

**FIRING/NONFIRING DATA**

For use of this form see USAIC Regulation 350-19; the proponent agency is DPTMS

Log # B-5-13

<b>TO:</b> Chief, Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905	<b>Date:</b> 22 APR 2014 <b>Range:</b> TODD FIELD/LZ/DZ/PPZ / Q1-3 <b>Title:</b> DES CONSTRUCTION / USE (RB1R16/RB1R26) <b>Problem No:</b> RB1R16/RB1R26
<b>THRU:</b> S-3, RESOURCES NCOIC 4TH RANGER TRAINING BATTALION	<b>FROM:</b> S-3, 4TH RANGER TRAINING BATTALION

**SECTION I, TYPE OF TRAINING**

a. Live Fire     
  b. Non-live Fire     
 CP/Controller Coordinates: GA, 0341 8024 / Todd Field / Q1

**SECTION II, DEMOLITIONS/GRENADES/MINES/PYROTECHNICS**

Coordinates	Type	Model/DODAC	Size of Charges
Todd Field / Q1	CORD, DET PETN NEW/FT	M456	6 FEET
As Above	CAP, BLAST NON-ELEC	MN06	2 EACH
As Above	M14 TIME FUSE XM/M14 MDI 7.5 FT	MN06	7.5 FEET
As Above	IGNITER, TIME BLAST FUSE XM/M81	MN08	2 EACH

**SECTION III, WEAPONS/AMMUNITION REQUESTED**

Coordinates of Weapons Position	Type Weapon/Model Number	Type Ammunition	Left Limit	Right Limit

**SECTION IV, LIVE FIRE EXERCISES Attach the following:**

**SECTION V, NON-LIVE FIRE TRAINING**

<input checked="" type="checkbox"/> Scenario of training to be conducted: <input checked="" type="checkbox"/> Sketch of area: <input checked="" type="checkbox"/> Risk Assessment: <input checked="" type="checkbox"/> Attach FB Form 350-19-2-E-R if Mortar or artillery is being fired:	<b>Training area(s) to be occupied:</b>  <input type="checkbox"/> Scenario of training to be conducted: <input type="checkbox"/> Sketch of area(s) to be occupied: <input type="checkbox"/> Risk Assessment:
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Name/rank of requesting officer: Christopher Gibson, SSG, 4TH RTBN Resource NCOIC 	Name/rank of Major Unit S3/Commander: James A. Zarella, MAJ, 4TH RTBN S3 
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**SECTION VI, FOR RANGE DIVISION USE**

**DATE:** 16 May 2014

<b>TO:</b> 4TH Ranger Training Battalion 10850 Schneider Rd. Fort Benning, GA 31905	<b>FROM:</b> Range Division, Directorate of Plans, Training, Mobilization and Security Fort Benning, GA 31905
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a. Roadblocks to be closed: b. Road(s) to be closed/road barrier locations: c. Remarks: d. This approval expires:	See Roadguard Photo   Indef
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Chief, Range Division  
Directorate of Plans, Training, Mobilization and Security



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE  
1 KARKER STREET  
FORT BENNING, GEORGIA 31905-5000

REPLY TO  
ATTENTION OF  
ATZB-SO

30 April 2013

MEMORANDUM FOR Commander, Airborne and Ranger Training Brigade, Attn: SFC Henderson, Fort Benning, GA 31905

SUBJECT: ARTB Demolitions Effects Simulator Training at Todd Field Scenario and RMW Review

1. References.

a. ARTB Demolitions Effects Simulator Training at Todd Field Scenario (22 April 2014) and RMW 19 June 2013)

b. Army Regulation 385-10, The Army Safety Program, 23 November 2013

c. Army Regulation 385-63, Range Safety, 30 Jan 12

d. Department of the Army Pamphlet 40-501, Hearing Conservation Program, 10 December 1998

e. Department of the Army Pamphlet 385-10, Army Safety Program, RAR 19 January 2010

f. Department of the Army Pamphlet 385-30, Mishap Risk Management, RAR 01 February 2010

g. Department of the Army Pamphlet 385-63, Range Safety, 30 Jun 12

h. Army Techniques Publication 5-19, Risk Management, April 2014

i. MCoE Regulation 350-19, Range and Terrain Regulation, 23 July 2010

j. MCoE Policy Memorandum 385-6-14, Composite Risk Management, 22 September 2012

2. Document received on 25 April 2013.

3. Concur w/comment.

ATZB-SO

SUBJECT: ARTB Demolitions Effects Simulator Training at Todd Field Scenario and RMW Review

- RB ✓
- RB ✓
- RB ✓
- RB ✓
- a. Scenario, paragraph 4, pg 1. Ear protection is required for this training event not emphasized in the content.
  - b. PPT slide, "Demo range layout". What is the Minimum Safety Distance (MSD) between the safety trench and the explosives is not identified? Minimum distance must be 50M.
  - c. PPT slide, "Sequence of events (cont)". The PI and API must count each and every explosion prior to releasing anyone from the trench or move forward.
  - d. PPT slide, "Safety Measures". Eye protection must be included in the matrix for all participants.

4. The full implementation of the Army Techniques Publication 5-19, Risk Management and DD Form 2977, is effective immediately. The DD Form 2977 replaced the DA Form 7566. The mandatory use of the 2977 is predicated upon the attrition of each form renewal, change in the risk approval authority, or document update.

5. Point of contact is Mr. Michael W. Risher II, MCoE/Fort Benning Safety Office, Comm. (706) 545-8278, Govt. Cell. (706) 604-7249, [michael.w.risher.civ@mail.mil](mailto:michael.w.risher.civ@mail.mil)

Encl

  
JILL E. CARLSON  
Director, MCoE/USAG Safety



DEPARTMENT OF THE ARMY  
HEADQUARTERS 4TH RANGER TRAINING BATTALION  
10850 SCHNEIDER ROAD BLDG 5024  
FORT BENNING, GEORGIA 31905-4166

REPLY TO  
ATTENTION OF

*Approved*  
*14 May 14*  
*2 APR 2014*  
*Infantry*

ATSH-RBD-S3

MEMORANDUM FOR RECORD

SUBJECT: Concept for Enhanced Demolitions Training (RB1R16/RB1R26)

REFERENCES:

- a. FM 3-34.214 (FM 5-250) Explosives and Demolitions
- b. MCoE Regulation 350-19 Local Flying Rules
- c. MCoE 40-2 Fort Benning Range Safety Briefing Overview
- d. DA PAM 385-63 Range Safety

PURPOSE: The concept for the Ranger Training Battalion's Enhanced Demolitions Training.

