City and County of San Francisco Emergency Response Plan

ESF #9:

Urban Search & Rescue Annex

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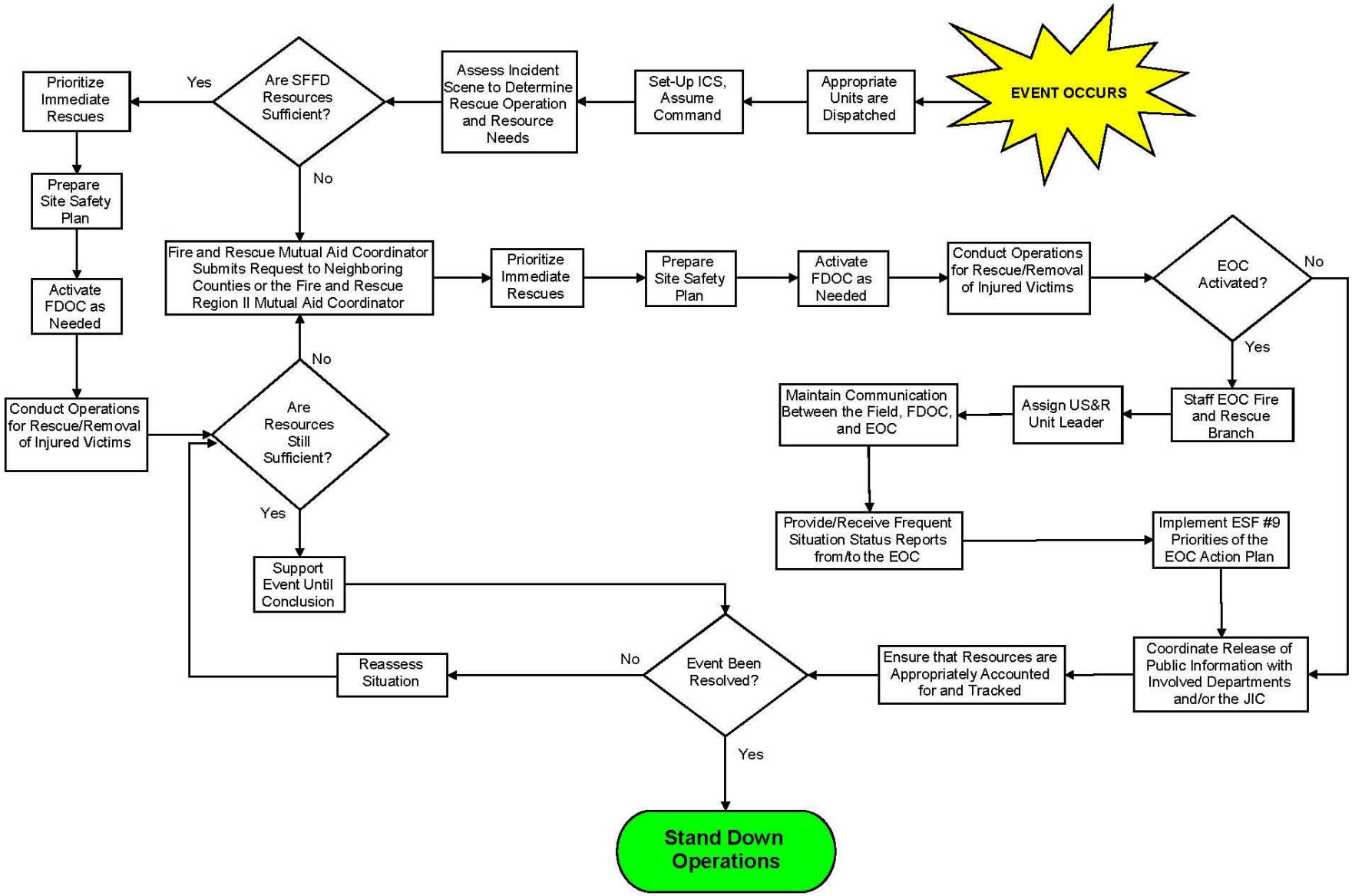

Figure A: Event Process Flow Chart

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Section 1: Introduction

1.1 Coordinating and Supporting Departments

Coordinating Department	SFFD
Supporting Department(s)	ACC, DEM, DPH, DPW, MTA Enforcement, OCME, PG&E, PUC, SFPD, SFSD

1.2 ESF Responsibilities

Department	Responsibilities
SFFD	• Coordinate US&R operations • Maintain contact with the Incident Commander and/or FDOC • Maintain contact with supporting departments • Establish FDOC and/or staff EOC as required • Request mutual aid when needed
ACC **DEM** **DPH** **DPW** **MTA Enforcement** **OCME** **PG&E** **PUC** **SFPD** **SFSD**	• Provide direct support for SFFD US&R operations, e.g. site security, rescue operations, logistical support, victim identification • Staff FDOC and/or EOC as required • Maintain communication with ESF #4 representatives; provide regular situation status updates

1.3 Purpose

Emergency Support Function (ESF) #9: Urban Search and Rescue (US&R) rapidly deploys search and rescue components to provide specialized lifesaving assistance during US&R operations within the City and County of San Francisco (CCSF). The purpose of this annex is to provide an organized local capability for effective management of CCSF US&R operations.

1.4 Scope

ESF #9: Urban Search and Rescue addresses activities associated with the search for and rescue of occupants of damaged or collapsed buildings, including collapsed structure rescue, confined space rescue, trench rescue, and high/low angle rescue. US&R operations involve the location, rescue, and initial medical stabilization of victims trapped in confined spaces. US&R

incidents can be caused by a variety of events such as an earthquake or terrorist incident that causes widespread damage to a variety of structures and entrap hundreds of people. Other examples of US&R events can range from mass transportation accidents with multiple victims to single site events such as a trench cave-in or confined space rescue involving only one or two victims. Other forms of search and rescue (e.g., swift water rescue, surf rescue, and aerial search and rescue) do not fall under ESF #9. US&R operations are unique in that specialized training and equipment are required to mitigate the incident in the safest and most efficient manner possible.

