

***FEMA National US&R Response System***

---

***Structural Systems Awareness Training***



**FEMA**

**Structural Systems  
Awareness Training**

**Jun04**

*FEMA National US&R Response System*

---

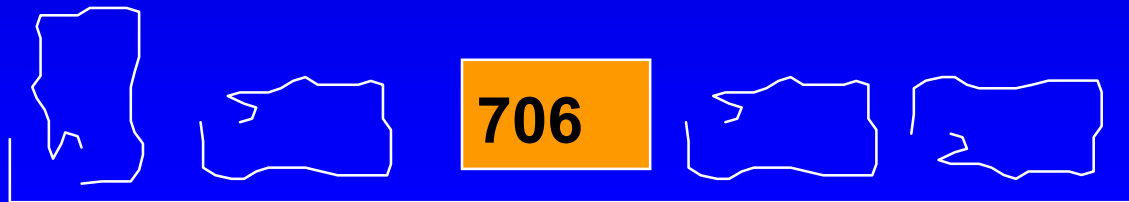
*Structural Systems Awareness Training*

# ***US&R MARKING SYSTEM***

# I. D. by Street & Number

- Case 1 - If some numbers are known, fill in

702 704 708 710

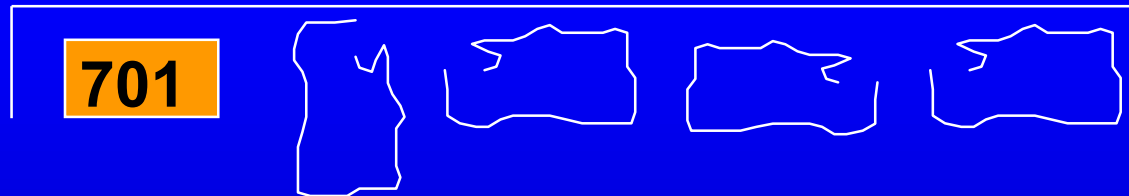


600

700 Block Alpha Street

800

701

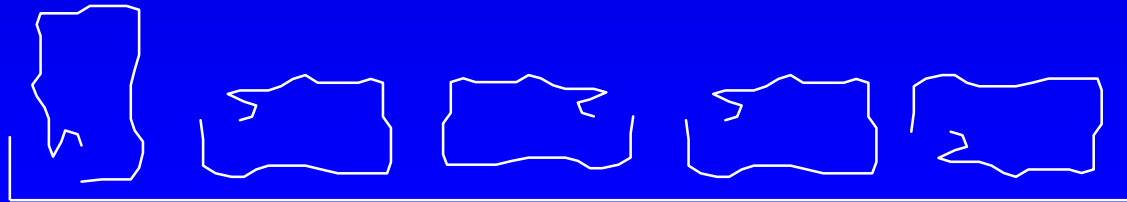


703 705 707 709

# I. D. by Street & Number

- Case 2 - No numbers known, use low no's

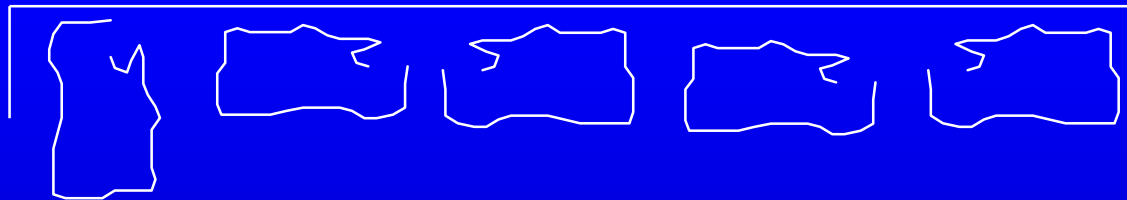
900 902 904 906 908



800

900 Block Alpha Street

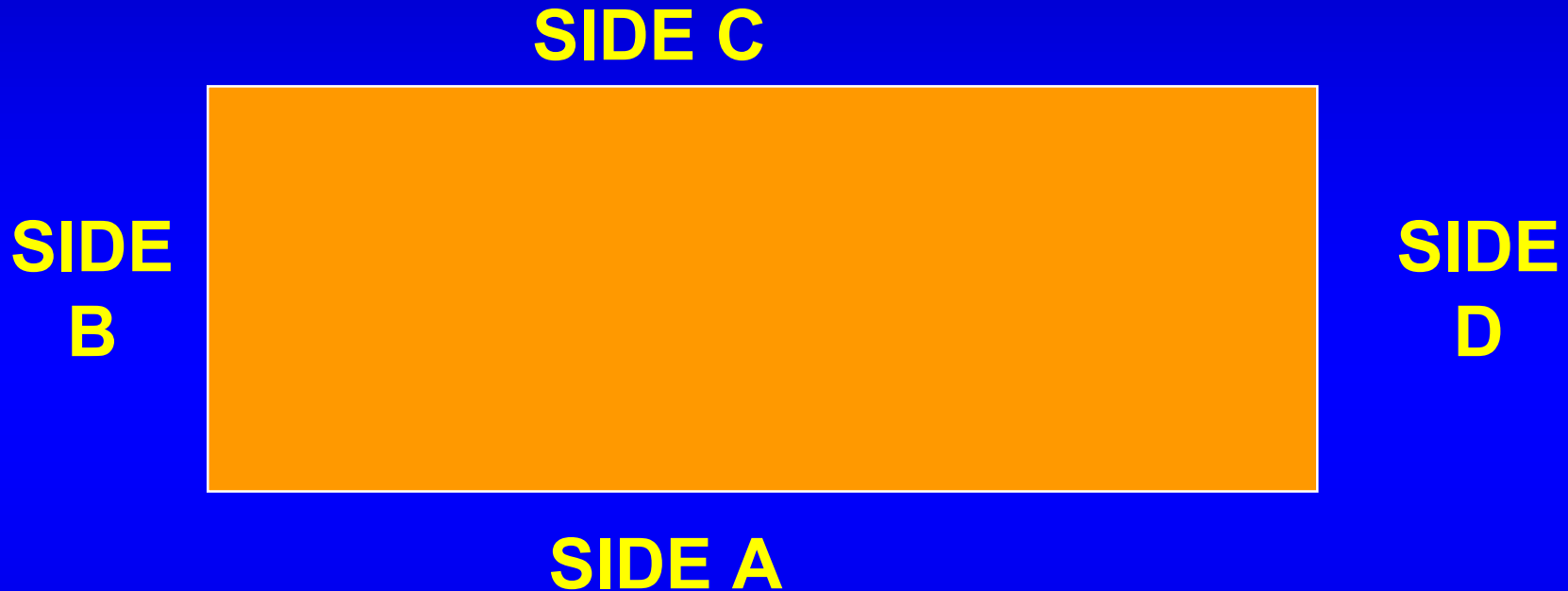
1000



901 903 905 907 909