1. Demolitions effects simulators (DES) charges are explosives which use detonating cord, blasting caps, a modern demolition initiator, cardboard, and sand or chalk to simulate other explosives. Extreme care must be exercised when using DES. DES is an explosive and all safety guidance contained in this pamphlet and FM 3-34.214 (FM 5-250) must be followed. All procedures and MSDs for the charge that is simulated must be followed. For example, a DES Bangalore torpedo would require the same MSDs and procedures for an actual Bangalore torpedo. All demolitions effects simulators must be marked as DES.

2. Coordinated through DOT for POI training. Ranger Students will receive a class on the construction and ignition of the Demolitions Effects Simulator (DES). Ranger Students will execute a practical exercise on employing the DES. The DES consists of no more than 6 feet of Det-Cord (M456), no less than 1 minute of time fuse and 2 fuse igniters (MNO8) M81. The DES system will be sand packed in a cardboard box, which simulates the explosive. Upon completion of this training Ranger Students are certified to use DES in support of graded ambush patrols. DES will be used to destroy enemy equipment after the ambush is complete. A Ranger Instructor, E-6 or above, will always be in control and supervise the ignition of the DES by the Ranger Student.

3. Before the charge is set off during training, Ranger students will move to a safe location (IAW with regulations stated in Paragraph one) 50 meters away from the Demo-site. The Ranger instructor will ensure the correct ignition of the fuse and move immediately (IAW with regulations stated in Paragraph one) 50 meters (DES SDZ) ensuring no one walks up on the charge. After detonation, the Ranger Instructor and students will check the area for debris.

4. All Ranger Instructors receive a DES certification class taught by the demo certified primary instructor (PI). This block of instruction covers the construction and initiation of DES Enhanced Demolitions System, which will be incorporated during (RB1R16/RB1R26) ambush patrols. The Ranger Instructor and Ranger Students will have eye protection, Army Combat Helmet (ACH), and Gloves when handling the DES. Only Ranger Instructors will handle misfires, and they will ensure all personnel are outside of the danger area of. Misfire Procedures will be handled in accordance with FM 3-34.214 (FM 5-250) by the Ranger Instructor.

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SUBJECT: Concept for Enhanced Demolitions Training (RB1R16/RB1R26)

5. In the event of an accident, injury or illness, the OIC/RSO will immediately call a cease fire. OIC/RSO will call 911/E911 using the standard 9 Line MEDEVAC to determine what type of evacuation is most appropriate for the injury (loss of life, limb or eyesight). MEDEVAC will be IA<sub>W</sub> MCoE Regulation 350-19 and MCoE 40-2. Landing zone for MEDEVAC aircraft will be established prior to use, and it will be marked appropriately. Range Operations will be notified in this event. The cease fire will remain in effect until cleared through Range Operations. A FLA with medical personnel will be onsite; Peney Aid Station will be operational to receive critical emergencies. If the injury cannot be treated at Peney Aid Station, the injured person will be transported to MACH.

6. All personnel handling demolitions will be certified and receive safety briefings prior to execution of the training.

7. Communication Requirements: 4TH RTBN will maintain continuous contact with Range Operations at all times. If communications are lost, the unit will go into a self induced check fire until communications are restored.

8. When an incident occurs on the range, regardless of injury or not, the OIC/RSO will immediately call a cease fire and report it to Range Operations and the using unit's higher headquarters. OIC/RSO will take action as directed by Range Operations. The cease fire will remain in effect until the problem is resolved and cleared through Range Operations. If the incident results in an injury, the OIC/RSO will use the procedures outlined in the medical paragraph. (See MCOE Regulation 350-19 Chapter 9-3). The following information will be furnished by the OIC/RSO to Range Operations:

- a. Designation of unit.
- b. Range and location
- c. Type of weapon involved.
- d. Type of ammunition involved.
- e. Brief summary of what happened.
- f. Personnel injuries and extent.
- g. Full Name, SS#, Rank, and unit of injured personnel.
- h. Extent of property damage.
- i. Intentions regarding an AR 15-6 investigation.

9. When a malfunction is experienced, the OIC/RSO will suspend all firing and immediately notify Range Operations. The weapons and all components and ammunition involved will remain in place. The cease fire will remain in effect until cleared through Range Operations. An investigation is required and will be conducted by the ammunition and weapons inspection personnel and DOL. Demolitions Effects (DES) Charges are explosives which use detonation cord, blasting caps, MDI, cardboard, and sand or chalk to simulate other explosives. Extreme care must be exercised when using DES. Use of the DES is described in FM 3-34.214 (FM 5-250). DES is an explosive, and all safety guidance contained in the pamphlet and FM 3-34.214 (FM 5-250) must be followed.

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SUBJECT: Concept for Enhanced Demolitions Training (RB1R16/RB1R26)

10. Minimum Safe Distance will be referenced per DA PAM 385-63.

11. POC is the undersigned or SSG Gibson, Christopher 4TH RTBN Resource NCOIC, [christopher.gibson@us.army.mil](mailto:christopher.gibson@us.army.mil) and comm.: 544-6693.



