

# Trench Rescue Awareness, Trench Rescue Operations, and Rope Rescue Awareness National Certification

Certification Preparation Guide

Referenced to:

NFPA 1006, Chapters 5 and 12, 2021 Edition

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NFPA 1006, Chapters 5 and 12, 2021 Edition

Kansas Fire & Rescue Training Institute (KFRTI) Rope Rescue Operations Student Manual, 2023

Ron "Z" Zawlocki and Craig Dashner (JBL)
Trench Rescue: Principals and Practices to NFPA 1006 and 1670
4th edition, 2023

Copies of this document may be downloaded from https://jayhawkglobal.ku.edu/kufire-firefighter-certification#study\_guides

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Dear Certification Candidate,

Welcome to the National Firefighter Certification Program!

The Kansas Fire & Rescue Training Institute is accredited by the International Fire Service Accreditation Congress (IFSAC) and by the National Board on Fire Service Professional Qualifications (NBFSPQ - also known as "Pro Board"). These accreditation agencies establish rules and standards to follow in the administration, recordkeeping, and providing of National Certification for the fire service. Through this accreditation, the Kansas Fire & Rescue Training Institute is authorized to issue accredited National Certifications to individuals meeting the requirements of selected national standards.

Kansas Fire & Rescue Training Institute's role in the process is to maintain testing materials and a fair system of administering certification exams.

This National Certification Preparation Guide is designed to help you prepare for the examination process. This guide gives reading references for the written exam and the skills exam. By using this guide, you will look at the same pages the test writer looked at when they wrote the test questions and developed the skills evaluation sheets.

Our Coordinators and Evaluators are here to observe your skills and knowledge – they will not help you pass the test.

Our staff and evaluators will treat you with respect and professionalism. Our goal is that you complete the testing process with satisfactory performance and earn your National Certification.

Good luck,

KFRTI Staff

#### **National Certification**

National Certification is a professional credential that verifies your proficiency in the level to which you were/are certified. Kansas certifications do not expire. If you are moving to another state, you should contact the certification entity in that state to find out if your National Certification from Kansas is recognized.

#### **Certification Program Mission**

The mission of the National Certification Program is to maintain an accredited system for Kansas Fire Service members to earn National Fire Service Certification professional credentials.

#### **Certification Program Values and Principles**

In the conduct of this program, the Kansas Fire & Rescue Training Institute uses the values listed below to guide our professional conduct; they form the foundations and parameters of this program.

- We hold in high regard honesty and integrity in ourselves and those we serve.
- **▼** Kindness and professionalism guide our instructors and our evaluators.
- ▶ We respect the fire and emergency services and those who serve in it.
- ▼ Transparency of our system, processes, and policies is paramount.
- **▼** The certification standards drive fair evaluation and testing.
- ▶ We value our role as the provider and protector of the national certification program's credibility.

#### **Academic Integrity**

We hold staff (including part-time) and certification candidates to identical ethical standards. We expect professional behavior at all times. Any incident of academic misconduct by a candidate will invalidate their test results, forfeit their certification fee, and may subject them to suspension from the certification process for one year.

Academic misconduct includes cheating, plagiarism, falsification of records, unauthorized possession of examinations, intimidation, and/or other actions that may improperly affect the evaluation of a candidate or assisting others in any such act.

Our policy on academic misconduct is that of "zero tolerance."

The University of Kansas prohibits discrimination. Specifically, the University of Kansas prohibits discrimination based on race, color, ethnicity, religion, sex, national origin, age, ancestry, disability, status as a veteran, sexual orientation, marital status, parental status, gender identity, gender expression, and genetic information in the University's programs and activities. Retaliation is also prohibited by University policy.

#### **How to Use the Certification Preparation Guide**

This National Certification Preparation Guide is designed to help you prepare for the examination process. This guide provides reading references for the written exam and the skills exam.

We have included information in this guide to help you achieve the professional Fire Service National Certification credential. There are a few critical elements in preparing for the National Certification Exam. They are: 1) Take some time between the end of your course and the certification exam to focus on studying for the exam. 2) Use this Preparation Guide to help focus on the requirements of the National Standard and your study time.

#### STEP 1: Review the Administrative information in front of this Preparation Guide.

₩ We have included some important information about the program and the steps of certification. Please take a few minutes and review these pages.

#### STEP 2: Review the Reading Reference Pages

The Reading Reference pages are arranged by Job Performance Requirements (JPRs), which are determined by the correlating NFPA standard.

- Read and study the pages listed in the written exam reading pages.
- By reading these pages, you are reading the same pages the test developer was when they were writing test questions.

#### STEP 3: Review the Skill Evaluation Sheets in this Certification Guide.

- ▼ Take note of the Instructions to the candidate (grey boxes) on each Skill Sheet. These are the instructions that the evaluator will give to you in each station before you test.
- Skills sheet references refer you to the reference manual to explain the skill. You will be graded only on those items listed on the skill evaluation sheets. Use these in your practice and exam preparations.