# Sides Of Structure

- If more than one side, use more letters



---

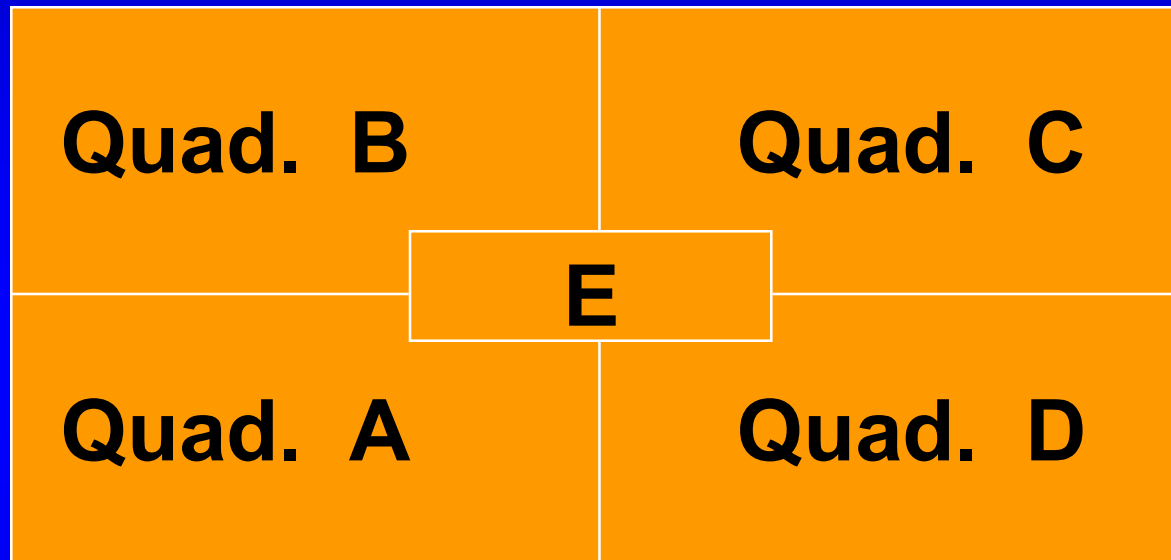
**700 Block Alpha Street**

---

Some US&R folks, may be using 1. 2. 3. 4, etc. for sides

# Quadrants within Structure

- Also use and **MARK** column grid



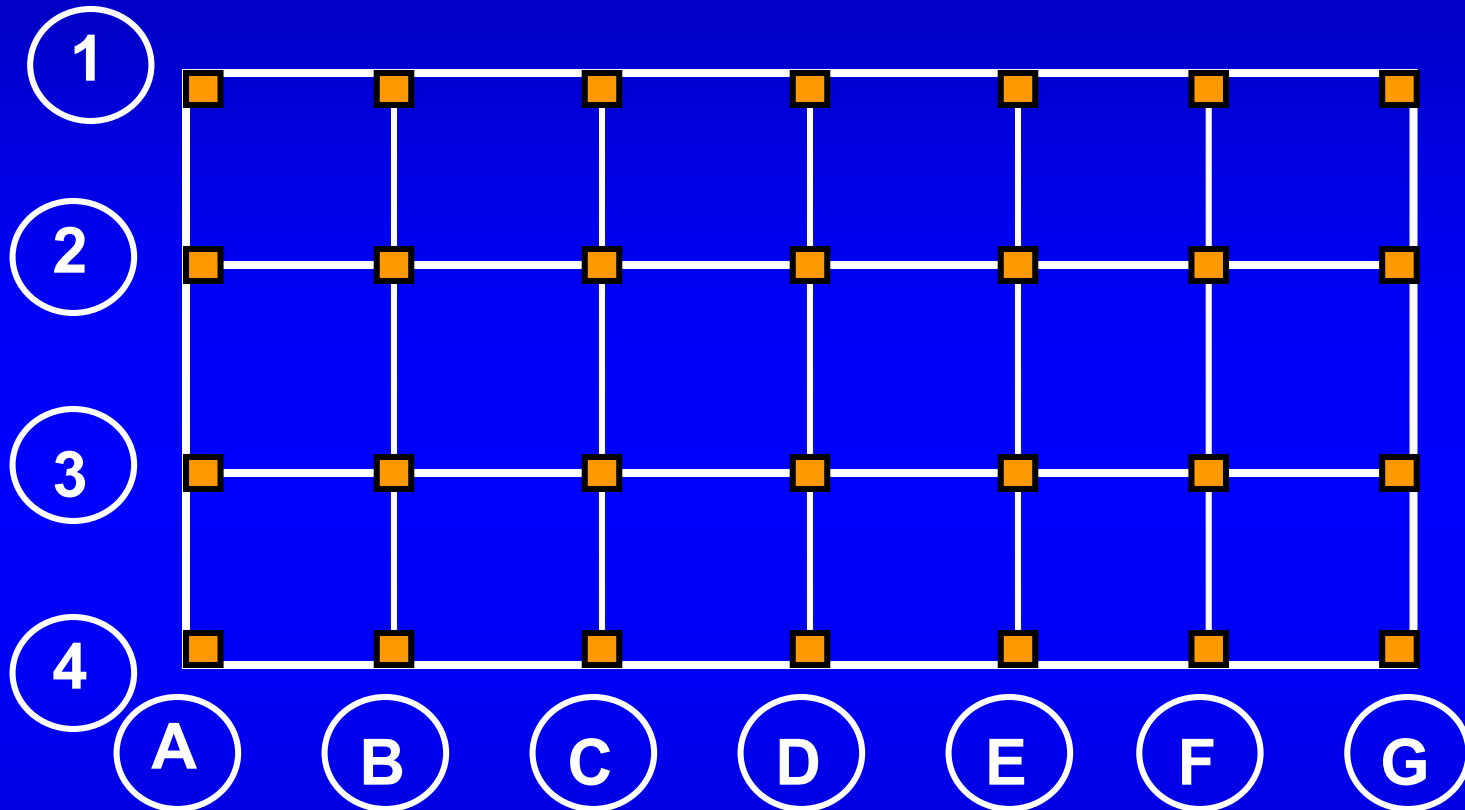
---

**700 Block Alpha Street**

---

# Column Grid Layout

- Use existing column grid - If Known



---

700 Block Alpha Street

---

# Multi - Story Structures

- **Ground Floor is 1**
  - Second is 2
  - Third is 3, etc.
- **First Floor below grade is B-1**
  - Second is B-2, etc.



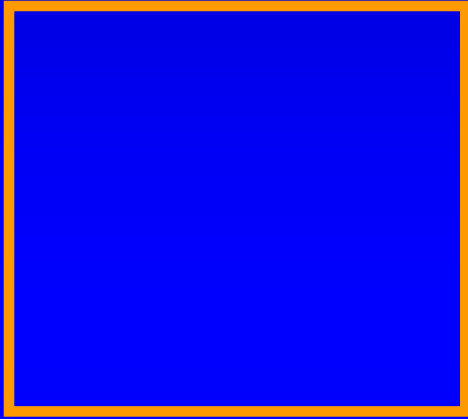
# ***BUILDING MARKING SYSTEM***

**Structure / Hazards  
Evaluation & Marking**

# Structure / Hazards Mark

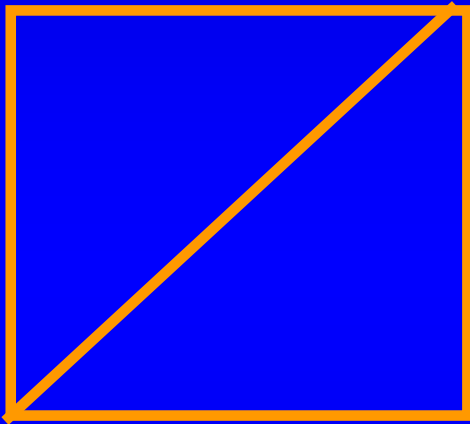