JAMES A. LANELLA  
MAJ, IN  
BN Operations Officer

# COVERED TRAINING AREAS



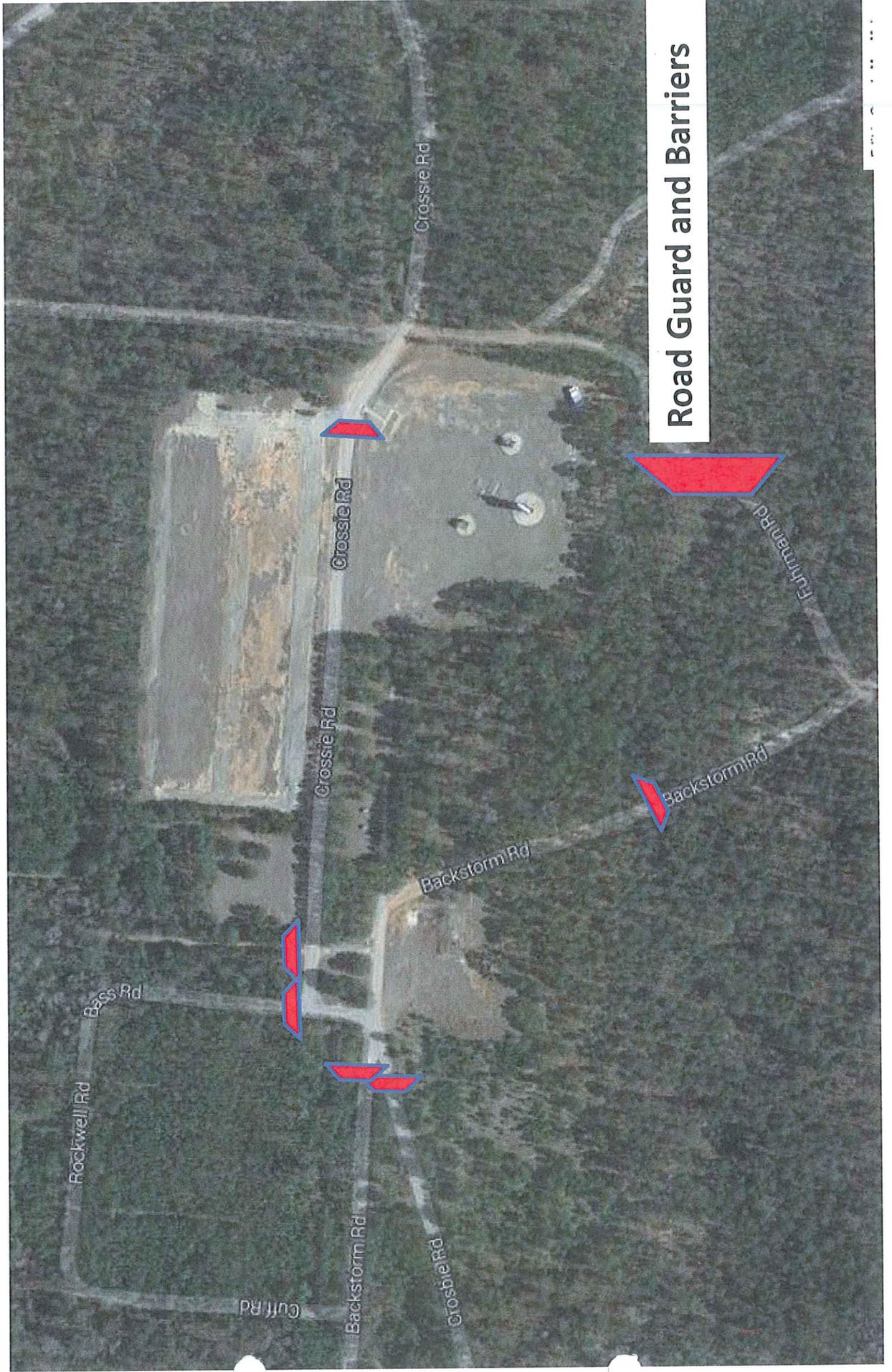


