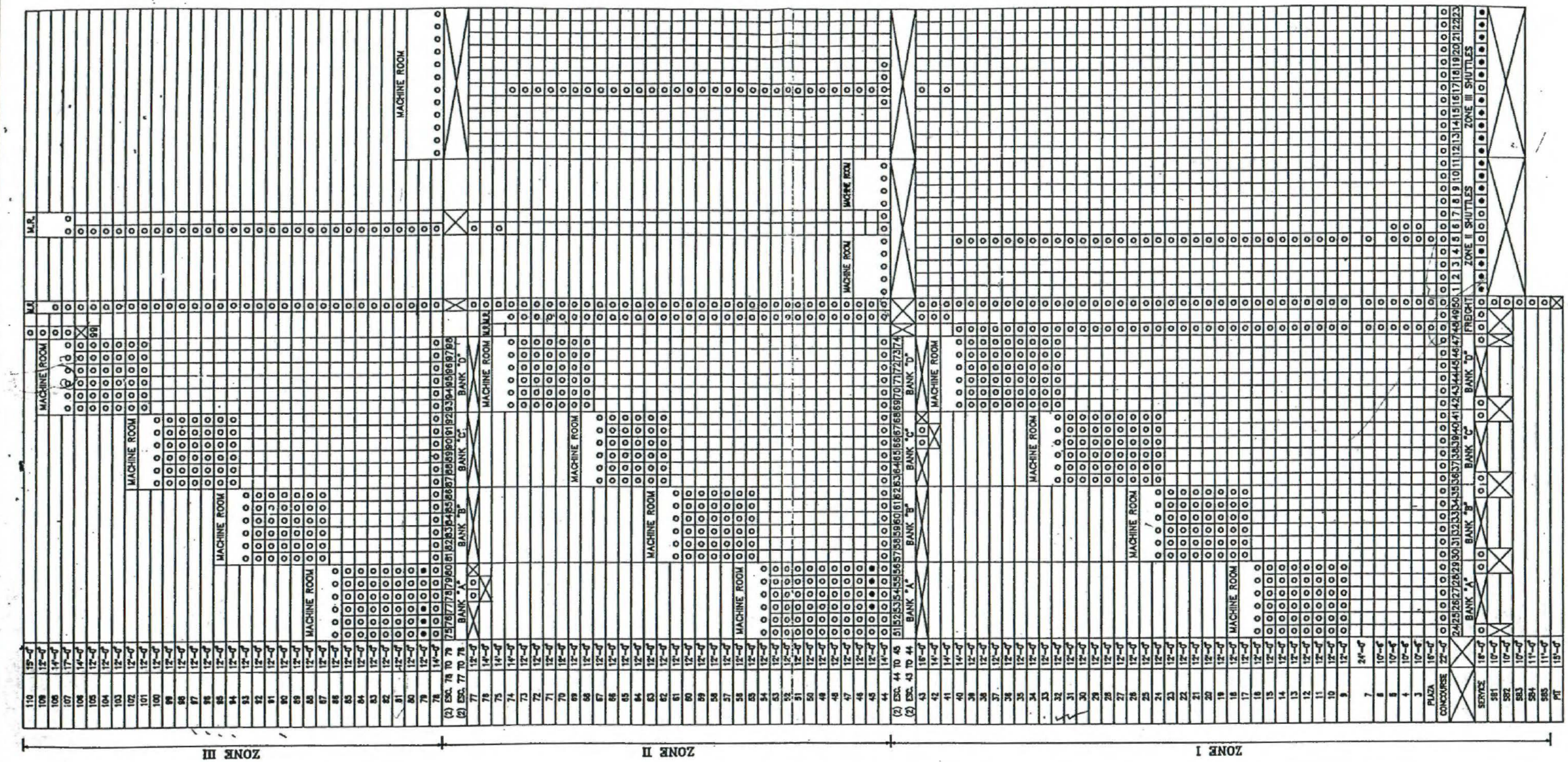
FREIGHT ELEVATORS

- FE-8 Corridor behind Coffee Express
- J-4 Corridor behind Coffee Express
- FE-10 Corridor behind Sbarro's
- FE-11 Corridor behind Sbarro's
- FE-1 Next to News by IND subway
- FE-2 Corridor behind Republic Bank
- FE-3 Across from Cafe Med
- FE-4 Across from Cafe Med
- K-1 Between Chase and Chemical Bank

- A IRT Subway entrance next to Duane Reade
- B IND Subway entrance
- C Next to escalator by Florshiem
- D BMT Subway entrance by Casual Corner
- E Exit from corridor behind Republic Bank
- F By entrance to bldg.-4 FEL
- G IRT Subway across from Radio Shack
- H Next to K-5 stairs
- I IRT Subway entrance next to Flower Shop
- J Across from Structures between Bath & Body and Sam Goody's
- K Next to stairwell between The Limited and Bath & Body
- L Exit between Sam Goody's

EXHIBIT K-1

Concourse Level



o – OPENING

• – OPENING TO BE VERIFIED IN FIELD

John A. Van Deusen
& Associates Inc.

Building Transportation
Systems Consultants

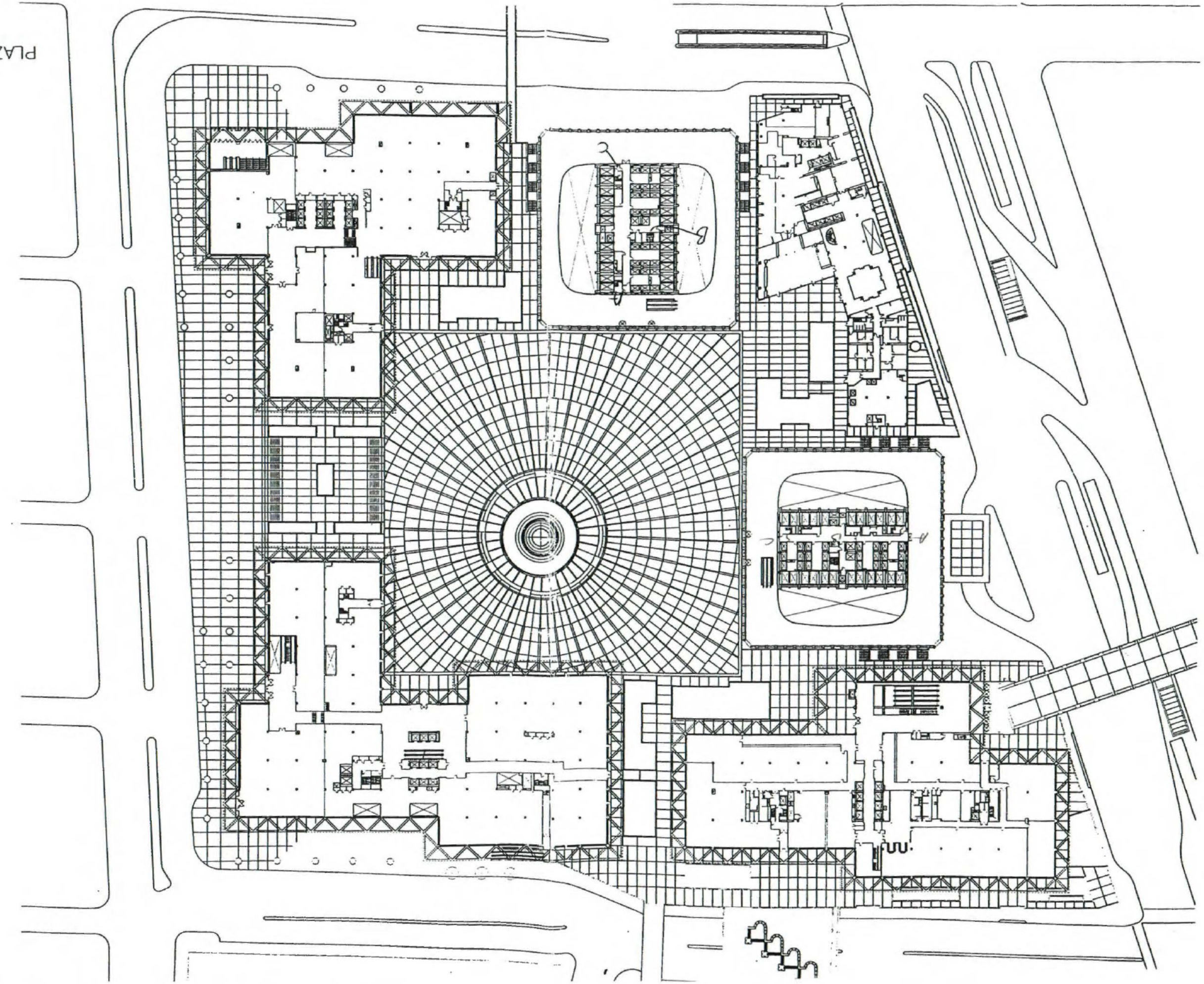
5 Regent Street - Suite 524
Livingston, N.J. 07039-1617
201-994-9220/212-772-0128

