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**Standard for Detection Canine Selection,  
Kenneling, and Healthcare**



## Standard for Detection Canine Selection, Kenneling, and Healthcare

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## Forward

This document provides the standards for selection, kenneling and health care for healthy canines with appropriate physical and behavioral characteristics for detection work. The application of these standards addresses the welfare of the canine and the selection of canines with the necessary physical and behavioral characteristics to perform as detection canines.

The advice on managing the health, housing and husbandry of detection canines is primarily derived from specific United States Department of Agriculture legislation to secure the welfare of all kinds of animals. The American Veterinary Medical Association and other various veterinary and animal welfare groups have also developed standards and best practices for the health care, housing and management of canines. Housing recommendations, husbandry or general care issues, and health care issues related to management of the working detection canine are addressed by agencies and organizations that own these canines. Optimal physical and mental condition is required to maximize the performance of these canines.

This document was revised, prepared, and finalized as a standard by the Dogs and Sensors Consensus Body of the AAFS Standards Board. The draft of this standard was developed by the Dogs and Sensors Subcommittee of the Organization of Scientific Area Committees (OSAC) for Forensic Science.

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All hyperlinks and web addresses shown in this document are current as of the publication date of this standard.

**Key Words:** *health, detection canine, patrol canine, vaccinations, behavior, welfare, canine selection, kenneling, housing, medical, behavior, temperament, husbandry, evaluation.*

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# Standard for Detection Canine Selection, Kenneling, and Healthcare

## 1 Scope

This standard covers requirements for the selection, kenneling and health care pertaining to detection canines. It does not include training methodology standards.

## 2 Normative References

The following references are indispensable for the application of the standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

United States Department of Agriculture (USDA). *Animal Welfare Act*.<sup>a</sup>

The International Air and Transportation Association (IATA), *Live Animals Regulations*<sup>b</sup>

The American Animal Hospital Association (AAHA), *Vaccination Recommendations for General Practice*<sup>c</sup>

## 3 Terms and Definitions

For purposes of this document, the following definitions apply.

### 3.1 affiliative behavior(s)

Observable response(s) that reinforce social bonds within a group/promote group cohesion (e.g., relaxed, neutral body language and related tail position and movement, willingness and ability to engage in safe, positive interactions with people and other dogs; play with, grooming or licking of others, attention-solicitation)

### 3.2 aggression

Behavioral response(s) communicating threat of harm or behaviors that inflict actual harm toward another individual. It can be appropriate or inappropriate, and involve a threat, challenge or contest.

NOTE The word “aggressive” is often used as a descriptive term for intense, enthusiastic, or forceful behavior of any kind, and these canines may not be truly aggressive or possess aggression.

<sup>a</sup> <https://www.nal.usda.gov/awic/animal-welfare-act>

<sup>b</sup> [https://www.iata.org/en/publications/store/live-animals-regulations/?identifiers=kwd-83425637529680:aud-808070234:loc-190&Campaign=AP-PUQ003-APCS-PUBS-2021%20PO40043697%20\(%2410000\)%20%20Search&CampaignId=372465034&AdGroup=Publications%20LAR%20-%20Iata%20Live%20Animal%20Regulations&AdGroupId=1334807410759716&AdId=83425549558180&Network=o&msclkid=882ef547b1a61d273afaaa1c04c1f0f1&utm\\_source=bing&utm\\_medium=cpc&utm\\_campaign=AP-PUQ003-APCS-PUBS-2021%20PO40043697%20\(%2410000\)%20%20Search&utm\\_term=iata%20live%20animal%20regulations&utm\\_content=Publications%20LAR%20-%20Iata%20Live%20Animal%20Regulations](https://www.iata.org/en/publications/store/live-animals-regulations/?identifiers=kwd-83425637529680:aud-808070234:loc-190&Campaign=AP-PUQ003-APCS-PUBS-2021%20PO40043697%20(%2410000)%20%20Search&CampaignId=372465034&AdGroup=Publications%20LAR%20-%20Iata%20Live%20Animal%20Regulations&AdGroupId=1334807410759716&AdId=83425549558180&Network=o&msclkid=882ef547b1a61d273afaaa1c04c1f0f1&utm_source=bing&utm_medium=cpc&utm_campaign=AP-PUQ003-APCS-PUBS-2021%20PO40043697%20(%2410000)%20%20Search&utm_term=iata%20live%20animal%20regulations&utm_content=Publications%20LAR%20-%20Iata%20Live%20Animal%20Regulations)

<sup>c</sup> <https://www.aaha.org/aaha-guidelines/vaccination-canine-configuration/vaccination-recommendations-for-general-practice/>

**3.3  
arrhythmia**

A condition in which the heart beats with an irregular or abnormal rhythm.

**3.4  
auscultation**

The action of listening to sounds from the heart, lungs, or other organs, typically with a stethoscope, as a part of medical evaluation.

**3.5  
aversive behavior(s)**

Observable response(s) indicating desire to avoid a stimulus (may be motivated by fear but can occur without fear; e.g., learned or inherent dislike of a noxious or irritating stimulus)

**3.6  
avoidance behavior**

Observable response(s) that is indicative of a desire to refrain from contact or engagement with a stimulus.

**3.7  
blood chemistry**

A panel of blood tests that measures the components of blood including electrolytes, glucose and enzymes that provides information about organ function and physiologic state.

**3.8  
body condition**

Weight for frame and relative proportions of muscle and fat.

**3.9  
body condition scoring**

The process of evaluating the relative fat composition of the canine. Scores are based on 1 to 5 with normal as a 2 to 3; or 1 to 9 with normal as a 4 to 5.

**3.10  
canine procurement evaluator**

An individual with relevant training and experience to assess trained or minimally trained dogs based on standards specified in a contract/statement of work for purchase, while showing no bias or partiality. Experience in canine behavior observation, canine behavioral measurement, and knowledge of procurement requirements should be demonstrated by a person working in this role.

**3.11  
cataracts**

Partial or complete clouding of the lens in the eye that leads to a decrease in vision. Cataracts can be genetic or acquired.

**3.12  
chase drive**

The innate impulse of the canine to pursue a moving object (prey, ball, scooter, etc.)

**3.13**

**corneal defects**

Irregularity or abnormality of the cornea, the clear outermost layer of the eye.

**3.14**

**cryptorchidism**

The absence of one or both testes from the scrotum.

**3.15**

**dentition**

Pertains to the development of teeth and their arrangement in the mouth. In particular, it is the characteristic arrangement, kind, and number of teeth in a given species at a given age. That is, the number, type, and morpho-physiology (the physical shape) of the teeth of an animal.

**3.16**

**defensive aggression**

Behaviors indicating that the dog will **not** attack unless the stimulus eliciting the behavior does not withdraw (typically rooted in fear and characterized by backward and lowered body language and threatening postures intended to protect the dog's body, (e.g., tucked tail).

**3.17**

**deworming**

(Replacing worming) is the giving of an anthelmintic drug (a wormer, dewormer, or drench) to a human or animal to rid them of helminths parasites, such as roundworm, flukes and tapeworm.

**3.18**

**digestibility**

The measure of how much of the nutrient in a food the canine can extract and absorb.

**3.19**

**drive**

The propensity of a canine to exhibit instinctual behaviors when faced with particular stimuli. Drives are triggered by these particular stimuli (e.g., food or retrieve) and expressed in a typical and predictable way that is associated with the particular stimulus. Expression of drives can be enhanced or diminished through experience (e.g., training, environment, etc.), but they cannot be created or eliminated. Drive therefore reflects the motivation to perform a behavior.

**3.20**

**dual-purpose canine**

A canine trained in two disciplines. For example, a canine trained for narcotics and criminal apprehension.

**3.21**

**elbow dysplasia**

A disease of the elbow joint of canines caused by growth disturbances in the elbow joint.