# Demo Range Layout

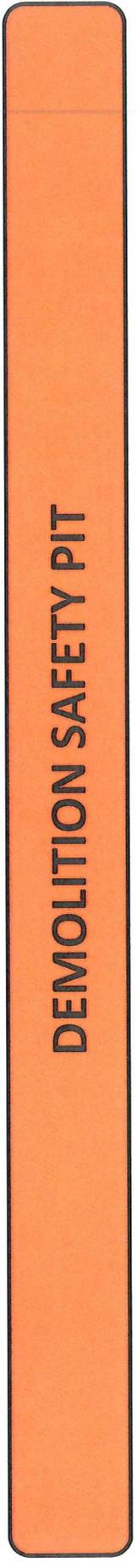
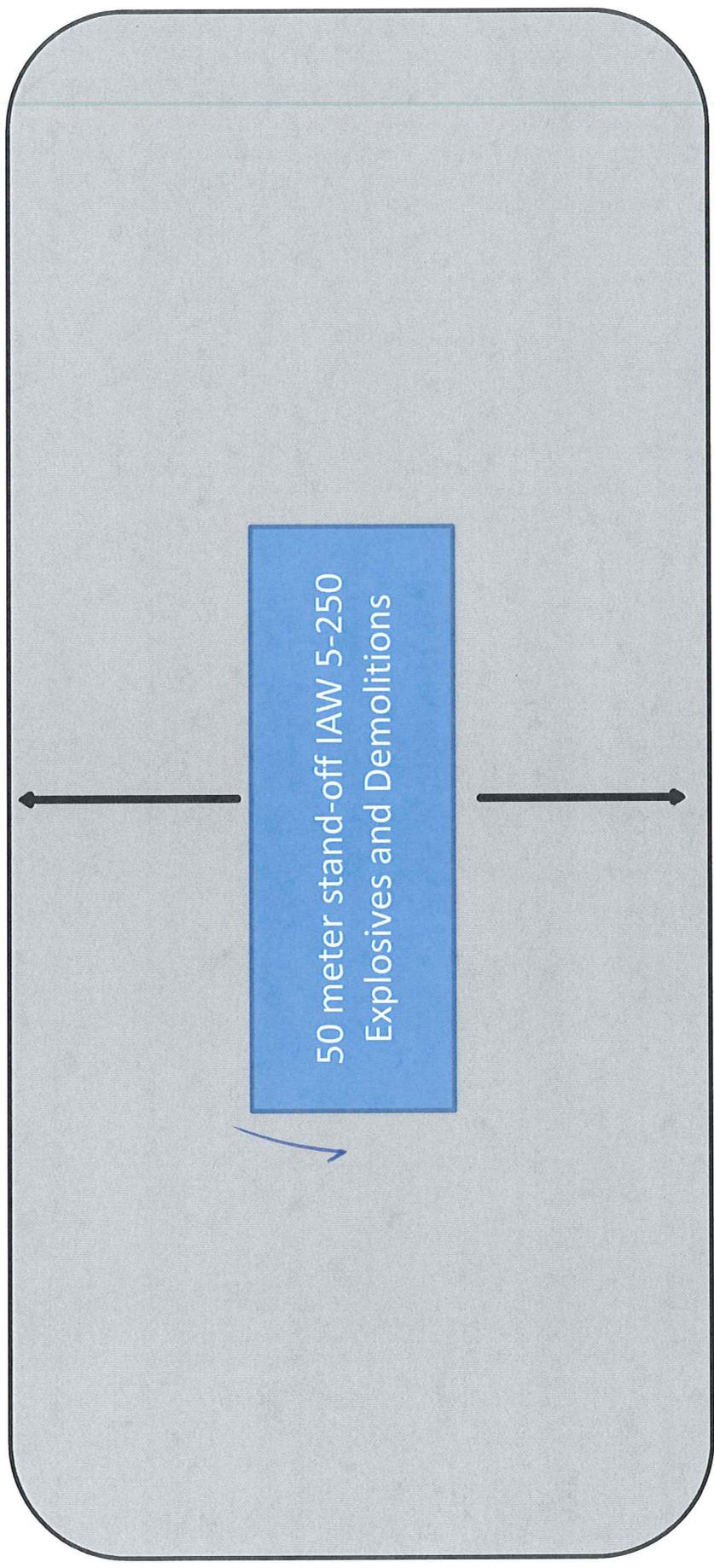
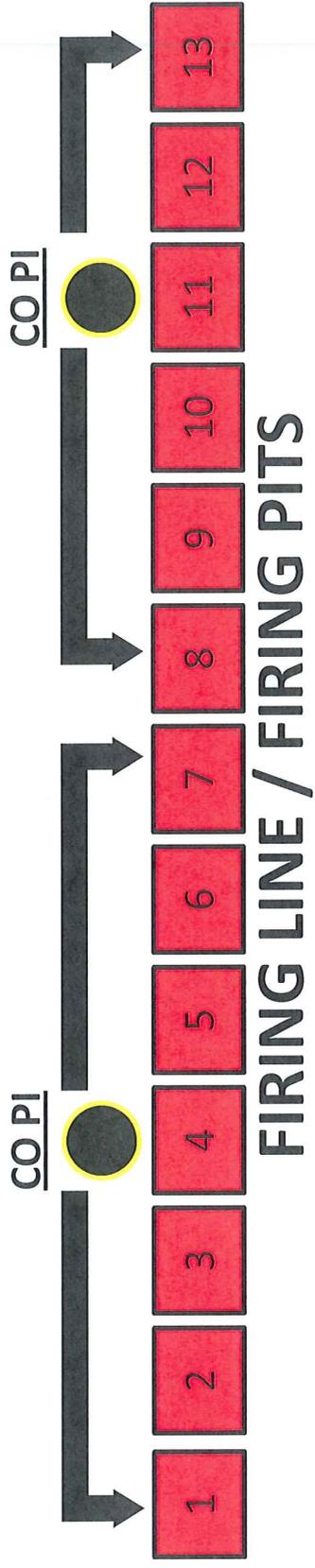