#### STEP 4: Read & Review, Read & Review, Read & Review, and Practice, Practice!

■ Don't practice until you do it right; <u>practice until you can't do it wrong!</u>

#### STEP 5: Get a good night's rest before the exam.

- ▶ You can be tired in three ways: Mentally, Physically, and Emotionally. If you are tired in any of these ways, it will make you tired in ALL of them.
- Save the party for after the exam... get a good night's rest... eat a good breakfast (if you test in the morning)... easy on the sugar and caffeine... and relax!

#### **GOOD LUCK!**

#### Note:

If you are exploring National Certification and haven't taken a course specifically for the level of certification you are seeking, we STRONGLY suggest that you start the process by taking a course. Under certain circumstances, you may challenge some certification exams. Persons who take a course first do much better on the exam. Contact the Kansas Fire & Rescue Training Institute for more information.

#### **National Certification Application & Processes**

**Application:** Applications are required before testing. Visit the KFRTI web page

(https://kupce.ku.edu/kufire-firefighter-certification) to download the

application.

**Registration for Exams:** Pre-registration is required. Go to the KFRTI online registration point to register

and pay the certification fee.

(https://www.enrole.com/kupce/jsp/index.jsp?categoryId=10019)

**Certification Fees:** Certification fees must be paid before the exam date. Individuals are required

to pay fees online when registering for an exam. An organization may request

to be billed; this billing process requires a Purchase Order from that

organization stating each candidate's name. To arrange billing, call the KFRTI at

1-866-804-8841. Billing cannot be processed online.

**Number of Attempts:** Candidates are allowed two attempts per test per application, and all testing

must be completed within one year of the first testing activity. Additional

testing requires a new application and fee.

**Picture I.D. Required:** A government-issued photo I.D. is required at the test site.

**Accommodations:** The Kansas Fire and Rescue Training Institute, as part of the University of

Kansas, adheres to the requirements of the Americans with Disabilities Act. Certification candidates requesting accommodations must submit the request in writing two (2) weeks before testing. The request must include a copy of the diagnosis by a qualified professional. Upon receipt of an accommodations request, the Kansas Fire and Rescue Training Institute will review the request

and notify the requestor of the proposed accommodations.

#### What if I Fail the Exam?

Failure of any required component (less than 70% on the written exam, or less than 100% on the skills exam) constitutes a failed attempt.

- a. Candidates may retest on any component of the exam (written or skills exams).
- b. Candidates must register to take a retest at another test site. No walk-in testing is allowed. Call the Institute at (toll-free) 866-804-8841 to register for a retest.
- c. Candidates are allowed two (2) attempts at any portion of the exam. A new application and fee is required if a candidate fails any portion of the exam twice. The new application starts the certification process over, and all portions of testing will have to be retested.
- d. The Institute strongly recommends that candidates study or seek additional training before attempting the exam for a third attempt.

#### **Time to Complete Certification**

Candidates have one year from the date of their first testing action to complete their certification. Retaking the written test, retesting skills, submitting verification forms, and all other requirements must be completed within that year. Failure to complete the certification within that year will invalidate all previous testing. The candidate must submit a new application, repay the testing fee, and resubmit all verification forms to retest for the written and skills tests before certification.

#### Kansas Fire & Rescue Training Institute's Certification Requirements for Trench Rescue Operations

#### **Prerequisites**

None. This certification process will test each candidate on Rope Awareness, Trench Awareness, and Trench Operations. Certifications from other entities will be evaluated for reciprocity as per the KFRTI's Reciprocity policy.

#### **Trench Rescue Operations - Certification Exam**

#### Written Exam:

- a. The Trench Rescue Operations Written Exam includes 100 multiple-choice and true/false questions. The written test covers three (3) disciplines: Rope Rescue Awareness (25 questions), Trench Rescue Awareness (25 questions), and Trench Rescue Operations (50 questions).
- b. Candidates are allowed two (2) hours to complete the exam.
- c. Answer sheets and pencils are provided. "Bubble Sheet" answer sheets that candidates fill in small circles to indicate answer (a, b, c, d) as the correct answer are used.
- d. No cell phones, radios, or other electronic devices are allowed in the room while an exam is being administered (an exception for radios that would enable "on-duty" personnel to receive alarms may be granted under special circumstances).
- e. A 70% minimum score is required to pass the written exam in each discipline.

#### Skills Exam:

- a. The Skills Exam includes individual and team skills. Depending on the skill being tested, candidates may be tested individually or as a member of a team.
- b. Teams of candidates are formed for the purpose of skills testing. Individual candidates may not pre-select or make up crews of their own choosing. The Exam Coordinator appoints teams (for testing purposes) at the test site.
- c. When testing as a team member, evaluation will include both individual performance and performance as a member of the team.
- d. Skills Exams typically include 3 to 4 stations. Each station may consist of multiple skills. All skill exams will include no fewer than eight (8) skills in total.
- e. You will be given up to two attempts at each station. The two attempts per station make up your first overall attempt at the skills exam.
- a. Skills exams require 100% to pass in all stations.
- b. No same-day skills retesting is allowed.

