

State of Oregon
Department of Public Safety Standards and Training

NFPA Trench Rescue
Task Book

Task Book Assigned To:	
Name	DPSST Fire Service #
Agency Name	Date Initiated
Signature of Agency Head or Training Officer	Date Completed

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Additional copies of this document may be downloaded from the DPSST web site:
<http://www.oregon.gov/DPSST/FC/FireCertFormFree.shtml>

Revised January 2018

NFPA Trench Rescue Signature Page

A copy of the applicant's training must be included with the DPSST NFPA Technical Rescuer application when applying for **NFPA Trench Rescue** certification. Only a certified NFPA Technical Rescuer in that specialty area may sign off the Task Book.

Attest: The information contained in this Task Book is true and correct to the best of my knowledge. I understand that falsification of information on this document is subject to penalty under ORS 162.055, et al, and ORS 162.305 and is cause to deny or revoke DPSST fire service professional certification(s).

<u>NFPA Trench Rescue Task Book Assigned To:</u>		
Signature	Printed Name	DPSST Fire Service #
Agency Name		Date Initiated
Signature of Certified Technician	Printed Name of Certified Technician	Date Completed

Technical Rescuer Evaluators: Each Evaluator must document the following information:

<u>Evaluator: Level of Technical Rescuer certification:</u>			
<input type="checkbox"/> Tower	<input type="checkbox"/> Rope - Operations	<input type="checkbox"/> Rope - Technician	
<input type="checkbox"/> Structural Collapse	<input type="checkbox"/> Confined Space	<input type="checkbox"/> Vehicle	<input type="checkbox"/> Trench
<input type="checkbox"/> Surface Water	<input type="checkbox"/> Swiftwater	<input type="checkbox"/> Dive	<input type="checkbox"/> Surf
		<input type="checkbox"/> Machinery	<input type="checkbox"/> Watercraft
<u>Sections of chapter signed off by Evaluator:</u>			
___5	___6	___7	___8
___11	___12	___16	___17
___18	___20		
Signature of Evaluator	Printed Name of Evaluator	DPSST Fire Number	Date

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Task Book Qualification Record Books (Task Book) have been developed for various certification levels within the Oregon Department of Public Safety Standards and Training (DPSST) system. Each Task Book lists the job performance requirements (JPRs) for the specific certification level in a format that allows a candidate to be trained and evaluated during three (3) sequential sessions. Successful performance of all tasks, as observed and recorded by a qualified and approved evaluator will result in the candidate's eligibility for DPSST certification.

To become certified at a specific level, the applicant must successfully complete the job performance requirements in sequence. Before a job performance evaluation can be taken, all requisite knowledge and skills must be satisfied. In addition, all relative task book evaluations must be checked off by the evaluator. When all prescribed requirements have been met, an application for Certification will be forwarded to DPSST. All certificates are mailed to the Training Officer at his/her Fire Service Agency.

TASK BOOK SPECIFICATIONS:

To successfully complete this task book, only an evaluator certified as an NFPA Trench Rescue may sign off on the JPR's. 'Requisite Knowledge' sections may be completed during class and signed by the instructor. 'Requisite Skills' sections may be conducted and signed at the candidate's fire agency.

NFPA TASK BOOK INFORMATION:

The JPRs covered in this Task Book meet or exceed all NFPA published standards for this certification level at the time of this publication. Mention of NFPA and its standards do not, and are not intended as adoption of—or reference to—NFPA standards. For more information on the complete job performance requirements and data, see the individual DPSST Task Book for that certification level.

NOTE TO FIRE SERVICE AGENCIES:

These JPRs serve as general guidelines. As such they are not intended to replace specific sequences of apparatus or equipment operation that may be outlined by manufacturer specifications. At all times, standard operating procedures of the Fire Service Agency in which the evaluation is being conducted will govern. Fire Service Agencies should have available for evaluators a copy of manufacturer specifications and the Fire Service Agencies standard operational guidelines.