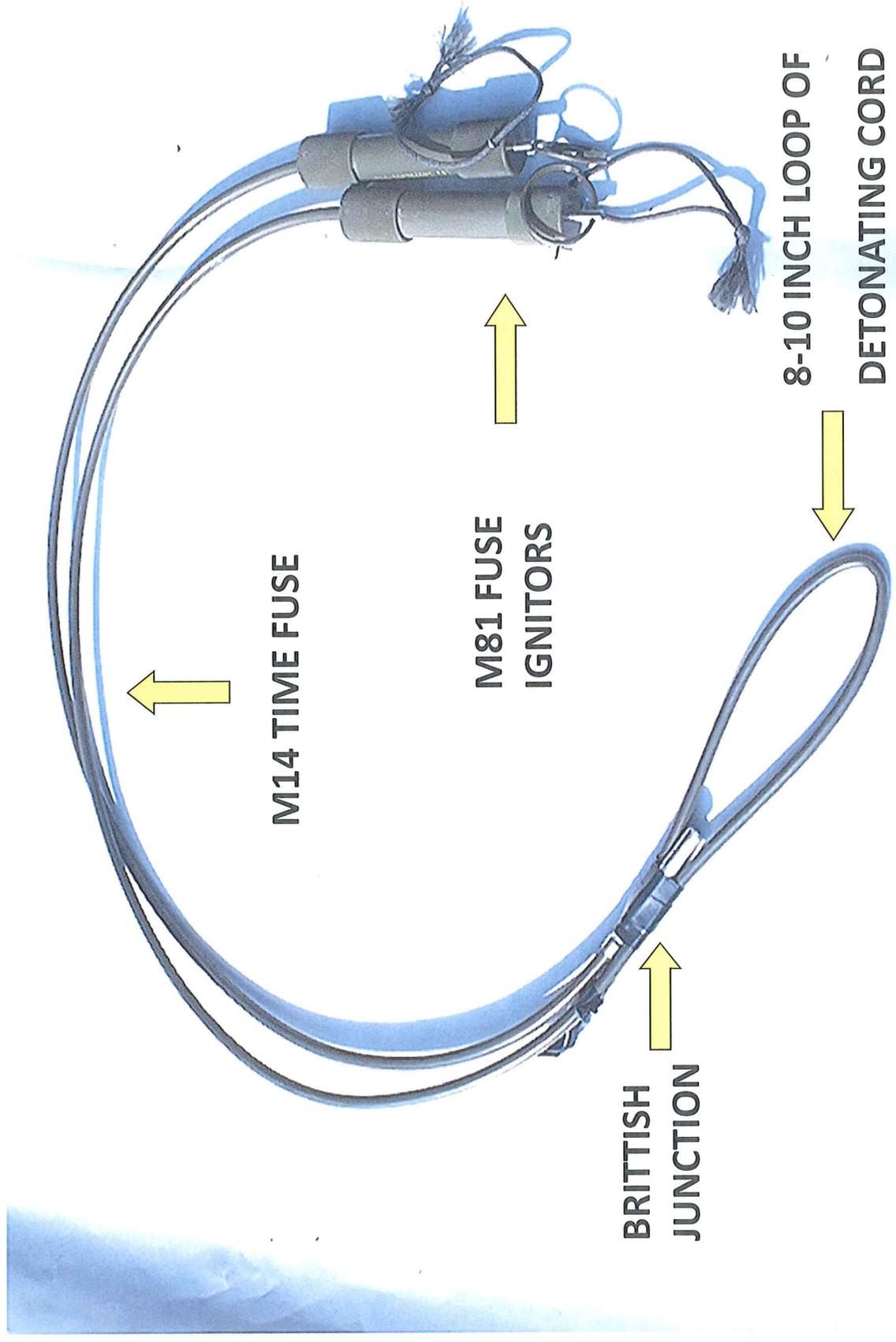
# Road Guards and Barriers



Road Guard and Barriers



# DUAL INITIATION SYSTEM



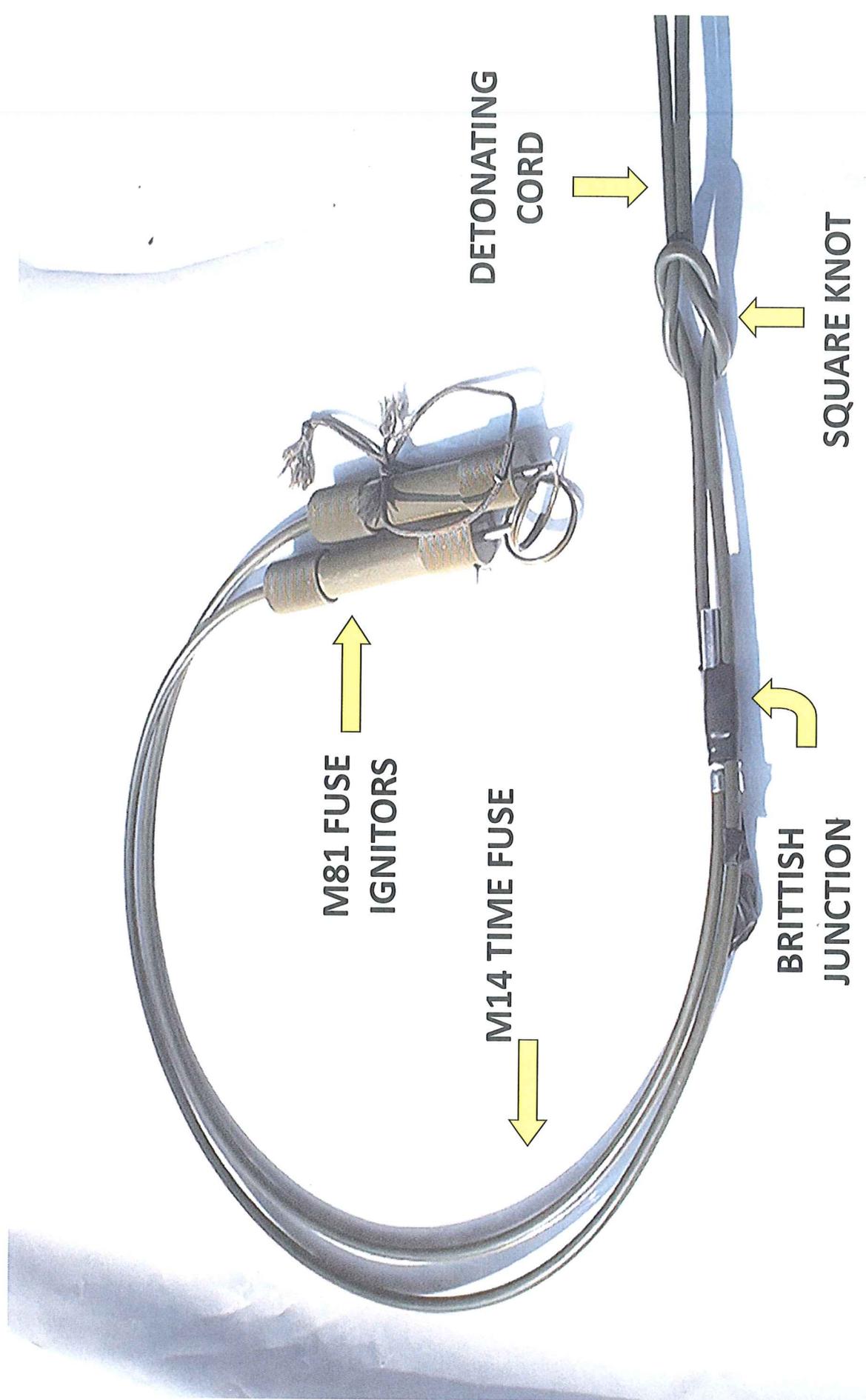
M14 TIME FUSE

M81 FUSE  
IGNITORS

BRITISH  
JUNCTION

8-10 INCH LOOP OF  
DETONATING CORD

# SQUARE KNOT TIE IN



M81 FUSE  
IGNITORS

M14 TIME FUSE

BRITISH  
JUNCTION

DETONATING  
CORD

SQUARE KNOT





## Known Construction Requirements



- Perimeter Fence and Gate
- Guard shack
- Range flag and pole
- Ammo Supply Point
- Safety Trench
- Firing pits

## Additional Recommendations

- Large CTA capable of seating / covering an entire company



## Sequence of Events



- The Battalion Principle Instructor (BN PI) will give block of instruction on how to identify the different components of the DES system and how to construct, carry and employ the DES charge. The BN PI will cover all safety concerns as well as safety violations.
- Students will then cover down on the 25 building stations with no more than four students per station. On the command of go, students will construct their charges under the supervision of their Company PIs (2 per Company) and the BN PI/API.
- Company PIs will assist the BN PI and BN API in supervising the students during construction and employment of their charge. Company PIs will make on the spot corrections and immediately stop the student if he is committing a safety violation (example: Tying the DES charge into the initiating system).
- When the students have completed construction of their charge, they will be inspected by a Company PI or the BN PI/API to ensure proper construction. Following the inspection, the students will be moved down to the firing line. Uniform on the firing line for student and instructors are helmet, eye pro, gloves (tactical) and hearing protection.



## Sequence of Events Cont.



- Once there, they will be oriented to the firing line and be given their final safety brief.
- The BN PI will give the students step by step instructions on preparing their charge for initiation. Students will not advance from step to step without being instructed to do so.
- Once every charge is tied into their initiation system then the BN PI will go to every firing pit and instruct them to initiate their charge. Once they have initiated their charge the students will move back into the safety pit where they will crouch and put their heads down.
- After all the charges are blown the training will be considered complete and the BN PI will give time for any further questions. *confirm 100% the charges blown Pinon to remove from safety track*
- Ammunition will be issued the day of the Demo Range and will be under visible control of the RSO/OIC of the range. All ammunition will be expended before the Demo Range is closed .