- Struct & Hazmat Spec make a 2' x 2' box on building adjacent to accessible entry.
- **Done after doing Hazards Assessment and filling out Structure / Hazards Evaluation.**
- Box is spray painted with using International Orange (in TF Cache)

# Structure / Hazards Mark



- **Structure relatively safe for S&R ops. There is little chance of further Collapse.**
  - **Victims could be trapped by contents**
  - **or could be unconscious**

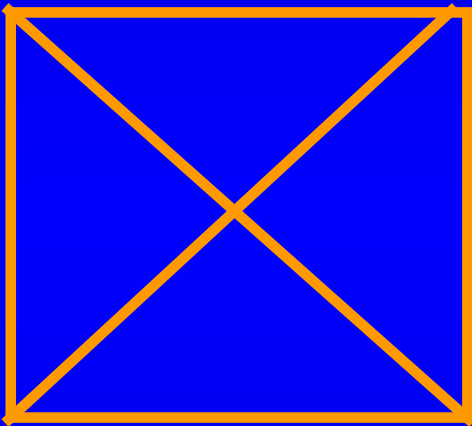
# Structure / Hazards Mark



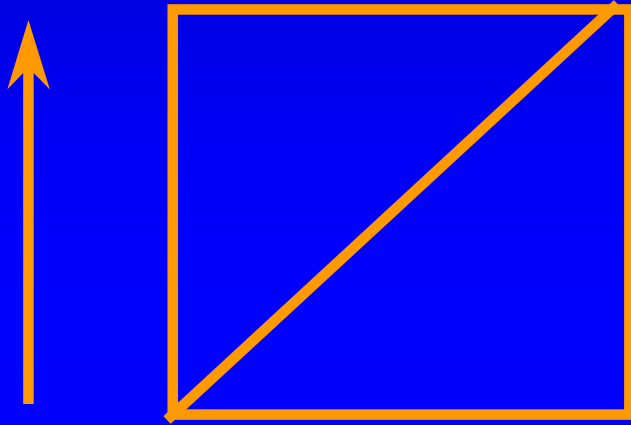
- **Structure is Significantly Damaged.** Some areas may be relatively safe, but others may need shoring, bracing, removal, and/or monitoring of hazards
  - Building could be completely pancaked

