



Standard Guide for Training of Non-Wilderness Land Search Team Member¹

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1. Scope

1.1 This guide establishes the minimum training requirements for non-wilderness land search personnel as it relates to their general, field, and search specific knowledge and skills.

1.2 A Non-Wilderness Land Search Team Member searches on the surface of the land in non-wilderness areas only, including urban or disaster areas that may be isolated or have lost supporting infrastructure, in accordance with the limits identified in the Scope of this Guide.

1.3 This guide does not provide the minimum training requirements for searching in wilderness areas, partially or fully collapsed structures, in or on water, in confined spaces, or underground (such as caves, mines, and tunnels).

1.4 Personnel trained only to this guide are not qualified to perform rescue.

1.4.1 Basic rescue skills and knowledge are found in Guide [F2751](#).

1.5 Personnel trained only to this guide are not qualified to operate in leadership positions.

1.6 Human land SAR resources that may utilize personnel trained to this guide are classified in Classification [F1993](#).

1.6.1 Individuals trained to this guide are qualified to operate on teams or crews classified as *Category – Land Search of Kind Non-Wilderness*.

1.6.2 Further training may be required before Non-Wilderness Land Search personnel may participate on particular *Category* or *Kind* of SAR resource, depending on local needs, regulations, or policies of the authority having jurisdiction.

1.7 Non-Wilderness Land Search Team Members are not qualified to work around, or ride in, helicopters without helicopter safety training.

1.8 Non-Wilderness Land Search Team Members shall know the safety precautions and procedures to be employed when working around still and swift water in the normal area of operations.

1.8.1 Non-Wilderness Land Search Team Members are not qualified to participate in swift water operations.

1.9 Non-Wilderness Land Search Team Members are not qualified to perform field navigation and, therefore, shall not be deployed where that skill is required unless supervised in the field by qualified personnel trained in accordance with the provisions of Guides [F2209](#), [F2685](#), [F2751](#), or [F3193](#).

1.10 Non-Wilderness Land Search Team Members may be deployed on local incidents as determined by the AHJ.

1.11 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

[F1633 Guide for Techniques in Land Search](#)

[F1767 Guide for Forms Used for Search and Rescue](#)

[F1773 Terminology Relating to Climbing, Mountaineering, Search and Rescue Equipment and Practices](#)

[F1993 Classification System of Human Search and Rescue Resources](#)

[F2047 Practice for Workers' Compensation Coverage of Emergency Services Volunteers](#)

[F2209 Guide for Training of Land Search Team Member](#)

[F2685 Guide for Training of a Land Search Team Leader \(STL\)](#)

[F2751 Guide for Training of a Land Search and Rescue Team Member](#)

[F2890 Guide for Hazard Awareness for Search and Rescue Personnel](#)

[F3071 Guide for Basic Wilderness GPS/GNSS Use \(GPS/GNSS-IW\) Endorsement](#)

[F3193 Guide for Training of a Land Search and Rescue Team Leader](#)

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

2.2 Other Document:³

NWCG PMS 307 Work Capacity Testing for Wildland Firefighters

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *authority having jurisdiction (AHJ)*, *n*—(1) the team, organization, agency, or other entity which is using this guide; (2) the team, organization, agency, or other entity to which a person being trained, tested, or evaluated belongs, if the instructor, evaluator, or tester is not a member of the same organization.

3.1.2 *field*, *n*—the location, away from the base or command post, in which a land search team member is searching or performing other tasks.

3.1.3 *field operations*, *n*—searches and other tasks being performed away from the base or command post.

3.1.4 *initial planning point (IPP)*, *n*—the point that is initially used to plan the search incident. The IPP may be the original point last seen or the last known position. The IPP may also be a point entirely separate based on the best available investigative information. IPP does not move after planning begins.

3.1.5 *land search team*, *n*—a group of individuals searching on the surface of the earth.

3.1.6 *land search team member*, *n*—a person who, at a minimum, meets the requirements of this guide.

3.1.7 *non-wilderness*, *n*—an area located within, or immediately next to, urban boundaries, no further than 0.5 miles (0.8 kilometers) from a road readily accessible by emergency personnel, and which may include parks, wild areas, private, state, and municipal lands.

3.1.8 *normal area of operation*, *n*—(1) the area(s) where an AHJ performs its search operations on a regular basis; (2) the area(s) where the AHJ is frequently called to assist with search operations managed by others.

3.2 For definitions of other terms used in this guide see Guide **F1633**, Terminology **F1773**, Classification **F1993**, Practice **F2047**, and other references listed in this guide.

4. Significance and Use

4.1 This guide establishes the minimum knowledge, skills, and abilities that a person must have to perform as a Non-Wilderness Land Search Team Member. No other skills are included or implied.

4.2 Every person who is identified as a Non-Wilderness Land Search Team Member shall have met the requirements of this guide.