## Increment Weather



- In the case of increment weather (such as lightning lockdown) then the covered training area (CTA) located to the SW of the training area will be utilized to give students their brief and to construct their charges. \*NOTE\* The CTA can only accommodate one company at a time.
- Once the increment weather has passed then the students will be directed to the firing line and will detonate their charges.
- If the increment weather continues and Higher has determined that students must continue with the course then students will be moved back to Camp Rogers while the BN PI and API will be in charge detonating all non-expended demolition material.



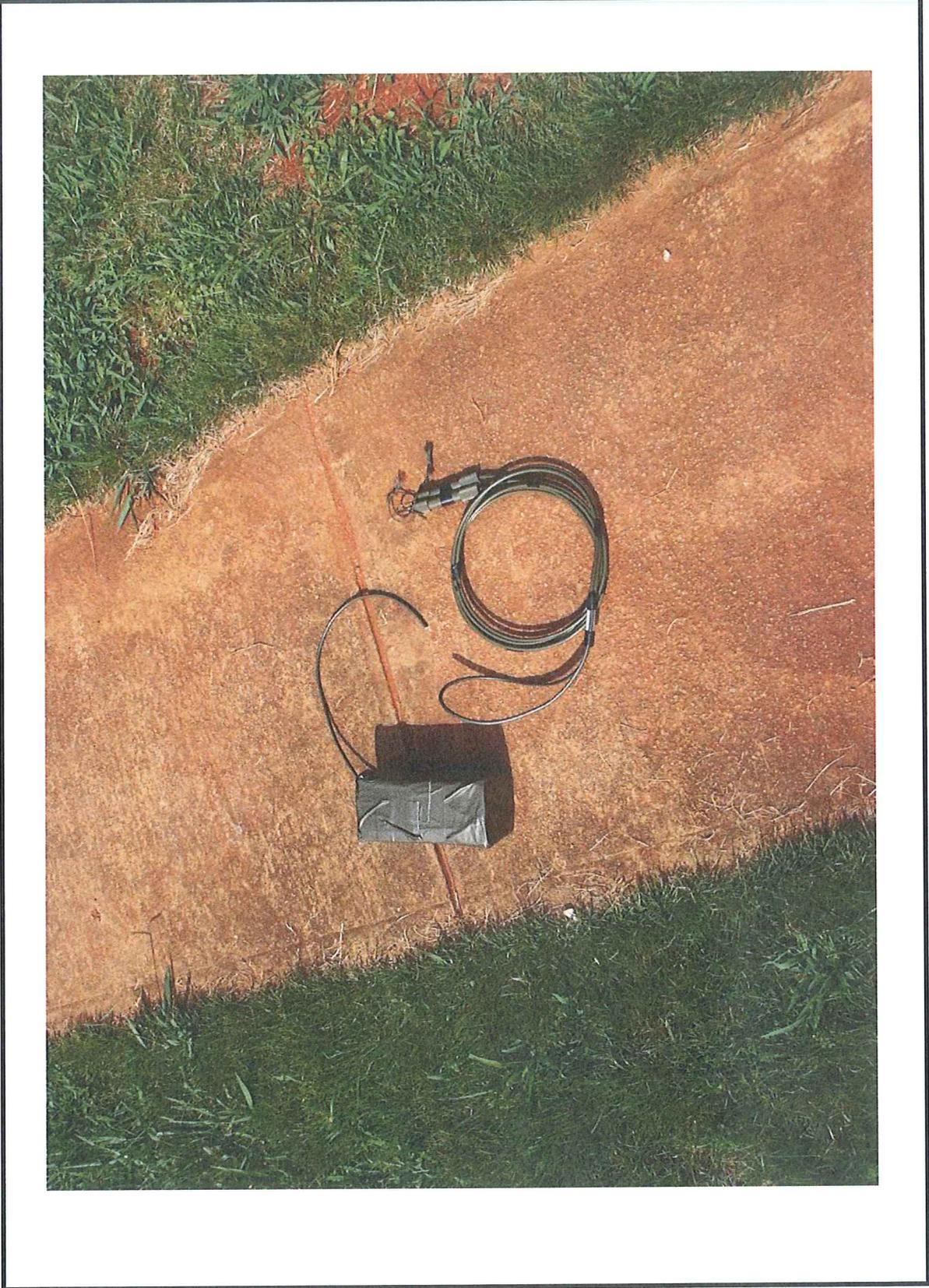
## Medical Considerations



- Two Medics with one FLA will be located at the demolition range on Todd Field.
- Medics will have one M/A COM radio, spine board and fully stocked Aid Bag.
- One Medic with spine board and Aid Bag will be located at the ready line while the students are downrange.
- All life threatening injuries (Life, Limb or Eyesight) will be Ground MEDEVAC to Peney Aid Station via FLA to be stabilized to await MEDEVAC.
- All non-life threatening injuries will be reported to Student OPS and Senior Medic and will be MEDEVAC by FLA to be treated at Peney Aid Station.