# Structure / Hazards Mark

- Structure is NOT SAFE for Rescue Ops and may be subject to Sudden Collapse.
- **Remote search Ops may proceed at significant risk.**
- If rescue Ops are undertaken, Safe Haven areas, & rapid evacuation routes (with Structure Monitoring) **Should be Created.**

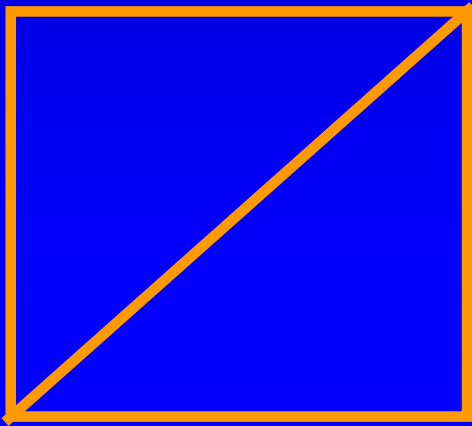


# Structure / Hazards Mark



- **Arrow next to Marking Box indicates the direction of Safest Entry to Structure**

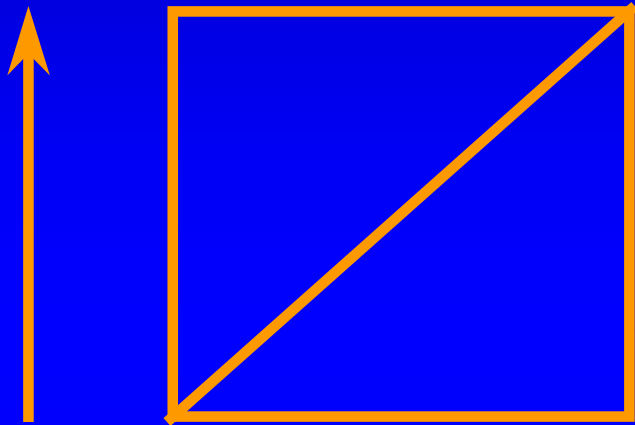
# Structure / Hazards Mark



**HM**

- HM indicates hazardous material condition in or adjacent to structure.
- **S&R Ops normally will not be allowed until condition is better defined or eliminated.**

# Structure / Hazards Mark Summary



15JUN92

HM NATURAL GAS

OR-1

**No entry until gas is turned off. When it's mitigated, should line out the HM mark and record new date and TF**



***BUILDING MARKING  
SYSTEM***

**SEARCH ASSESSMENT  
MARKING**

# Search Assessment Mark

2' x 2' X near each entry

TF indicator, date & OR-1  
time of entry → 2-10-04

Crossing slash is made as TF exits and then other info is added

First slash is made when entering

*Always Go Right and Stay Right*

Exit

2-10-04  
1400

2-10-04  
1100

RATS

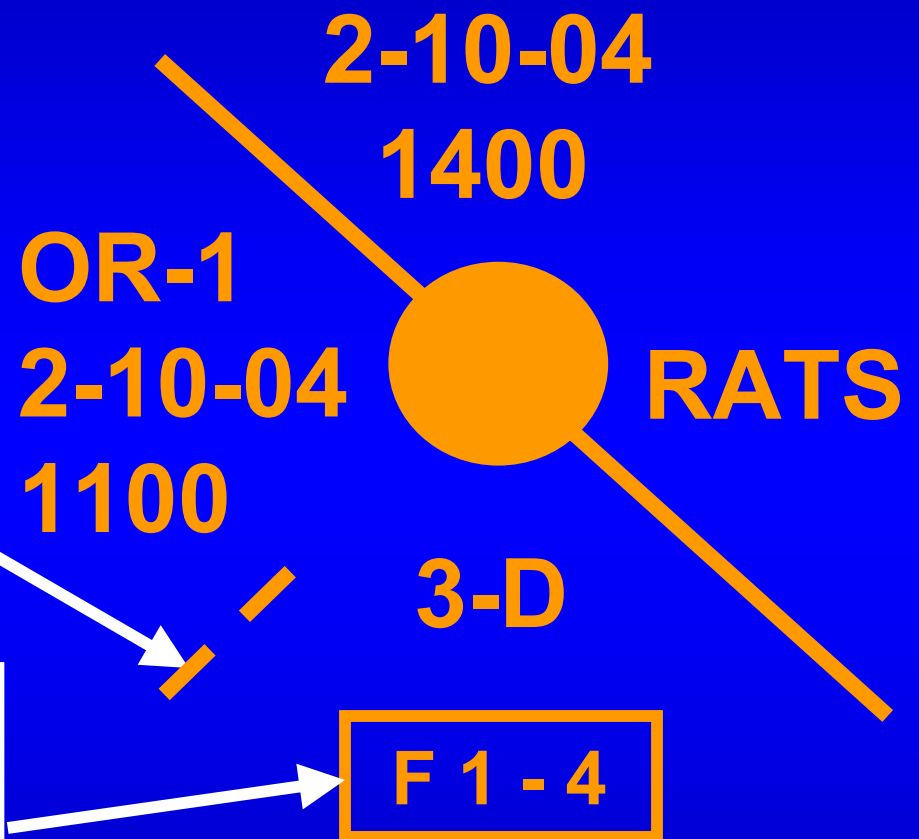
1-L  
3-D

# Search Assessment Mark

## Modified Mark for Incomplete Search

If TF exits w/o completing search, crossing slash is not made, but filled circle is added

Indicates Floors or Quadrants Completed  
F = Floors Q = Quads



# ***BUILDING MARKING SYSTEM***

## **VICTIM LOCATION MARKING**

# Victim Location Marking

Distance to  
Victim, if Req'd

6'

CA 6

Potential  
Victim

Number if  
more than 1

CA 6

2

Confirmed  
Live Victim(s)

