MABAS 3701

TECHNICAL RESCUE TEAM

TASK BOOK

Member's Name: _____ **Dept#:** _____

Fire Department: _____

Issue Date: _____ **Completion Date:** _____

MABAS 3701
Technical Rescue Team

Purpose:

One goal of the Technical Rescue Team task book is to ensure our Special Operations members are maintaining an acceptable level of competency with what is deemed to be typical Job Performance Requirements (JPR's) set forth by guidelines within NFPA 1006 (Standard for Technical Rescuer Professional Qualifications). The intent of this task book is to track competencies and identify shortfalls within the Technical Rescue Team. This book will assist in future training initiatives, goals, and objectives as we continue to move forward with ensuring our responders meet a minimum standard within their specific certification levels.

Requirements:

Upon receipt of this task book, each member will be responsible for completing the required sections annually. As you will see, this task book identifies all branches of Technical Rescue to include Site Operations, Technical Rope, Trench Technician, Confined Space Technician and Structural Collapse Technician. The following requirements **must** be met:

- 100% completion is required for each section in which you hold a technician level certification in. For example, if you are only certified in rope and trench, you will only be required to complete those sections of this task book. Other sections may be completed however they are not required unless you hold a certification in those areas.
- All team members are required to complete the Site Operations section of this task book.
- Team members are responsible for the management of their task book. It is your responsibility to ensure the skills are signed off when completed.
- Once completed, the member is required to submit the task book to the Technical Rescue Team training coordinator or designated party for final signatures.
    - Failure to complete the task book in the allotted time frame will result in appropriate disciplinary action or remedial training and could be subject to removal from the 3701 Technical Rescue Team.
    - Task book skills may be completed during TRT sanctioned training, station drills or qualified training to include state or federal training.
    - Skills may only be signed off by approved TRT Officers or designated TRT instructors.

Questions regarding the purpose of the task book or its content should be directed to the Technical Rescue Team directors.

TASK BOOK DEFINITIONS

"Defines" - Team member can successfully provide a definition or common meaning for a said item, topic, or task.

Team member can successfully identify tools, equipment, resources, components, or other features pertinent to the task, skill, or operation.

"Identifies" -
"Performs" /
"Demonstrates" - Team member can successfully complete a skill or task as either an individual or while functioning as a team.

"Assembles" -

Team member shows competency in the assembly of a system, component, tool, or equipment that may be utilized while completing a task.

"Exceptional" -

Team member shows expert level knowledge or functions above what would be considered an average level of competency. Team member could be considered a subject matter expert in each task or skill.

"Satisfactory" -

Team member meets a competency level that is consistent with the successful completion of a JPR. Team member has an acceptable understanding of skills, tasks, and use of tools and equipment. Team member can complete tasks and skills with little direction.

"Below Average" - Team member does not meet a competency level consistent with the JPR. Team member is not able to complete skills or task. This rating requires the appropriate supporting documentation from the evaluator / instructor and may require remedial training.

"JPR" - Job Performance Requirements. These are technician level skills identified within NFPA 1006. Successful completion of identified JPR's are required in order to receive technician level certification in a specific area of technical rescue.

SECTION 1:
SITE OPERATIONS
NFPA 1006
CHAPTER 5

MABAS 3701

Technical Rescue Team Annual Certification

Site Operations

Name_____ **Department** _____

KNOWLEDGE, TASK, SKILL COMPETENCY	1006 JPR#	**EVALUATOR:** Initial & date upon completion of task
Site Operations		
Move a victim in a low angle environment	**5.3.2**	
☐ Identifies equipment used for a low angle rescue i.e., slope evacuation		
☐ Assembles the equipment used in a low angle rescue system		
☐ Demonstrates ability to construct a low angle rescue system		
☐ Demonstrates ability to attach a mainline and belay line system to a stokes basket		
☐ Demonstrates the ability to attach rescuers to a low angle rescue system i.e., slope evacuation		
Access, stabilize, package and transfer victims	**5.3.3**	
☐ Identifies patient packaging devices		
☐ Demonstrates patient packaging techniques:		
1. Stokes basket lashing (interior / exterior)		