## Trench Rescue Operations - Written Exam Study/Preparation Information and Materials

Written Exam: 100 multiple-choice and true/false questions.

Rope Rescue Awareness
 Trench Rescue Awareness
 Trench Rescue Operations
 50 questions

Time allowed to take exam: Two (2) hours.

Passing Score: 70% (or higher)

Answer sheets and pencils are provided. "Bubble Sheet" answer sheets that candidates fill in small circles to indicate answer (a, b, c, d) as the correct answer are used.

No cell phones, radios, or other electronic devices are allowed in the room while an exam is being administered (an exception for radios that would enable "on-duty" personnel to receive alarms may be granted under special circumstances).

#### **Reading Reference/Text**

The Trench Rescue Operations written exam is referenced to two (2) documents. The first document is the supplemental guide the Kansas Fire & Rescue Training Institute (KFRTI) produced.

(KFRTI) - Kansas Fire & Rescue Training Institute Rope Rescue Operations Student Manual, 2023

(JBL) - Ron "Z" Zawlocki and Craig Dashner, Trench Rescue: Principals and Practices to NFPA 1006 and 1670, 4th edition, 2023

The National Standard test is based on

NFPA 1006 Standard for Technical Rescuer Professional Qualifications, 2021 Edition.

## Written Exam Study Pages (Test questions are taken from these exact pages.)

Section Subject Reading/Study Pages

NFPA 1006, JPR Number

#### 5.1 Rope Rescue Awareness – General Requirements

Assist a team in the operation of the haul line of a rope mechanical advantage system raising operation.

5.1.1 (KFRTI) Pages: 8-9, 35-37, 43-47, 113-116, 137- 141, 157-161

Size up a rope rescue incident.

5.1.2 (KFRTI) Pages: 10, 13-18, 157-161

Recognize incident hazards and initiate isolation procedures.

5.1.3 (KFRTI) Pages: 11-16, 19, 23-34, 43-47, 50-53, 66-69, 107-116

## Written Exam Study Pages (Test questions are taken from these exact pages.)

Section Subject

Reading/Study Pages

NFPA 1006, JPR Number

Recognize the need for technical rescue resources at an operation- or technician-level incident.

5.1.4

(KFRTI) Pages: 13-22, 26-27, 34, 54-55, 157-161

Support an operations- or technician-level incident.

5.1.5

(KFRTI) Pages: 8-9, 20-23, 29-31, 50-53, 54-55, 57-58, 69-71, 104-106,

157-161

#### 12.1 Trench Rescue Awareness – General Requirements

Interview any witness or "competent person."

12.1.1

(JBL) Pages:

4-6, 46-49

Facilitate a non-entry rescue or victim self-rescue.

12.1.2

(JBL) Pages:

9, 22-27, 35-36, 40-41, 57,61

Identify hazardous areas specific to a trench environment.

12.1.3

(JBL) Pages:

10-15, 19-22, 27-32, 55-56, 70-72

Size up a trench rescue incident.

12.1.4

(JBL) Pages: 4-8, 44-49

Recognize incident hazards and initiate isolation procedures.

12.1.5

(JBL) Pages:

33- 36, 40-41, 45-46, 51-54, 65-69, 70-86

Recognize the need for technical rescue resources at an operations- or technician-level incident.

12.1.6

(JBL) Pages:

4-5, 10-16, 51-52, 62-63

Support an operations- or technician-level incident.

12.1.7

(JBL) Pages:

16, 52-56, 62-63, 65-69

## Written Exam Study Pages (Test questions are taken from these exact pages.)

Section Subject NFPA 1006, JPR Number Reading/Study Pages

12.2 Trench Rescue Operations – General Requirements

Identify potential hazards to victims and rescuers in and around a trench excavation.

12.2.1 (JBL) Pages: 95-107, 113, 132-137

Implement a hazard control plan.

12.2.2 (JBL) Pages: 19-22, 95-107, 113, 132-137, 144-147, 183-184

Develop a shoring plan for a nonintersecting trench no more than 8ft deep.

12.2.3 (JBL) Pages: 95-98, 128-130, 137, 144-154, 156-159, 160-166, 174-178,

183-184

Implement a trench shoring plan for a nonintersecting trench no more than 8 ft deep.

12.2.4 (JBL) Pages: 95-98, 113, 144-147, 183-184

Release a victim from soil entrapment in a nonintersecting trench of 8 ft or less in depth.

12.2.5 (JBL) Pages: 83-86, 91-92, 160-163, 186--204

Remove a victim from a trench.

12.2.6 (JBL) Pages: 186-204

Disassemble support systems at a trench emergency incident.

12.2.7 (JBL) Pages: 33-36, 174-178

Terminate a technical rescue operation.

12.2.8 (JBL) Pages: 95-98, 117- 121, 125-126, 174- 178

## Trench Rescue Operation Skills Exam Study/Preparation Information and Materials

Trench Rescue Operations Skills Exam:

The Skills Exam includes individual and team skills. Depending on the skill being tested candidates may be tested individually or as a member of a team.