PROJECT: WORLD TRADE CENTER

TITLE: ELEVATOR RISER DIAGRAM

SCALE: N.T.S.	DRAWN BY:	DRAWING NUMBER:
DATE: 10-16-90	JVD/ght	2321ERD1

PLAZA LEVEL



General Information

Height of the Twin Towers:	1377 feet above street level, tallest buildings in Manhattan
Observation Deck:	9:30 a.m.-9:30 p.m. (Sept.-May), 9:30 a.m.-11:30 p.m. (June-August)
107th Floor, 2 WTC	Adult $13.50, Child $6.75, Student $11, Senior $10.50
Mall hours:	8:00 a.m.-7 p.m. Monday-Friday
(individual stores may vary)	10:00 a.m.-6 p.m. Saturday, Noon - 5 p.m. Sunday
Website:	www.panynjgov/wtc/wtcfram.HTM
General Information:	212-435-4170
Lost and Found:	212-435-3540

The World Trade Center, which consists of seven buildings including the 110 story twin office towers, is one of Manhattan's best-known landmarks, but, as a famous architectural historian once said, would have been a complete monstrosity if the architects (Minoru Yamasaki and Emery Roth & Sons) had only built one tower instead of two. Apparently, the overkill of the twin towers is what makes it bearable. That's New York logic for you; if we're going to be ridiculous, then let's be really ridiculous.

The WTC has ten million square feet of office space (seven times more than the Empire State Building!), a shopping mall with more than eighty shops and restaurants, an observation deck, a newly-reconstructed outdoor plaza, a summer concert series, access to the 1, 9, C, E, N, R and PATH trains, and tourists galore. It also has a daily working population of 40,000 people (we're really not making these numbers up, we promise). The dirt from the excavation was used to create Battery Park City. Our favorite place in the complex is, of course, Krispy Kreme.

ATMs

Ch • Chase • 2 WTC
Ci • Citibank • 3 WTC
M • Marine Midland (HBSC) • 5 WTC
R • Republic Bank • 5 WTC Concourse

Concourse ATMs
HSBC - between JCrew and Godiva
Chase - next to Coach
Chase - next to Golden Nugget

Landmark

• Century 21 • Church and Cortlandt Sts.

Gym

• Executive Fitness Center • 3 WTC

24-Hour Pharmacy

• Duane Reade • 7 WTC

Subways

1 9 ..... Cortland St. / WTC
A C E ..... Chambers St./WTC
N R ..... Cortland St. / WTC

Bus Lines

..... Vesey St.
..... Church St.
..... West St. /Vesey St.

New Jersey PATH Trains

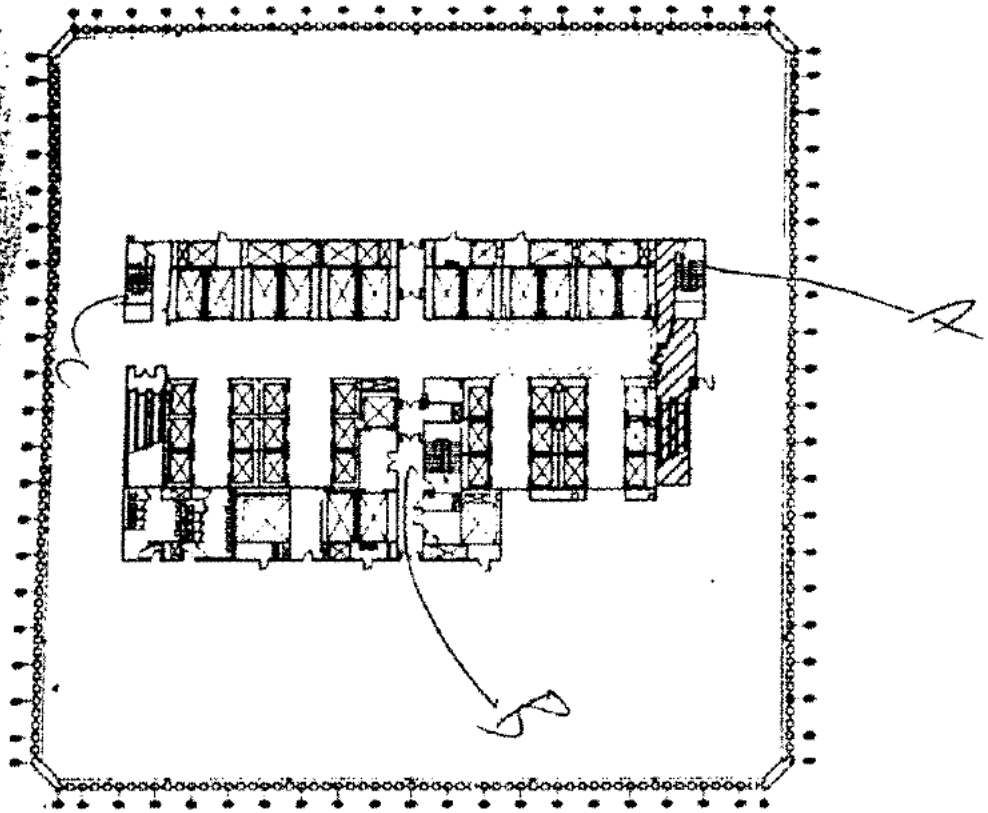
WTC Shops:

APPAREL
Ann Taylor Loft
August Max
Banana Republic
Barami
Casual Corner
The Children's Place
Coach
Cole Haan
Express
Gap
JCrew
Johnston and Murphy
New Balance
Nine West
Strawberry
Structure
Thomas Pink
Tie Rack
Victoria's Secret

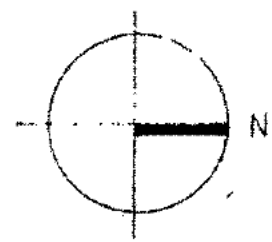
BANKS/FINANCE
Charles Schwab
Chase
Citibank
HSCB
New York State Finance
Republic Bank

ITEMS & SERVICES
Airline Tickets
Bath and Body Works
The Body Shop
Borders Books
Broadway New York
Choice Courier
Claire's
Cosmetics Plus
Crabtree & Evelyn
Duane Reade
Flowers of the World
Golden Nugget
Hallmark
Innovation Luggage
Kelly Film
Lechter's
LensCrafters
Minas Shoe Repair
Natisse Hair Salon
Papyrus
Daniel Pehr Locksmith
Perfumeria Milano
Radio Shack
Sam Goody
Sephora
Sunglass Hut
Thirteen/WNET
TKTS
Torneau Watches
Warner Bros. Studio Store
Watch World
Verizon Wireless

FOOD
America's Coffee
Au Bon Pain
Ben and Jerry's
Cornucopia
Devon and Blakely
Ecce Panis
Everything Yogurt and Salad
Fine and Schapiro
Gemelli
Godiva Chocolatier
Greenhouse Cafe
Hale and Hearty Soups
Krispy Kreme
Menchanko-Tei
Mrs Fields
Pastabreak
Pretzel Time
Sbarro
Tall Ships Bar & Grill
Windows on the World



78TH FL. KEY PLAN (N.T.S.)