2. LSP / Yates		
3. Sked Stretcher		
4. Victim harness, Pezel Diaper		
Inspect and maintain hazard-specific PPE	**5.4.1**	
□ Demonstrates ability to properly inspect and ensure safe function of a rope system		
Inspect and maintain rescue equipment	**5.4.2**	
Tie knots bends and hitches including:	**5.5.1**	
□ Family of 8's – Fig 8, 8 on bight, retrace		
□ Yosemite Bowline		
□ Double Long Tail Bowline		
□ Double Overhand knot, on a bight		

□ Double Overhand Bend		
□ Butterfly Knot		
□ Clove Hitch		
□ Half Hitch		
□ Munter Hitch		
□ Prusik Hitch – double and triple wrap		
Construct a single-point anchor system	**5.5.2**	
□ Demonstrate the following single point anchors:		
1. Wrap 3 Pull 2		
2. High strength tie off		
3. Bowline around an object		
Place edge protection	**5.5.3**	
Construct a simple rope mechanical advantage system	**5.5.4**	
□ Identify equipment used in Mechanical Advantage sys.		
□ Assembles equipment needed to construct a MA system		
□ Demonstrates the ability to construct the following:		
1. 2:1 MA System		

2. 3:1 MA System		
3. Simple 4:1 MA System		
4. Ganged MA System onto a Mainline		
Direct a team in the operation of a simple rope mechanical advantage system	**5.5.5**	
Demonstrates the ability to use whistle commands		
Function as a litter attendant in a low angle lowering or hauling operation	**5.5.6**	
Demonstrates ability to correctly attach an attendant to a rope system (slop evacuation attendant)		
Construct a lowering system	**5.5.7**	
Identifies and constructs a mainline anchor		
Demonstrates the safe operation of a lowering device		
Direct a lowering operation in a low-angle environment	**5.5.8**	
Construct a belay system	**5.5.9**	
Identifies and constructs a belay line anchor		
Operate a belay system in during a lowering raising operation	**5.5.10**	
Identifies equipment used for belay systems		
Demonstrates the ability to use:		
1. Tandem prusik belay		
2. MPD belay		
Belay a falling load in a high-angle environment	**5.5.11**	
Conduct system safety check	**5.5.12**	
Describes the “3 sets of eyes” rule		
Identifies WLL, Breaking Strength, Safety Factor		
Ensures 2 points of contact in a high angle setting		
Performs full system safety check		

Comments:

Overall Rating: Exceptional Satisfactory Below Average (requires documentation)

Member Signature:_____ Date:_____

Evaluator Signature:_____ Date:_____

Team Leader Signature:_____ Date:_____

SECTION 2:
TECHNICAL ROPE

NFPA 1006
CHAPTER 6

MABAS 3701

Technical Rescue Team Annual Certification

Rope Rescue

Name_____ **Department** _____

KNOWLEDGE, TASK, SKILL COMPETENCY	1006 JPR#	**EVALUATOR:** Initial & date upon completion of task
Direct a team in the operation of a simple rope mechanical advantage system in a high angle raising operation	**6.1.1**	
☐ Demonstrates knowledge of rope equipment used in MA systems		
☐ Understands the concepts of mechanical advantage		
☐ Defines a simple MA system		
☐ Selects appropriate anchors for a MA system		
☐ Proficiency in constructing the following MA systems:		
1. 2:1 MA system		
2. 3:1 MA system		
3. Simple 4:1 MA system		
4. Ganged MA system		
Direct a lowering operation in a high-angle environment	**6.1.2**	
☐ Identifies equipment used in lowering systems		
☐ Selects appropriate anchor for a main line system		
☐ Properly rigs and utilizes the following:		
1. Friction / Rappel Rack		

2. MPD		
3. Figure 8 and/or scarab		
□ Constructs and operates a belay system		
Construct a multi-point anchor system	**6.1.3**	
□ Identifies the “critical angle”		
□ Constructs a 2-leg fixed and focused anchor		
□ Constructs a 3-leg fixed and focused anchor		
□ Demonstrates the use of webbing and cord to construct a fixed and focused anchor		
Construct a compound rope mechanical advantage system	**6.1.4**	
□ Define a compound MA system		