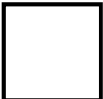
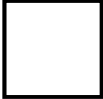
***A vertical line (|) to the left of the document indicates a change from the previous standard.**

HOW TO EVALUATE PERFORMANCE:

Each JPR has one to three corresponding boxes to the right in which to confirm a candidate's success. The evaluator must indicate successful passing by the candidate of each JPR by initialing and dating (see example on the following page).

Example:

11.1.1 Identify the need for trench and excavation collapse rescue, given a specific type of collapse incident, so that resource needs are identified and the emergency response system for trench and excavation collapse is initiated.



TASK BOOK QUALIFICATION RECORD

FOR THE CERTIFICATION LEVEL OF

NFPA Trench Rescue

Prior to becoming certified in this position, the sample candidate must successfully complete the following Job Performance Requirements (JPR). For each JPR there are requisite knowledge and skill requirements. The evaluator must initial and date in the box provided to indicate the meeting of those requirements before the firefighter may proceed.

11.1 Awareness Level. The job performance requirements defined in 11.1.1 through 11.1.5 shall be met prior to awareness-level qualification in trench rescue.

11.1.1 Identify the need for trench and excavation collapse rescue, given a specific type of collapse incident, so that resource needs are identified and the emergency response system for trench and excavation collapse is initiated.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(A) Requisite Knowledge. Equipment organization and tracking method, recognition the hazards associated with the weight of soil and its entrapping characteristics, resource capabilities, procedures for activation of emergency response for collapse incidents.

<input type="checkbox"/>

(B) Requisite Skills. Ability to use communication equipment, track resources and communicate needs.

<input type="checkbox"/>

11.1.2* Conduct a size-up of a collapsed trench, given an incident and background information and applicable reference material, so that the size-up is conducted within the scope of the incident management system; the existing and potential conditions are evaluated within the trench and the rescue area; general hazards are identified; a witness or “competent person” is secured; the probability of victim existence, number, condition, and location is determined; potential for rapid, nonentry rescues or victim self-rescue is recognized; needed personnel, supply, and equipment resources are evaluated; and utility involvement and location are determined. (See Annex H.)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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(A) **Requisite Knowledge.** Methods to distinguish soil types, collapse mechanics, and other contributing factors such as severe environmental conditions and other general hazards; need to immediately secure “competent person” or witness; signs and evidence of victim involvement, number, and location; jurisdictional and community resource lists and agreements; effects and hazards of collapse and rescue efforts on utilities at the incident site; personnel training level and availability; risk/benefit analysis; protocols; incident management system; and all applicable regulations, laws, and standards.



(B) **Requisite Skills.** The ability to measure dimensions of trench, categorize soil, identify type and degree of collapse, and determine severe environmental conditions with implications for secondary collapse and victim survivability; demonstrate interview techniques; implement protocols and resource acquisition agreements; implement public works utility notification, response, and location procedures; perform a risk/benefit analysis for determining self-rescue, rescue, or recovery mode; implement an incident management system for span of control; and apply governing regulations, laws, and standards.



11.1.3* Implement a trench emergency action plan, given size-up information and a trench incident, so that initial size-up information is utilized; prebriefing is given to rescuers; documentation is ongoing; the collapse zone is established; a risk/benefit analysis is conducted; rapid, nonentry rescues or victim self-rescues are performed; the rescue area and general area are made safe; strategy and tactics are confirmed and initiated for existing and potential conditions; rapid intervention team and operational tasks are assigned; other hazards are mitigated; rescue resources are staged; and a protective system is being utilized.



(A) **Requisite Knowledge.** Size-up information and documentation; need to brief rescuers; areas that could be affected by collapse; variables to factor risk/benefit analysis; criteria for rapid, nonentry rescues; methods to control hazards in the general area; options for strategy and tactical approach by factoring time frame, risk/benefit, approved shoring techniques, and personnel and equipment available; incident management system; rescue personnel and equipment cache staging; and options for victim isolation and/or protective systems.