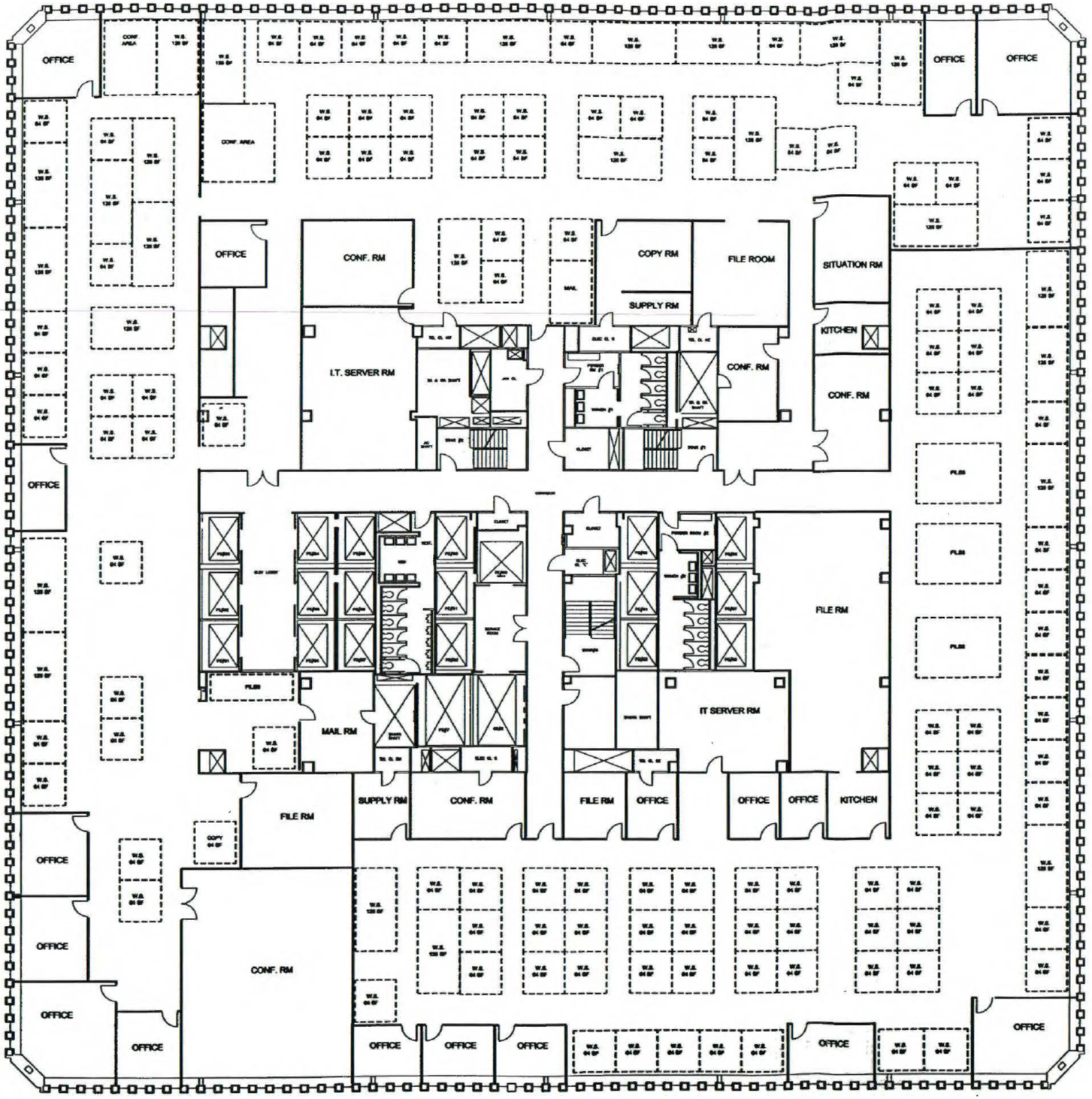


REV. DWGS M-1
REV DWG

Dwg #	SUB	CAR. ZONE
Spec #		XII-B/E

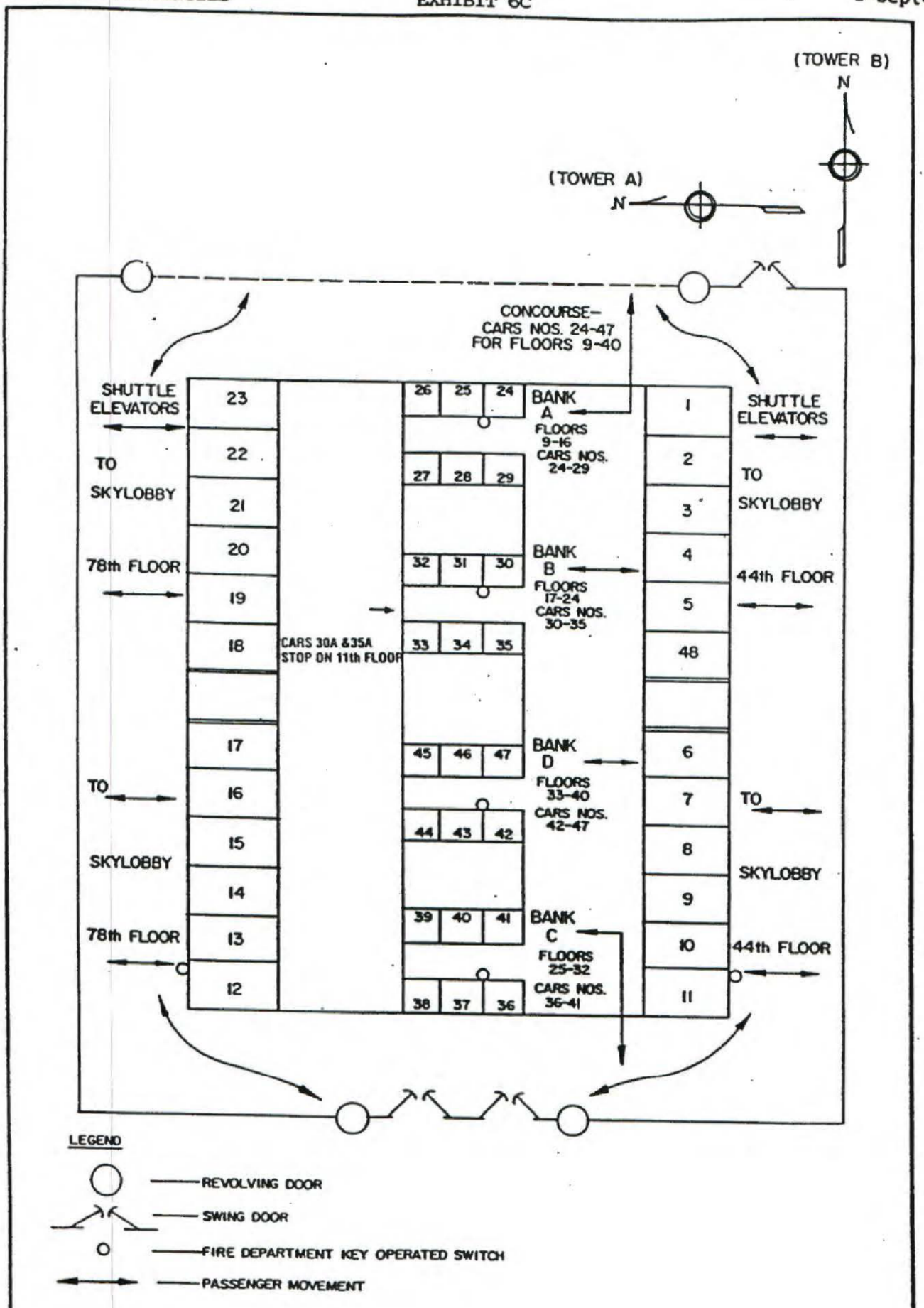
THE PORT AUTHORITY OF N.Y. & N.J.
ENGINEERING DEPT. QUALITY ASSURANCE DIV.
DESIGN STANDARDS
OFFICE COPY W94-2185 (3)
OCT 17 1994