□ Assemble and construct the following MA systems:		
1. Compound 4:1		
2. Compound 6:1		
3. Compound 9:1		
Construct a fixed rope system	**6.1.5**	
□ Select an appropriate anchor for intended load		
□ Demonstrate the ability to fix a rope to a given anchor:		
1. Tensionless hitch / high strength tie off		
2. Yosemite Bowline		
3. Double Overhand Knot		
4. Tensionless hitch with kootney		
Direct the operation of a compound rope mechanical advantage system in a high-angle environment	**6.1.6**	
Ascend a fixed rope in a high-angle environment	**6.1.7**	
□ Identifies equipment used for ascending rope		
□ Demonstrates use of ascending with prusiks		
□ Demonstrates use of ascending with ascenders		
□ Demonstrates self-belay techniques		
Descend a fixed rope system in a high-angle environment	**6.1.8**	

□ Identifies equipment used for descending a fixed rope		
□ Demonstrates use of the Petzl ID		
□ Demonstrates use of the rappel rack		
□ Demonstrates use of the scarab		
□ Demonstrates ability to change from ascending to descending while suspended from a fixed rope		
□ Demonstrates self-belay techniques		
Complete an assignment while suspended from a rope rescue system in a high-angle environment	**6.2.1**	
□ Performs proper patient packaging while on rope		
□ Performs a pick-off of a suspended victim while on rope		
□ Demonstrates proficiency to use a “set of 4’s” to manage a victim while suspended on rope		
□ Applies a belay system to a victim while suspended on rope		
□ Performs safety checks prior to moving a victim while suspended on rope		
□ Demonstrates the ability to release a victim from a fall protection device while suspended on rope		
Manage the movement of the victim as the rescuer in a high angle environment	**6.2.2**	
□ Demonstrate ability to prepare a litter / stokes for use in a high angle environment		
□ Demonstrates the ability to correctly rig and attach to a stokes basket		

□ Performs interior and exterior lashing		
□ Demonstrates the ability to provide fall protection / belay to a victim in a stokes basket		
□ Demonstrates competency in a steep slope evolution		
□ Demonstrates competency in stokes operations with areal apparatus		
□ Demonstrates competency with a ladder slide technique		
□ Demonstrates the ability to correctly attach a rope system to the stokes in both a horizontal and vertical evolution		
Function as a litter attendant in a high angle lowering or hauling operation	**6.2.3**	
Direct a team in the removal of a suspended victim from rope or webbing in a high-angle environment	**6.2.4**	

□ Identifies communication methods for rope rescue evolutions		
□ Identifies and uses whistle commands in a rope rescue evolution		
Direct a team in the construction of a system intended to move a suspended load along a horizontal path to avoid an obstacle. This skill will be held for specific personnel only.	**6.2.5**	
Direct a team in the operation of a rope system to move a suspended load along a horizontal path	**6.2.6**	
Access a victim in a high-angle environment using techniques that require rescuers to climb up or down natural or man-made structures	**6.2.7**	
Isolate and manage potentially harmful energy sources found in erected structures, including power systems and construction materials	**6.2.8**	
AHJ SKILLS:		
Identifies team positions and functions in a rope rescue evolution		
Demonstrates proficiency in the assembly of a (3) leg vortex set up.		
□ Secures feet and legs to prevent unwanted movement		
□ Properly secures device to prevent unwanted movement		
□ Demonstrates ability to attach system components to the AHD		
□ Demonstrates ability to operate the belay system at edge transitions		
□ Can identify force resultants within the AHD		
□ Uses proper guying systems to secure AHD when needed		
Demonstrates the ability to create a picket anchor system		
□ Properly lash and secure picket system		
□ Demonstrates ability to create a 3-picket system, picket plate system		
Demonstrates the use of travel restriction systems		

Comments:

Overall Rating: Exceptional Satisfactory Below Average (requires documentation)