Section 2: Concept of Operations

2.1 General Concepts

The *ESF #9: Urban Search and Rescue Annex* will be utilized by the San Francisco Fire Department (SFFD) and supporting departments during any event that results in a US&R scenario within CCSF. Procedures pertaining to this function are in compliance with the Standardized Emergency Management System (SEMS), Incident Command System (ICS), the Regional Emergency Coordination Plan (RECP) Fire and Rescue Subsidiary Plan, and the San Francisco Fire Department Operations Plan.

This Concept of Operations outlines the following elements of US&R:

- Rescue Operations
    - US&R Functions
    - US&R Capabilities
- Information Flow
- US&R Resources
    - Local Resources
    - Mutual Aid Resources
- Organization and Structure
- Responsibilities
- Notification and Activation Procedures
- Response Actions
- Deactivation Procedures

2.2 Rescue Operations

US&R is the process of locating, extricating, and providing initial medical treatment to victims trapped in collapsed structures, or rescuing/removing persons threatened or stranded in harm's way by an emergency or hazardous event when they cannot remove themselves. As the coordinating ESF #9 department, SFFD will respond to any incident that is determined likely to result in scenarios requiring US&R operations.

Most US&R operations will involve heavy rescue. Heavy rescue is the process of responding to US&R operations that utilize heavy equipment and rigging. These operations may involve rescue of individuals trapped due to damage to heavy wall or floor construction buildings, infrastructure collapses such as freeway overpass collapses, or other incidents that require heavy rescue equipment. Components of heavy rescue include collapsed structure rescue, confined space rescue, trench rescue, and high / low angle rescue.

2.2.1 US&R Functions

SFFD US&R teams are prepared for immediate deployment during any incident that necessitates US&R capabilities. The US&R element of SFFD is comprised primarily of SFFD rescue and truck companies and personnel who are trained in and experienced with US&R operations. Some operations may also require regional, State, and Federal teams and other resources.

Upon arrival on-scene, US&R teams will conduct the following operations:

1. Assess incident scene to determine rescue operation needs.
2. Establish ICS for the incident.
3. Assess stability for rescue operations and determine resource needs.
4. Request resources (City-owned or mutual aid, as applicable).
5. Prioritize immediate rescues.
6. Prepare Site Safety Plan.
7. As necessary, conduct emergency building shoring to protect emergency responders during rescue operations.
8. Conduct operations for rescue/removal of injured victims. This may consist of:
    - Lifting/moving heavy objects,
    - Breaching concrete or steel,
    - Trenching,
    - Searching,
    - Rope rescue,
    - Identification, or
    - Locating of trapped victims.
9. Conduct patient packaging and transfer.

2.2.2 US&R Capabilities

SFFD US&R capabilities include collapsed structure rescue, confined space rescue, trench rescue, and high / low angle rescue. For specific information about operational elements involved with each type of rescue, see Table 2-1: US&R Capabilities below.

- **Collapsed Structure Rescue:** Collapsed structure rescue represents a wide range of operations including partially and totally collapsed structures. These structures may be of light wood framed construction, medium wood/masonry construction or heavy reinforced concrete construction. Rescue personnel responding to collapsed structure scenarios are trained for the following situations:
    - Initial assessment of structure stability for rescue operations
    - Emergency building shoring to protect emergency responders during rescue operations
    - Rope rescue practices to support rescue operations
    - Patient packaging and transfer

- **Confined Space Rescue:** A confined space has limited or restricted means for entry or exit (tanks, storage bins, vaults, and pits) and is not meant for occupancy. Threats related to confined spaces, such as hazardous gasses, pose unique threats to victims and responders. Confined space rescue operations may require a permit depending on circumstances.

- **Trench Rescue:** A trench is a narrow excavation made below the surface of the ground where the depth is greater than the width, but the width is not greater than 15 feet. Trench rescue involves shoring up the sides of the trench and digging a trapped victim out of a collapsed ditch. Trench rescue is one of the most dangerous rescue operations to complete.

- **High-Angle and Low-Angle Rescue:** High-angle rescue involves rescue operations in which the load is predominantly supported by life-safety ropes, while low-angle rescue involves a load that is on a flat or mildly sloped surface. SFFD rescue companies have the capability to carry out these rescues independently or as part of a combination of rescue techniques.

Capability:	Collapsed Structure Rescue	Confined Space Rescue	Trench Rescue	High-Angle and Low-Angle Rescue
Involved Operational Elements:	• Collapse of wood, concrete, or other building material • Shoring • Breaching • Lifting • Patient packaging and removal	• Entry team • Backup team • Air monitoring • Ventilation • Rigging • Patient packaging and removal	• Shoring • Excavation • Securing trench • Ingress/ egress ground ladders • Patient packaging and removal • Appoint Safety Officer	• Primary team • Secondary team • Rigging and rope rescue • Patient packaging and removal

Table 2-1: US&R Capabilities

2.3 Information Flow

ESF #9 facilitates communication among multiple response coordination levels during US&R operations. The following provides an overview of the various ESF #9 coordination levels that maintain communication in accordance with event requirements. Figure 2-1 below depicts the relationship between ESF #9 coordination levels.

- **Incident Units**
    - Assess, monitor, and implement US&R operations as appropriate for incident type
    - Submit frequent situation status reports to the Incident Commander (IC)

- **Incident Command Post / Unified Command (ICP / UC)**
  - Provide coordination and support to incident units
  - Provide for rescuer safety
  - Maintain communications with communications center, Fire Department Operations Center (FDOC), or if the event is large in scope, with Battalion Command

- **FDOC**
  - Maintain constant communication with Incident Commander regarding the status of field operations
  - Receive requests for resources from the field; fulfill requests internally or coordinate requests using the mutual aid process as necessary
  - Coordinate with the appropriate agencies to plan for multiple operational period needs

- **Emergency Operations Center (EOC) Fire and Rescue Branch: Urban Search and Rescue Unit Leader**
  - Gather information from field and/or FDOC representatives on a continual basis
  - Frequently submit situation status reports to the Fire and Rescue Branch Coordinator
  - Coordinate with regional, State, or Federal entities as necessary

- **Operations Support Section Chief and Fire and Rescue Branch Coordinator**
  - Exchange updated incident information and responder safety information
  - Ensure EOC situational awareness of ongoing US&R operations
  - Exchange information about support operations, needed resources, and field situation status for projected multiple-operational periods

- **Supporting ESF Departments**
  - Support EOC, FDOC, and/or field operations as requested
  - Maintain communication with appropriate department representatives by providing frequent situation status updates

