



# Tactical Tunnel Considerations

Asymmetric Warfare Group

2282 Morrison St. Ft. Meade, MD 20755-5355  
SIPR: <https://portal.awg.army.smil.mil>  
NIPR: <https://newportal.awg.army.mil>  
Email: [usarmy.meade.tradoc.mbx.usarmy-ft-meade-tradoc-list-awg-opcen@mail.mil](mailto:usarmy.meade.tradoc.mbx.usarmy-ft-meade-tradoc-list-awg-opcen@mail.mil)

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## Obstacles, Hazards, Denial Tactics

All tunnels are connected to the surface.

Tunnel entrances within a building may be concealed by false floor panels or false walls.

Tunnel entrances outside may be concealed by trap doors and vegetation.

Camouflaged fighting positions may be connected by tunnels. Check for trap doors when inspecting positions used by the adversary.

Tunnels may have vent shafts that may be visible to the trained eye. Vent shafts may be concealed by vegetation or in some cases may consist of hollowed out vegetation such as bamboo.

Power cables going into the ground for no obvious reason may be an indicator of a tunnel.

Signs of construction may give away a tunnel's presence. Look for loose dirt that does not match the surrounding.

## Tunneling Overview

*Throughout history, different cultures have used tunnels for many purposes. In its most basic form, a tunnel is an enclosed underground passageway, except for entrance and exit points commonly contained at each end. A tunnel may be used for foot, vehicular, or rail traffic or for a canal. Tunnels can be built for military purposes or for smuggling and trafficking weapons, contraband, or people.*

**Specific considerations should be made during IPB / IPOE to determine if a tunneling threat exists in your AOR and for what purpose.**

### Resources

SbT Operations & Training, Attack the Network, CoIST, Tactical Questioning, WMD-E, Individual Soldier Technologies:

Contact AWG at

[usarmy.meade.tradoc.mbx.usarmy-ft-meade-tradoc-list-awg-opcen@mail.mil](mailto:usarmy.meade.tradoc.mbx.usarmy-ft-meade-tradoc-list-awg-opcen@mail.mil)

Tunnel Detection Technologies:

Contact JIEDDO at

[JIEDDO\\_SUPPORT@JIEDDO.MIL](mailto:JIEDDO_SUPPORT@JIEDDO.MIL)

## Think METT-TC

### Do we have Situational Awareness?

**Mission:** What is the primary mission objective? Is there a need to enter the tunnel and what is the tactical advantage?

**Enemy:** Is the enemy known to use tunnels in the area? Is there enemy activity in vicinity of the tunnel? What advantage does the enemy maintain by using the tunnel?

**Terrain and Weather:** Is the tunnel reinforced? What is the direction of airflow at the entrance of the tunnel? Are there indicators of electrical conduits in the tunnel?

**Troops and Support Available:** Are we configured to fight in confined spaces? Are enablers available?

**Time Available:** Does the mission require us to enter and clear the tunnel now? Can we isolate and bypass? How long will it take to call forward equipment and enabler support?

**Civil Considerations:** Are civilians nearby that can answer questions? Will civilian(s) escort the clearing team into the tunnel? Can the civilians describe/explain what the tunnel is used for and identify alternate entry or exit points?

## Effects on Military Operations

### Loss of capabilities underground include:

- **Wireless communication:** Consider alternatives such as hard wire communications, repeater stations, and couriers.
- **Visibility:** Night vision goggles require at least some light to work. With no existing light, IR lights must be used. Ensure Soldiers have enough extra batteries to support sustained IR light use. The need for a protective mask may further limit visibility. Remember white lights will make you visible to the adversary!
- **Navigation:** GPS systems will not work underground! Soldiers must rely on other methods to determine location underground. In shallow tunnels, a compass may work. Laser rangefinders are an option for measuring distance.
- **Mobility:** Tunnels may vary in size. Soldiers may need to reduce the amount of gear they wear into a tunnel to maintain a reasonable amount of mobility. You can only carry so much so choose wisely.

### Exaggerated effects underground include:

- **Weapons firing:** The overpressure from firing weapons will be significantly greater in the confined space of a tunnel compared to firing on the surface. Weapons firing will also impact air quality.
- **Noise:** Any noise will be greatly amplified underground. Any action that generates noise may alert an adversary, who is farther in the tunnel, to your presence. The effect of weapons fire may cause much greater hearing loss underground compared to on the surface.

### Physiology and Psychology impacts include:

- **Air quality:** Air quality is affected by everything you do and must be constantly monitored. Make sure your air quality monitor will not alert the adversary of your presence if it alarms! Protective masks will not help you in a low oxygen environment!
- **Claustrophobia:** Claustrophobia may occur with personnel with anxieties associated with small, dark, and confined spaces. Critters commonly found underground such as snakes, rats, and insects may make this anxiety worse. Leaders should know if claustrophobia is a problem for their soldiers before they send them underground!