CA 6

2

Removed  
Victim(s)

CA 6

2

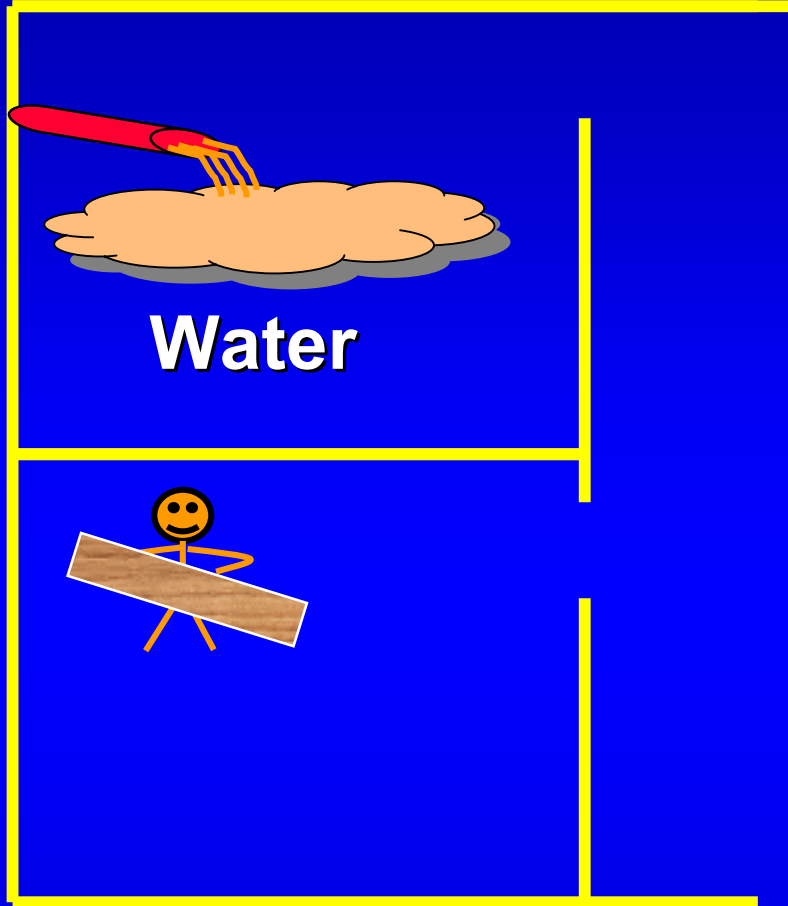
Confirmed  
Deceased

# ***BUILDING MARKING SYSTEM***

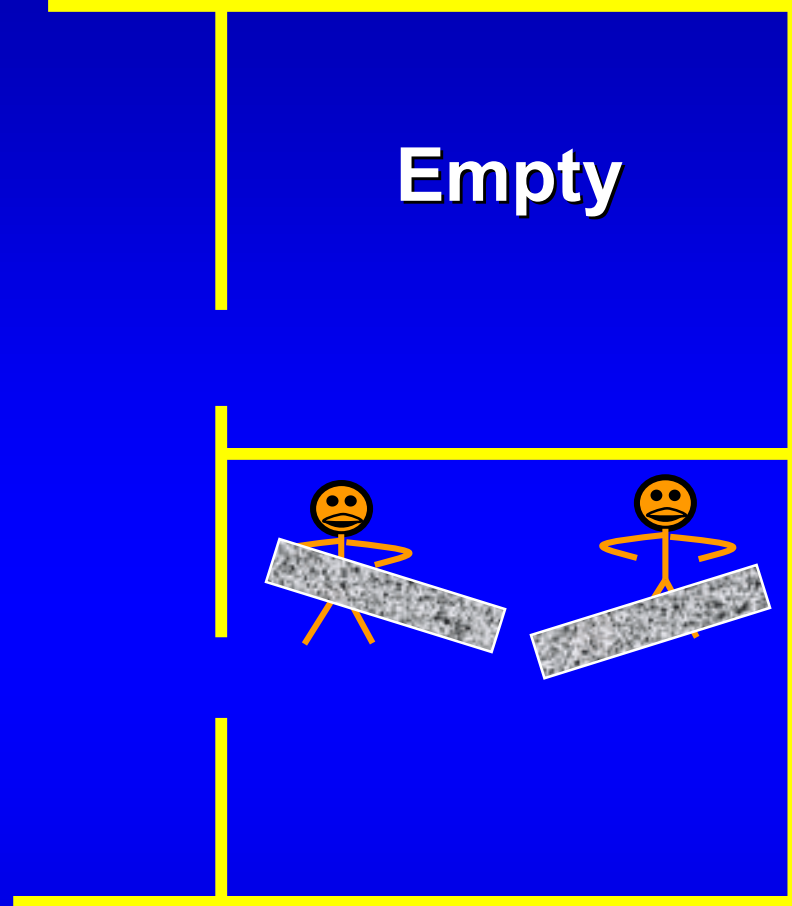
**SEARCH ASSESSMENT &  
VICTIM MARKING**