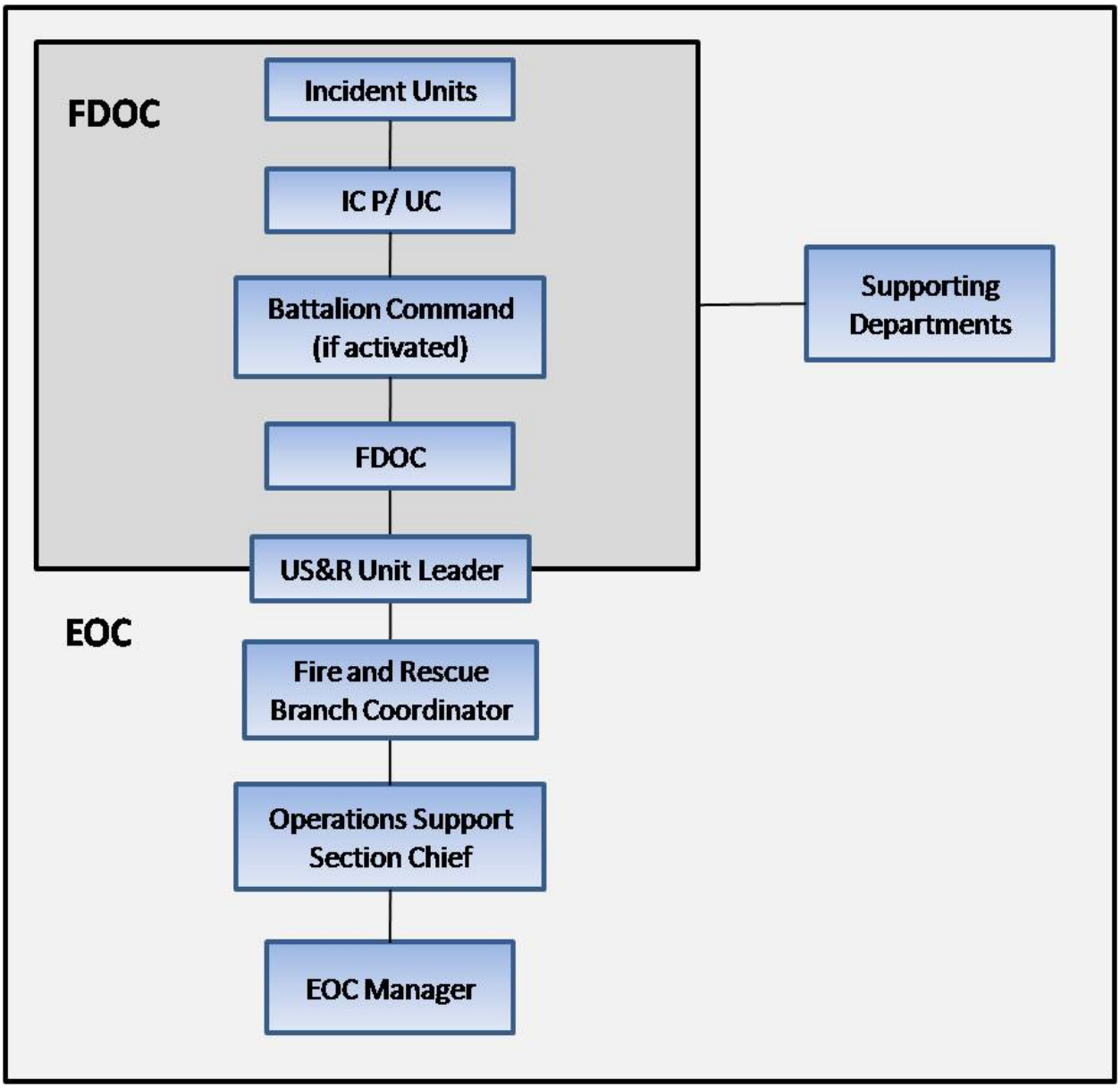

Figure 2-1: CCSF US&R Information Flow

2.4 US&R Resources

2.4.1 Local Resources

SFFD is the primary provider of US&R resources and is prepared to respond to many types of rescue situations, to include heavy rescue, collapsed structure rescue, confined space rescue, trench rescue, and high/low angle rescue. Resources owned and managed by SFFD include:

- Two Medium Rescue Squads
- 18 Light Rescue-Equipped Truck Companies
- Two Medium Rescue Trailers (bringing the two Rescue Squads up to "Heavy" rescue capabilities)
- Two Spare Trailers with Light Rescue Caches
- Evans St. US&R Equipment Cache

Additional tools commonly used by SFFD include Self-Contained Breathing Apparatus (SCBA), air tools (such as spreaders and cutters), pneumatic airbags and cribbing tools, cutting torches, search cameras, lighting systems, and generators. Resources also include personnel (such as technical specialists and traffic control officers) and special equipment from supporting departments. Examples of special equipment that may be requested from supporting departments are technical search equipment, cranes and operators, and demolition equipment. According to the magnitude of the event, requests for CCSF departmental resources will be made through the Incident Commander, FDOC, or CCSF EOC.

2.4.2 Mutual Aid Resources

In the event that US&R resources outside of CCSF capabilities are required, the San Francisco Fire and Rescue Mutual Aid Coordinator will submit requests for regional, State, or Federal support via the Region II Mutual Aid System.

The California Emergency Management Agency (CalEMA) Fire and Rescue Mutual Aid Coordinator is responsible for the overall coordination of the Fire and Rescue Mutual Aid System, and manages the statewide response. Within San Francisco, SFFD has a designated Fire and Rescue Mutual Aid Coordinator who will manage mutual aid provisions and report directly to the Region II Fire and Rescue Mutual Aid Coordinator.

For information about specific types and kinds of US&R resources available, please refer to Appendix D: US&R Resources.

California Urban Search and Rescue Task Forces

As stated in the RECP Fire and Rescue Subsidiary Plan:

- The California Urban Search and Rescue task forces are a joint partnership between local sponsoring fire agencies, CalEMA, and the Federal Emergency Management Agency (FEMA) as components of the National Urban Search and Rescue Response System.