(B) **Requisite Skills.** The ability to use and document tactical

worksheets; disseminate information; understand mechanics and extent of collapse effects; perform risk/benefit analysis; execute rapid, nonentry rescues; mitigate hazards by isolation, removal, or control; reduce imposed loads at or near the lip of the trench; choose strategy and tactics that will enhance successful outcome; use incident management system and resource staging; and apply choice of isolation and/or protective system promptly to surround victim.

11.1.4* Implement support operations at trench emergencies, given an assignment, and equipment and other resources, so that a resource cache is managed, scene lighting is provided for the tasks to be undertaken, environmental concerns are managed, a cut station is established, supplemental power is provided for all equipment, atmospheric monitoring and ventilation are implemented, personnel rehab is facilitated, operations proceed without interruption, extrication methods are in place, and the support operations facilitate rescue operational objectives.

(A) Requisite Knowledge. Equipment organization and tracking methods, lighting resources, dewatering methods, shelter and thermal control options, basic carpentry methods, hand and power tool applications, atmospheric monitoring protocol, rehab criteria, and extrication and removal equipment options.

(B) Requisite Skills. The ability to track equipment inventory, provide power, use lighting, choose and deploy dewatering techniques, acquire or construct structures for shelter and thermal protection, select rehab areas and personnel rotations, operate atmospheric monitoring and ventilation equipment, and perform patient packaging and removal.

11.1.5 Initiate the incident management system given a trench or excavation collapse incident, so that scene management is initiated, initial command structure is identified, resource tracking and accountability is established, and the incident action plan is developed.

(A) Requisite Knowledge. Incident management system structure, implementation procedures, expansion methodology, resource management techniques, tracking methods, incident action plan components, accountability systems, and IMS documentation forms rescuer rehabilitation criteria.

(B) Requisite Skills. Ability to utilize IMS forms and command tools, and use communication devices and accountability tracking systems.

11.2 Operations Level. The job performance requirements defined in Section 5.2, Section 11.1, and 11.2.1 through 11.2.5 shall be met prior to operation-level qualification in trench rescue.

11.2.1* Support a nonintersecting straight wall trench of 8 ft (2.4 m) or less in depth as a member of a team, given size-up information, an action plan, a trench tool kit, and an assignment, so that strategies to minimize the further movement of soil are implemented effectively; trench walls, lip, and spoil pile are monitored continuously; rescue entry team(s) remains in a safe zone; any slough-in and wall shears are mitigated; emergency procedures and warning systems are established and understood by participating personnel; incident-specific personal protective equipment is utilized; physical hazards are identified and managed; victim and rescuer protection is maximized; victim extrication methods are considered; and a rapid intervention team is staged.

(A) Requisite Knowledge. Shoring and shielding, tabulated data, strategies and tactics, protocols on making the general area safe, criteria for a safe zone within the trench, types of collapses and techniques to stabilize, emergency procedures, selection of personal protective equipment, and consideration of selected stabilization tactics on extrication and victim safety.

(B) Requisite Skills. The ability to interpret tabulated data information and tables, place shoring and shielding systems, install supplemental shoring, use protocols, choose methods to stabilize, use personal protective equipment, anticipate extrication logistics, and create systems in trenches 8 ft (2.4 m) deep.

11.2.2* Release a victim from soil entrapment by components of a nonintersecting collapsed trench of 8 ft (2.4 m) or less in depth, given personal protective equipment, a trench rescue tool kit, and specialized equipment, so that hazards to rescue personnel and victims are minimized, considerations are given to crush syndrome and other injuries, techniques are used to enhance patient survivability, tasks are accomplished within projected time frames, and techniques do not compromise the integrity of the existing trench shoring system.