**3.22**

**endoparasite**

An organism that lives in (internal) another organism (its host) and benefits by deriving nutrients at the host's expense.

**3.23**

**environmental enrichment**

The process of improving the mental and physical welfare of animals by providing behavioral choices through enhancements to their environment.

**3.24**

**environmental soundness**

The ability of the canine to work, maneuver, search and rest in various conditions of noise, odor, surfaces without demonstrating fear or anxiety

**3.25**

**fear**

A behavioral response involving the autonomic nervous system (e.g., fight or flight) in the presence of actual or perceived danger involving avoidance, withdrawal or engagement via agonistic behavior.

**3.26**

**fight drive**

The innate impulse of a canine to merely measure physical prowess with an opponent.

**3.27**

**food drive**

The innate impulse to work to obtain food.

**3.28**

**frame**

**skeletal proportion**

The internal bony structures that give the shape and proportion to the canine.

**3.29**

**hematology**

The study of blood in health and disease.

**3.30**

**hip dysplasia**

An abnormal formation of the hip socket.

**3.31**

**hunt**

Search determinedly for someone or something.

**3.32**

**hunt drive**

The innate impulse of a canine to search determinedly using the senses of smell, sight, hearing, and/or taste.

**3.33**

**husbandry**

The science of providing for the needs of an animal including housing, daily care, feeding, exercise, and meeting the behavioral/mental/emotional needs of the animal.

**3.34**

**independence**

*Scientific usage:* Statistical studies assume a property called independence - a situation where the data collected are not related to each other because they come from a random sample from the population examined; independence is often assumed but seldom tested. Good statistical testing tests for independence when its presence is unclear. *Operational usage:* The canine's capability to perform without assistance or being influenced by the canine handler.

**3.35**

**lumbar spine**

The seven vertebrae between the ribs and the pelvis.

**3.36**

**mental state**

The level of awareness and response to the environment.

**3.37**

**microchip**

An implant that is placed under the skin of an animal that provides a unique electronic identification.

**3.38**

**motivation**

The degree to which an animal is inclined to perform a goal-directed behavior based on internal and external stimuli.

**3.39**

**nares**

The nostrils.

**3.40**

**nasopharynx**

The upper part of the pharynx connecting with the nasal cavity above the soft palate.

**3.41**

**neuter**

To remove the canine's reproductive organs.

**3.42**

**offensive aggression**

Behaviors indicating that the dog will attack unless the stimulus eliciting the behavior withdraws (typically characterized by rigid, forward and upward body language and threatening postures intended to make the dog look larger)

**3.43**

**olfaction**

**olfactory**

Of, relating to, or connected with the sense of smell.

**3.44**

**palate**

The roof of the mouth separating the oral cavity from the nasal cavity. Canines have a bony hard palate and a soft tissue extension called the soft palate.

**3.45**

**person screening canine**

**PSC**

A canine trained to detect and alert to the presence of explosives for which it has been trained that may be person borne. The canine team is not EDC certified, however, the canine team may be responsible for searching its intended operational area and/or person(s) separated from their personal property

**3.46**

**posture**

The position in which the body is held.

**3.47**

**prey drive**

The innate impulse of a canine to grasp prey. This drive can be delineated as “instinctive” prey drive (prey consists of natural targets like birds, rodents, etc.) and “imprinted” prey drive (prey consists of learned targets such as toys, balls, sticks, etc.). A canine’s overall prey drive is a ratio of instinctive and imprinted prey drives.

**3.48**

**primary enclosure**

An enclosure used for long-term housing of the adult canine or puppy.

**3.49**

**pupillary response to light**

The action of the pupils constricting in response to light, it requires vision and normal neurologic control of the pupils.

**3.50**

**radiograph (x-ray)**

An image produced on a sensitive plate or film by X-rays or similar radiation, and typically used in medical examination.

**3.51**

**respiratory**

Related to breathing and exchange of oxygen and carbon dioxide.

**3.52**

**response**

A behavior that a canine has been trained to exhibit upon locating the source of a target odor/scent. This behavior may be either passive (sit, stare, down, point) or active (bite, bark, scratch, jump, etc.).

**3.53**

**retrieve**

Behaviors associated with finding and returning prey or objects back to the canine handler or social group.

**3.54**

**retrieve drive**

The innate impulse to find and bring prey.

**3.55**

**reward**

The presentation of a desired or preferred article, toy, food, or praise given to the canine once the detector canine has alerted and responded to the odor(s)/scent(s) for which the canine is trained to detect/locate.

**3.56**

**safety data sheet**

**SDS**

A document providing comprehensive information about a substance or mixture for using in workplace chemical management as adopted by the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

NOTE Previously known as a material safety data sheet (MSDS).

**3.57**

**search drive**

The innate impulse of a canine to look for hidden prey.

**3.58**

**sinus arrhythmia**

A regularly irregular heart rhythm associated with changes in breathing, normal finding in the canine.

**3.59**

**startle response**

A largely unconscious defensive response to sudden or threatening stimuli or perceived stimuli.

**3.60**

**stertor**

The act of producing a snoring sound.<sup>d</sup>

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<sup>d</sup> Merriam Webster online dictionary, Available at <https://www.merriam-webster.com/>

**3.61  
stridor**

A harsh vibrating sound heard during respiration in cases of obstruction of the air passages. <sup>1</sup>

**3.62  
submissiveness**

Willingness of the canine to yield to or cede control to a handler, another person or animal.

**3.63  
temperament**

The general consistence with which the animal behaves. Broad classes of temperament appear to be heritable. *Outgoing*—Behavior of the canine characterized by seeking human interaction.

*Stable*—Behavior of the canine that is consistent over time, place and environmental conditions.

**3.64  
tenacity**

The quality of a canine to persist at a task regardless of the environmental distractions or task difficulty.

**3.65  
titer**

(See **vaccine titer**.)

**3.66  
tracking**

The propensity or learned ability of a canine to methodically follow odor/scent on the ground (human/ground disturbance) by working the canine close to the pathway. Canines are not typically pre-scented on an object.

**3.67  
urine specific gravity**

A measure to determine the concentration of the urine.

**3.68  
vaccination**

The administration of antigenic material (a vaccine) to stimulate an individual's immune system to develop adaptive immunity to a pathogen. Vaccines can prevent or ameliorate morbidity from infection.

**3.69  
vaccine titer**

The antibody titer is a test that detects the presence and measures the amount of antibodies within a canine's blood. The amount and diversity of antibodies correlates to the strength of the body's immune response.

**3.70  
welfare**

The state of the canine (positive or negative) as a function of his/her ability to cope with its environment (internal or external).

**3.71****whelping**

Giving birth to a puppy.

**4 Selection of Potential Detection Canines for Procurement**

**4.1** Before carrying out a procurement evaluation test, the canine's basic medical condition and physical health should be assessed to eliminate those animals which, during screening are not found to be physically and/or behaviorally healthy enough to perform the task. It is normal for a full veterinary assessment to be carried out upon completion of a successful evaluation.

This preliminary physical assessment shall include hip and elbow radiographs (x-rays) and current vaccination records.

**4.2** The supplier/vendor shall disclose if the canine was previously trained on any operational odor/scent (e.g., narcotics, explosives) or non-operational odor/scent (e.g., tennis balls, essential oils).

If a canine was previously trained on an operational target odor, it shall not be trained on a different operational discipline in odor detection (i.e., narcotics versus explosives).

**4.3** Due to the importance of the initial selection evaluations, they should only be carried out by a canine procurement evaluator.

**4.4** Business with suppliers shall be conducted equitably, fairly and according to appropriate legal and contractual agreements in accordance with applicable federal, state and local regulations.