They are primarily managed, coordinated, and deployed by the State Fire and Rescue Branch.[1]

- Eight of the twenty-eight Urban Search and Rescue task forces situated across the United States are in California. Two of the eight task forces are within Region II:
    - California Task Force #3, Menlo Park Fire Department
    - California Task Force #4, Oakland Fire Department
- Each task force is made up of sixty-two members, all of whom are specially trained and equipped to perform the required search, rescue, medical, and technical Urban Search and rescue functions, including hazardous materials response. For further task force organizational details, see Appendix B: Urban Search and Rescue Task Force Organization Chart.
- Each task force is ready for deployment within six hours of notification.
- All of California's task forces are sponsored by fire departments. The request for one of the task forces can be made through the fire, law, or medical mutual aid systems. If full task force resources are not required, single Urban Search and Rescue resources may be requested through the Fire and Rescue Mutual Aid System. See Appendix C: Process for Ordering Urban Search and Rescue Task Forces.

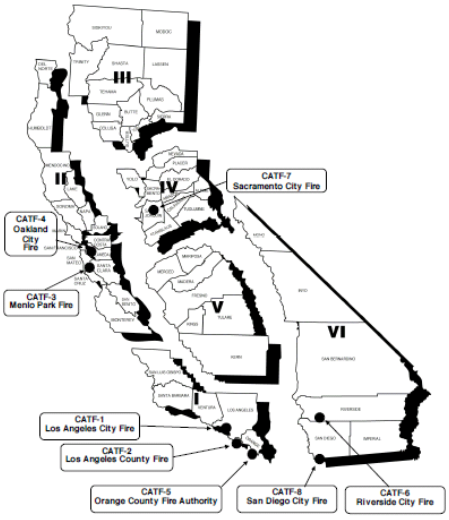

Figure 2-2: California Fire and Rescue Mutual Aid Task Forces

California Urban Search and Rescue Team Typing

Urban Search and Rescue Type 4 (Basic)

Represents the minimum capability to conduct safe and effective search and rescue operations at incidents involving non-structural entrapment. Personnel at this level shall be competent at surface rescue that involves minimal removal of debris and building contents to extricate easily accessible victims from damaged, but non-collapsed structures.

Urban Search and Rescue Type 3 (Light)

Represents the minimum capability to conduct safe and effective search and rescue operations for incidents involving the collapse or failure of light-frame construction. This level is also capable of conducting low-angle or one-person load rope rescue.

Urban Search and Rescue Type 2 (Medium)

Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of heavy wall construction. This

[1] Governor's Office of Emergency Services, Fire and Rescue Branch, California Fire Service and Rescue Emergency Mutual Aid System, Urban Search and Rescue Program, Revised January 2004.

level is also capable of conducting high-angle rope rescue (not including highline systems), confined space rescue (no permit required), and trench and excavation rescue.

Urban Search and Rescue Type 1 (Heavy)

Represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of heavy floor, pre-cast concrete, and steel frame construction. This level is also capable of conducting high-angle rope rescue (including highline systems), confined space rescue (permit required), and mass transportation rescue.

2.5 Urban Search and Rescue Organization and Structure

2.5.1 Organization

Figure 2-1 depicts the relationship between the EOC Fire and Rescue Branch, the FDOC, and field response operations.

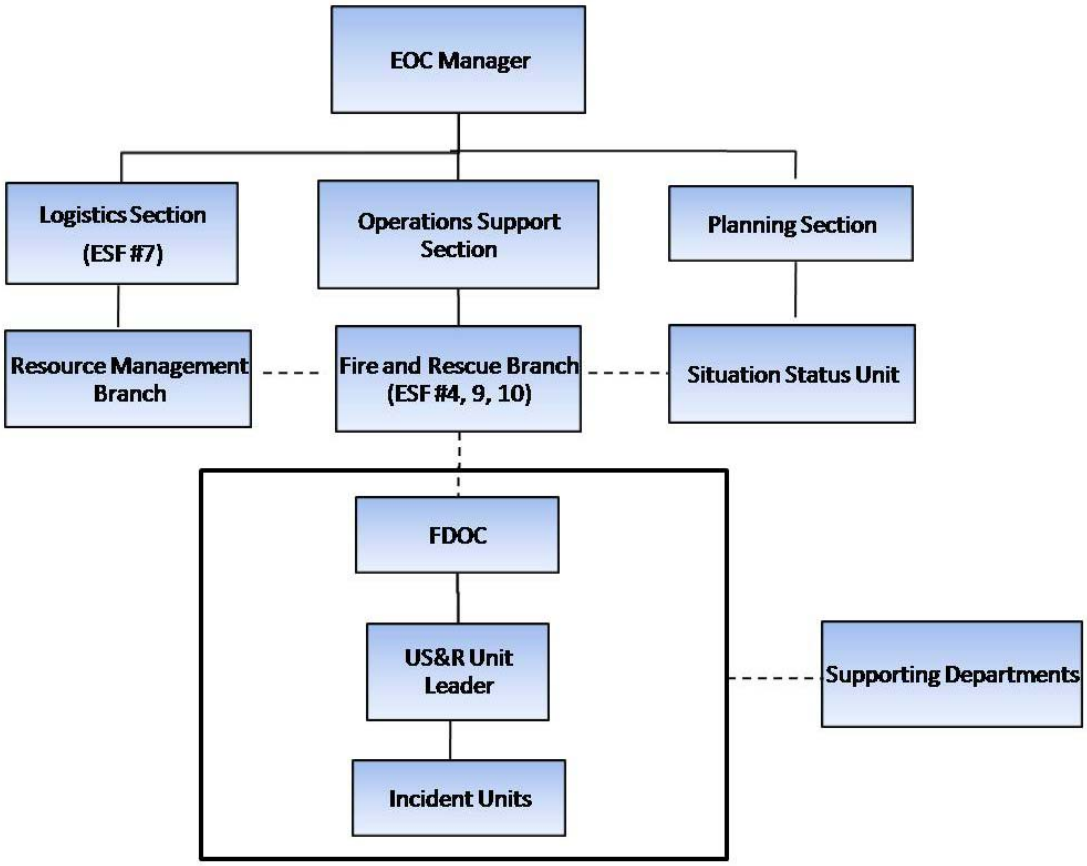

Figure 2-3: US&R Organization

2.5.2 Urban Search and Rescue Responsibilities

The following table identifies the overall roles and responsibilities of each entity that may be involved with ESF #9. Entities needed to support ESF #9 operations will vary and will be determined according to the needs of the event.