Teams of 4 to 6 candidates are formed for the purpose of skills testing. Individual candidates may not pre-select or make up crews of their own choosing. The Exam Coordinator appoints teams (for testing purposes) at the test site.

When testing a team member, evaluation includes both individual performance and performance as a member of the team.

Skills Exams typically include 3 to 4 stations. Each station may consist of 1 to 7 skills. All Trench Rescue Skills Exams will include no fewer than eight (8) skills in

total.

**Time allowed to take exam:** The overall skill exam is not timed; however, individual skills and/or stations

may include a maximum/minimum time.

Passing Score: Skills exams require 100% on all stations and skills. Up to two attempts will be

given for each skill and/or station being tested. These two attempts make up

your first attempt at the skills exam.

No cell phones, radios, or other electronic devices are allowed in the room while an exam is being administered (an exception for radios that would enable "on-duty" personnel to receive alarms may be granted under special circumstances).

#### **Reading Reference/Text**

The Trench Rescue Operation skills exam is referenced to:

(KFRTI) - Kansas Fire & Rescue Training Institute Rope Rescue Operations Student Manual, 2023

(JBL) - Ron "Z" Zawlocki and Craig Dashner, Trench Rescue: Principals and Practices to NFPA 1006 and 1670, 4th edition, 2023

The National Standard test is based on:

NFPA 1006 Standard for Technical Rescuer Professional Qualifications, 2021 Edition.

## Trench Rescue Operations Skill Evaluation Sheets

These Skills Evaluation Sheets are the exact grading sheets that evaluators use during the Skills Test. These sheets have been edited to use grading skills explicitly and should not be used to learn the skills.

These Skill Evaluation Sheets have been included in this Preparation Guide for the purpose of guiding you as final preparations are made (and practice performed) for the Certification Exam.

Grading for the Skills Evaluation requires performing 100% of the steps listed on these sheets. You will not be evaluated on steps of the skills that are not listed on these evaluation sheets.



## Rope Rescue Awareness: Provide support and assist a team in the operation of a haul line rope mechanical advantage raising system

Item RA1

Reference: NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 5.1.1. and 5.1.5.

Evaluator Equipment Required: Scenario 5.1, KFRTI Anchor Bag and Rigging Bag, Rescue Ropes, Pre-Rigged

"Resettable 3:1 system"

Candidate Equipment Required: Personal Protective Equipment (helmet, gloves, boots, and protective clothing)

#### **Evaluator's Instructions to Candidates**

At this station, under the supervision of the haul team leader, you will work as a member of the haul team to support an operations level rope mechanical advantage system raising operation. You shall perform your assignment per the incident action plan following operation protocols. You shall select and wear the appropriate PPE, position yourself on the haul line, then execute operational commands as directed. The load movement will remain controlled at all times. When directed, you will have 2 minutes to reset the haul cam, report task progress, and return to the haul line prepared to continue the raising operation. Additionally, you will identify, communicate, and manage safety concerns during the operation.

**Evaluation Matrix** 

This skill will end once the load has moved at least 15 feet and you performed one system reset.

<ol> <li>Performs assignment per the incident action plan</li> <li>Follows operation protocols</li> <li>Selects and wears appropriate PPE</li> <li>Recognizes parts of the mechanical advantage system</li> </ol>		1st Atter	mpt Fail	2nd Att	Fail
<ul> <li>a. Haul Line</li> <li>b. Haul cam</li> <li>5. Recognize and executes operational commands</li> <li>6. Resets the mechanical advantage system when directed</li> <li>7. Reports task progress status to supervisor</li> <li>8. Load movement remain controlled during operation</li> <li>9. Identify and Express safety concerns during raising operations</li> <li>10. Meet allowed time (2 min reset)</li> </ul>					
Date:	Station:	Pass		Fa	ail
Candidate name:  Evaluator Name:	Candidate Signature:				
Notes (Please include comments/explanation for failure):					

Revised: Jan 2023



# Rope Rescue Awareness: Perform a Size up and Initial Assessment of a Rope Rescue Incident

Item RA2

Reference: NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 5.1.2., 5.1.3,

**Evaluator Equipment Required:** 5.1.4, 5.1.5

Scenario, Simulated victim(s), Tactical Worksheets and checklist, Witness or Reporting

Candidate Equipment Required: party, Technical Reference Materials (i.e., Field guides, ERGs, NIOSH Chem Guide),

Personal Protective Equipment (Helmet), Pen and Paper

#### **Evaluator's Instructions to Candidates**

At this station, you will perform a size-up and initial assessment of a rope rescue incident. You will determine the scope of the rescue and initiate an incident management system. You shall select and use technical reference materials and planning forms. You will identify the number of victims and their last reported location through observations, interviewing witnesses, and reporting parties. The primary search area shall be determined and secured. Hazards will be assessed, and isolation methods considered and implemented to minimize risks to rescuers, bystanders, and victims. Finally, you shall determine resource needs to fit the operational requirements and consider time constraints. You have a 20 minutes maximum time limit to complete your size-up and scene assessment, then relay the information via a command transfer.