**4.4.1** A validated procurement selection evaluation should be used by agency/department/organization, herein referred to as organization<sup>[12]</sup>.

**4.4.2** The evaluation shall be designed to establish that the canine has the essential behaviors and temperament to be a likely successful detection canine candidate.

NOTE Desirable and undesirable canine performance outcomes are organization specific.

**4.4.2.1** Temperament of the canine shall be a primary consideration in selecting a detection canine.

**4.4.2.2** The organization shall define acceptable canine temperament prior to evaluation.

**4.5** Evaluation of adult canines should take place between 12 and 36 months of age because this is when canines are normally behaviorally and socially mature.

NOTE Canines are not typically skeletally mature until 18 months of age.

**4.6** Evaluation shall be conducted by the canine procurement evaluator and be carried out in an environment unfamiliar to the canine, but representative of the type where the canine will be operating after training.

4.7 Organization(s) may add additional assessment(s) to determine the operational suitability of the canine representative of the canine's intended operational environment.

## **5 Evaluation Methods for Selection of Single Purpose Detection Canines**

### **5.1 Canine Temperament Evaluation**

5.1.1 The evaluation assesses the canine's consistency of response to environmental stimuli.

5.1.2 A potential detection canine should respond to external stimuli with minimal distraction and without fear or aggression, and demonstrate outgoing and investigative behaviors.

5.1.3 Canines shall be able to tolerate a variety of work conditions appropriate to the task.

5.1.4 Canines shall not exhibit temperament flaws to include: a variety of fears, avoidance behaviors, high startle response, and unwarranted aggression, etc.

5.1.5 Canines should, without fear or aggression, be capable of being lifted and carried for, but not limited to, evaluation, deployment, and/or veterinary assessment(s).

### **5.2 Environmental Soundness Evaluation**

5.2.1 The evaluation assesses the canine's normal reactions in commonly encountered operational environments.

5.2.2 Environmental soundness evaluations should include the following environments:

- a) flooring and footing (e.g., carpet, wood, ceramic);
- b) open and closed stairs;
- c) temperature variations;
- d) light intensity (from bright light to totally dark);
- e) open and confined areas, with and without obstacles; and
- f) various noise distracters.

5.2.3 The canine's performance should be graded on the ability to work in new environments while maintaining focus or without demonstrating fear responses to external stimuli.

5.2.4 The canine shall exhibit minimal distraction in a search area (tenacity). The organization shall define acceptable canine distraction prior to evaluation.

### **5.3 Search and Retrieve/Food Drive Evaluations**

5.3.1 The evaluation assesses the canine's ability to demonstrate search behavior (hunt) and its motivation to retrieve/possess toys or accept food in different environmental conditions.

**5.3.2** The canine's performance should be graded on the intensity to obtain the reward (speed and possession; persistence to obtain and retain the reward).

**EXAMPLE** Throwing a reward item for recovery on grass, solid wood floor, steel decking, or open stairs. Where the throws are indoors, the evaluations are done in full light to complete darkness. The canine can also be evaluated where the evaluator carries out a fake throw where the canine responds as if the item has been thrown when it has not. This evaluates the canine's motivation to search (hunt drive). A further evaluation of the hunt drive can be outside where the item is thrown into long grass and both upwind and downwind. The evaluator assesses the canine's change in behavior when the canine can see the reward and is able to anticipate the hunt, the speed with which the canine goes out for the reward as well as the speed of approach and of the retrieve. The canine is assessed for its determination to retain the reward after retrieval.

## **5.4 Sociability Evaluation**

**5.4.1** The evaluation assesses the canine's reaction to people, canines and other animals as appropriate throughout all aspects of the selection process.

**5.4.2** This evaluation should initially be done without the canine's expected detection reward (i.e., ball, toy, towel, food).

**NOTE** The presence or absence of expected reward can impact the outcome of the evaluation.

**5.4.3** The evaluation should be then repeated to assess the canine's ability to recover its primary reward (i.e., ball, toy, towel, food) in and around the people. The reward should be thrown near them and the evaluation will assess the canine's level of distraction by those standing around the reward.

**5.4.4** The canine's performance should be graded on the following behaviors including but not limited to:

- a) affiliative behavior,
- b) offensive aggression,
- c) defensive aggression,
- d) fearfulness,
- e) submissiveness,
- f) intrusive behavior,
- g) aversive behavior, and
- h) potential for distraction.

**EXAMPLE** The canine is led by its handler through a minimum of two people. The canine moves between the people without overt response, without showing avoidance-behavior or aggression.

Curious sniffing is evaluated as a completely natural social behavior and therefore, is considered as harmless as ignoring of the passive person group.

## **5.5 Additional Discipline Specific Evaluations**

**5.5.1** In addition to the evaluations listed in 5.1 through 5.4, detection canines with tracking/trailing capability shall conduct tracking evaluation(s).

**5.5.1.1** Tracking evaluation(s) determines whether the canine has any natural tracking ability or any previous training. It measures canine's desire/ability to use its nose, its interest level, its desire to pursue the track and its tenacity to stay with it to the end.

**5.5.1.1.1** The canine's performance should be graded on the natural tracking ability. This test is merely a measure of what there is to work with and is not a pass/fail situation.

**EXAMPLE** The track would be laid in an open field with minimal distractions and with grass up to six inches in height. The person laying the track will walk in a straight line, downwind, for up to 200 feet, lay a ball at the end and return to the start, on the same track. The track can be marked by scuffing it. The handler is directed to the start of the track. The track is laid at least 10 minutes and not more than 30 minutes prior to exposing the canine to it. The canine is directed to the track without encouragement to see if the canine will indicate and pursue it on its own. If the canine does not, then some direction can be given. Once the canine has indicated the track, its level of interest, whether the canine stays with it or distracts and if the canine is working the track should be observed.

**5.5.2** In addition to the evaluations listed in 5.1 through 5.4, detection canines with Person Screening (PSC) capability shall conduct search and retrieve/food drive evaluations on a static person and moving person.

**5.5.2.1** Search and retrieve/food drive evaluations on a static person assesses the canine's ability to demonstrate search behavior (hunt) and its motivation to retrieve/possess toys or accept food concealed on or near a person in different environmental conditions.

The canine's performance should be graded on the intensity to obtain the reward (speed and possession; persistence to obtain and retain the reward).

**EXAMPLE** Concealing a reward item for recovery on or near a static person (role player). The role player will remain static throughout the entirety of the evaluation. The canine is assessed for its determination to remain at the source of the reward item without losing interest and or walking away until rewarded.

**5.5.2.2** Search and retrieve/food drive evaluations on a moving person assesses the canine's ability to demonstrate search behavior (hunt) and its motivation to retrieve/possess toys or accept food concealed on a person in different environmental conditions.

The canine's performance should be graded on the intensity to obtain the reward (speed and possession; persistence to obtain and retain the reward) and aggression.

**EXAMPLE** Concealing a reward item for recovery on a person (role player). The role player will entice the canine and then walk away from the canine. The canine is assessed for its determination

to remain at the source of the reward item without losing interest and or walking away until rewarded. The canine does not exhibit aggression towards the role player.

## **5.6 Overall Canine Selection Performance**

**5.6.1** Desirable and undesirable canine performance outcomes are organization specific.

**5.6.2** Desirable canine performance evaluation outcomes should include, but are not limited to, the canine:

- a) having a stable and outgoing temperament in any environment;
- b) demonstrating retrieve/hunt drive on a thrown or hidden object;
- c) having concentration and maintenance of focus over time with the canine's attention on the object, regardless of area and other distractions;
- d) maintaining consistent motivation throughout the entire evaluation;
- e) demonstrating independent sniffing behavior;
- f) demonstrating independent searching behavior.