# Subterranean Structure Classification

## Level 1 (Tunnels and Natural Cavities)



**1A: Rudimentary Tunnels**



**1B: Sophisticated Tunnels**

- One person wide and suitable to local national height – limits throughput
- Limited fields of fire, restricted to length of tunnel
- Rely on booby traps to deny or slow movement
- Little to no deliberate cover, rely on shape of tunnel and OPSEC
- Characteristics: Tunnel intersections and entrances

- Varies in size from one person wide to able to support small vehicle movement
- Design supports deliberate and interlocking fields of fire at key terrain and to prevent incursion
- Characteristics: Tunnel intersections and entrances, life support infrastructure, limited blast protection, entrance denial and descent and ascent mechanisms

### Additional Indicators

Trails / roads leading to nowhere  
Air vents  
Spoil (dirt) piles

Digging equipment, incl wheel barrows  
Enemy disappearing and reappearing elsewhere

## Level 2 (Urban)



**2A: Basements**

- Varies in size from one person wide to able to support small vehicle movement
- Design supports deliberate and interlocking fields of fire at key terrain and to prevent incursion
- Characteristics: Tunnel intersections and entrances, life support infrastructure, limited blast protection, entrance denial and descent/ascent mechanisms



**2B: Civil works (Sewers, Subways, & Aqueducts)**

- Infrastructure systems with current or abandoned population centers
- Used by state and non-state actors
- May possess ingress and egress points
- Can support clandestine movement of personnel and materiel
- Increased environmental hazards may be present

### Additional Indicators

Vent pipes  
Power lines leading underground  
Small buildings

Filtration systems  
Forced air system  
Current construction efforts

## Level 3 (Underground Facilities)

3A: Shallow Underground Facility 3B: Deep Underground Facility

### Accessibility Levels



**Level 1**

Requires simple or no breaching tools



**Level 2**

Requires ballistic or explosive breaching



**Level 3**

Requires cutting and/or extrication tools



**Level 4**

Requires SOF or Heavy Engineer support

## SALUTE

What do I need to report?

## Equipment/Support Options

Do I need to enter the tunnel?

### Robot Augmentation

Consider a small wheeled or tracked robot for recon

### Unit/Individual Standard Equipment

Thermal imager  
IR flashlights  
Weapon-mounted tactical lights  
Marking devices (tape, IR chemlights, etc.)  
Pace cord  
Sketch materiel  
Laser range finder  
Compass  
TA-312 w/ wire

### Non-Standard Equipment

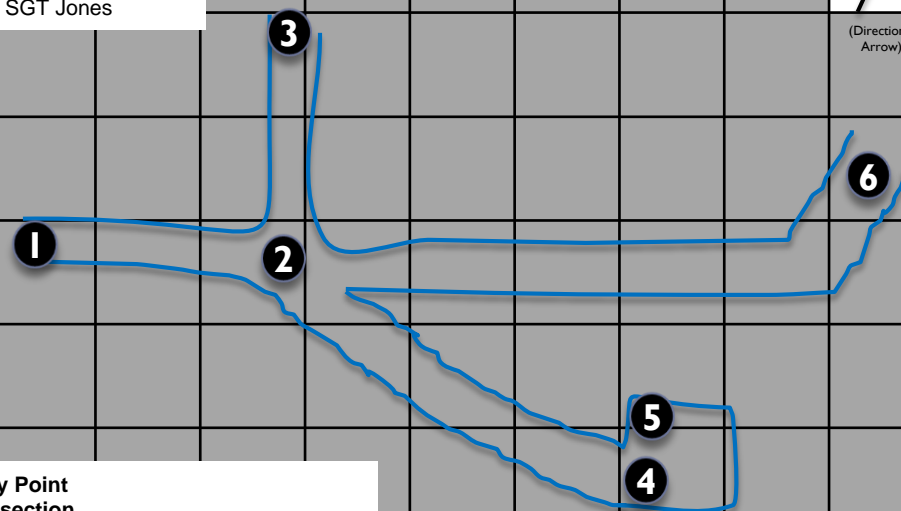
Sub-sonic ammunition  
Suppressors  
Self-Contained Breathing Apparatus (SCBA)  
Wave relay radio (built-in repeater function)  
Air quality monitor  
Ballistic shield  
Medical extraction device  
Action camera

### Enablers

Military Working Dog (MWD)  
ISR support  
Explosive Ordnance Disposal (EOD)  
CA/PSYOPS  
Engineers

## Mapping Example (Recording Team Task)

DTG: 12 1400z JAN 15  
MGRS: 13S VR 12341234  
Az at entrance: 065°  
Recorder: SGT Jones



1. Entry Point
2. Intersection
3. North passage dead end
4. South East passage storage room
5. Cache
6. North East passage under construction

1 Box = 10 meters