**EXAMPLE**

Exit

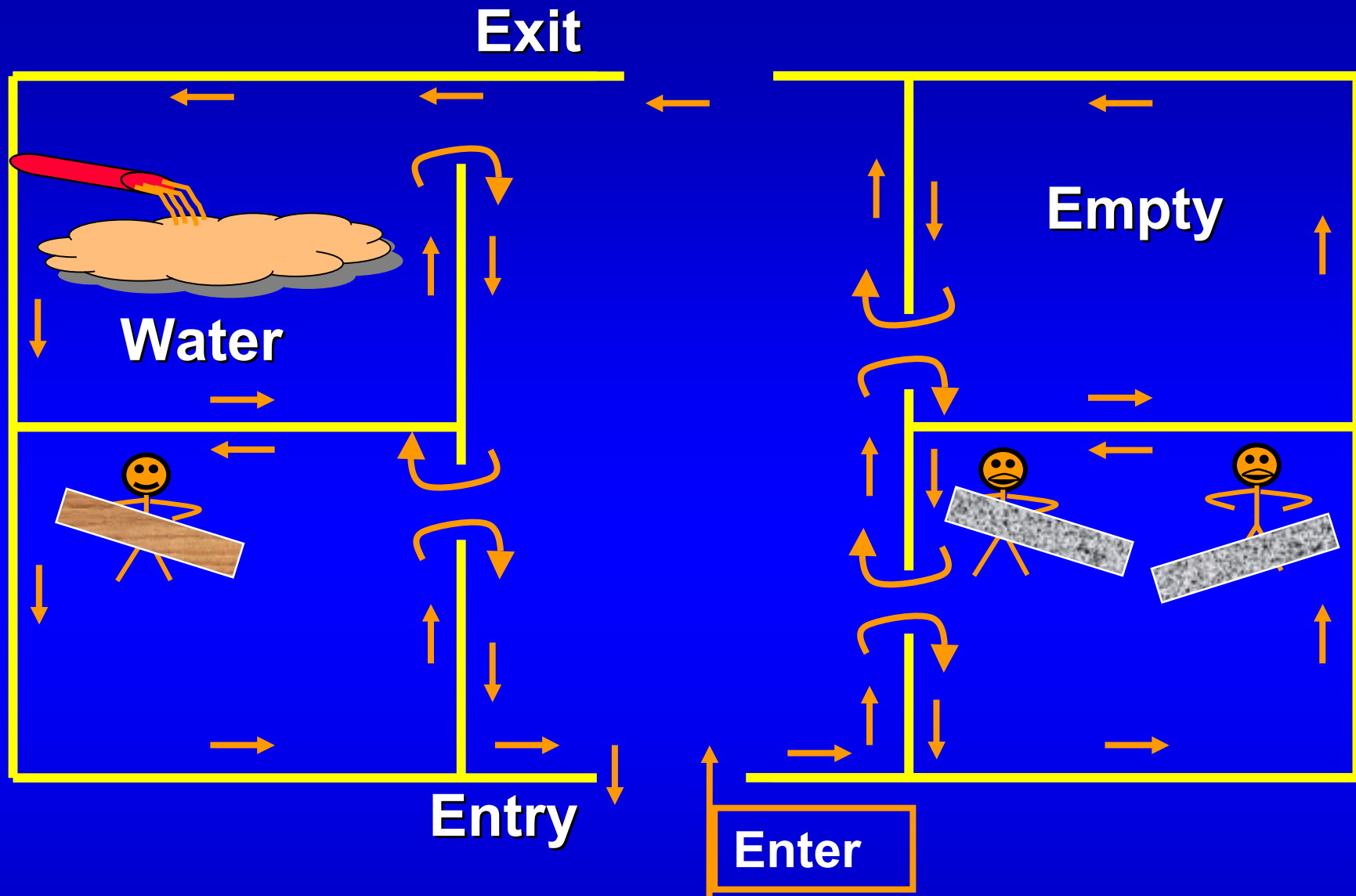


Water



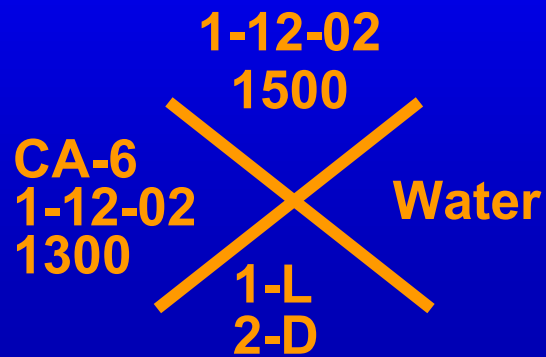