To pass this station, you must successfully complete all 100% of the steps.

#### **Evaluation Matrix**

		1St A	ttempt	Zna A	ittempt
		Pass	Fail	Pass	Fail
1. Operates within SOG/ SOP requirements for a rope rescue	incident				
2. Establish Incident Command, Incident Management System	n, and Rehab				
3. Identify type and nature of incident (technical reference in	cident type booklet)				
4. Select and use technical rescue reference materials and pl	anning forms				
5. Identify and interview on-scene sources (Witnesses, RP, LE	O, Victims)				
6. State scene boundaries, search criteria, and secure scene					
7. Assess potential hazards to rescuers and bystanders					
8. Determine safety measures and methods to isolate hazard	ls and environmental concerns				
9. Assess resource availability, capabilities, and limitations					
10. Perform a risk/benefit analysis, and minimize risk					
11. Determine the need and Initiate request for additional re	sources and equipment				
12. Implement isolation methods and control equipment					
13. Relay size-up information					
14. Meet allowed time (20 minutes)					
Date:	Station:	Р	ass	ſ	Fail
Candidate name:	Candidate Signature:				
Evaluator Name:	Evaluator Signature:				
Notes (Please include comments/explanation for failure):					

Revised: Jan 2023

# Trench Rescue Awareness: Interview any witness or competent person

Item TA1

2nd Attempt

1st Attempt

**Reference:** NFPA 1006, 2021 Edition, Chapter 12, Job Performance Requirement 12.1.1.

Evaluator Equipment Required: Trench Scenario, Witness or Competent Person, Trench tactical worksheet and

checklist

Candidate Equipment Required: Pen or Pencil

#### **Evaluator's Instructions to Candidates**

At this station, you will secure and interview any witnesses or the competent person. Using interview techniques, you will identify evidence of victim involvement, the number of victims, and their probable locations. You will determine environmental conditions for potential secondary collapse, complete a victim survivability profile, and recognize the potential for a non-entry rescue or self-rescue.

This process will end once you indicate you are finished, or the maximum 15-minute time limit expires. To pass this station you must successfully complete all 100% of the steps.

#### **Evaluation Matrix**

<ol> <li>Secure the competent person or witnesses</li> <li>Conduct an interview</li> <li>Identify number of victims</li> <li>Identify probable location of victims</li> <li>Determine environmental conditions and potential for seconda</li> <li>Determine victim survivability profile (operational mode)</li> <li>State potential for a non-entry rescue or self-rescue</li> <li>Met allowed time (15-minutes)</li> </ol>	ary collapse	Pass	s Fail	Pass	Fail
Date:	Station	n: l	Pass	Fa	ail 🔃
Candidate name:	Candidate Signature:				
Evaluator Name:	Evaluator Signature:				
Notes (Please include comments/explanation for failure):					



## Trench Rescue Awareness: Facilitate a nonentry rescue or victim self-rescue and Identify hazardous areas

Item TA2

2nd Attempt

1st Attempt

Reference: NFPA 1006, 2021 Edition, Chapter 12, Job Performance Requirement 12.1.2, 12.1.3. Evaluator Equipment Required: Trench Scenario, Ladders, Entrenching Shovel, Groundpads, Atmoshperic monitor, Ventilation fan, Rope rescue equipment, Helmet, Harness, Spec Pak, and Litter.

Candidate Equipment Required: Personal Protective Equipment (Helmet and Gloves)

#### **Evaluator's Instructions to Candidates**

At this station, you will identify hazardous areas and facilitate a nonentry or victim self-rescue. You will identify and communicate all high hazards areas in the rescue and general area. The scene shall be secured, hazards managed, and an approach path to the trench identified, prior to initiating nonentry rescue or victim self rescue tactics.

This process will end once you indicate you are finished, or the maximum 15-minute time limit expires. To pass this station you must successfully complete all 100% of the steps.

#### **Evaluation Matrix**

<ol> <li>Ability to identify areas of high risk for additional collap</li> <li>Communicate high-risk areas to other responders</li> <li>Select and deploy tools or materials for bridging or weight.</li> <li>Implements methods to reduce imposed loads at or ne</li> </ol>	ight distribution ear the lip of the trench	Pass	Fail	Pass	Fail
5. Selects and Deploys tools used to facilitate nonentry ar	nd self-rescue				<u> </u>
<ul><li>6. Implement nonentry rescue and self-rescue tactics</li><li>7. Met allowed time (15-minutes)</li></ul>					
Date:	Statio	n: Pa	ss	Fa	ail
Candidate name:	Candidate Signature:	:			
Evaluator Name:	Evaluator Signature:	:			
Notes (Please include comments/explanation for failure):					



### Trench Rescue Awareness: Perform a Size up and Initial Assessment of a Trench Rescue Incident

Item TA3

Reference: NFPA 1006, 2021 Edition, Chapter 12, Job Performance Requirement 12.1.4, 12.1.5,

12.1.6

Evaluator Equipment Required: Scenario, Simulated victim(s), Tactical Worksheets and checklist, Witness or Reporting

party, Technical Reference Materials (i.e., Field guides, ERGs, NIOSH Chem Guide),