# DES Procedures





# Charge Construction

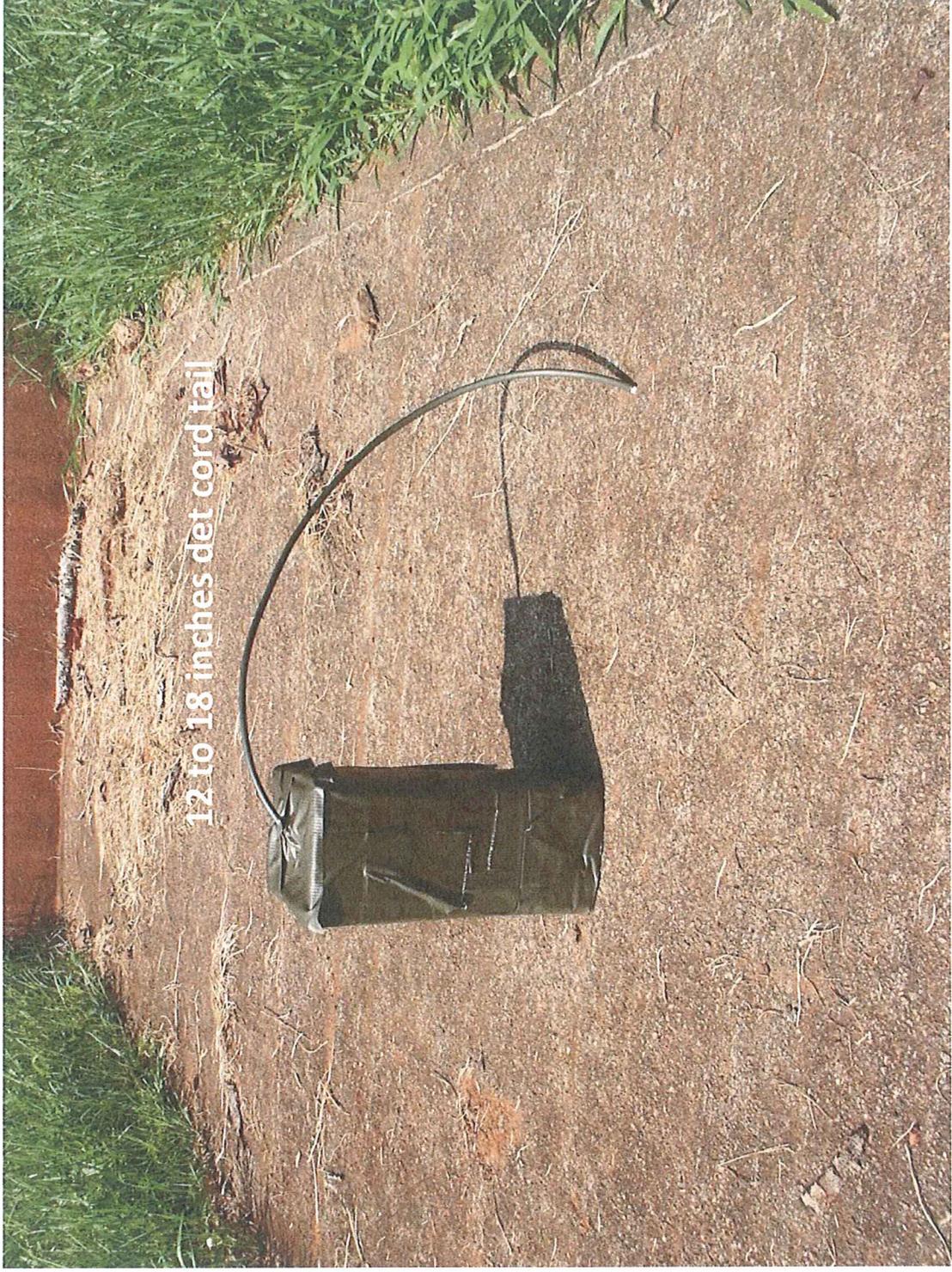


DES Container with sand  
or chalk

3 to 4 feet of Det-cord  
with Uli knot 8 wraps minimum

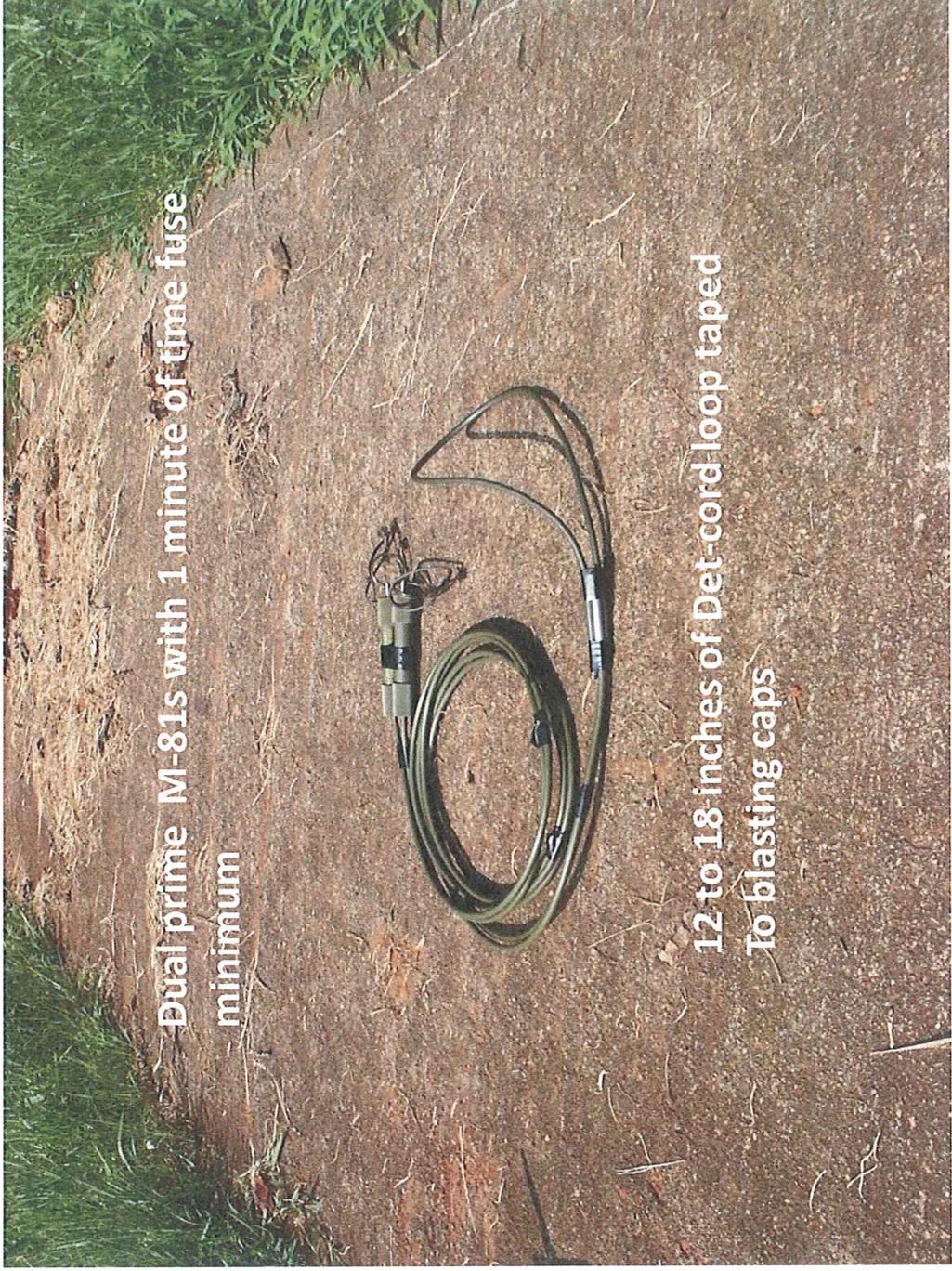


# Charge Construction





# Firing System Construction

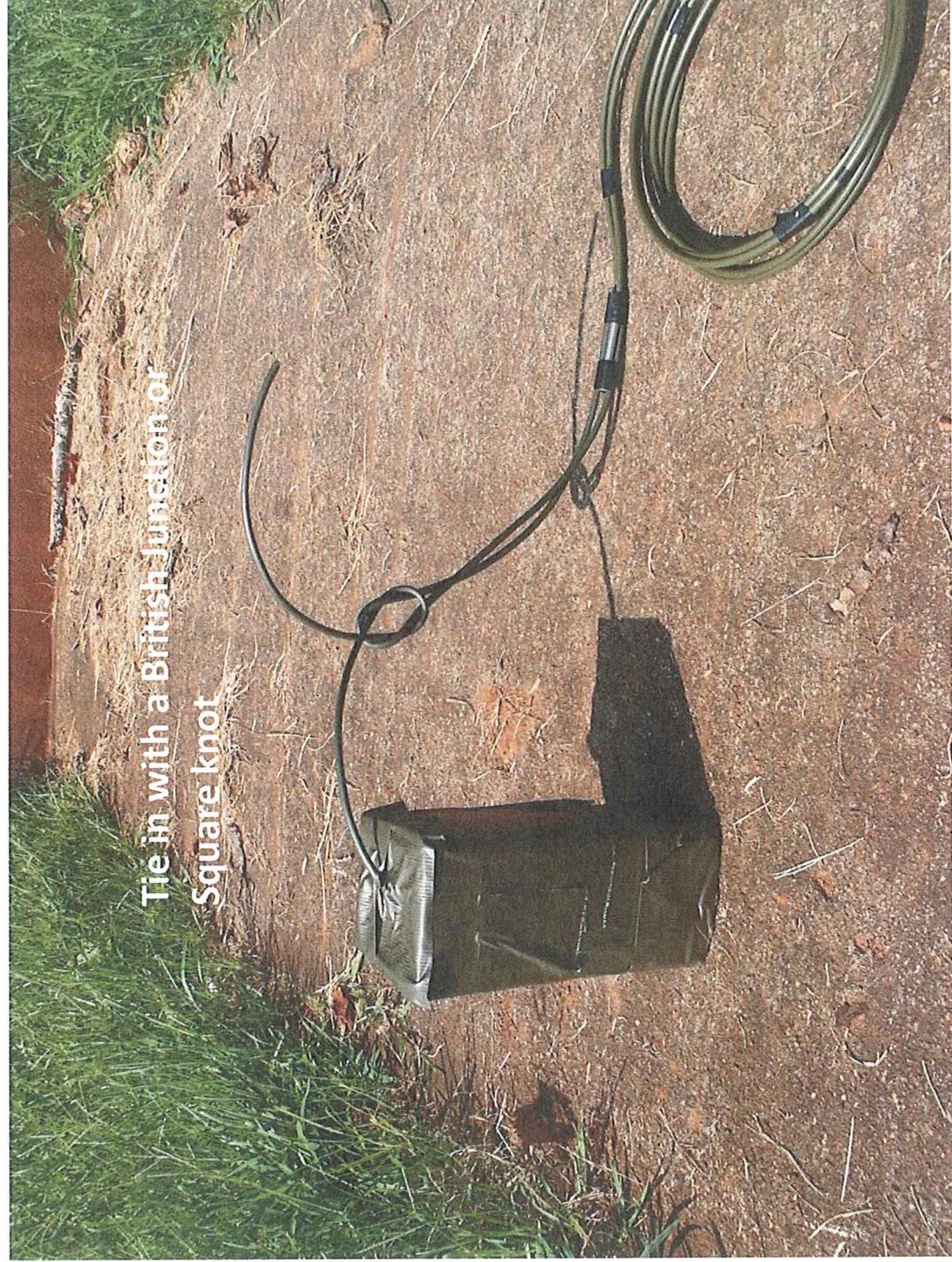


Dual prime M-81s with 1 minute of time fuse  
minimum

12 to 18 inches of Det-cord loop taped  
to blasting caps



# Tie-In Procedures



Tie in with a British Junction or Square knot



## Carrying Procedures



- 1. Ranger Instructor carry the firing system
- 2. Students carry DES charge
- 3. Students carry demolition kit

Note: Firing system is placed in the rucksack in a safe location to avoid pressure from equipment.



## Placement of Charge



- 1. The Ranger Instructor identifies the location of the DES and briefs OPFOR.
- 2. Everyone will be at least 50 meters IAW with FM 3-34.214 (FM 5-250) from the charge.
- 3. The charge will be marked with a red chemlite.
- 4. RIs supervise emplacement of DES.
- 5. Students detonate DES under direct supervision from the RI.