4.3 This guide is to be used by individuals and agencies having jurisdiction that wish to identify the minimum training required for a Non-Wilderness Land Search Team Member.

4.3.1 The AHJ shall determine the depth or detail of training required to meet these needs.

4.3.2 Though this guide establishes the minimum standard of training, it does not imply that a Non-Wilderness Land Search Team Member is a “trainee,” “probationary,” or other similar term member of a team, organization, or agency.

4.3.3 Determining the requirements and qualifications for non-wilderness land search team members is the responsibility of the AHJ.

4.3.4 Nothing in this guide precludes an AHJ from adding additional requirements for its own members.

4.4 This guide can be used to evaluate a document or training program to determine if its content includes the topics necessary for training individuals to operate as a Non-Wilderness Land Search Team Member.

4.5 This guide does not stand alone and must be used with the referenced documents to provide the specific information needed by a Non-Wilderness Land Search Team Member or AHJ.

4.6 This guide by itself is not a training document. It is an outline of the topics required for training or evaluating a Non-Wilderness Land Search Team Member.

4.7 This guide can be used to evaluate a book or other document to determine if its content includes the information required for training a Non-Wilderness Land Search Team Member. Likewise, the guide can be used to evaluate an existing training program to see if it meets the requirements of this guide.

4.8 The knowledge, skills and abilities defined in this guide are not presented in any particular order and do not represent a training sequence.

4.9 A Non-Wilderness Land Search Team Member shall document his or her training by completion of a position task book, or equivalent, or by field demonstration under qualified supervision.

4.10 Unless stated otherwise, an ability or proficiency in a skill shall be demonstrated for initial qualification and then as often as required by the AHJ.

4.11 Except where a physical skill or ability must be demonstrated, the AHJ shall determine the best way to evaluate a person’s knowledge. This may be by written exam, oral exam, demonstration, or by some combination of the three.

5. Personal Fitness

5.1 Non-Wilderness Land Search Team Members shall demonstrate annually that they meet the requirements of a medical fitness standard determined by the AHJ.

5.2 Non-Wilderness Land Search Team Members shall demonstrate annually that they meet the requirements of a physical performance standard determined by the AHJ.

5.2.1 The recommended minimum physical performance requirement for Non-Wilderness Land Search Team Members is the “Light” level as defined in NWCG PMS 307, “Work Capacity Testing for Wildland Firefighters” (see **Appendix X1**).

³ http://www.nwcg.gov/pms/pubs/newshelt/workcaptest_lo.pdf

6. General Knowledge and Skills

6.1 A Non-Wilderness Land Search Team Member shall complete the National Incident Management System (NIMS) course IS-100, “Introduction to Incident Command System”.

6.2 A Non-Wilderness Land Search Team Member shall maintain certification in adult, child, infant, and two rescuer CPR.

6.3 A Non-Wilderness Land Search Team Member shall maintain certification in basic first aid or a more advanced level of emergency care.

6.4 A Non-Wilderness Land Search Team Member shall know the regulations, policies, procedures, and guidelines of the AHJ with regard to:

- 6.4.1 Callout or dispatch to an incident;
- 6.4.2 Incident check in;
- 6.4.3 Mission briefing;
- 6.4.4 Mission debriefing;
- 6.4.5 Demobilization and departing from an incident;
- 6.4.6 Communications with the media;
- 6.4.7 Working with other agencies or organizations;
- 6.4.8 Insurance coverage;
- 6.4.9 Safe driving procedures.

6.5 Non-Wilderness Land search team members shall demonstrate an understanding of the legal aspects of SAR with respect to the AHJ for the following:

- 6.5.1 Entering private property;
- 6.5.2 Emergency response;
- 6.5.3 Finding deceased individuals;
- 6.5.4 Crime scenes;
- 6.5.5 Subject, victim, witness, or patient confidentiality requirements, including, but not limited to, the Health Insurance Portability and Accountability Act (HIPAA);
- 6.5.6 Negligence and abandonment;
- 6.5.7 Confidentiality of mission information.

6.6 Non-Wilderness Land Search Team Members shall be trained to operate within the Incident Command System (ICS).

7. Personal Health, Safety, and Survival

7.1 Land Search Team Members shall know how to protect themselves from the effects of the environment in the field, including the following:

7.1.1 The five ways in which the body loses heat, the positive and negative effects of this heat loss, and the ways to assist or prevent them.

7.1.2 The reasons for wearing layered clothing, the function of each layer, and the advantages and disadvantages of materials used in each layer.

7.1.3 The factors to be considered when choosing socks and footwear.

7.2 Non-Wilderness Land Search Team Members shall know the types and quantity of food to be carried in the field during a non-wilderness search mission.