Entity	Responsibility
SFFD	• Respond to any incident that is determined likely to result in scenarios requiring heavy rescue, collapsed structure rescue, confined space rescue, trench rescue, or high / low angle rescue • Mobilize and deploy US&R teams and equipment • Coordinate overall CCSF US&R operations • Activate FDOC as necessary • Assess situation and develop strategies to respond to the emergency • Request mutual aid through the CalEMA Region II Fire and Rescue Mutual Aid System • If the CCSF EOC is activated, send a SFFD representative(s) to staff the Fire and Rescue Branch and/or the US&R Unit • Implement the priorities of the EOC Action Plan assigned to the US&R Unit of the Fire and Rescue Branch
ACC	• Retrieve any animals involved in a US&R incident in the event that an individual will not leave without their pet
DEM	• Provide EOC support during any large-scale CCSF event involving firefighting response activities • Coordinate logistical support for mutual aid resources ordered through the Region II Fire and Rescue Mutual Aid System • Assist in acquiring regional, State, and Federal resources, if requested
DPH	• Provide on-scene doctors, nurses, and/or other medical experts if requested
DPW	• Provide equipment and supplies for rescue operations • Provide Technical Specialists for rescue operations
MTA Enforcement	• Provide transportation assistance to response activities • Provide road signage for access to and egress from incident site • Assist with control and access to egress from the incident site
OCME	• Provide Technical Specialists with equipment and/or supplies for victim identification procedures • Support the Morgue/Forensic Unit • Conduct transport of deceased victims or provide resources to manage on-scene deceased victims
PG&E	• Assist with utility shut-off to buildings
PUC	• Assist with utility shut-off to buildings
SFPD	• Control access to and egress from incident site • Provide force protection for on scene resources
SFSD	• Assist with site security • Provide traffic and crowd control

Table 2-2: ESF #9 Responsibilities

2.6 Notification and Activation

2.6.1 Notification

In the event of a CCSF US&R event, SFFD in coordination with the San Francisco Department of Emergency Management (DEM) will determine the activation needs of ESF #9. Notification will then be issued to relevant supporting ESF #9 departments, and to any additional departments or agencies as required. Notification will be distributed via the most appropriate communications equipment for the event, and will detail incident information, reporting instructions, and any relevant coordination information.

Once a definite need for a US&R response is determined, firefighters will be contacted via CCSF dispatch (as with any other fire/rescue call). Firefighters will put US&R-capable apparatus in service and stage at an area designated by the Incident Commander.

2.6.2 Activation

ESF #9 activation will be concurrent with any incident requiring US&R response. The level of activation will be determined according to the needs and magnitude of the event. FDOC and/or EOC coordination may be necessary during the following situations:

- During any US&R operation that exceeds the capacity of normal SFFD operations
- During regional US&R activities that require activation of the FDOC
- The magnitude of the event requires a mutual aid request
- Response and recovery operations will involve multiple City departments
- Response and/or recovery efforts are expected to last an extended period of time

Scalable Activation

ESF #9 operations will increase or decrease based on the type and nature of the emergency and the magnitude of the event. The level of activation is generally based on an event's resource or staffing requirements and the impact on the community. Table 2-2 below illustrates a scalable emergency response activation according to event type.

Emergency Situation	Example	Coordinating Department	Activation Type
Simple Event	A US&R event involving routine assistance from supporting departments.	SFFD	• Field Operations • FDOC (as necessary)
Complex Event	A large-scale US&R event that requires assistance from multiple departments, mutual aid, and/or EOC activation.	SFFD	• Field Operations • FDOC • EOC (as necessary)

Table 2-3: Scalable US&R Activation

2.6.3 Response Actions

Step 1: Conduct Initial Assessment

- Deploy units to incident site
- Establish ICS structure in the field
- Assess incident scene to determine rescue operation needs
- Prioritize immediate rescues
- Prepare site safety plan

Step 2: Activate FDOC; Provide EOC Staff

- If appropriate, activate FDOC and/or Neighborhood Emergency Response Team (NERT)
- If EOC is activated, send department representatives to staff the Fire and Rescue Branch
    - Assign US&R Unit Leader responsibilities to the most appropriate personnel (situation dependent)

Step 3: Obtain Resources

- Deploy needed SFFD resources to the scene
- Determine US&R mutual aid needs
    - San Francisco Fire and Rescue Mutual Aid Coordinator submits requests to neighboring counties (Marin, Alameda, San Mateo, Contra Costa)
    - If neighboring counties are unable to fulfill requests, notify Fire & Rescue Region II Mutual Aid Coordinator of resource needs
- Notify and request assistance from supporting departments within the City as needed

Step 4: Gather Information

If the event is catastrophic, multiple US&R operations may be needed. In this situation, FDOC and EOC US&R Unit Leader personnel will continuously gather information from the following sources:

- Response personnel in the field
- Other responding departments
- Media (via broadcast, web information, blogs, print, social media)
- State and Federal agencies, as appropriate (Department of Traffic [DOT], FEMA, etc.)
- Public and elected officials (via phone calls)
- NGOs, non-profit organizations, private sector (transportation and port companies, airports)

Step 5: Coordinate Response

- Conduct operations for rescue/removal of injured victims. This may consist of:
    - Lifting/moving heavy objects,
    - Breaching concrete or steel,
    - Trenching,
    - Searching,
    - Identification, or
    - Locating of trapped victims.
- Revise Incident Action Plan (IAP) and site safety plan as necessary
- Coordinate response operations with supporting departments as needed

Step 6: Release Public Information

- Disseminate emergency information and guidance to the public, private, and government organizations
- If activated, ensure that all public information is coordinated with the Joint Information Center (JIC)
- Initial public information may include the following:
    - Damage assessment and estimated/anticipated duration
    - Actions SFFD is taking
    - Actions businesses, industries, and residents should take
    - A summary of the event
    - Overall steps to be taken by the government and citizens to return to normal operation after the event

Step 7: Continue to Monitor, Track, and Inform

- Receive and respond to requests for information
- Serve as the point of contact for post-event damage reports
- Provide situation updates, as necessary
- Notify and consult with subject matter experts from Federal, State, regional, and local authorities as needed
- Coordinate the collection and reporting of US&R information and to the public through the SFFD Public Information Officer (PIO), DEM PIO, and/or the JIC

2.6.4 Deactivation

ESF #9 will be deactivated when the need for additional US&R coordination has diminished or ceased. Deactivation of ESF #9 may occur incrementally according to the need or lack of need for specific ESF #9 functions. ESF #9 may be deactivated or scaled back at the discretion of the FDOC, EOC Manager, or Operations Support Section Chief, as appropriate.