Candidate Equipment Required: Personal Protective Equipment (Helmet), Pen and Paper

#### **Evaluator's Instructions to Candidates**

At this station, you will perform a size-up and initial assessment of a trench rescue incident. You will determine the scope of the rescue and initiate an incident management system. You shall select and use technical reference materials and planning forms. You will identify the number of victims and their last reported location through observations, interviewing witnesses, and reporting parties. The primary search area shall be determined and secured. Hazards will be assessed, and isolation methods considered and implemented to minimize risks to rescuers, bystanders, and victims. Finally, you shall determine resource needs to fit the operational requirements and consider time constraints. You have a 20 minutes maximum time limit to complete your size-up and scene assessment, then relay the information via a command transfer.

**Evaluation Matrix** 

To pass this station, you must successfully complete all 100% of the steps.

1. Operates within SOG/ SOP requirements for a trench rescue incident		
2. Establish Incident Command and Incident Management System		
3. Identify type and nature of incident		
4. Select and use technical rescue reference materials and planning forms		
5. Identify and interview on-scene sources		
6. State scene boundaries and search criteria		
7. Assess potential hazards to rescuers and bystanders		
8. Determine safety measures and methods to isolate hazards		
9. Assess resource availability, capabilities, and limitations		
10. Perform a risk/benefit analysis		
11. Determine the need and Initiate request for additional resources and equipment		

1st Attempt

Fail

Pass

2nd Attempt

Fail

**Pass** 

12. Implement isolation methods and control equipment	
13. Relay size-up information	
14. Met allowed time (20 minutes)	
Date:	Station: Pass Fail
Candidate name:	Candidate Signature:
Evaluator Name:	Evaluator Signature:
Notes (Please include comments/explanation for failure):	

#### **Item TA4**

**Reference:** NFPA 1006, 2021 Edition, Chapter 12, Job Performance Requirement 12.1.7.

Evaluator Equipment Required: Trench Scenario, Ladders, Shovel, Groundpads, Atmospheric monitor, Ventilation fan,

Rope rescue equipment, Helmet, Harness, Spec Pak, and Litter

Candidate Equipment Required: Personal Protective Equipment (Helmet and Gloves)

#### **Evaluator's Instructions to Candidates**

At this station, under the supervision of a (panel/strut/entry) team officer, you will work as a team member to support an operations-level trench operation. You shall perform your assignment per the incident action plan following standard operation protocols. In addition, you shall select and wear the appropriate PPE and execute operational commands as directed while remaining outside of non-secured hazardous areas.

This process will end once you indicate you are finished or the maximum 15-minute time limit expires. To pass this station, you must successfully complete all 100% of the steps.

#### **Evaluation Matrix**

			1st At	tempt	2nd At	ttempt
<ol> <li>Select and use required PPE g</li> <li>Identify safety concerns and potential hazards</li> <li>Apply SOGs/SOPs to a trench rescue incident</li> <li>Work within incident management system requireme</li> <li>Operate and implement an incident action plan</li> <li>Select and use required resources</li> <li>Report task progress to supervisor or IC</li> <li>Met allowed time (15-minutes)</li> </ol>	p		Pass	Fail	Pass	Fail
Date:		Station	: Pa	ıss	Fa	ail
Candidate name:		Candidate Signature:				
Evaluator Name:		Evaluator Signature:				
Notes (Please include comments/explanation for failure)	):					



# Trench Rescue Operations: Identify potential hazards to victims and rescuers in and around a trench excavation

Item TO1

2nd Attempt

1st Attempt

**Reference:** NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.1. **Evaluator Equipment Required:** Trench Scenario, Multi-gas monitor, Trench tactical worksheet and checklist

Candidate Equipment Required: Personal Protective Equipment (Helmet and Gloves), Pen or Pencil

#### **Evaluator's Instructions to Candidates**

At this station, you will identify potential hazards of a trench incident. You will identify areas of potential collapse, identify utility line locations and types, evaluate the spoil pile and additional surcharge loads, and monitor for environmental hazards to include atmospheric hazards and water sources.

This process will end once you indicate you are finished or the maximum 10-minute time limit expires. To pass this station, you must successfully complete 100% of the steps.

#### **Evaluation Matrix**

<ol> <li>Interpret tabulated data information and tables</li> <li>Identify additional collapse potential</li> <li>Perform atmospheric monitoring</li> <li>Monitor spoil piles</li> <li>Assess and address the effects of water on trench stabilition.</li> <li>Identify utility line locations</li> <li>Met allowed time (10-minutes)</li> </ol>	Ey
Date:	Station: Pass Fail
Candidate name:	Candidate Signature:
Evaluator Name:	Evaluator Signature:



## Trench Rescue Operations: Implement a hazard control plan

Item TO2

2nd Attempt

1st Attempt

**Reference:** NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.2.

Evaluator Equipment Required: Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist

Candidate Equipment Required: Personal Protective Equipment (Helmet and Gloves), Pen or Pencil

#### **Evaluator's Instructions to Candidates**

At this station, you will implement a hazard control plan. You will establish safety control zones; provisions for ventilation, dewatering, energy control, air monitoring, and falls; and implement a strategy to prevent unplanned soil movement.