**5.6.3** Undesirable canine performance evaluation outcomes include, but are not limited to, the canine:

- a) being distracted/overwhelmed by the environmental conditions;
- b) demonstrating lack of motivation;
- c) chasing but not searching for the object;
- d) not searching/hunting for the object;
- e) giving up the search easily;
- f) being unwilling to chase a moving object;
- g) chasing but leaving for distractions, such as animal contamination – i.e., urine/feces, other people or casual items in area – such as a piece of paper on ground;
- h) failing to search/hunt for odor/object;
- i) failing to find the odor/object;
- j) showing a lack of search intensity;
- k) showing diminishing interest in the reward during the evaluation;
- l) behaving in a fearful manner;

- m) behaving with unwarranted or out of context aggression;
- n) being unable to work around people;
- o) being unable to work around other canines;
- p) not having the persistence or mental stamina to complete the task;
- q) being easily distracted by noise, people, other canines;
- r) exhibiting excessive panting that is not due to heat or exercise (exhibiting stress behavior); and/or
- s) showing a lack of physical stamina.

## **6 Evaluation Methods for Selection of Single Purpose Patrol Canines and/or Dual-purpose Detection and Patrol Canines**

### **6.1 Canine Temperament Evaluation**

**6.1.1** The evaluation assesses the canine's consistency of response to environmental stimuli.

**6.1.2** A potential detection canine should respond to external stimuli with minimal distraction and without fear, and demonstrate outgoing and investigative behaviors.

**6.1.3** Canines shall be able to tolerate a variety of work conditions appropriate to the task.

**6.1.4** Canines shall not exhibit temperament flaws to include: a variety of fears, avoidance behaviors, high startle response, and unwarranted aggression, etc.

**6.1.5** Canines should, without fear or aggression, be capable of being lifted and carried for, but not limited to, evaluation, deployment, and/or veterinary assessment(s).

### **6.2 Environmental Soundness Evaluation**

**6.2.1** The evaluation assesses the canine's normal reactions in commonly encountered operational environments.

**6.2.2** Environmental soundness evaluations should include the following environments:

- a) flooring and footing (e.g., carpet, wood, ceramic);
- b) open and closed stairs;
- c) light intensity (from bright light to totally dark);
- d) open and confined areas, with and without obstacles;
- e) thrown objects; and
- f) various noise distracters:

- 1) weapons fire exposure should initially be conducted in muzzle for safety;
- 2) exposure to weapons fire should begin at distance;
- 3) weapons fire noise is not the same as the weapons fire felt concussion; a canine should be evaluated based on its acceptance of the noise and concussion.

**6.2.3** The canine's performance should be graded on the ability to work in new environments while maintaining focus or without demonstrating fear responses.

**6.2.4** The canine shall exhibit minimal distraction in a search area and remain on task (tenacity). The organization shall define acceptable canine distractions prior to evaluation.

### **6.3 Search and Retrieve Drive Evaluations**

**6.3.1** The evaluation assesses the canine's ability to demonstrate search behavior (hunt) and its motivation to retrieve/possess toys in different environmental conditions.

NOTE Possessiveness is desirable but guarding is not. Guarding can lead to unwarranted or defensive aggression.

**6.3.2** The canine's performance should be graded on the intensity to obtain the reward (speed and possession; persistence to obtain and retain the reward).

An example of this evaluation can be as follows.

The reward can be thrown into long grass and both upwind and downwind with a barrier (e.g., vehicle) between the canine and the reward. The barrier minimizes the canine's ability to visually mark the reward's location and help to ensure hunt drive can be evaluated and not prey/chase drive. The evaluator assesses the intensity of hunt, intensity change when the canine is in odor, and the independence of the hunt. The canine can be assessed for its determination to retain the reward (possession) after retrieval.

NOTE Canine's display hunt drive only if the reward is not found during the chase/prey portion of the test.

### **6.4 Sociability Evaluation**

**6.4.1** The evaluation assesses the canine's reaction to people, canines and other animals as appropriate throughout all aspects of the selection process.

**6.4.2** The behaviors shall be evaluated within the context and the operational requirements of the organization.

**6.4.3** The canine's performance should be graded on the following behaviors including but not limited to:

- a) affiliative/social behavior;
- b) fight drive;
- c) prey drive;

- d) fearfulness;
- e) independence;
- f) equipment fixation;
- g) stress; and
- h) potential for distraction.

An example of this evaluation might be as follows.

Sociability can be tested throughout the evaluation. From the moment the canine is met in the kennel, observations can be made. Submissive, fearful, and aggressive behavior; and body carriage including tail and ear set are all noted. When placing the collar and leash on the canine the same observations are made. When walking out of the kennel does the canine display body language consistent with fear, display aggression towards other canines? When out of the kennel building does the canine change direction with the handler or resist? Does the canine display independence? Is the canine comfortable interacting with the handler, is the canine acting submissively? This type of evaluation can continue throughout testing in order to thoroughly evaluate affiliative behavior in potential patrol canine candidates.

## **6.5 Tracking Evaluation**

**6.5.1** The evaluation assesses the canine's natural tracking ability or any previous training. It measures the canine's desire to follow human scent, its ability to use its nose, and its tenacity to stay with it to the end.

**6.5.2** The canine's performance should be graded on the natural tracking ability. This test is merely a measure of what there is to work with and is not a pass/fail situation.

An example of this evaluation might be as follows.

If possible the track can be laid in an unfamiliar area with minimal distractions and tall grass or vegetation. The person laying the track creates a scent pad, walk in a straight line downwind, for up to 200 feet. The track can be marked by scuffing it in, the track is laid at least 10 minutes and not more than 30 minutes prior to exposing the canine to it. The canine is directed to the track without encouragement to see if the canine will indicate and pursue it on its own. If the canine does not, then some direction can be given. A completely green dog may need visual stimulation while the track is being laid. Throughout the track, evaluator will be noting the canine's distractibility, tracking vs air scenting, problem solving, independence, and tenacity.

An example of a more advanced evaluation might be as follows.

If possible the track can be laid in an unfamiliar area with minimal distractions and tall grass or vegetation. The person laying the track will create a scent pad, walk in a straight line downwind, for up to 100 feet, make a turn, continue 100 feet and make another turn. The track is laid at least 10 minutes and not more than 30 minutes prior to exposing the canine to it. The track layer will remain out of sight at the end of the final leg of the track. The handler and dog will remain out of sight while the track is laid. The handler will then be given the general area of

the scent pad and follow the on lead canine to the track layer's hidden location where the canine will receive the reward. Throughout the track, evaluator will be noting the canine's distractibility, tracking vs air scenting, problem solving, independence, and tenacity.

The above test can be done in muzzle with a patrol dog that is neutral to the muzzle as well. The track would end in a muzzle fight.

## **6.6 Behavior When Threatened Evaluation**

**6.6.1** The evaluation assesses the canine's reaction when threatened by a person or object.

**6.6.2** The canine's performance should be graded on the following behaviors including but not limited to:

- a) vocalization;
- b) body language;
- c) fight or flight response;
- d) stress;
- e) affiliative behavior;
- f) offensive aggression;
- g) defensive aggression;
- h) fearfulness;
- i) submissiveness;
- j) aversive behavior; and
- k) potential for distraction.

**6.6.3** The canine should exhibit a strong, rhythmic bark in anticipation of prey or fight; confident body language; stand its ground; and have the ability to switch between drives.

**6.6.4** The canine should not exhibit misdirected or redirected aggression, stress, fearful body language, and/or fearful vocalization.

An example of this evaluation might be as follows.

A stakeout test can be conducted by approaching in a suspicious manner a canine that is secured by its harness or flat collar in a new area and at distance from their handler. During the approach the canine's response to the threat is evaluated. During the test confidence, stress, submission, fear, prey bark vs. fight bark, forward behavior and recovery are all observed.