RECEIVED
ALTERATIONS APPLICATION
TENANT CONSTRUCTION REVIEW UNIT

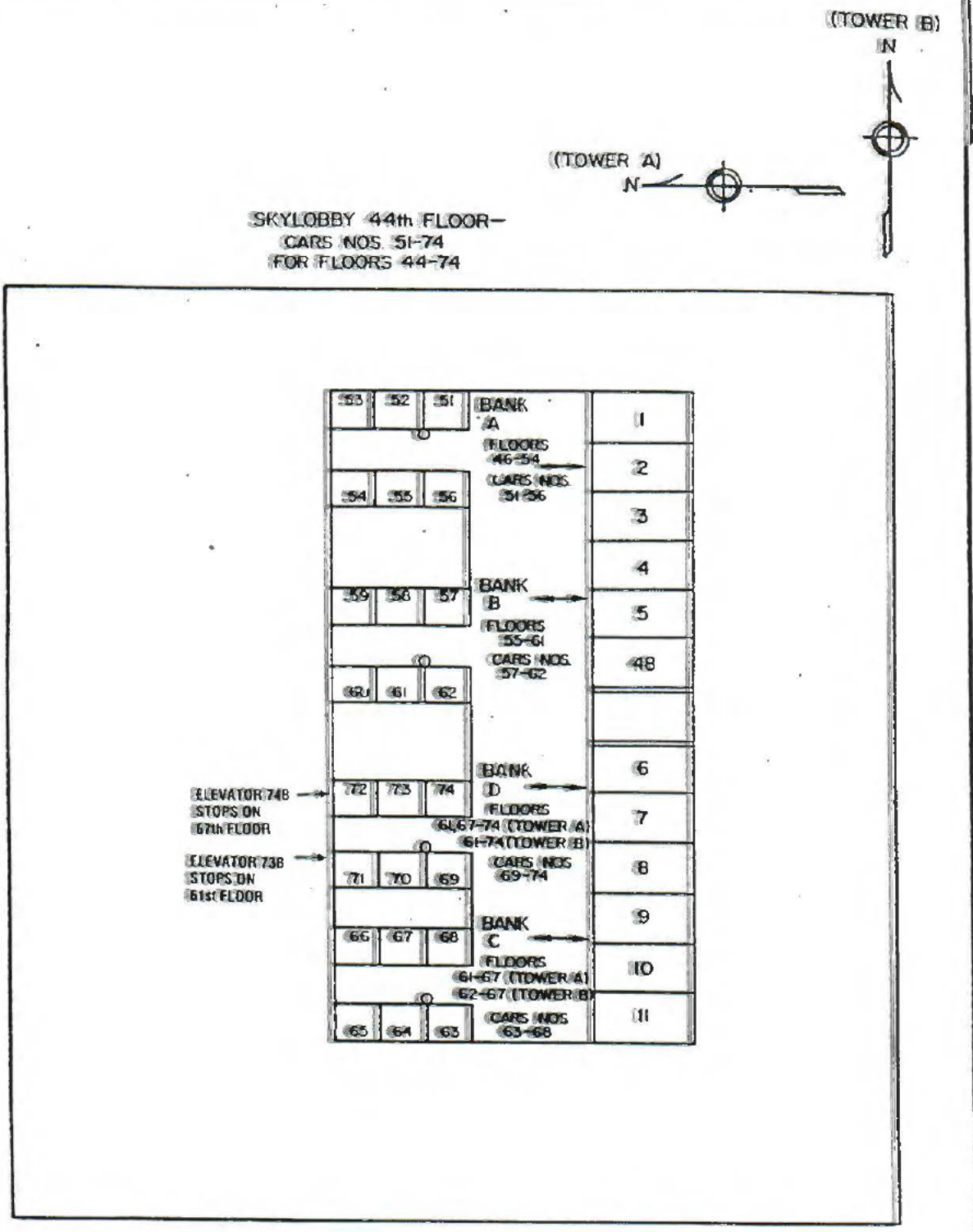


1 WORLD TRADE CENTER

88th. FLOOR



Plan View—Bank & Shuttle Elevator Locations Towers A & B, Concourse Level

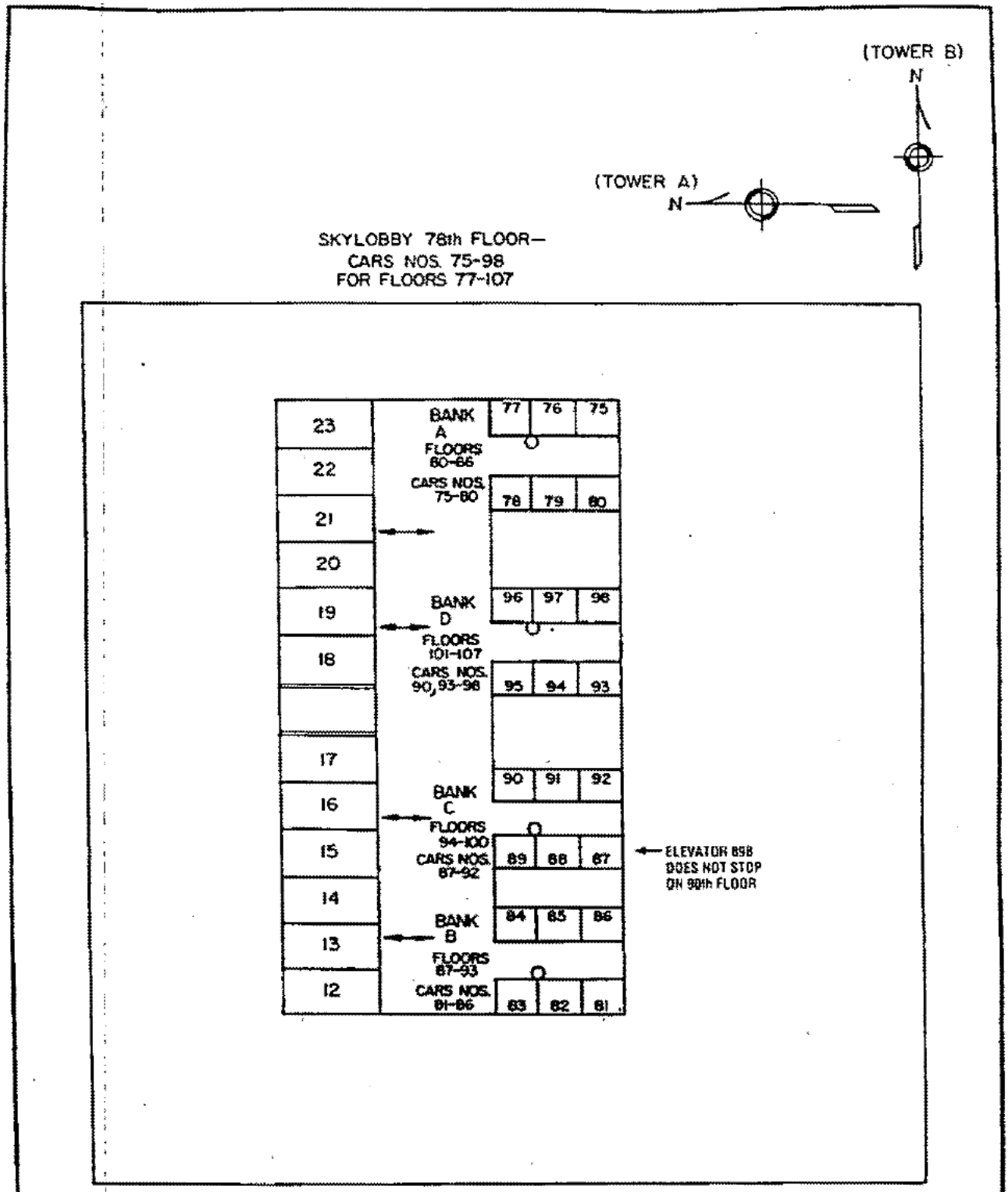


LEGEND

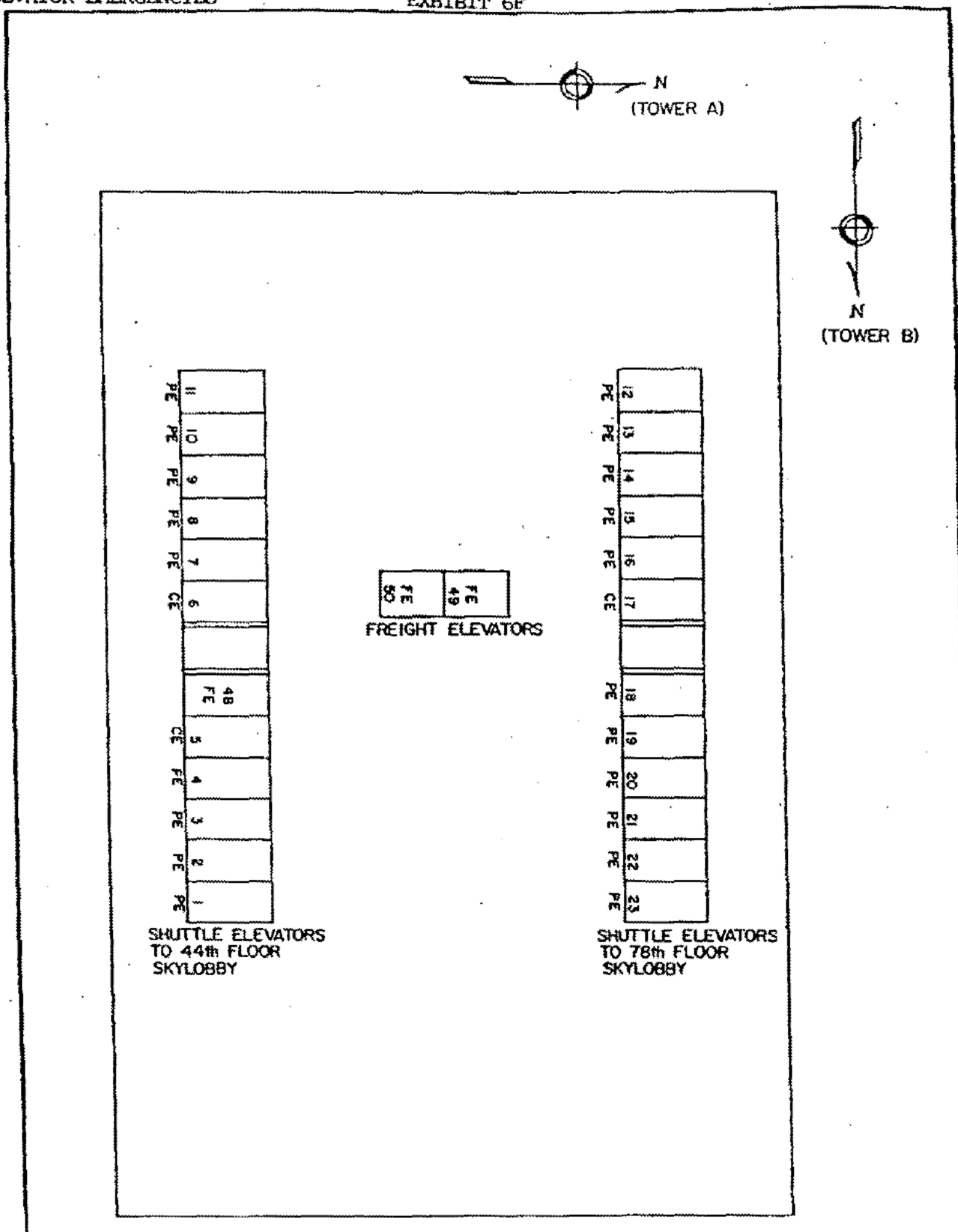
O ——— FIRE DEPARTMENT KEY OPERATED SWITCH