## Detonating the Charge



- Ranger student pulls one M-81 at a time.
- Never pull both M-81s at the same time.
- Once you visibly see the time fuse burning move to a safe location.



## DES Misfire Procedures



1. Yell “Misfire” let everyone in the vicinity of the charge that you have a misfire.
2. Wait 30 minutes before investigating the misfire. Maintain a safe distance of 50 meters IAW with FM 3–34.214 (FM 5-250).
3. Only Ranger Instructors handle misfires.
4. Maintain control of the site.
5. After 30 minutes RI will approach the charge to identify the problem.
6. RI can destroy the charge with another firing system or recover the charge by separating the firing system from the charge.



# SAFETY MEASURES



- INSPECT FOR SERVICEABILITY
- ENSURE HOLE IS 18 IN DEEP AND AT LEAST 3 FT FROM NEAR SIDE OF DANGER AREA
- USE BLACK LEATHER GLOVES WHEN HANDLING M21
- ENSURE SHORT CIRCUIT CAP REMAINS ON PLUG
- ENSURE ENDS OF ALLIGATOR CLIPS ARE ATTACHED TO ONE ANOTHER TO CLOSE OFF THE CIRCUIT
- KEEP STUDENTS AWAY FROM DUDS
- SAFETY GLASSES WILL BE WORN WHEN EMPLACING THE HOFFMAN DEVICE