## 6.7 Grip Strength Evaluation

**6.7.1** The evaluation assesses the canine's grip strength (bite) when encountering a target.

**6.7.2** The canine's performance should be graded on its ability to control a target during engagement.

**6.7.3** The canine should exhibit:

- a) full mouth and confident grip;
- b) open eyes;
- c) few signs of physical stress during engagement;
- d) a safe tactical release of the target;
- e) confident and fast pursuit;
- f) intensification of the grip as the engagement escalates (counter into the bite);
- g) maintain strong full grip during any ground engagement; and
- h) focus on target and not the protective equipment/gear.

**6.7.4** The canine should not exhibit:

- a) partial and/or tentative grip;
- b) closed eyes;
- c) multiple signs of physical or behavioral distress, including overt fear behaviors;
  - vocalization on grip,
  - nervousness on grip,
  - avoidance of frontal contact/engagement;
- d) unsafe or problematic release;
  - displacement behavior toward the handler,
  - "alligator roll" during tactical release;
- e) a cautious and/or slow pursuit;
- f) demonstration of obvious signs of fear;
  - cowering away from the handler;

- g) avoidance and/or loosening of the quality of grip as the engagement escalates;
- h) maintenance of a strong or full grip during on the ground engagement;
- i) focus on the protective equipment/gear.

An example of this evaluation might be as follows.

A courage test: an evaluator can have a canine sent by its handler from 40 yards to 50 yards towards a target that stimulates the canine with a threat (by person, target and/or object). Once the canine engages the target the above can be evaluated.

## **6.8 Muzzle Engagement Evaluation**

**6.8.1** The evaluation assesses the canine's tenacity to pursue a target while in a muzzle and its tenacity to engage while the target is standing and/or on the ground.

**6.8.2** The canine shall be neutral to the muzzle during this test.

**6.8.3** During any muzzle test an evaluation of the muzzle's secure fit on the canine should be evaluated by a secondary subject matter expert for safety.

**6.8.4** The muzzle should be evaluated for ventilation for the current conditions.

**6.8.5** Only muzzles designed for target engagement shall be used.

**6.8.6** The canine's performance should be graded on tenacity to pursue, engage, and attempt to apprehend by force a target while the canine is in a muzzle.

**6.8.7** The canine should exhibit:

- a) acceptance of muzzle;
- b) pursuit of target independent of whether the target is wearing protective equipment;
- c) a pursuit that shows no obvious signs of fear;
- d) a confident launch into the center of the target;
- e) willingness to continue fighting when the target goes to the ground; and
- f) continuous desire to engage while being removed from the site of engagement.

**6.8.8** The canine should not exhibit:

- a) aggression towards and/or avoidance of muzzle;
- b) avoidance of pursuit and/or engagement of the target;
- c) pursuit that shows obvious signs of fear;

- d) hesitancy and/or failure to launch towards target;
- e) launching towards extremities of the target;
- f) lack of willingness to continue to fight when the target is on the ground;
- g) aggression towards the handler when the canine is removed from the engagement; and/or
- h) willingness to leave the site of engagement with no remaining interest.

An example of this evaluation might be as follows.

With the canine on a leash held by the handler in an unfamiliar environment, the target will threaten the canine at a reasonable distance (with departmental standards and safety in mind). The canine will be encouraged and sent by the handler. Upon physical engagement, the target will deescalate, but still remain a threat (e.g., target drops to the ground, target feigns pain, becomes vocal). The handler will remove the canine once the evaluation is complete.

The canine's body language shall be evaluated from the moment they are removed from the secure holding location until the conclusion of the evaluation.

Additionally, while the canine is still in muzzle, after the initial evaluation, the handler will lift the canine to their chest height. The canine's reaction and body language will be evaluated.

## **6.9 Area Search Evaluations**

**6.9.1** The evaluation assesses the canine's tenacity searching for a target and its tenacity to engage the target when hidden from view in a defined area.

**6.9.2** The canine's performance should be graded on tenacity to search, engage, and attempt to apprehend by force a target.

**6.9.3** The canine should exhibit:

- a) hunt/search for target independent of whether the target is wearing protective equipment;
- b) a tenacious hunt/search that shows no obvious signs of fear;
- c) independent hunt/search behavior;
- d) change of behavior when in target scent;
- e) intensification when in target scent (continuous and persistent attempts to access target in hiding);
- f) continuous desire to engage while being removed from the site of target in hiding.

**6.9.4** The canine should not exhibit:

- a) avoidance of hunting/searching and/or engagement of the target;

- b) a lack of tenacity (i.e., easily distracted);
- c) obvious signs of fear while hunting/searching;
- d) excessive dependence on handler while hunting/searching;
- e) indistinct or absence of behavior change when in target scent;
- f) lack of willingness to continue to hunt/search when in target scent;
- g) willingness to leave the target in hiding with no remaining interest;
- h) aggression towards the handler and/or other evaluation participants when the canine is hunting/searching and/or when removed from the target in hiding.

An example of this evaluation might be as follows.

For safety, the search can be conducted on lead. The target is hidden in an unfamiliar, but defined, environment that includes environmental stressors such as stairs, shallow water, wooded areas, difficult terrain, or natural barriers. The handler may be given a starting point and depending on the level of training the canine has previously verbal or visual stimulation may be needed. The canine is allowed to search for the target. This may or may not include a physical engagement with the target. The handler will remove the canine once the evaluation is complete.

The canine's body language shall be evaluated from the moment they are removed from the secure holding location until the conclusion of the evaluation. Evaluations of how the dog hunts should be made. The canine may use auditory, visual and/or olfactory senses while hunting/searching. Grip can be evaluated during all testing that includes target engagement.

If the target is hidden in a location accessible to the canine, protective equipment/gear shall be worn.

## **6.10 Protective Equipment/Gear Fixation Evaluations**

**6.10.1** The evaluation assesses the canine's focus on the threat/target as opposed to the protective equipment/gear.

**6.10.2** The canine's performance should be graded on its ability to maintain focus/engagement on the threat/target independent of the location of equipment/gear (e.g., worn by the target, discarded by the target).

**6.10.3** The canine should exhibit:

- a) focus/engagement on the threat/target;
- b) a willingness to transfer attention from the equipment/gear to the threat/target.

**6.10.4** The canine should not exhibit:

- a) a disregard for the threat;
- b) engagement with discarded equipment/gear.

An example of this evaluation might be as follows.

For safety the search can be conducted on lead. A handler moves towards a target that stimulates the canine with a threat (by person, target and/or object). The target will move in a manner to emphasize equipment/gear to the canine. The canine will engage the target. The target will discard the equipment/gear and escalate their threatening behavior toward the canine. Evaluations can be made of how quickly and intensely the canine changes focus from the discarded equipment/gear to the target's threat.

**6.11 Overall Canine Performance Outcomes for Selection**

**6.11.1** Desirable and undesirable canine performance outcomes are organization specific.

**6.11.2** Desirable canine performance evaluation outcomes should include, but are not limited to, the canine:

- a) having a stable and outgoing temperament in any environment;
- b) demonstrating retrieve/hunt drive on a thrown or hidden object/target;
- c) having concentration and maintenance of focus over time with the canine's attention on the target, regardless of area and other distractions;
- d) maintaining consistent motivation throughout the entire evaluation;
- e) demonstrating independent search/hunt behavior; and
- f) demonstrating a willingness to pursue and engage a target in any environment.