Member Signature:_____ Date:_____

Evaluator Signature:_____ Date:_____

Team Leader Signature:_____ Date:_____

SECTION 3:
CONFINED SPACE
NFPA 1006
CHAPTER 7

MABAS 3701

Technical Rescue Team Annual Certification

Confined Space Rescue

Name_____ **Department** _____

KNOWLEDGE, TASK, SKILL COMPETENCY	**1006 JPR#**	**EVALUATOR:** Initial & date upon completion of task
Recognize, identify, and define a Confined Space. Identify the difference between a permit and a non-permit Confined Space		
Conduct monitoring of a Confined Space environment	**7.1.1**	
☐ Demonstrates knowledge of meter alarm parameters		
☐ Performs atmospheric monitoring of a confined space		
☐ Determines the need for ventilation of a confined space		
☐ Demonstrates proficiency in setting up a ventilation system		
Prepare for entry into a confined space	**7.1.2**	
☐ Demonstrates completion of a confined space permit		
☐ Follows 2 in 2 out procedures		
☐ Works as an attendant for a confined space entry		
☐ Identifies and manages hazards present in a confined space		
☐ Establishes fall protection as needed		
☐ Establishes the need for respiratory protection		

□ Assembles a respiratory protection system		
□ Assembles a communication system		
□ Operates a respiratory protection system for entrants		
□ Operates a communication system for entrants		
Enter a confined space	**7.1.3**	
□ Demonstrates procedure to don a class 3 harness		
□ Demonstrates donning of a respiratory protection system		
□ Safely enters and maneuvers through a confined space		
Package a victim for removal from a confined space	**7.1.4**	
□ Identifies patient packaging equipment		
□ Demonstrates proficiency in patient packaging:		
1. LSP / Yates		
2. Sked Stretcher		
3. Victim harness		
Remove all entrants from a confined space	**7.1.5**	
□ Establish and operate a retrieval system		
□ Construct a raising / lowering rope system to safely lower and raise attendants into and out of a confined space		
□ Operates a belay system to safely enter and remove an attendant into a confined space		
Preplan a confined space incident	**7.2.1**	
Assess a confined space incident to identify hazards, interview bystanders and victims, locate victims, develop a risk-benefit analysis, identify access/egress, determine rescue systems for victim removal, and establish emergency means of retrieval for Rescue entrants	**7.2.2**	
Control hazards associated with a Confined Space	**7.2.3**	
□ Demonstrates knowledge of lock out tag out procedures		
□ Performs lock out tag out procedures		

Comments:

Overall Rating: Exceptional Satisfactory Below Average (requires documentation)

Member Signature:_____ Date:_____

Evaluator Signature:_____ Date:_____

Team Leader Signature:_____ Date:_____

SECTION 4:
TRENCH RESCUE

NFPA 1006
CHAPTER 8

MABAS 3701

Technical Rescue Team Annual Certification

Trench Rescue

Name_____ **Department** _____

KNOWLEDGE, TASK, SKILL COMPETENCY	**1006 JPR#**	**EVALUATOR:** Initial & date upon completion of task
Incident Management, Planning & Scene Size UP:		
Conduct a size-up of a collapse trench	**8.1.1**	
☐ Can define a trench		
☐ Isolates area, determines need to shut down powered equipment, interviews workers, determines # of patients, establishes work perimeters i.e. hot zone, warm zone		
☐ Can identify common collapse patterns		
☐ Establishes means of egress		
Implement a trench emergency action plan	**8.1.2**	
Incident Objectives, Skills & Tasks		
Establishing scene lighting	**8.1.3**	
Establish a cut station	**8.1.3**	
☐ Identifies wood cutting tools carried in the cache		
☐ Demonstrates proficiency with cutting tools		
Provide supplemental power for equipment	**8.1.3**	
☐ Identifies options for providing power to the scene		
☐ Identifies tools & equipment used to supply power		

□ Demonstrates the ability to establish a power source		
Establish atmospheric monitoring	**8.1.3**	
□ Identifies the need for atmospheric monitoring		
□ Demonstrates knowledge of meter alarm parameters		
□ Performs atmospheric monitoring		
□ Properly secures and protects meter from damage		
Provide ventilation	**8.1.3**	
□ Determines the need for ventilation		
□ Establishes a ventilation system		
□ Establishes a heated air ventilation system		
Establish a rescue system for removing victims from a trench	**8.1.3**	
□ Demonstrates the ability to safely establish a victim removal system		