Section 3: Planning Assumptions

The following planning assumptions for ESF #9: Urban Search and Rescue apply:

- ESF #9 provides overall support and coordination to citywide emergency management.
- US&R personnel will potentially face extensive damage to buildings, roadways, public works, communications, and utilities. Secondary to the precipitous event, effects such as fires, explosions, flooding, and hazardous material releases may compound problems and threaten both survivors and rescue personnel.
- US&R activities may require 24-hour operations.
- During an event, resource management and coordination are initially performed at the incident command or FDOC level. When City resources have been exhausted, requests for mutual aid will be made through the CalEMA Region II Mutual Aid System.
- Multiple incidents and/or multi-operational periods may immediately necessitate mutual aid resources. These resources may be regional, State, or Federal. They are capable of providing technical, engineering, and managerial support to the incident.
- A regional emergency may adversely impact the US&R resources throughout the region.

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Appendix A: List of Abbreviations and Acronyms

The following abbreviations and acronyms are used in this annex:

ACC	Animal Care and Control
CalEMA	California Emergency Management Agency
CCSF	City and County of San Francisco
DEM	Department of Emergency Management
DOT	Department of Traffic
DPH	Department of Public Health
DPW	Department of Public Works
EOC	Emergency Operations Center
ESF	Emergency Support Function
FDOC	Fire Departmental Operations Center
FEMA	Federal Emergency Management Agency
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
JIC	Joint Information Center
MTA	Municipal Transit Authority
NERT	Neighborhood Emergency Response Team
OCME	Office of the Chief Medical Examiner
OES	Office of Emergency Services
PG&E	Pacific Gas and Electric
PIO	Public Information Officer
PUC	Public Utilities Commission
RECP	Regional Emergency Coordination Plan
SCBA	Self-Contained Breathing Apparatus
SEMS	Standardized Emergency Management System
SFFD	San Francisco Fire Department
SFPD	San Francisco Police Department
SFSD	San Francisco Sheriffs Department
UC	Unified Command
US&R	Urban Search and Rescue

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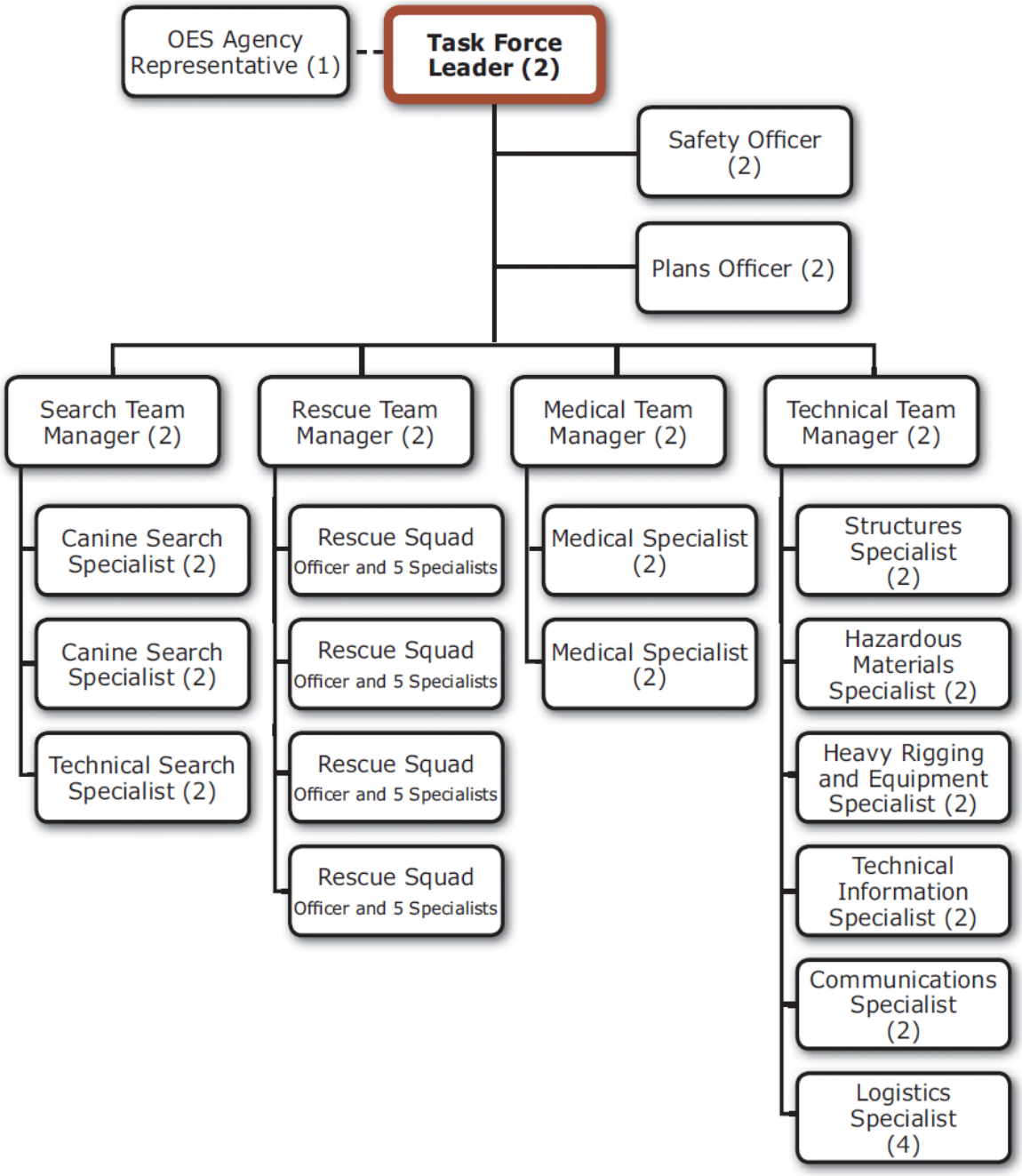
Appendix B: California US&R Task Force Organizational Chart