**6.11.3** Undesirable canine performance evaluation outcomes include, but are not limited to, the canine:

- a) being distracted/overwhelmed by the environmental conditions;
- b) demonstrating lack of motivation;
- c) being unwilling to search/hunt for the target;
- d) giving up pursuit/engagement easily;
- e) showing a lack of search/hunt/engagement intensity;
- f) behaving in a fearful manner;
- g) behaving with unwarranted or out of context aggression;

- h) being unable to work around people;
- i) being unable to work around other canines;
- j) not having the persistence or mental stamina to complete the task;
- k) being easily distracted by noise, odors/scent, people, other canines;
- l) exhibiting excessive panting that is not due to heat or exercise (exhibits stress behavior); and/or
- m) showing a lack of physical stamina.

## **7 Physical and Medical Evaluations of the Canine for Procurement**

### **7.1 General**

**7.1.1** All canines shall have a collar/harness that is safe and strong enough to restrain the canine.

**7.1.2** To ensure proper identification, all canines submitted for procurement evaluation should have a collar/harness with the canine's name affixed to it.

**7.1.3** Each canine shall have a computer microchip and/or tattoo for identification purposes.

### **7.2 Age, Breed, Color, Sex and Weight/Height Requirements**

**7.2.1** *Age.* The adult canine should be at least 12 months of age at time of the evaluation. On the low end of the scale consideration is given to physical (skeletal) and behavioral maturity. It is generally recommended that dogs start their training program by 36 month of age to provide the opportunity for a longer working life.

**7.2.2** *Breed.* The breed of the canine should be selected based on its primary intended operational use, or mission specific requirements.

**7.2.3** *Color.* Any coat color is acceptable, evaluator should exercise caution in accepting canines of colors associated with genetic diseases (e.g., deafness is commonly associated with solid white coat color and color diluted, for example, blue coat color is associated with immune abnormalities).

**7.2.4** *Sex.* There is little evidence that variation by sex (intact, spayed and/or neutered) affects performance. A female in estrus should be deferred until a minimum of 4 to 6 weeks after completion of the estrous cycle.

**7.2.5** *Weight/Height.* Weight shall be proportional to the canine's frame and skeletal size. A standardized objective rating system to measure body condition (weight for frame) should be used.

### **7.3 Medical Requirements**

**7.3.1** Canines shall be evaluated to ensure they are disease-free, medically able to enter training and likely to perform in an operational environment. Quarantining of the canine(s) is recommended for any organization receiving canine(s) from outside their population.

**7.3.2** For safety canines shall be socialized to humans and shall be able to tolerate medical examination procedures (e.g., tolerates being lifted on to the exam table, comfortable wearing muzzle).

**7.3.3** Immunizations required for evaluation and procurement are outlined in 7.3.3.1 through 7.3.3.3.

**7.3.3.1** At a minimum the canine shall either have been vaccinated (essential in the case of Rabies) or have a titer indication showing that a particular vaccination was not needed within the previous 12 months for the following:

- a) rabies – vaccination in accordance with state and local laws;
- b) canine distemper (CDV);
- c) canine adenovirus (type 2) (CAV-2) (Canine Hepatitis);
- d) parvovirus (CPV-2);
- e) leptospirosis – based on organization specific risks;
- f) bordetella – based on organization and environmental specific risks; and
- g) any new vaccine(s) – based on organization and environmental specific risks.

**7.3.3.2** There may be additional regional/national requirements which shall be considered for required vaccine(s) and/or titer(s) in accordance with federal, state and local laws and as required by AAHA (American Animal Hospital Association) Canine Vaccination Guidelines<sup>e</sup>.

**7.3.3.3** A vaccination/titer certificate issued by a veterinarian with individual canine identification (name, tattoo, brand and/or microchip ID) shall be provided for the canine(s).

**7.3.4** Medical record documentation is required for evaluation and procurement.

**7.3.4.1** The following, but not limited to, information shall appear on all medical record documents and information.

- a) Canine Identification.
  - 1) name; and
  - 2) at least one form of permanent identification (tattoo, brand and/or microchip ID). In cases where there are multiple microchips in one canine, at least one of the microchip IDs shall be identical to the medical records submitted for that canine.
- b) Whelping date (or approximate age at time of examination if whelping date not known).
- c) Date of examination and/or date when medical testing results are made available.

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<sup>e</sup> [https://www.aaha.org/guidelines/canine\\_vaccination\\_guidelines.aspx](https://www.aaha.org/guidelines/canine_vaccination_guidelines.aspx)

d) Name and signature of examining veterinarian(s).

**7.3.4.2** The following shall appear at least once in the medical record:

- a) sex and reproductive status (intact, spayed and/or neutered);
- b) breed or predominant breed;
- c) coat color and pattern;
- d) contact information for supplier/vendor; and
- e) contact information for examining veterinarian(s).

**7.3.4.3** The following minimum laboratory data shall be required for selection and procurement

**7.3.4.3.1** Hematology and blood chemistry for routine testing shall include:

- a) blood chemistry,
- b) complete blood count, and
- c) serology to include:
  - 1) canine heartworm testing is required; heartworm disease shall disqualify a canine;
  - 2) other serological testing is recommended on the basis of the working location, canine origin and/or perceived risk.
- d) canine infectious disease testing recommended, on the basis of location, should include:
  - 1) lyme,
  - 2) anaplasma,
  - 3) ehrlichia,
  - 4) rocky mountain spotted fever, and/or
  - 5) chagas.

**7.3.4.3.2** Urinalysis for routine testing shall include the following.

- a) Collection of urine sample for analysis by physical and chemical means including urine specific gravity.
- b) Microscopic testing is recommended in the case of abnormal physical or chemical results.

**7.3.4.3.3** Fecal examination for routine testing shall include collection of fecal sample for endoparasite testing.

**7.3.4.3.4** Skeletal radiology shall be included for canine screening.

**7.3.4.3.4.1** The minimum canine data (at least one form of permanent identification (tattoo, brand and/or microchip ID)) and date of radiograph shall be permanently recorded on the radiograph at the time of examination.

**7.3.4.3.4.2** Diagnostic elbow and hip radiographs shall be obtained for evaluation of elbow and hip conformation.

**7.3.4.3.4.3** Lumbar spine radiographs for evaluation of transitional vertebrae (a congenital abnormality of the spine where one of the vertebral segments has indeterminate characteristics and features of adjacent vertebral segments, typically observed at the junction between two different types of vertebrae) should be obtained.

**7.3.4.3.4.4** Radiographs should be reviewed by an independent board certified veterinary radiologist.

**7.3.4.3.4.4.1** Canines with hip dysplasia and/or elbow dysplasia shall be disqualified from selection and breeding programs.

**7.3.4.3.4.4.2** Canines with transitional vertebrae should be disqualified from selection and breeding programs.

**7.3.4.3.4.4.3** Depending on the planned use of the canine, early signs of degenerative joint disease should disqualify the canine.

**7.3.4.3.4.4.4** If further evaluation is warranted, evaluations may be completed at the discretion of the veterinarian, otherwise the canine may be deemed unacceptable.

**7.3.5** The canine should be evaluated at rest and following exercise. A full sports medical evaluation of the canine is encouraged. The physical examination of the canine completed by a veterinarian shall include, but not be limited to.

**7.3.5.1** *Gait.* The gait should be assessed at the walk, trot, run, and climbing stairs. Any gait abnormality that affects organization specific performance should disqualify the canine.

**7.3.5.2** *Skin and coat.* The skin and coat shall be healthy in appearance with no evidence of infection, allergies, or parasites.

**7.3.5.3** *Oral cavity.* Canines should have normal dentition and dental occlusion, intact unworn canine teeth and canines should not have an excess of dental calculus. There should be no evidence of oral infection or advanced periodontal disease (e.g., evidence of bleeding gums, gingival hyperplasia).

**7.3.5.4** *Cardiovascular system.* The heart auscultation of the canine should not identify any abnormalities such as heart murmurs or arrhythmias (note: sinus arrhythmia is acceptable). There is currently no standardized measure of cardiovascular fitness, however, the canine should be able to exercise without obvious compromise (e.g., collapse, staggering, excessive panting, overheating).