←→ ——— PASSENGER MOVEMENT

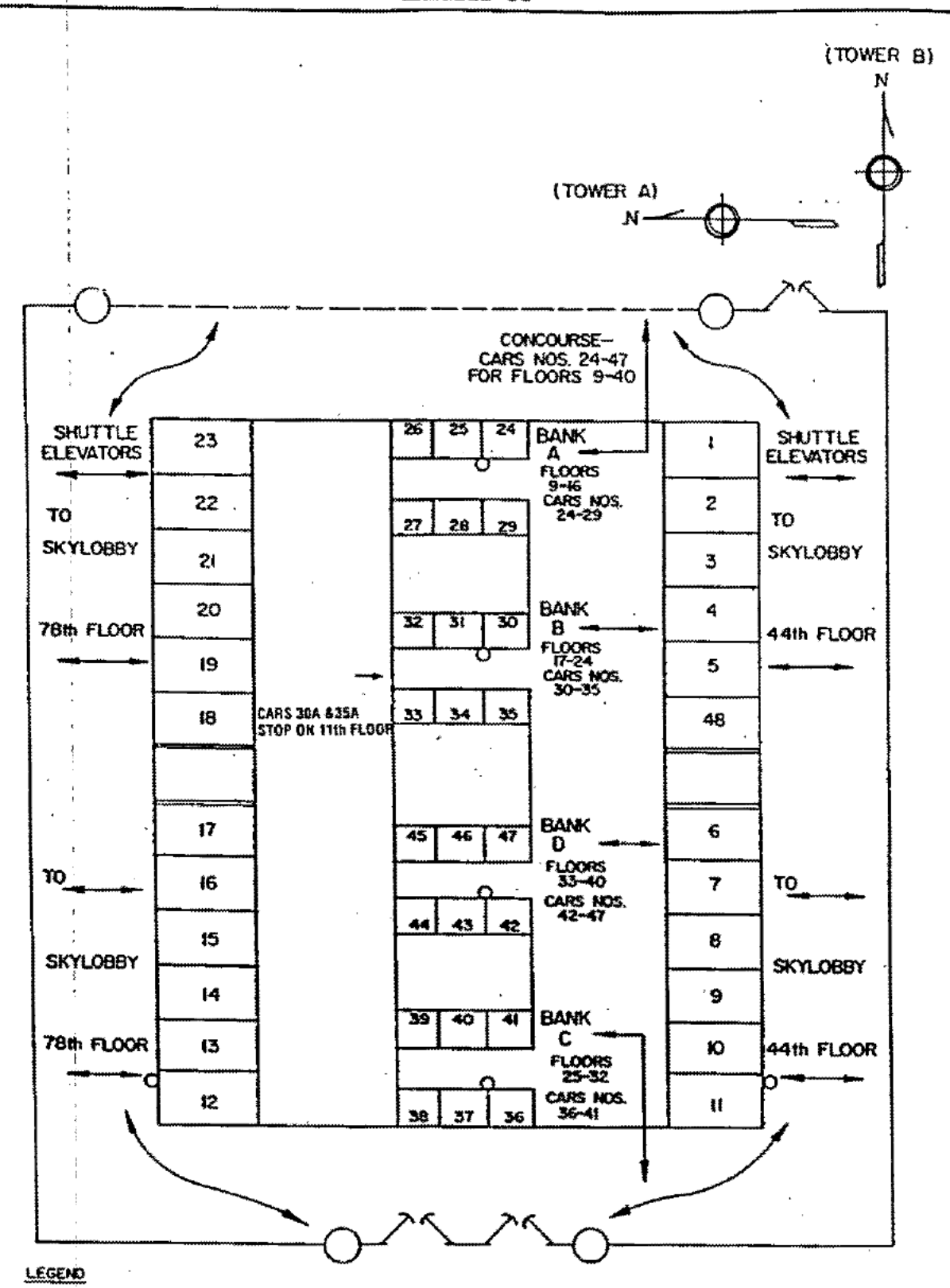
Plan View—Bank & Shuttle Elevator Locations Towers A & B, Skylobby 44th Floor



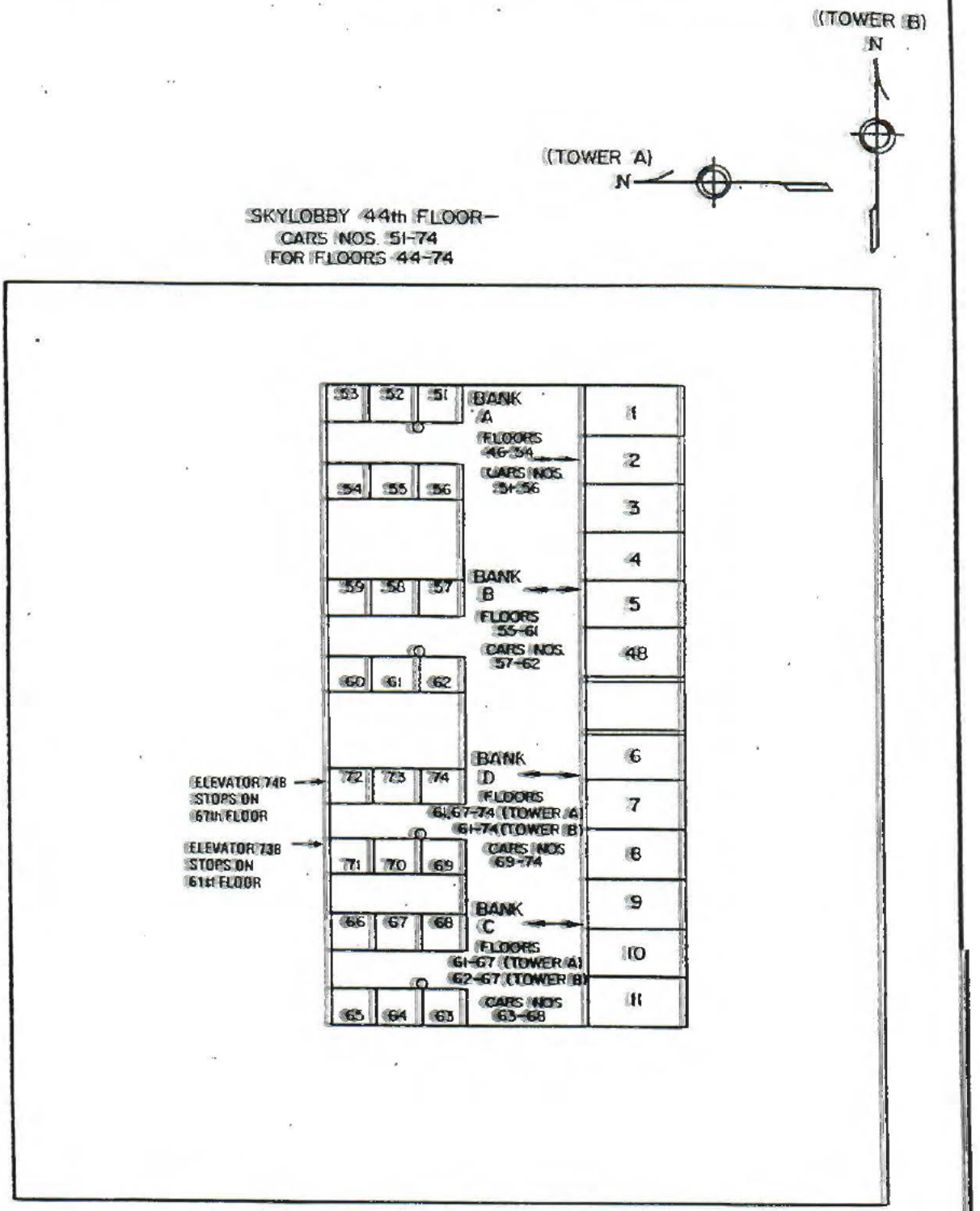
Plan View—Bank & Shuttle Elevator Locations
Towers A & B, Skylobby 78th Floor