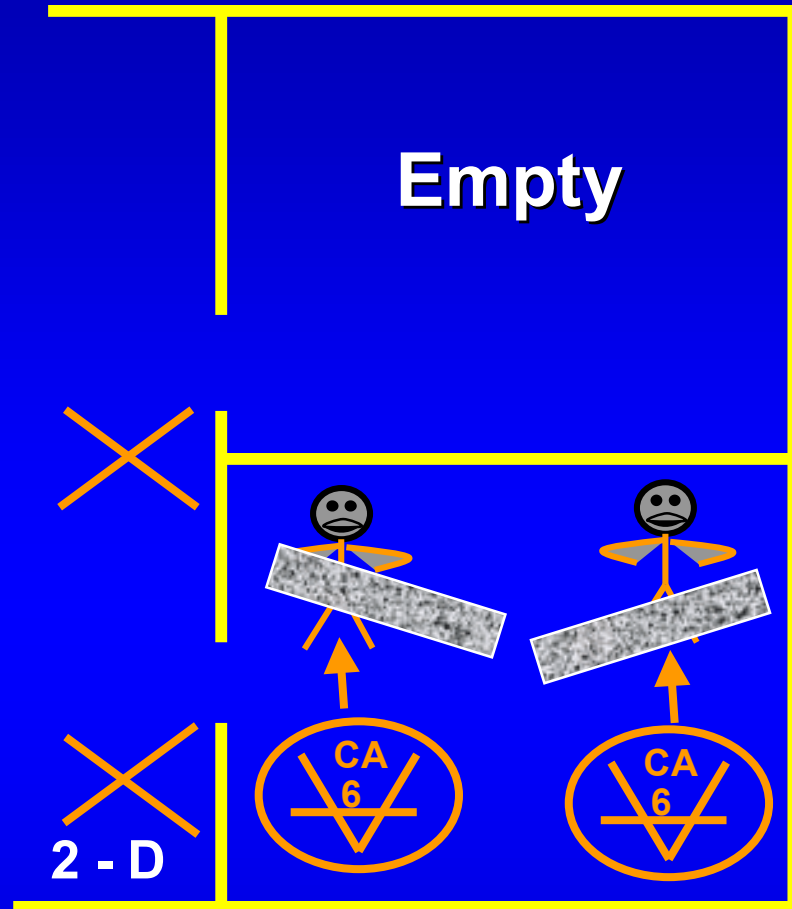
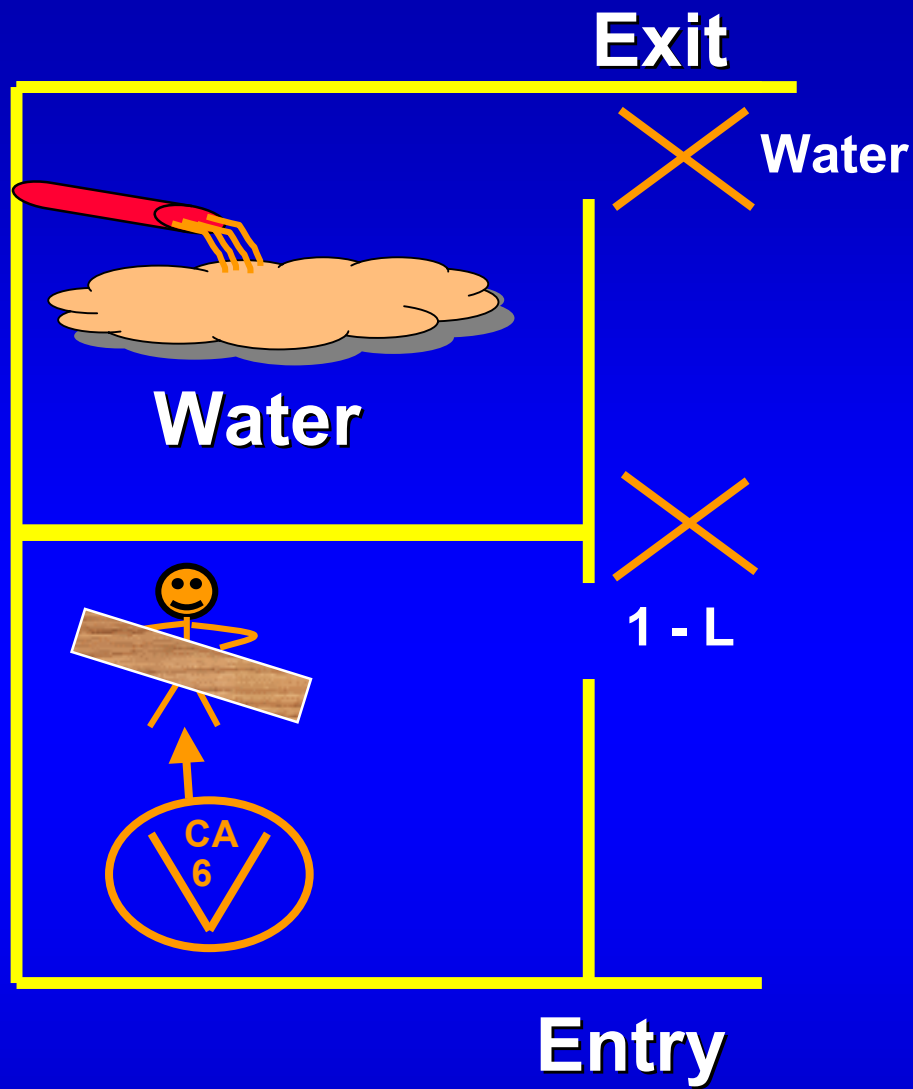
Empty