7.3 Non-wilderness Land Search Team Members shall know the personal hygiene and sanitation requirements and techniques used in the field during a non-wilderness mission.

7.4 Non-Wilderness Land Search Team Members shall demonstrate the ability to use, in the field, at least one type of non-electronic emergency signaling device.

7.5 Non-Wilderness Land Search Team Members shall meet the requirements of Guide **F2890** in regard to hazardous materials awareness training.

7.6 Land Search Team Members shall know the signs, symptoms, and preventive measures for the following:

- 7.6.1 Cold related problems;
- 7.6.2 Heat related problems;
- 7.6.3 Dehydration;
- 7.6.4 Fatigue and exhaustion;
- 7.6.5 Blisters;
- 7.6.6 Sunburn.

7.7 Land Search Team Members shall know the hazards in the normal area of operations, including, but not limited to, the following:

- 7.7.1 Plants;
- 7.7.2 Wild and domestic animals;
- 7.7.3 Terrain;
- 7.7.4 Additional risks entailed when operating at night;
- 7.7.5 Weather patterns and conditions;
- 7.7.6 Lightning;
- 7.7.7 Other (for example, snow blindness, altitude related problems, etc.).

7.8 Non-Wilderness Land Search Team Members shall know the dangers of airborne and blood-borne pathogens and how to mitigate the risks, including:

- 7.8.1 Types of pathogens;
- 7.8.2 Methods of transmission;
- 7.8.3 Body substance isolation methods;
- 7.8.4 Personal protective equipment (PPE) for airborne and blood-borne pathogens and its use.

8. Land Navigation

8.1 Non-Wilderness Land Search Team Members shall know the difference between topographic maps and road maps, and the advantages and disadvantages of each.

8.2 On a both topographic and road maps, Non-Wilderness Land Search Team Members shall demonstrate the ability to:

- 8.2.1 Identify and explain the meaning of common symbols;
- 8.2.2 Describe legend information and its use;
- 8.2.3 Identify, and know the significance of, contour lines and spacing (when shown);
- 8.2.4 Orient a map using local landmarks or features;
- 8.2.5 Determine the distance between two points on a map;

8.3 Non-Wilderness Land Search Team Members shall demonstrate the ability to determine, and communicate to another person, the coordinates of a point on a map.

8.4 Non-Wilderness Land Search Team Members shall have a basic GPS use endorsement as defined in Guide **F3071**.

9. Personal Protective Equipment

9.1 Non-Wilderness Land Search Team Members shall have, and know how to use, the Personal Protective Equipment

(PPE) necessary to safely participate in field search operations, as determined by the AHJ, including:

9.1.1 Appropriate clothing, outerwear, footwear, and personal field equipment;

9.1.2 A durable, hands-free method of carrying personal and team equipment into the field.

9.2 Non-Wilderness Land Search Team Members shall know the reasons for carrying, and explain or demonstrate the use of, all field equipment required by the AHJ.

9.3 Non-Wilderness Land Search Team Members shall demonstrate an understanding of mission-specific packing for the normal area of operations.

10. Communications

10.1 Non-Wilderness Land Search Team Members shall demonstrate the ability to verbally communicate information clearly, effectively, and accurately.

10.2 Non-Wilderness Land Search Team Members shall know the radio communications procedures and protocols used in search missions in the field, as determined by the AHJ.

10.3 Non-Wilderness Land Search Team Members shall demonstrate the ability to operate the radio equipment used for search missions in the field, as determined by the AHJ.

10.4 Non-Wilderness Land Search Team Members shall demonstrate the ability to correctly send and receive position coordinates by radio.

11. Basic Search and Rescue Knowledge

11.1 Non-Wilderness Land Search Team Members shall know the meaning of the following terms, as used in search and rescue operations:

11.1.1 Search;

11.1.2 Rescue;

11.1.3 Recovery;

11.1.4 LAST—Locate, Access, Stabilize, Transport.

11.2 Non-Wilderness Land Search Team Members shall know the six phases of search operations:

11.2.1 Preplanning;

11.2.2 Notification;

11.2.3 Planning and Strategy;

11.2.4 Tactics and Techniques;

11.2.5 Suspension;

11.2.6 After action review or critique.

11.3 To the extent determined by the AHJ, Non-Wilderness Land Search Team Members shall know the roles of other agencies or organizations, at the following levels, which coordinate, provide resources, provide services, or perform other functions in search and rescue for the AHJ.