Plan View — Towers A & B
Shuttle & Freight Elevator Location



Plan View—Bank & Shuttle Elevator Locations
Towers A & B, Concourse Level



LEGEND

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——P/ASSENGER MOVEMENT

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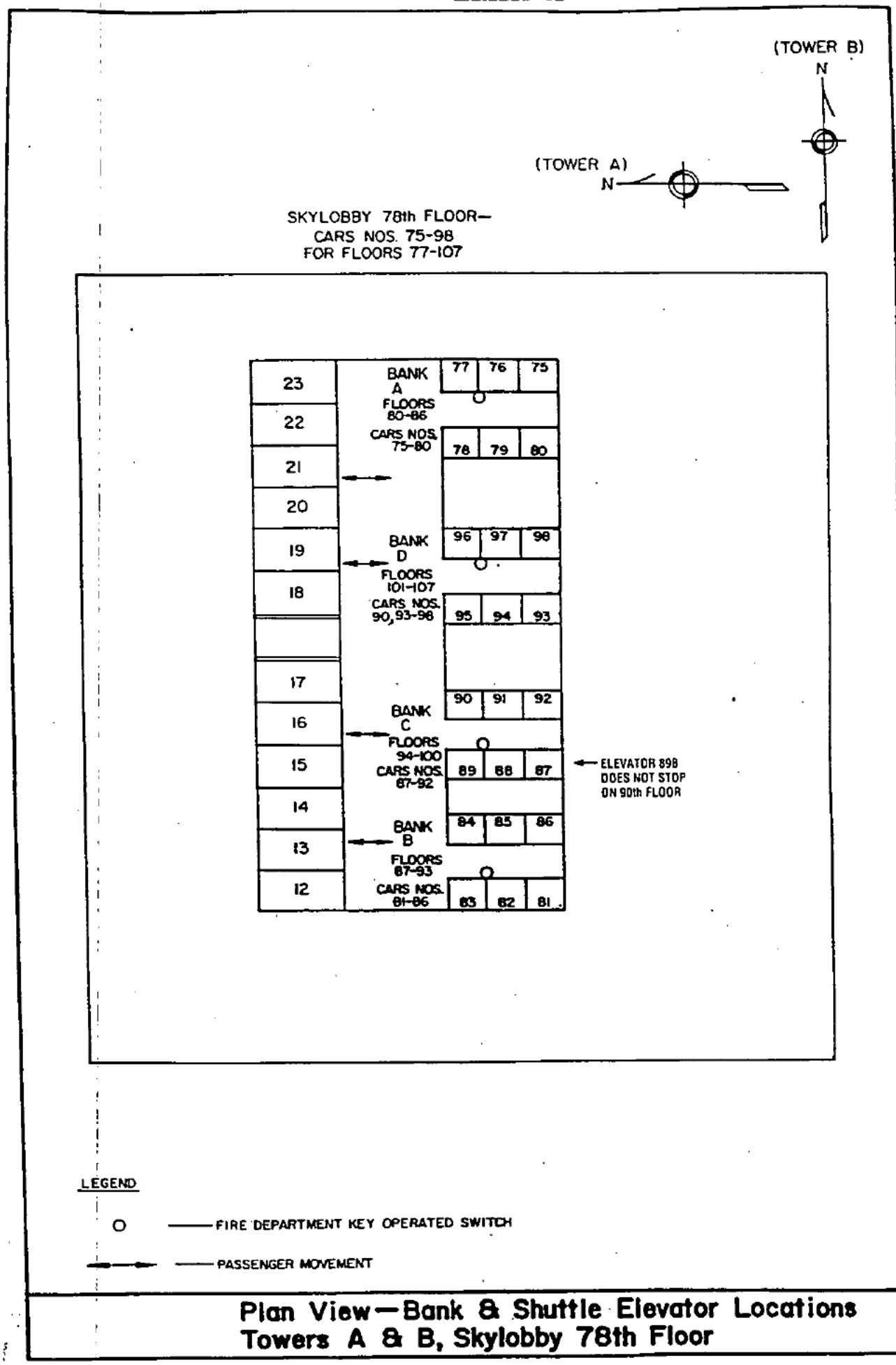
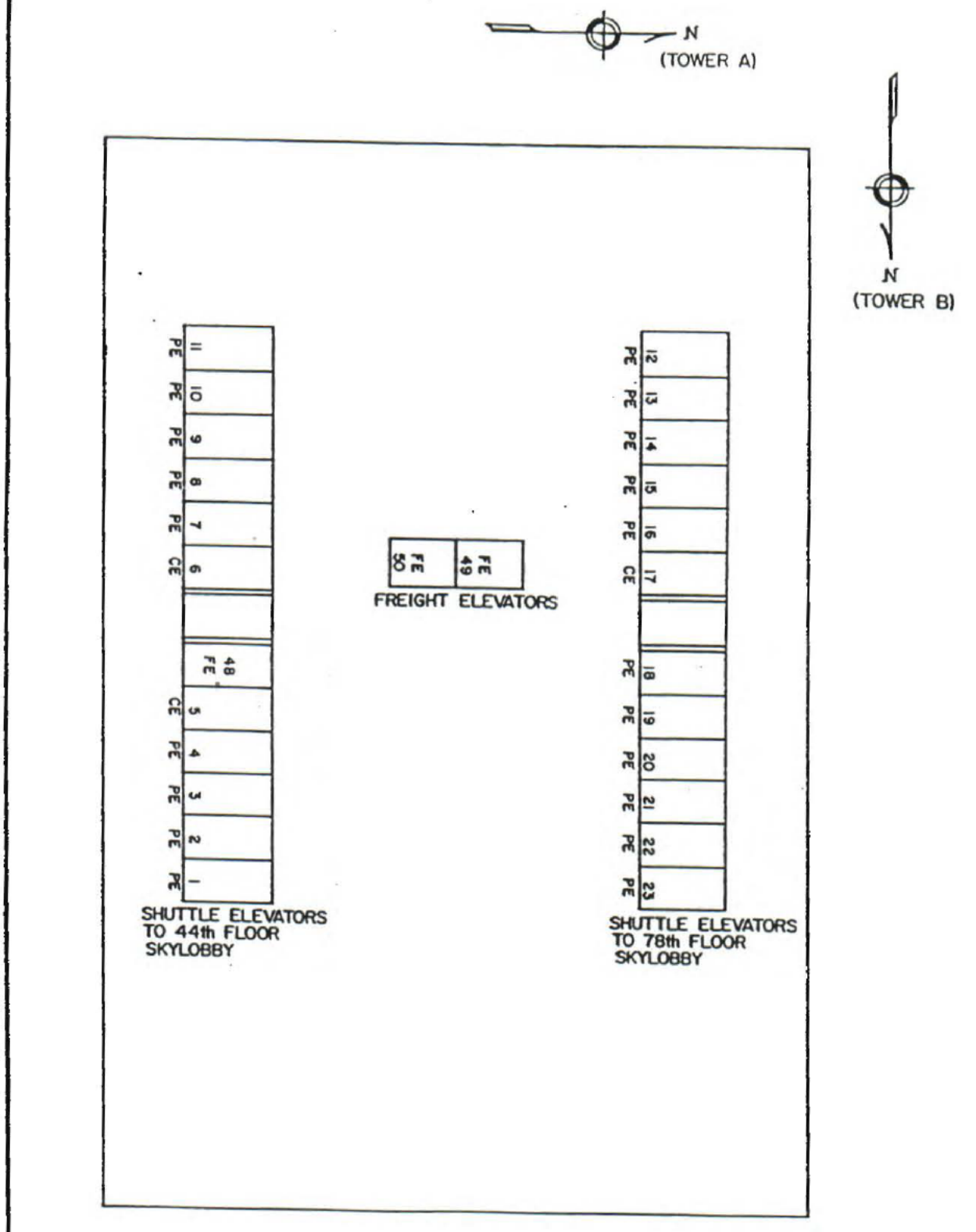