Source: RECP Fire and Rescue Subsidiary Plan

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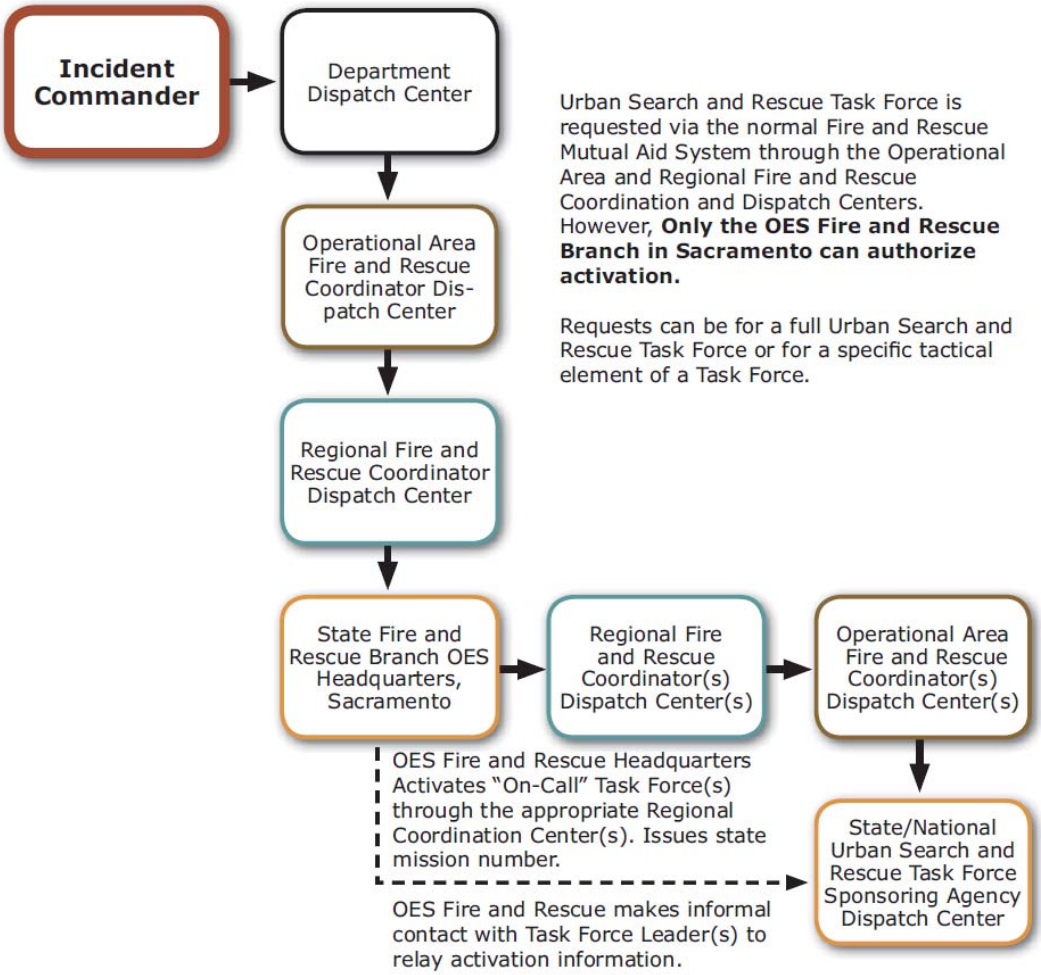
Appendix C: Procedures for Ordering State US&R Task Forces



Resource Ordering and Request Information

- Type and nature of incident or potential situation.
- Number and type of Urban Search and Rescue resource(s) requested.
  (Full Task Force or specialized elements.)
  (OES will indicate requested task force(s) by agency name and task force number.)
- Requesting agency (order and request number if applicable).
- State mission number.
- Reporting location.

Source: RECP Fire and Rescue Subsidiary Plan*

Note: Since the original publish date of the RECP, the Office of Emergency Services (OES) Fire and Rescue has been changed to the "CalEMA Fire and Rescue Branch"

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Appendix D: US&R Resources

D.1 Resource Types

Always use the prefix US&R for Urban Search and Rescue (US&R) Resources. Order Single Resource or Strike Team by Type (Capability – HEAVY, MEDIUM, LIGHT, OR BASIC)				
	Type 1 (Heavy)	Type 2 (Medium)	Type 3 (Light)	Type 4 (Basic)
Type	• Heavy Floor Construction • Pre-cast Concrete Construction • Steel Frame Construction • High Angle Rope Rescue (including highline systems) • Confined Space Rescue (permit required) • Mass Transportation Rescue	• Heavy Wall Construction • High Angle Rope Rescue (not including highline systems) • Confined Space Rescue (no permit required) • Trench and Excavation Rescue	• Light Frame Construction • Low Angle Rope Rescue	• Surface Rescue • Non-Structural Entrapment in Non-Collapsed Structures

RESOURCE	RADIO	COMPONENT	TYPES			
			1	2	3	4
US&R Company	Agency Identifier USAR (phonetic) Number Identifier (*VNC USAR 54*)	Equipment Personnel Transportation	Heavy Inventory 6 *	Medium Inventory 6 *	Light Inventory 3 *	Basic Inventory 3 *
US&R Crew **	Agency Identifier Type Identifier Number Identifier (*KRN-USAR Crew 2*)	Personnel Trained To Appropriate Level Supervision Transportation	6	6	3	3
Regional US&R Task Force	Region Identifier Task Force Number Identifier (*R1-TF 1*)	Equipment Personnel Transportation	A Regional US&R Task Force is comprised of 29 persons specially trained and equipped for US&R Operations. Personnel from either the Region or Operational Area staff the Regional US&R Task Force.			
State/National US&R Task Force	State ID Task Force Number Identifier (*CA-TF 5*)	Equipment Personnel Transportation	A State/National US&R Task Force is comprised of 70 persons specially trained and equipped for large or complex US&R Operations. The multi-disciplinary organization provides seven functional elements that include Command, Search, Rescue, Haz-Mat, Medical, Logistics and Plans. These Task Forces are self sufficient for 72 hours.			