11.3.1 National;

11.3.2 State or Provincial;

11.3.3 Tribal;

11.3.4 Local.

12. Search Specific Knowledge and Skills

12.1 Non-Wilderness Land Search Team Members shall demonstrate an understanding of the basic principles affecting search operations, including:

12.1.1 Search is an emergency;

12.1.1.1 Search urgency depends on a variety of factors (examples of search urgency rating forms are found in Guides **F1633** and **F1767**, as well as other references);

12.1.2 Searching for clues, not just subjects;

12.1.3 Clue consciousness or awareness;

12.1.4 Hasty searches usually precede grid searches.

12.1.5 Lost person behavior, including:

12.1.5.1 General classifications of lost persons;

12.1.5.2 Factors that affect lost person behavior.

12.2 Non-Wilderness Land Search Team Members shall know the function and importance of lost or missing person questionnaires (examples of questionnaires are provided in Guide **F1767**).

12.3 Non-Wilderness Land Search Team Members shall know the following terms and understand their significance in search operations:

12.3.1 Point Last Seen (PLS);

12.3.2 Last Known Point (LKP);

12.3.3 Initial Planning Point (IPP);

12.3.4 Search segment or area;

12.3.5 Probability of Area (POA);

12.3.6 Probability of Detection (POD);

12.3.7 Probability of Success (POS);

12.3.8 Coverage.

12.4 Non-Wilderness Land Search Team Members shall know the factors that affect POD, including:

12.4.1 Searcher speed;

12.4.2 Searcher spacing;

12.4.3 Terrain;

12.4.4 Vegetation and ground cover;

12.4.5 Weather;

12.4.6 Time of day;

12.4.7 Searcher condition;

12.4.8 Search subject condition.

12.5 Non-Wilderness Land Search Team Members shall know the functions of the following land search team positions:

12.5.1 Search team leader;

12.5.2 Radio operator;

12.5.3 Navigator;

12.5.4 Search team member.

12.6 Non-Wilderness Land Search Team Members shall know any AHJ specific procedures or actions to be taken upon finding the following:

12.6.1 Clues or evidence;

12.6.2 Search subject(s) or objective(s) that are:

12.6.2.1 Alive;

12.6.2.2 Deceased.

12.6.3 Possible crime scene.

12.7 Non-Wilderness Land Search Team Members shall know the differences between active (or direct) and passive (or

indirect) search tactics, their advantages and disadvantages, and the reasons for their use.

12.8 Non-Wilderness Land Search Team Members shall know how the following passive or indirect search techniques are performed:

- 12.8.1 Investigation;
- 12.8.2 Attraction;
- 12.8.3 Containment.

12.9 Non-Wilderness Land Search Team Members shall know how to perform the following active or direct search tactics:

- 12.9.1 Type I: hasty search;
- 12.9.2 Type II: loose, area, sweep, or efficient search;
- 12.9.3 Type III: tight, grid, evidence, or thorough search.

12.10 Non-Wilderness Land Search Team Members shall know the procedures for preserving an area for a search dog team.

12.11 Non-Wilderness Land Search Team Members shall know the proper procedures for handling scent articles to be used by search dog teams.

12.12 Non-Wilderness Land Search Team Members shall know the techniques and procedures used for any other search methods used by the AHJ.

12.13 A Non-Wilderness Land Search Team Member shall demonstrate the ability to perform as a member of a land search team in the normal area of operations. The AHJ shall determine how to evaluate the individual's performance. Written tests, oral tests, or both types may be used in addition to a physical demonstration. Factors to consider include, but are not limited to, the following:

- 12.13.1 Day versus night;
- 12.13.2 Terrain;
- 12.13.3 Season;
- 12.13.4 Hazardous areas.

13. Keywords

13.1 equipment; land; personnel; rescue; SAR; search; team; training

APPENDIX

(Nonmandatory Information)

X1. WORK CAPACITY TESTS⁴

X1.1 The United States Forest Service (USFS) has defined the following work levels for wildland firefighters:

X1.1.1 Arduous work involves above average endurance (aerobic fitness), lifting more than 50 pounds (muscular fitness), and occasional demands for extraordinarily strenuous activities. All wildland firefighters perform arduous duty.

X1.1.2 Moderate work involves lifting 25–50 pounds and occasional demand for moderately strenuous activity. Safety officers and fire behavior officers perform moderate duty.

X1.1.3 Light work involves mainly office-type work with occasional field activity.

X1.2 The work capacity test for each level is defined in the following table:

Work Level	Test	Description
Arduous	Pack Test	3-mile hike with 45-pound pack in 45 min.
Moderate	Field Test	2-mile hike with 25-pound pack in 30 min.
Light	Walk Test	1-mile hike with no pack in 16 min.

X1.3 All tests are to be conducted on level ground.

X1.4 Test times shall be adjusted for altitude, as shown in the following table:

Altitude (Feet)	Pack Test (Seconds)	Field Test (Seconds)	Walk Test (Seconds)
4,000 to 5,000	30	20	10
5,000 to 6,000	45	30	15
6,000 to 7,000	60	40	20
7,000 to 8,000	75	50	25
8,000 to 9,000	90	60	30

⁴ http://www.fs.fed.us/fire/safety/wct/wct_index.html

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