Plan View—Bank & Shuttle Elevator Locations
Towers A & B, Skylobby 78th Floor



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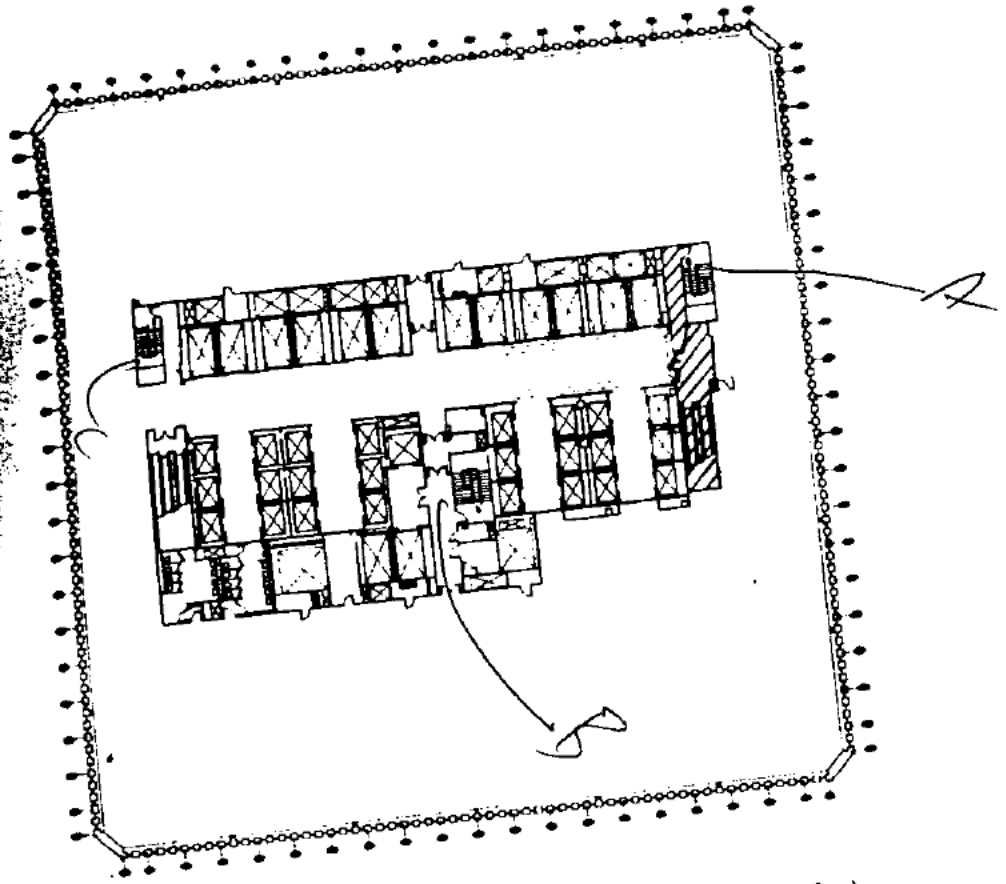
Shuttle & Freight Elevator Location



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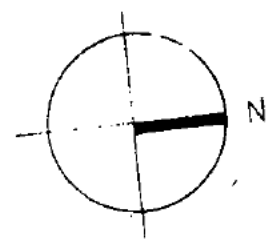

REV. DWGS M-1
KEY DWG

Dwgs	SUB	CAD. ZONE
Specs		XII-B/E

THE PORT AUTHORITY OF N.Y. & N.J.
ENGINEERING DEPT. QUALITY ASSURANCE DIV.
DESIGN STANDARDS
OFFICE W94-2185 (3)
COPY OCT 17 1994

RECEIVED
ALTERATIONS APPLICATION
TENANT CONSTRUCTION REVIEW UNIT

Lynch - send to Pett ASAP

THE PORT AUTHORITY OF NY & NJ Memorandum

Refer To	Date	Noted By	Date
Return To		File	

To: All Copied Below
From: Edward V. Piccinich
Date: March 16, 1992
Subject: **INTERIM ASBESTOS FALLOUT PROCEDURES**

My comments are annotated, good 1st draft

cc: T.C., R.L., A.P.

Reference: Memo: J. Corrigan to E. Piccinich, dated February 21, 1992, Same Subject

Copy To: R. Basnight, A. Braue, F. Boyce, T. Cancelliere, J. Corrigan, R. DiChiara, R. DeBellis, T. Elliott, R. Flaherty, D. Karpiloff, C. Kraeuter, F. Lawyer, J. McCrohan, Capt. Martella, J. Meyer, P. O'Brien, J. O'Donnell, A. Preschle, E. Raggio, A. Reiss, H. Rivera, J. Shea, M. Sheridan, J. Simms, A. Sirignano, I. Small, G. Smith, E. Strauss, F. Varriano, J. Wyatt

copy to O'Connor

The following interim procedures have been implemented as precautionary measures when fireproofing is displaced in an elevator shaft which may cause potential exposure to ACM:

1. Visible evidence of fireproofing fallout - This includes both presence of airborne particles and/or dust particles of fireproofing visible in interior of cab, on floor or other horizontal surfaces. This may result from either first hand discovery by any PA/contract employee or from a passenger.

2. Report of a rough ride - As defined a rough ride as it relates to this situation, we are referring to the simultaneous dispatching of adjacent elevators in a common shaft. Symptoms of this occurrence are as follows: a) sensation of increased elevator velocity; b) increased air pressure in the shaft; c) vibration of cab during trip; d) the sensation of free falling while descending; e) greater than normal wind noise.

3. Audible evidence of fireproofing fallout, any obstructions hitting the top or any part of the cab.

When any of the above described scenarios occur, the procedure will be as follows:

1. The starter or other WTC Operations personnel immediately shuts off the elevator/s in question; this includes all other elevators within a common shaft. He/she should immediately barricade off the elevator openings until doors are closed by Otis or Operations. No clean-up should be commenced until appropriate PA personnel assess the nature of the material. If action stems from passenger complaint, as the situation permits, person(s) should be questioned for any relevant information, such as, name, address and telephone number, etc. (See Operations Form No. 11 entitled Fireproofing Fallout Procedures/ Notifications Form).

2. The starter notifies the Operations Control Center of the incident with a brief description of the situation, e.g. elevator number, building, number of passengers involved and other pertinent information as it relates to the incident. The starter should remain within proximity to the elevator in question and/or with affected passengers until Port Authority personnel arrives. He/she then returns to their normal duties, at which time their responsibility has been fulfilled.

3. Upon notification, the Operations Desk Supervisor (7-7) at the Operations Control Center will immediately notify the General Operations Supervisor (7-3) on duty and the Operations Group Supervisor (7-4) who is responsible for the elevator operations. The 7-7 will determine if the shafts are deemed positive or negative for ACM (see most recent memo from F. Boyce to T. Cancelliere, dated March 5, 1992, Subject: WTC Elevator Shafts Presence of Asbestos Containing Fireproofing Material). A control number will be given for each elevator incident. The information regarding ACM should be relayed to responding units by telephone or using a "Code 3" announcement if the notification is made by portable radios. The Operations Desk Supervisor (7-7) will follow "The Emergency Procedures Manual" to make all proper notifications. This concludes the 7-7 area of responsibility.

The following actions are taken by responding units:

1. Confirm equipment is shut down.

2. Interview all parties involved, starters, passengers, etc. Ascertain if any further assistance is needed (medical assistance, referral for information, etc.). At this point, a designated representative from Plant & Structures must be notified and immediately respond to the scene.

If shaft is negative for ACM, responding General Operations Supervisor's duties are as follows:

1. Inspection is performed of the interior of the cab, top of elevator and pit to quantify amount of material involved.

2. Appropriate contractors and Port Authority sections are notified to clean up the above mentioned area as situation dictates.

3. If significant fallout is present, the cars should be left out of service until shaft inspection is performed and necessary action is taken to prevent any reoccurences. Cars should not be returned to service until all of the above steps have been carried out as necessary.

Note: If shaft inspection is necessary, car must be mainlined until such an inspection can be arranged.

If shaft has evidence of ACM present, the following action should be taken:

1. Elevator doors should be shut and elevator mainlined immediately.

2. Air samples must be performed by certified personnel from interior of cab. Also, bulk samples taken from any material available inside cab, on top of car and in affected elevator pits must be evaluated.

3. Pending results of tests, appropriate clean-up will commence. Any clean-up must be a coordinated effort between Asbestos Control, WTC Plant & Structures and WTC Operations. In case emergency clean up may have to be coordinated by other parties, other sections are requested to provide specific names of possible contract personnel involved.

4. Inspection of affected shafts must be coordinated by appropriate certified staff to evaluate condition and probability of reoccurrence.

5. Cars will not be returned to service until all of the above steps are carried out and Operations Form Number 11 is signed off by Plant & Structures (for safety purposes) and the WTC Facility Asbestos Coordinator (for asbestos clearance). Other arrangements may be permissible, granted that designated personnel are identified, in writing.

TO: All Those Copied
DATE: March 16, 1992
SUBJECT: INTERIM ASBESTOS FALLOUT PROCEDURES

To ensure everyone's safety and to maintain consistency, the aforementioned procedure will remain intransigent and changes for improvements must be forwarded in writing. Operations Form Number 11, completed in its entirety, will dictate if and when the involved equipment will be put back in service. By no means should the signature requirements hinder our expedient resolution to a fireproof fallout incident.

agree - so how do you handle on a weekend

By copy of this memorandum, all are requested to notify their appropriate contract staff where responsibilities are directly related to their duties. Most importantly, Frank Boyce is to contact John Corrigan or myself if any asbestos regulations have been violated in the procedures outlined.

Edward V. Piccinich
Acting Manager
WTC Operations Division

attachment

JC/EVP:mjs

FORM #11 (2/92)

FIREPROOFING FALLOUT PROCEDURES/NOTIFICATIONS

Control #_____

DATE: _____

EQUIPMENT #: _____

BUILDING: _____

TIME OF OCCURRENCE: _____

STARTER (IF ANY): _____

NAMES OF PASSENGERS	ADDRESS & PHONE	REMARKS OR COMMENTS

BRIEF DESCRIPTION OF INCIDENT:

NAME OF RESPONDING UNITS (PA) - BRIEF DESCRIPTION OF ACTION TAKEN:

SIGNATURE FOR CLEARANCE:

need alternate

can't depend on just 1 person

Gus or Alan, or Lynch?