*Requests should include vehicle capabilities when necessary (i.e., four wheel drive, off-road truck, etc.)
**The agency/department sending the US&R Crew will identify the Supervisor.

Source: ICS 420-1 Course Materials, July 2007

D.2 Strike Team Types and Minimum Standards

	Strike Team Types	Number/Type	Minimum Task Capabilities	Strike Team Leader	Per Single Resource	Total Personnel
Kind U S & R C O M P A N Y	AR	2 – Type 1 (Heavy)	Vehicle(s) equipped for Heavy Floor Construction, Pre-Cast Concrete Construction, Steel Frame Construction, high angle rope rescue (including highline systems), confined space rescue (permit required), and mass transportation rescue	1	6	13
	BR	2- Type 2 (Medium)	Vehicle(s) equipped for Heavy Wall Construction, high angle rope rescue (not including highline systems), confined space (no permit required), and trench and excavation rescue	1	6	13
	CR	5 – Type 3 (Light)	Vehicle(s) equipped for Light Frame Construction and low angle rope rescue	1	3	16
	DR	5 – Type 4 (Basic)	Vehicle(s) equipped for surface rescue and non-structural entrapment in non-collapsed structure	1	3	16
Kind U S & R C R E W	GR	2 – Type 1 (Heavy)	Trained for Heavy Floor Construction, Pre-Cast Concrete Construction, Steel Frame Construction, high angle rope rescue (including highline systems), confined space rescue (permit required), and mass transportation rescue	1	6	13
	HR	2 – Type 2 (Medium)	Trained for Heavy Wall Construction, high angle rope rescue (not including highline systems), confined space (no permit required) and trench and excavation rescue	1	6	13
	IR	5 – Type 3 (Light)	Trained for Light Frame Construction and low angle rope rescue	1	3	16
	JR	5 – Type 4 (Basic)	Trained for surface rescue and non-structural entrapment in non-collapsed structures	1	3	16

R = Urban Search and Rescue Resource

Source: ICS 420-1 Course Materials, July 2007

D.3 Search Team Types

Search element qualifications and equipment are equivalent on all Canine Types. The differentiating factor is based on the training and certification levels of the canine component. Canine Search Teams will have met all of the capabilities of the preceding types.

RESOURCE	RADIO	COMPONENT	TYPES			
			1	2	3	4
US&R Canine Search Team	Canine Search Team Number identifier (*Canine Search Team 1*)	Personnel (2) Canine (2) Search Team Manager (1)	• Detections in largest search areas • Detection ability amidst numerous distractions	• Detection in limited sized areas • All general construction categories • Extensive obstacle agility	• Light Frame Construction • Confined areas	• Surface Rescue • Non-structural entrapment in non-collapsed structures • Obstacle agility
US&R Technical Search Team	Technical Search Team Number identifier (*Tech Search Team 1*)	Personnel (2)	• Audible and optical search equipment to conduct technical search			

Source: ICS 420-1 Course Materials, July 2007

TECHNICAL SEARCH TEAM

Kind	Type	Technical Search Strike Team Capability	Strike Team Leader	Technical Search Team	Total Personnel
AT	1	Detection of victims entombed in collapsed or failed structures and environmental mishap with Technical Search equipment	1	2	3

SEARCH TASK FORCE

Resource	Radio Designation	Components	Capabilities	Total Personnel
Search Task Force	Search Task Force	1 – Search Team Manager 1 – Technical Search Team 1 – Canine Search Team	Detection of victims entombed in collapsed or failed structures and environmental mishap with canines and Technical Search equipment.	5

Source: ICS 420-1 Course Materials, July 2007

URBAN SEARCH AND RESCUE CANINE SEARCH TEAMS

Search element qualifications and equipment are equivalent on all Canine Types. The differentiating factor is based on the training and certification levels of the canine component. Canine Search Teams will have met all of the capabilities of the preceding types.				
Resource	Type 1	Type 2	Type 3	Type 4
US&R Canine	• Detections in largest search areas • Detection ability amidst numerous distractions	• Detection in limited sized areas • All general construction categories • Extensive obstacle agility	• Light Frame Construction • Confined areas	• Surface rescues • Non-structural entrapment in non-collapsed structures • Obstacle agility

OES LAW ENFORCEMENT CANINE RECOVERY TEAMS

Search element qualifications and equipment are equivalent on all Canine Types. The differentiating factor is based on the training and certification levels of the canine component. Canine Search Teams will have met all of the capabilities of the preceding types.			
Resource	Type 1 Cadaver Basic	Type 2 Live or Deceased	Type 3 Water
Law Enforcement Canine	• Body above ground • Sub-surface disarticulated • Hanging • Simple structure	• Body above ground • Hanging • Live person, must be area certified • Status of subject unknown	• Submerged • Floating • Shoreline

Source: ICS 420-1 Course Materials, July 2007

D.4 Heavy Equipment Resource Typing

RESOURCE	COMPONENT	TYPE			
		Type 1	Type 2	Type 3	Type 4
Hydraulic Truck Crane	Rating (Tons) Radius (Feet)	100 ton+ Up to 275 feet	50-100 ton Up to 200 feet	Up to 50 ton Up to 150 feet	
Hydraulic Rough Terrain Crane	Rating (Tons) Radius (Feet)	Up to 50 ton Up to 100 feet			
Conventional Truck Crane	Rating (Tons) Radius (Feet)	150 ton+ Up to 300 feet	75-150 ton Up to 250 feet	Up to 75 ton Up to 150 feet	
Conventional Crawler Crane	Rating (Tons) Radius (Feet)	350 ton+ Up to 350+ feet	100-350 ton Up to 275 feet	Up to 100 ton Up to 160 feet	
Excavator Crawler	Rating (Lbs.) Reach	80k lbs.+ Up to 70 feet	40-80k lbs. Up to 50 feet	Up to 40k lbs. Up to 40 feet	Mini
Loader Rubber Tire	Rating (Cubic Yards)	5 cubic yards	3-5 cubic yards	1-3 cubic yards	Backhoe Skid Steer Mini
Forklift Conventional	Rating (Tons)	25 ton+	10-25 ton	5-10 ton	
Forklift All-Terrain Extendable	Rating (Lbs.)	3-6 tons (6-12k lbs.)			

Source: ICS 420-1 Course Materials, July 2007