Support a non-intersecting straight wall trench as a member of a team	**8.1.4**	
□ Identifies equipment needed to prep the trench for work		
□ Demonstrates the use of ground pads		
□ Identifies safety concerns within the hot zone		
□ Demonstrates ability to measure the dimension of a trench		
□ Identifies equipment used to shore a trench wall		
□ Assembles equipment used to shore a trench wall		
□ Demonstrates ability to accurately place trench panels		
□ Demonstrates the ability to accurately place shoring		
□ Demonstrates safe entry into a trench to perform work		
□ Properly secures trench shoring		
□ Identifies equipment used in a whale system		
□ Demonstrates ability to install a whale system		
□ Demonstrates knowledge of OSHA guidelines for trench operations		

□ Demonstrates ability to feather, shoot and release a shore		
Release a victim from soil entrapment by components of a nonintersecting collapsed trench	**8.1.5**	
Remove a disentangled victim from a trench	**8.1.6**	
□ Determines the need for proper patient packaging		
□ Properly packages patient for removal from the trench		
Disassemble support systems at a trench emergency	**8.1.7**	
Support an intersecting trench as a member of a rescue team	**8.2.1**	
□ Identifies critical areas of an intersecting trench		
□ Identifies equipment needed to prep the trench for work		
□ Demonstrates the use of ground pads		
□ Identifies safety concerns within the hot zone		
□ Demonstrates ability to measure the dimension of a trench		
□ Identifies equipment used to shore a trench wall		
□ Assembles equipment used to shore a trench wall		
□ Demonstrates ability to accurately place trench panels		
□ Demonstrates the ability to accurately place shoring		
□ Demonstrates safe entry into a trench to perform work		
□ Properly secures trench shoring		
□ Identifies equipment used in a whale system		
□ Demonstrates ability to install a whale system		
□ Demonstrates knowledge of OSHA guidelines for trench operations		
□ Demonstrates ability to feather, shoot and release a shore		
□ Demonstrates ability to shore a “T” Trench		
□ Demonstrates ability to shore a “L” Trench		
Install supplemental sheeting and shoring	**8.2.2**	
□ Demonstrates placement of supplemental shoring system		
□ Demonstrates how to secure supplemental shoring system		
Construct load stabilization systems	**8.2.3**	

□ Identifies equipment used to stabilize loads		
□ Demonstrates ability to calculate a load weight of a given object		
□ Demonstrates ability to place a load stabilization system in place		
Lift and stabilize a load within a trench to access a victim	**8.2.4**	
□ Identifies equipment available to lift a given load		
□ Assembles equipment needed to safely lift a given load		
□ Demonstrates the ability to calculate the weight of a load		
□ Constructs a system within the WLL to lift a load		
□ Demonstrates the ability to safely lift and stabilize a given load in order to free a patient		
Coordinate the use of heavy equipment at a trench site	**8.2.5**	
Release a victim from entrapment by non-soil components in a trench	**8.2.6**	
□ Properly packages and removes a victim from the trench		

Comments:

Overall Rating: Exceptional Satisfactory Below Average (requires documentation)

Member Signature:_____ Date:_____

Evaluator Signature:_____ Date:_____

Team Leader Signature:_____ Date:_____

SECTION 5:
STRUCTURAL COLLAPSE

NFPA 1006
CHAPTER 9

MABAS 3701

Technical Rescue Team Certification

Structural Collapse Rescue

Name_____ **Department** _____

KNOWLEDGE, TASK, SKILL COMPETENCY	1006 JPR#	**EVALUATOR:** Initial & date upon completion of task
Incident Management, Planning & Scene Size UP:		
Conduct a size-up of a collapsed light frame structure	**9.1.1**	
Determine potential victim locations in a light frame construction collapse	**9.1.2**	
Develop a collapse rescue incident action plan, given size-up information and a collapsed light frame structure	**9.1.3**	
Implement a collapse rescue incident action plan, given an action plan and a collapsed light frame structure	**9.1.4**	
Incident Objectives, Skills & Tasks		
Search a light frame collapsed structure	**9.1.5**	
□ Demonstrates ability to perform structural triage		
□ Demonstrates ability to perform search markings		
Stabilize a collapsed light frame structure as a member of a team	**9.1.6**	
□ Demonstrates ability to interpret shoring plan		
Implement collapse rescue support operations	**9.1.7**	
Release a victim from entrapment by components of a light frame collapsed structure	**9.1.8**	
Remove a victim from a light frame collapse incident	**9.1.9**	
□ Shows proficiency in proper patient packaging		