Thomas Cancelliere, Manager, Plant & Structures

P. Carey, R. Cronin?

Frank Boyce, WTC Facility Asbestos Coordinator

DATE/ELEVATORS RETURNED TO SERVICE: __/__/__

Edward V. Piccinich, Acting Manager, WTC Operations
(John Corrigan or Duty General Operations Supervisor, Designated Representative)

(Additional lines on back, if necessary)

CC: 1

(19) File Emerg. procedure Ltr

K-88338
PA 36
10-82

THE PORT AUTHORITY OF NY & NJ

To ALL COPIED Room No.

From DAN WOLF Room No.

Date 7/30/91

THE ATTACHED LIST OF UPDATED BROADCAST FACILITY PHONE NUMBERS IS PROVIDED BY POPULAR REQUEST.

PLEASE NOTE THAT "MASTER CONTROL" PHONE NUMBERS SHOULD NOT BE USED EXCEPT IN AN EMERGENCY

Dan

CC: J. CASTALDO, L. CASTELLANO, A. COPPOLECCHIA
P. ELLENBOGEN, J. HONOROWSKI, J. KAU,
S. MAGNUS, C. MIRABILE, R. MITTENZWEI,
E. MONTEVERDE, A. REISS, J. URINYI,
S. WEISSMAN

WTC BROADCASTER PHONE LIST

REVISED 7/26/91 DMW

STATION	LOCATION	PH. # 110TH FL	MASTER CONTROL	CONTACT & PHONE No.	FAX No.	ADDRESS
WCBS (CH-2)	SUITE 11061	(212) 975-7007 " 975-7008 " 975-7009	BROADCAST CTR (OFF HOURS) (212) 975-6606 EMPIRE STATE BLDG (X'MTR) (212) 975-4128	JOE FEDELE - MGR. TECH. OPS. (212) 975-2408 HOME (201) 438-1965	(212) 975-4140	WCBS-TV 524 WEST 57TH ST. (RM 3330) NEW YORK, N.Y. 10019
WNBC (CH-4)	A-10H NW	(212) 664-6497	(212) 664-6392	ANDY MORRIS - MGR. OF ENG. MAINT. (212) 664-5587	(212) 664-7091	WNBC-TV 30 ROCKEFELLER PLAZA ROOM 1163 NEW YORK, N.Y. 10020
WNYW (CH-5)	SUITE 11021	(212) 452-3646 " 839-0943	(212) 452-3601 -3602 -3603	JOE BERINI - DIR. OF OPS. (212) 452-3631 ED KNAPP - DIR. OF ENG. (212) 452-3634	(212) 452-3969	WNYW - FOX, TV 205 EAST 67TH ST. NEW YORK, N.Y. 10021
WABC (CH-7)	SUITE 11073	(212) 456-4976	(212) 456-4956	JAMES BAKER, CHIEF ENG. (212) 456-3082	(212) 887-3222	WABC-TV SEVEN LINCOLN SQUARE NEW YORK, N.Y. 10023

WTC BROADCASTER PHONE LIST

REVISED 7/26/91 DMW

STATION	LOCATION	PH. # 110TH FL	MASTER CONTROL	CONTACT & PHONE No.	FAX No.	ADDRESS
WWOR (CH-9)	SUITE 11067	(212) 524-0520 " 524-0342 " 524-0343	(201) 330-2446	KEN McGOWAN, DIR. OF ENG. (201) 330-2155	(201) 330-2488	WWOR-TV NINE BROADCAST PLAZA SECAUCUS, NEW JERSEY 07094
WPIX (CH-11)	SUITE 11071	(212) 210-2569	(212) 210-2557	EARL ARBUCKLE, ASST. CHIEF ENG. AND CHAIRMAN, TVBAIC (212) 210-2555 PAGER 1-800-225-0256 ID# 87859	(212) 986-4360	WPIX, INC. 220 EAST 42ND ST. NEW YORK, N.Y. 10017
WNET (CH-13)	SUITE 11043	(212) 560-6888 FAX (212) 432-0498	(212) 560-6830	FRANK GRAYBILL, CHIEF ENG. (212) 560-3506	(212) 582-3297	WNET-TV 356 WEST 58TH ST NEW YORK, N.Y. 10019
WNYC-TV/FM (CH-31)	SUITE 11027	(212) 775-7151	(212) 669-8858	ERNIE DACHEL, CHIEF ENG (212) 669-7706	(212) 669-8986	WNYC, COMMUNICATIONS GROUP ONE CENTRE ST. (26TH FL) NEW YORK, N.Y. 10007

WTC BROADCASTER PHONE LIST

REVISED 7/26/91 DMW

STATION	LOCATION	PH. # 110TH FL	MASTER CONTROL	CONTACT & PHONE NO.	FAX NO.	ADDRESS
WXTV (CH-41)	SUITE 11049	(212)839-9000	(201)348-2841 EXT 4152/4153	RICHARD GREBOW, CHIEF ENG. OR AL COHEN, ASST. CHIEF ENG (201)348-2841 EXT 4162/4158	(201)348-6839	WXTV 24 MEADOWLAND PKY. SECAUCUS, NEW JERSEY 07094
WNJU (CH-47)	SUITE 11033	(212)775-1706	(201)288-8149	GEORGE KRAUS, CHIEF ENG. (201)288-5550 EXT 202 (212)233-6240 EXT 202	(201)288-0129	WNJU-TV 47 INDUSTRIAL AVE. TETERBORO, NEW JERSEY 07608
WQCD-FM (WPIX INC) 101.9 MHZ	SUITE 11071	(212)210-2569	(212)210-2815	ANDY BATER, CHIEF ENG (212)210-2773	(212)210-2771	WQCD 101.9 FM 220 EAST 42ND ST (28TH FL) NEW YORK, N.Y. 10017
WNYC-FM		SAME AS	WNYC-TV	CHANNEL -31		
WPAT-FM	SUITE 11053	(212)938-0820	(201)472-5156	KEN STOUT, CHIEF ENG. (212)688-9300 (201)345-9300	(201)471-1386	WPAT 1396 BROAD ST. CLIFTON, NEW JERSEY 07013

Mike Maglers

WIC BROADCASTER PHONE LIST

REVISED 7/26/91 DMW

STATION	LOCATION	XMTR PLANT PH. # 110TH FL	MASTER CONTROL	CONTACT & PHONE No.	FAX No.	ADDRESS
WYNY-FM 103.5 MHz	SUITE 11057	(212) 488-3043	(212) 237-2650 " 265-9469	ALAN KIRSCHNER, DIR. OF ENG. (212) 237-2946 " 986-9569 JIM HUSTE, CHIEF ENG. (212) 237-2561	(212) 586-6889	WYNY 1700 BROADWAY NEW YORK, N.Y. 10019
WKCR-FM	SUITE 11055	(212) 466-6305	(212) 854-5223	BILL WELLS (212) 279-0707 PAGER (212) 458-5977	N/A	WKCR-FM 298 FERRIS BOOTH HALL (RM 206) COLUMBIA UNIVERSITY NEW YORK, N.Y. 10027 ATT: A. NEWLAND/C. PRICE
MOTOROLA TRUNK RADIO RM.	SUITE 11025	(212) 321-2770	N/A	ROBERT HUDSON (201) 447-7671	(201) 447-7796	MOTOROLA 85 HARRISTOWN RD. GLEN ROCK, NEW JERSEY 07452
HSN CH-68	TOWER "B"	(212) 938-1443	(201) 624-7701 (201) 643-6406	AL SALTZMAN OR ELLA CONNORS (212) 582-6800	(201) 480-1361	HOME SHOPPING NETWORK 390 WEST MARKET ST. NEWARK, NEW JERSEY 07107
TV MAST EMG. PHONE		(212) 435-4789		(212) 435-4789 PHONES LOCATED AT: - ROOF LEVEL - EL: 100 FT. - EL: 200 FT. - EL: 300 FT.		

THE PORT AUTHORITY OF NY & NJ

B U C K S L I P

TO: Alan Reiss
FROM: John Castaldo JC
DATE: January 17, 1991

SUBJECT: VITAL VENDOR EMERGENCY TELEPHONE NUMBERS

Per your request, the following is a list of emergency telephone numbers to be added to the WTC Emergency Manual:

o	Con Edison - (district operation)	(212)	582-1054	
		(212)	580-6750	(1)
		(212)	679-5200	
o	W.A. Kraft Co. - (generator repair)	(201)	288-4485	
	(after hours)	(201)	641-2315	
o	Castle Fuel Oil - (24 hours)	(212)	823-8800	
o	Radio Shop - (daytime)	(201)	963-2908	
	(night/weekends)	(201)	963-7111	