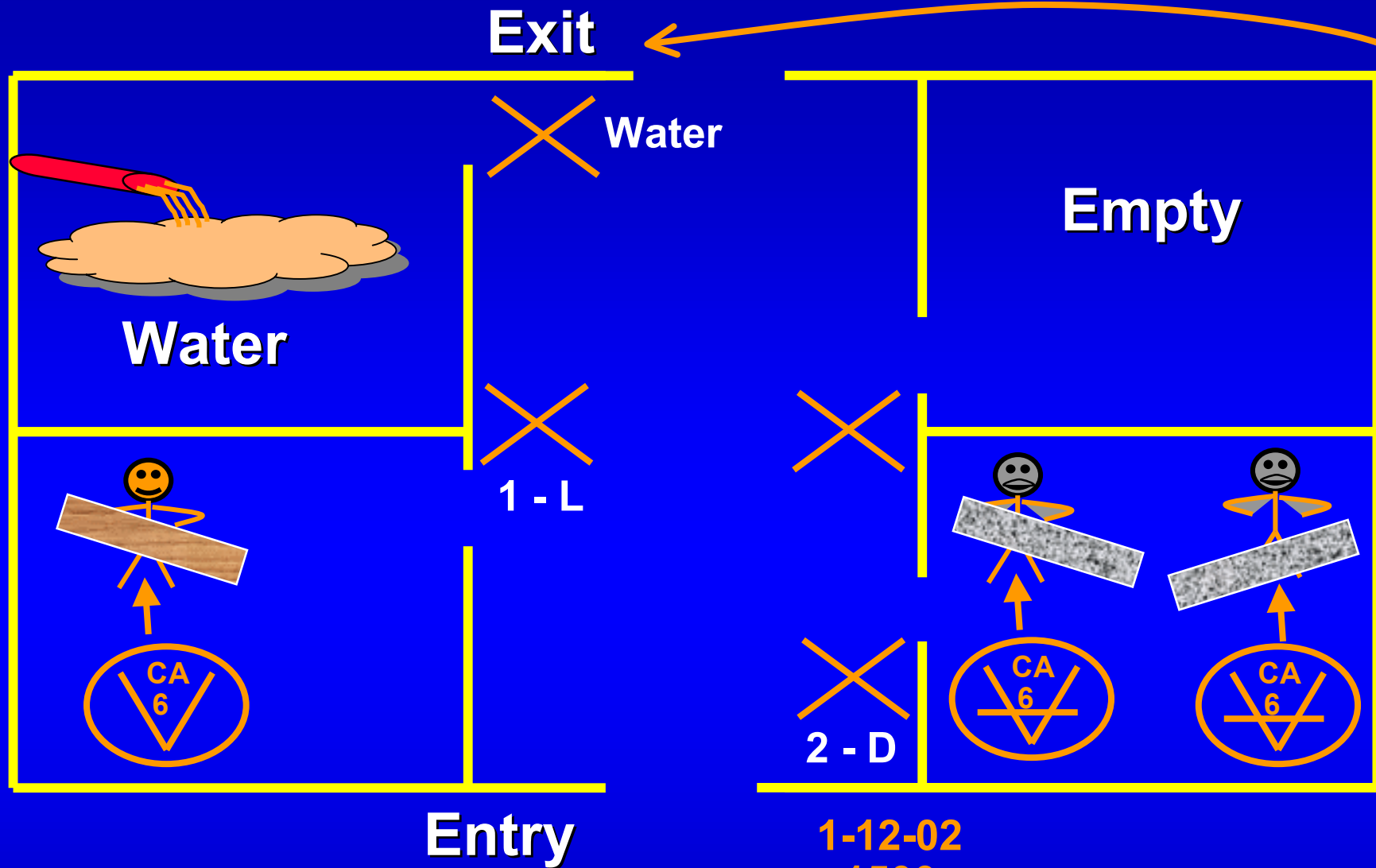
Entry



***Always Go Right and Stay Right***







# ***INSARAG MARKING SYSTEM***

***(International Search &  
Rescue Advisory Group)***

**STRUCTURE  
ASSESSMENT/SEARCH  
MARKING + OTHER  
MARKING**

# Structure Assessment/Search Mark

1m x 1m box  
near entry  
Made when  
entering

## HAZARD INFO

Go or NoGo

## TEAM

Date/Time Start

Date/Time End

# Live  
Removed

# Dead  
Removed

Persons Unaccounted for  
Location of other Victims

**Encircling mark  
made as operations cease**

# Structure Assessment/Search Mark

**Box made  
when entering**



**Encircling mark  
made as operations cease**

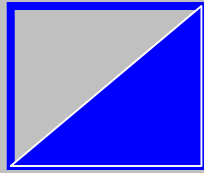
**ICS & Other**

**MAP DISPLAY**

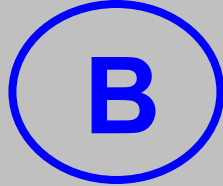
**SYMBOLOLOGY**

# ICS Base Map Symbols

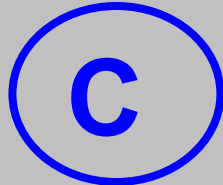
Preferred color is blue



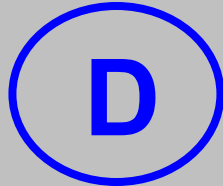
- Incident Command Post



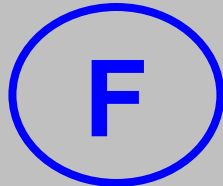
- Incident Base



- Camp



- Decon Area



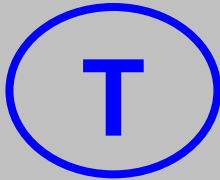
- Fire Station



- Helibase

# ICS Base Map Symbols (cont)

Preferred color is blue



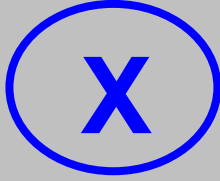
- Telephone



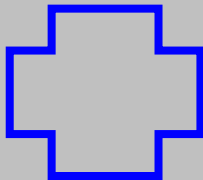
- Repeater/Mobile Relay



- Staging Area (I.D. by name)



- Mobile Weather Station



- First Aid Station



- Drop Point



# INSARAG Map Symbols

**EOC**

- **EOC**

**BoO**

- **Base of Operations**

**WS**

- **Work Site**

**AP**

- **Airport**

**LZ**

- **Landing Zone**

# INSARAG Map Symbols (cont.)



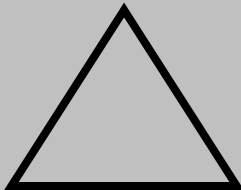
- Hospital (changed from H due to conflict w/Heliport)

**GASES**

- Hazards



- Fuel



- Reference point/landmark

**See Manual for other common Drawing Symbols**

# Proposed Shoring Symbols

**T**

- Tee Shore

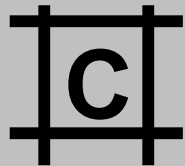
**V-3**



- Vertical Shore (V-3 = 3 Posts)



- Laced Post



- Cribbing



- Raker
  - One triangle for each Raker
  - Place vertical line against wall face
  - Normally use two Rakers minimum

# ***DISASTER SITE AUDIO SIGNAL/ALERTING***

**(Use Air horn or / Loud Whistle)**

- **Cease Operations/All Quiet**
  - 1 long blast = STOP
- **Evacuate the Area**
  - 3 short blasts = OUT, OUT, OUT
- **Resume Operations**
  - 1 long & 1 short blast = Oh. K.

# RESCUE SITE SET UP

- OPERATIONS AREA SHOULD BE SECURE