This process will end once you indicate you are finished or the maximum 20-minute time limit expires. To pass this station, you must successfully complete 100% of the steps.

#### **Evaluation Matrix**

		Pass I	Fail	Pass	Fail
1. Implement hazard control plan to protect personnel inside and outside	de of trench,				
2. Establish safe zones					
3. Perform atmospheric monitoring and initiate ventilation as needed					
4. Initiate dewatering			<u> </u>		
5. Provide energy control					
6. Ability to select and use PPE					
7. Apply fall prevention					
8. Implement strategies to minimize unplanned soil movement.					
9. Met allowed time (15 minutes)					
Date:	Station:	Pass		Fai	il
Candidate name:	Candidate Signature: _				
Evaluator Name:	Evaluator Signature: _				
Notes (Please include comments/explanation for failure):					



# Trench Rescue Operations: Develop a shoring plan for a nonintersecting trench no more than 8 feet deep

Item TO3

2nd Attempt

1st Attempt

**Reference:** NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.3.

Evaluator Equipment Required: Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist

Candidate Equipment Required: Personal Protective Equipment (Helmet and Gloves), Pen or Pencil

#### **Evaluator's Instructions to Candidates**

At this station, you will develop a shoring plan for a nonintersecting trench, no more than 8ft deep, that identifies and prepares to mitigate potential collapse and entrapment hazards. You will provide a pre-briefing to the rescue team that will identify and establish safe zones both inside and outside of the trench, a strut preparation staging area, shoring strategies, and the victim release and removal plan.

This process will end once you indicate you are finished or the maximum 10-minute time limit expires. To pass this station, you must successfully complete 100% of the steps.

#### **Evaluated Skill Items**

<ol> <li>Determine shoring strategy</li> <li>Designate strut preparations staging location (cut-station)</li> <li>Determine material and equipment needs</li> <li>Establish safe zones</li> <li>Team Prebriefing         <ul> <li>shoring strategies</li> </ul> </li> </ol>		Pass	Fail Pas	s Fail
b. victim release plan c. projected path for removal		Ħ	ĦĦ	
6. Meets allowed time (10 minutes)				
Date:	Station	: Pas	ss	Fail
Candidate name:	Candidate Signature:			
Evaluator Name:	Evaluator Signature: _			
Notes (Please include comments/explanation for failure):				



# Trench Rescue Operations: Implement a trench shoring plan for a nonintersecting trench no more than 8 ft deep

Item TO4

2nd Attempt

1st Attempt

Reference: NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.4.

**Evaluator Equipment Required:** Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist **Candidate Equipment Required:** Personal Protective Equipment (Helmet, Gloves, Safety Boots, safety glasses, and

hearing protection)

#### **Evaluator's Instructions to Candidates**

At this station, as a member of a team, you will implement a trench shoring plan for a nonintersecting trench no more than 8 ft deep, based on the incident pre-briefing and protocols, so that the victim is protected from additional collapse, the trench walls are supported, prior areas of collapse are addressed, shoring team members work from protected areas, and shoring systems are installed so they perform their intended function.

This process will end once you indicate you are finished, or the maximum 60 minute time limit expires. To pass this station you must successfully complete all 100% of the steps.

#### **Evaluated Skill Items**

<ol> <li>Demonstrates the ability to place shoring and shielding systems</li> <li>Use protocols,</li> <li>Choose methods to stabilize,</li> <li>Establish a strut preparations staging location (cut-station)</li> <li>Use personal protective equipment,</li> <li>Anticipate extrication logistics,</li> <li>Install shoring</li> <li>Construct shoring system in a trench less than 8 ft deep. (prima 9. Met allowed time (60 minutes)</li> </ol>		Pass	Fail	Pass	Fail
Date:	Station	ı: Pa	ass	Fa	ail
Candidate name:	Candidate Signature:				
Evaluator Name:	Evaluator Signature:				
Notes (Please include comments/explanation for failure):					



# Trench Rescue Operations: Release a victim from soil entrapment in a nonintersecting trench of 8 ft or less in depth

Item TO5

**Reference:** NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.5.

**Evaluator Equipment Required:** Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist **Candidate Equipment Required:** Personal Protective Equipment (Helmet, Gloves, Safety Boots, safety glasses, and

hearing protection)

#### **Evaluator's Instructions to Candidates**

At this station, you will release a victim from soil entrapment in a nonintersecting trench no more than 8 feet deep. Hazards to rescue personnel and victims shall be minimized. The techniques used should take the victim's injuries into consideration, identify potential crush injuries, compartment syndrome, and enhance survivability. All techniques and actions must not compromise the integrity of the existing trench shoring system.

This process will end once you indicate you are finished or the maximum 15-minute time limit expires. To pass this station, you must successfully complete 100% of the steps.