**7.3.5.5** *Respiratory system.* The canine should have visually normal nares and palate, and normal tracheal palpation. The canine should not develop stridor during exercise.

**7.3.5.5.1** *Respiratory sounds.* The canine shall have clear lung sounds and absence of stridor or stertor.

NOTE Muzzled canines may have an increase in referred lung sounds which will be louder over the trachea compared to over the lungs.

**7.3.5.6** *Musculoskeletal system.* The canine should have symmetrical, non-painful muscles, bones and joints with normal range of motion. Any restriction of movement should be considered reason for disqualification. Hips, elbows and lumbar spine of the canine should be radiographically evaluated.

**7.3.5.7** The nervous system and senses, and sensory organs shall be evaluated.

**7.3.5.7.1** *Nervous system.* The mental state, posture and gait shall be appropriate for the breed.

**7.3.5.7.2** *Eyes and adnexa.* The eyes shall be symmetrical. There should be no evidence of cataracts, corneal defects or opacities, or eyelid defects.

**7.3.5.7.2.1** Retinal exams are recommended.

**7.3.5.7.2.2** *Functional vision.* The canine should have a normal pupillary response to light and an ability to navigate visual obstacles.

**7.3.5.7.3** *Ears shall be evaluated.*

**7.3.5.7.3.1** *Anatomy of ears.* Should have an open ear canal and no evidence of chronic otitis.

**7.3.5.7.3.2** *Functional hearing.* The canine should respond to sounds. A deaf dog is unacceptable.

**7.3.5.7.4** *The nose and nasopharynx shall be evaluated.*

**7.3.5.7.4.1** The structure of the nose and nares shall be appropriate for the breed and have no evidence of malformation or rhinitis.

**7.3.5.7.4.2** Demonstrated olfactory ability. There is no medical test of olfaction; any deficits in odor/scent detection could be due to olfaction or training issues.

**7.3.5.8** The reproductive and urinary system shall be evaluated.

**7.3.5.8.1** The reproductive system evaluation includes the following.

**7.3.5.8.1.1** Intact or desexed (neutered/spayed) reproductive state of the canine is acceptable.

**7.3.5.8.1.2** Cryptorchidism (undescended testicle(s)) shall be documented. Any undescended testicle(s) shall be surgically removed. This canine shall be excluded from any type of breeding program due to hereditary nature of cryptorchidism.

**7.3.5.8.1.3** Any kind of discharge from either male or female canine reproductive system should be noted and further investigated.

**7.3.5.8.1.4** Female canine mammary glands should be free of mass(es)/tumor(s).

**7.3.5.8.2** The urinary system evaluation includes the following.

**7.3.5.8.2.1** Urinary tract anatomy should be normal for the breed.

**7.3.5.8.2.2** Abnormal urinary tract function and/or any difficulty in passing urine is disqualifying.

**7.3.5.8.2.3** Depending on the needs of organization, urinary incontinence should be disqualifying during selection.

NOTE Urinary incontinence that develops after selection is medically manageable in most cases and typically does not interfere with canine's performance.

## **8 Care and Welfare of the Detection Canine**

**8.1.1** For all aspects of the canine's life, all canines shall be cared for in ways that meet or exceed the relevant federal, state and local standards.

**8.1.2** Canines shall be provided with environmental enrichment daily that is safe and suitable for their ages, weights and states [e.g., by the provision of any one or more of the following (toys, training, exercise, positive caretaker interactions companions and/or a complex environment)]. Enrichments shall be rotated or alternated to maintain interest by the canine.

## **9 Housing of the Detection Canine**

### **9.1 General**

**9.1.1** Housing is divided into two categories: contract/governmental and home kenneling. The situations discussed here are housing units: for training, for operational work, for sick canines, and for quarantine.

**9.1.2** The physical structure of the canine housing/kennel influences the mental and physical well-being of the canine.

**9.1.3** Housing/kennel shall provide the canine with the opportunity for rest, food and sleep.

### **9.2 Quarantine**

**9.2.1** A separate kennel area should be used to isolate sick and newly introduced from each other and healthy canines.

**9.2.2** When new canines are brought into the facility, these canines shall be separated and housed away from the healthy canine population.

**9.2.3** The quarantine period shall last a minimum period of 10 days with a best practice of 14 days.

**9.2.4** The canine should be given a preventative deworming treatment upon arrival.

**9.2.5** During the quarantine period, the canine must test negative for heartworm disease and/or have proof it has received heartworm preventative.

**9.2.6** Canines shall test negative for intestinal parasites (endoparasites) before being included into general canine population.

**9.2.7** The canines shall have proof of current vaccination or proper titer for the core vaccines. These vaccines include: Rabies, Distemper, Hepatitis (Adenovirus 2), and Parvovirus.

**9.2.8** If there is no proof of current vaccination, the canines should then be vaccinated.

**9.2.9** Consideration for the quarantine area should include the following:

- a) separate or isolated area from the main population;
- b) controlled entry points;
- c) positive airflow;
- d) separate air handling from the main population;
- e) separate sewage handling from the main population;
- f) personnel decontamination location.

**9.2.10** In the absence of a quarantine kennel(s) for sick canines, a protocol shall be established to assure that sick canines are separated from the healthy canine population. For example, house sick canines at a veterinary hospital until they have recovered.

### **9.3 Contract/Government Housing**

**9.3.1** In contract/government housing, kennel staff takes care of the canines. Staff provides feeding, cleaning, health care and basic exercise for the canines, and prevents the canines from being neglected when the handler is off duty.

**9.3.2** Kennel facilities shall at least meet accepted current USDA Animal Welfare Act guidelines. There may be additional regional/national regulations which shall be considered.

NOTE See *Animal Code of Federal Regulations*: Title 9, Volume 1 January 1, 2016 (CITE: 9 *CFR* 3.6, pp 48-50)<sup>f</sup>.

**9.3.2.1** The facility shall be kept dry and clean and potable water should be provided.

**9.3.2.2** It shall protect against environmental extremes.

**9.3.2.3** The kennel environment shall be well ventilated to provide adequate air exchange.

**9.3.2.4** Canines shall not be housed long-term in an airline kennel, transportation kennel/crate.

**9.3.2.5** The enclosures shall be sanitized daily and disinfected at least once a week.

**9.3.2.5.1** Disinfectant solutions shall be non-harmful to animals.

<sup>f</sup> <https://www.nal.usda.gov/awic/animal-welfare-act>

**9.3.2.5.2** Disinfectant solutions shall be used within the manufacturer's recommended dilution guidelines.

**9.3.2.5.3** A Safety Data Sheet (SDS) concerning the disinfectant agents shall be maintained in compliance with federal, state, and local regulations.

**9.3.3** In addition to the current USDA Animal Welfare Act guidelines the following shall be considered.

**9.3.3.1** The kennel shall be constructed to secure the canine from escape using materials and design to minimize potential injury and should include an enclosed top.

**9.3.3.2** To reduce sustained visual contact between adjoining canines that are standing or resting, a visual wall barrier should separate adjoining kennels.

**9.3.3.3** The flooring of each kennel run should be graded and sealed to allow water to run off and prevent standing water. The texture of the flooring should provide sufficient traction to minimize injury and should be able to be thoroughly cleaned, disinfected, and sanitized.

NOTE Rough floors can lead to pad and skin injuries. Slippery floors can lead to musculoskeletal injuries.

**9.3.3.4** An elevated resting surface off the kennel floor should be in place for the canine to have access to a dry surface and should be able to be thoroughly cleaned, disinfected, and/or sanitized as appropriate for the surface, and in keeping with federal, state and local regulations. The construction of the resting surface should be sufficient to prevent destruction, ingestion, and injury.