(A) **Requisite Knowledge.** Identification, utilization, and required care of personal equipment; general hazards associated with each type of trench collapse; methods of evaluating shoring systems and trench wall stability; crush syndrome protocols; identification of collapse characteristics; causes and associated effects of trench collapse; potential signs of subsequent collapse; selection and application of rescue tools and resources; risk/benefit assessment techniques for extrication methods; and time restraints.

(B) **Requisite Skills.** The ability to select, use, and care for personal protective equipment; operate rescue tools and stabilization systems; identify crush syndrome clinical settings; and complete risk/benefit assessments for selected methods of rescue and time restraints.

11.2.3* Remove a victim from a trench, given a disentangled victim, a basic first aid kit, and victim packaging resources, so that basic life functions are supported as required; the victim is evaluated for signs of crush syndrome; methods and packaging devices selected are compatible with intended routes of transfer; universal precautions are employed to protect personnel from bloodborne pathogens; and extraction times meet time constraints for medical management.

(A) **Requisite Knowledge.** Medical protocols, available medical resources, transfer methods and time needed to execute, universal precautions protocol, rope rescue systems, high-point anchor options, and patient ladder raise removal techniques.

(B) **Requisite Skills.** The ability to select and use personal protective equipment, provide basic medical care and immobilization techniques, identify the need for advanced life support and crush syndrome management, and use a removal system that matches logistical and medical management time frame concerns.

11.2.4* Disassemble support systems at a trench emergency incident, given personal protective equipment, trench tool kit, and removal of victim(s), so that 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 postbriefing is performed.

(A) **Requisite Knowledge.** Selection of personal protective equipment, equipment used and its location, shoring and shielding tactics and order of placement, shoring removal protocols, criteria for a “safe zone” within the trench, personnel accountability, emergency procedures, manufacturer’s recommended care and maintenance procedures, and briefing protocols.

(B) **Requisite Skills.** The ability to use personal protective equipment, remove equipment and protective systems, use trench safety protocols, clean and service equipment, and perform an incident debriefing.

11.2.5* Terminate a technical rescue operation, given an incident scenario, assigned resources, and site safety data, so that rescuer risk and site safety are managed; scene security is maintained and custody transferred to a responsible party; personnel and resources are returned to a state of readiness; recordkeeping and documentation occur; and post-event analysis is conducted.

(A) **Requisite Knowledge.** Incident Command functions and resources, hazard identification and risk management strategies, logistics and resource management, personnel accountability systems, and AHJ-specific procedures or protocols related to personnel rehab.

(B) **Requisite Skills.** Hazard recognition, risk analysis, use of site control equipment and methods, use of data collection and management systems, and use of asset and personnel tracking systems.

11.3 Technician Level. The job performance requirements defined in Section 11.2 and 11.3.1 through 11.3.6 shall be met prior to technician level qualification in trench rescue.

11.3.1* Support an intersecting trench as a member of a team, given size-up information and an action plan, a trench tool kit, and an assignment, so that strategies to minimize the further movement of soil are implemented effectively; trench walls, lip, and spoil pile are monitored continuously; rescue entry team(s) in the trench remains in a safe zone; any slough-in and wall shears are mitigated; emergency procedures and warning systems are established and understood by participating personnel; incident-specific personal protective equipment is utilized; physical hazards are identified and managed; victim protection is maximized; victim extrication methods are considered; and a rapid intervention team is staged.

(A) **Requisite Knowledge.** Shoring and shielding, tabulated data, strategies and tactics, types of intersecting trenches and techniques to stabilize, protocols on making the general area safe, criteria for safe zones in the trench, types of collapses and techniques to stabilize, emergency procedures, selection of personal protective equipment, and consideration of selected stabilization tactics on extrication and victim safety.

(B) **Requisite Skills.** The ability to interpret tabulated data information and tables, place shoring and shielding systems, identify type of intersecting trench, use trench rescue protocols, select types of collapse and methods to stabilize, identify hazards in a trench, use personal protective equipment, and anticipate extrication logistics.