#### **Evaluated Skill Items**

		Pass	-	Pass Fail
1. Select, use, and care for PPE				
2. Operate rescue tools and stabilization systems;				
3. Identify crush injuries related to compartment synd	drome;			
4. and complete risk/benefit assessments for selected constraints.	d methods of rescue and time			
5. Met allowed time (10 minutes)				
Date:	Statio	n: Pa	ss	Fail
Candidate name:	Candidate Signature	:		
Evaluator Name:	Evaluator Signature	:		
N	,			
Notes (Please include comments/explanation for failu	ure):			

#### Item TO6

Reference: NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.6.

Evaluator Equipment Required: Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist Personal Protective Equipment (Helmet, Gloves, Safety Boots, safety glasses, and hearing protection)

Evaluator's Instructions to Candidates

At this station, you will remove a victim from a trench, so that basic life functions are supported as required; the victim is

At this station, you will remove a victim from a trench, so that basic life functions are supported as required; the victim is evaluated for signs of compartment syndrome; methods and packaging devices selected are compatible with intended routes of transfer; universal precautions are employed to protect personnel from blood-borne pathogens; and extraction times meet time constraints for medical management.

This process will end once you indicate you are finished or the maximum 10-minute time limit expires. To pass this station, you must successfully complete 100% of the steps.

#### **Evaluated Skill Items**

		=			d Attempt	
1. Ability to coloct and use personal protective equipment		Pass	Fail	Pass	Fail	
<ol> <li>Ability to select and use personal protective equipment,</li> <li>Provide basic medical care and immobilization technique</li> </ol>			H			
		$\vdash$		$\vdash$		
<ul><li>3. Identify the need for advanced life support and compartment syndrome management,</li><li>4. Use a removal system that matches logistical and medical management time frame concerns.</li></ul>						
5. Met allowed time (10 minutes)						
Date:	Station	. Pa	ss	Fa	ail	
Candidate name:	Candidate Signature:					
Evaluator Name:	Evaluator Signature: _					
Notes (Please include comments/explanation for failure):						



# Trench Rescue Operations: Disassemble support systems at a trench emergency incident

Item TO7

1st Attempt

Fail

Pass

2nd Attempt

Fail

Pass

Reference: NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.7.

**Evaluator Equipment Required:** Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist **Candidate Equipment Required:** Personal Protective Equipment (Helmet, Gloves, Safety Boots, safety glasses, and

hearing protection)

#### **Evaluator's Instructions to Candidates**

At this station, you will disassemble support systems at a trench emergency incident, while ensuring soil movement is minimized, all rescue equipment is removed from the trench, sheeting and shoring are removed in the reverse order of their placement, emergency protocols and safe zones in the trench are adhered to, rescue personnel are removed from the trench, the last supporting shores are pulled free with ropes, equipment is cleaned and serviced, reports are completed, and a post-briefing is performed.

This process will end once you indicate you are finished or the maximum 10-minute time limit expires. To pass this station, you must successfully complete 100% of the steps.

#### **Evaluated Skill Items**

1. Ability to use personal protective equipment,	
2. Perform / Attend an incident termination prebriefing.	
3. Use trench safety protocols,	
4. Remove equipment and protective systems,	
5. Clean and service equipment,	
6. Perform an incident debriefing.	
7. Met allowed time (10 minutes)	
Date:	Station: Pass Fail
Candidate name:	Candidate Signature:
Evaluator Name:	Evaluator Signature:
Notes (Please include comments/explanation for failure):	

Item TO8

**Reference:** NFPA 1006, 2021 Edition, Chapter 5, Job Performance Requirement 12.2.8.

Evaluator Equipment Required: Trench Scenario, KFRTI trench rescue cache, Trench tactical worksheet and checklist

Candidate Equipment Required: Personal Protective Equipment (Helmet and Gloves), Pen or Pencil

#### **Evaluator's Instructions to Candidates**

At this station, acting as the rescue officer, you will terminate a technical rescue incident and transfer control of the scene to the responsible party (evaluator). Utilizing a final hazard analysis and risk assessment, you will inform the responsible party of the remaining hazards, and scene security measures managed. You will ensure that personnel and equipment are assessed and accounted for and returned to a state of readiness. You will conduct a post event analysis and complete appropriate documentation to conclude the incident.

This process will end once you indicate you are finished, or the maximum 20-minute time limit expires. To pass this station you must successfully complete all 100% of the steps.

#### **Evaluated Skill Items**

		1st Atte Pass	-	2nd Att Pass	empt Fail
1. Utilizes incident command functions and resources					
2. Utilizes a hazards analysis and risk assessment					
3. Recognize and implement site control equipment and methods					
4. Inform responsible party					
a. remaining hazards					
b. implemented scene security measures					
5. Incident resource management					
a. accountability of personnel					
b. accountability of equipment					
6. Conducts a post event analysis					
7. Complete documentation					
8. Meet allowed time (20-minutes)					
Date:	Station:	Pass	s 🗌	Fa	il
Candidate name:	Candidate Signature:				
Evaluator Name:	Evaluator Signature:				
Notes (Please include comments/explanation for failure):					