Lift a heavy load as a team member	**9.1.10**	
□ Performs load weight estimation on given loads		
□ Describes class 1, 2 & 3 lever concepts		
□ Uses levers to safely lift / raise a load		
□ Assembles equipment for a high-pressure airbag lift		
□ Performs a high-pressure airbag lift		
□ Performs a high-pressure airbag lift with multiple bags		
□ Construct and operate a gantry system to lift / move a load		
Move a heavy load as a team member	**9.1.11**	
□ Identifies types of sling attachments		

□ Identifies types of slings i.e., synthetic, chain, wire rope		
□ Assembles proper equipment for a rigging system		
□ Move / Lift or manipulate a load vertically		
□ Move / Lift or manipulate a load horizontally		
□ Describes WLL, Safety factor and breaking strength		
□ Shows proficiency in winch operations		
Breach light frame structural components	**9.1.12**	
□ Selects appropriate breaching tool for LW construction		
□ Shows proficiency with breaching tools for LW construction		
Construct cribbing systems	**9.1.13**	
□ Identifies cribbing capacities for 4x4 and 6x6 crib stacks		
□ Constructs a crib stack capable of supporting a given load		
□ Constructs a sloping crib stack to support a given load		
□ Identifies cribbing limitations i.e., height limitations etc.		
Conduct a size-up of a collapsed heavy construction-type structure	**9.2.1**	
Determine potential victim locations in a heavy construction type incident	**9.2.2**	
Develop a collapse rescue incident action plan, given size-up information and a heavy collapsed structure	**9.2.3**	

Implement a collapse rescue incident action plan, given an action plan and a heavy construction-type collapsed structure	**9.2.4**	
Search a heavy construction-type collapsed structure	**9.2.5**	
□ Demonstrates void search techniques		
□ Demonstrates use of search camera operations		
Stabilize a collapsed heavy construction-type structure as a member of a team	**9.2.6**	
□ Demonstrates knowledge of basic shoring systems		
□ Demonstrates knowledge of shoring capacities		
□ Shows proficiency in constructing / assembling:		
1. Aluminum shoring systems – struts		
2. T Shore		
3. Double T Shore		
4. 2 Post Vertical Shore		
5. 3 Post Vertical Shore		
6. Laced Post Shore		
7. Raker Shoring		
8. Horizontal Shore		
9. Window / Door Shore		
10. Sloped Floor Shore		
11. Wall tie-back system		
Release a victim from entrapment by components of a heavy construction-type collapsed structure	**9.2.8**	
Remove a victim from a heavy construction-type collapse incident	**9.2.9**	
Breach heavy structural components	**9.2.12**	
□ Identifies vertical vs. horizontal breach		
□ Identifies clean vs. dirty breach		
□ Demonstrates knowledge of various breaching equipment		
□ Assembles breaching equipment		
□ Demonstrates proficiency with the use of breaching equipment i.e., chippers, Stanley system, cutoff saws		

□ Performs a clean horizontal breach		
□ Performs a clean vertical breach		
□ Performs a dirty horizontal breach		
□ Performs a dirty vertical breach		
Cut through structural steel	**9.2.15**	
□ Identifies metal cutting tools		
□ Assembles tools and equipment for cutting metal		
□ Assembles petrogenic cutting torch		
□ Assembles plasma cutting torch		
□ Demonstrates proficiency in using a petrogenic torch to cut:		
1. Flat steel / metal		
2. I Beam		
3. Round object / pipe		
Coordinate the use of heavy equipment	**9.2.16**	

Comments:

Overall Rating: Exceptional Satisfactory Below Average (requires documentation)

Member Signature:_____ Date:_____

Evaluator Signature:_____ Date:_____

Team Leader Signature:_____ Date:_____