11.3.2* Install supplemental sheeting and shoring for each 2 ft (0.61 m) of depth dug below an existing approved shoring system, given size-up information, an action plan, and a trench tool kit, so that the movement of soil is minimized effectively, initial trench support strategies are facilitated, rescue entry team safe zones are maintained, excavation of entrapping soil is continued, victim protection is maximized, victim extrication methods are considered, and a rapid intervention team is staged.

(A) **Requisite Knowledge.** Shoring and shielding, tabulated data, strategies and tactics, methods and techniques to install supplemental sheeting and shoring, protocols on making the general area safe, criteria for safe zones in the trench, types of collapses and techniques to stabilize, emergency procedures, selection of personal protective equipment, and consideration of selected stabilization tactics on extrication and victim safety.

(B) **Requisite Skills.** The ability to interpret tabulated data information and tables, place shoring and shielding systems, identify supplemental sheeting and shoring, use all trench rescue protocols, identify types of collapse and methods to stabilize, identify exposure to hazards within the trench relative to existing safe zones, select and use personal protective equipment, and anticipate extrication logistics.

11.3.3* Construct load stabilization systems, given an assignment, personal protective equipment, and a trench tool kit, so that the stabilization system will support the load safely, the system is stable, and the assignment is completed.

(A) **Requisite Knowledge.** Different types of stabilization systems and their construction methods, limitations of the system, load calculations, principles of and applications for stabilization systems, and safety considerations.

(B) **Requisite Skills.** The ability to select and construct stabilization systems, evaluate structural integrity of the system, determine stability, and calculate loads.

11.3.4* Lift a load, given a trench tool kit, so that the load is lifted the required distance to gain access; settling or dropping of the load is prevented; control and stabilization are maintained before, during, and after the lift; and operational objectives are attained.

(A) **Requisite Knowledge.** Applications of levers; classes of levers; principles of leverage, gravity, and load balance; resistance force; mechanics and types of load stabilization; mechanics of load lifting; application of pneumatic, hydraulic, mechanical, and manual lifting tools; how to calculate the weight of the load; and safety protocols.

(B) **Requisite Skills.** The ability to evaluate and estimate the weight of the load, the correct operations of the tools, operation of a lever, and application of load stabilization systems.

11.3.5* Coordinate the use of heavy equipment, given personal protective equipment, means of communication, equipment and operator, and an assignment, so that operator capabilities and limitations for task are evaluated, common communications are maintained, equipment usage supports the operational objectives, and hazards are avoided.

(A) **Requisite Knowledge.** Types of heavy equipment, capabilities, application and hazards of heavy equipment and rigging, operator training, types of communication, and methods to establish communications.

(B) **Requisite Skills.** The ability to use hand signals, use radio equipment, recognize hazards, assess operator for skill and calm demeanor, assess heavy equipment for precision of movement and maintenance, monitor rescuer and victim safety, and use personal protective equipment.

11.3.6* Release a victim from entrapment by components of a collapsed trench, given personal protective equipment, a trench rescue tool kit, and specialized equipment, so that hazards to rescue personnel and victims are minimized, considerations are given to crush syndrome and other injuries, techniques are used to enhance patient survivability, tasks are accomplished within projected time frames, and techniques do not compromise the integrity of the existing trench shoring system.

(A) Requisite Knowledge. Identification, utilization, and required care of personal equipment; general hazards associated with each type of trench collapse; methods of evaluating shoring systems and trench wall stability; crush syndrome protocols; identification of collapse characteristics; causes and associated effects of trench collapse; potential signs of subsequent collapse; selection and application of rescue tools and resources; risk/benefit assessment techniques for extrication methods; and time restraints.

(B) Requisite Skills. The ability to select, use, and care for personal protective equipment; operate rescue tools and stabilization systems; identify crush syndrome clinical settings; and complete risk/benefit assessments for selected methods of rescue and time restraints.