**9.3.3.5** To minimize hearing damage to canines and personnel, sound levels should be monitored, at least weekly within the kennel, and if noise levels exceed 90 dB for eight (8) hours<sup>g</sup> per day, soundproofing should be implemented. Permissible noise levels shall be maintained in compliance with federal, state, and local regulations.

**9.3.3.6** In contract/government housing facilities the requirements include but are not limited to:

- a) kennel;
- b) exercise and play area;
- c) canine cleaning and grooming area;
- d) food preparation and storage area (for storage requirements see Section 6.2.2);
- e) separate area for storage of cleaning and sanitation supplies;
- f) supplies for first aid and minor veterinary emergencies;
- g) human first aid kit;

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<sup>g</sup> [https://extension.purdue.edu/extmedia/VA/VA-18-W.pdf?\\_ga=2.70708499.240285719.1578330788-1940778994.1544063101](https://extension.purdue.edu/extmedia/VA/VA-18-W.pdf?_ga=2.70708499.240285719.1578330788-1940778994.1544063101)

h) record system to identify the canine, eating habits, excrements, and medical status.

**9.3.3.7** The kennel personnel shall be competent in the care and management of detection canines.

## **9.4 Home Kennel**

**9.4.1** Home kenneling is where a detection canine resides with the handler. Off-duty care is provided by the handler.

**9.4.2** Home kennel housing kennel facilities shall at least meet accepted USDA Animal Welfare Act guidelines. See *Animal Code of Federal Regulations: Title 9, Volume 1 January 1, 2016 (CITE: 9 CFR 3.6)*<sup>h</sup>. In addition to the USDA guidelines, the home kennel facilities shall include at a minimum the following.

**9.4.2.1** The kennel shall be constructed to provide security and shelter for the canine.

**9.4.2.2** The kennel shall be kept dry and clean and potable water shall be provided. It shall protect against environmental extremes.

**9.4.2.3** The kennel environment shall be well ventilated to provide adequate air exchange.

**9.4.2.4** In an outdoor kennel, an internal housing box shall be provided to protect the canine from environmental extremes.

The box shall be made of a material that provides safe and sanitary conditions.

**9.4.2.5** The kennel shall have an exercise area.

**9.4.2.5.1** A designated exercise area shall allow the canine to extend to full stride.

**9.4.2.5.2** For a home kennel with a designated exercise area, it is recommended that the total usable kennel floor space allows the canine to move freely, wag its tail, and stretch unencumbered by the walls and ceiling of the enclosure.

**9.4.2.5.3** For a home kennel without a designated exercise area, it is recommended that the total usable kennel floor space allows the canine to move freely, reach full stride, wag its tail, and stretch unencumbered by the walls and ceiling of the enclosure. A home kennel environment without a designated exercise area does not eliminate the need for canine exercise.

**9.4.2.6** Canines shall not be housed long-term in an airline kennel or transportation kennel/crate. Airline kennels or kennels/crates used for transportation are not acceptable as primary housing enclosures.

**9.4.2.7** The flooring of each kennel run should be graded and sealed to allow water to run off and prevent standing water.

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<sup>h</sup> <https://www.nal.usda.gov/awic/animal-welfare-act-quick-reference-guides#Q10>

**9.4.2.8** A resting surface of at least 6 in (15.2 cm) off the kennel floor shall be in place for the canine to have access to a dry surface.

**9.4.2.9** The enclosures shall be disinfected at least once a week.

**9.4.2.9.1** Disinfectant solutions shall be non-harmful to the canine.

**9.4.2.9.2** Disinfectant solutions shall be used within the manufacture recommended dilution guidelines.

**9.4.2.9.3** A Safety Data Sheet (SDS) concerning the disinfectant agents shall be on the premises.

**9.4.3** Home kennel housing handler responsibilities include.

**9.4.3.1** The handler shall provide necessary health care and grooming.

**9.4.3.2** The handler shall provide daily and weekly sanitation of the kennel.

**9.4.3.3** The handler shall be responsible for feeding and watering the canine.

**9.4.3.4** The handler shall provide adequate exercise and mental stimulation for the canine.

## **10 Husbandry of the Detection Canine**

### **10.1 Nutrition**

**10.1.1** The nutritional needs of the detection canine can be complex. The dietary program needs to provide the canine with all the nutritive substances necessary for growth, maintenance and activity.

**10.1.2** The correct diet is determined by studying the energy needs of the canines and consultation with a veterinarian. There are different requirements in function of growth, environment, work, digestibility, maintenance, climate, age, reproduction, disease, and individual needs.

**10.1.3** Dog foods that meet Association of American Feed Control Officials (AAFCO) standards contain the necessary daily vitamins and minerals.

**10.1.3.1** The food should be of high quality and digestibility.

**10.1.3.2** If a health condition merits a specialized diet a veterinary recommended dietary program shall be implemented.

**10.1.3.3** The diet should maintain the canine in proper working condition.

**10.1.3.3.1** Use of a body condition scoring system can help to determine the amount of food provided to the canine.

A body score of two (2)- three (3) on a scoring system ranging between one (1) and five (5) (or four (4)-five (5) on a scoring system ranging between one (1) and nine (9) is considered optimum <sup>[4]</sup>.

**10.1.3.3.2** The diet can be manipulated according to the metabolic needs of the canine.

## **10.2 Food Preparation and Storage**

**10.2.1** Food preparation and storage shall at least meet accepted USDA Animal Welfare Act guidelines. See *Animal Code of Federal Regulations: Title 9, Volume 1* January 1, 2016

**10.2.2** Dispose of uneaten food immediately after to prevent spoilage, pest, and rodent infestation.

## **10.3 Physical and Mental Stimulation**

**10.3.1** Canine organizations should develop and follow a defined fitness plan for the canine in consultation with a veterinarian that specializes in sports medicine.

NOTE Working canines are treated as athletes with unique requirements warranting daily mental and physical stimulation following a defined fitness plan. The daily exercise by the handler or the kennel staff optimizes the efficiency and performance of the canine.

**10.3.1.1** Physical stimulation should include taking the canine out for regular walks, and allowing more intensive exercise on a playing field or some other free-roaming facility.

**10.3.1.2** A brief (e.g., one to five minutes) warm-up before and cool-down after each intensive exercise (e.g., any activity more strenuous than a walk) should take place to minimize potential injury to the canine.

**10.3.2** All canines shall have access to or participate in activities or experiences that enrich their physical and mental states.

**10.3.3** Application of environmental enrichment options shall be at the discretion of the canine's organization and trainer, to ensure that the options are safe, appropriate, and beneficial to the canine.

NOTE Careful observation of the canine during this daily exercise may alert both the handler and the kennel staff to physical problems.

## **10.4 Daily Health Check and Hygiene of the Canine**

**10.4.1** The handler or the kennel staff shall check the canines' health daily as following:

- a) visual assessment of the canine's skin, eyes, ears, oral cavity, limbs, paws, genitalia, body functions and attitude;
- b) observe the movements of the canines during exercise and training;
- c) observe the canine's excrements (e.g., if a general excrement problem (diarrhea, constipation) is seen it can indicate something is wrong with the canine);
- d) observe the canine's body odor (e.g., abnormally strong body odor may indicate a health problem).

**10.4.2** The handler or kennel staff shall seek veterinary care for a canine exhibiting a health abnormality(ies).

**10.4.3** The canine housing and the kennel area shall be checked for hazards and pests on a daily basis.

**10.4.4** The canine shall be groomed and kept clean.

## **10.5 Transportation of the Canine**

**10.5.1** Canine transportation (air and or vehicle/vessel transport) shall comply with local, state, federal, air carrier and IATA regulations.

**10.5.2** Any vehicle/vessel utilized to transport detection canines shall provide a secure and temperate environment which is suitable to the general health and well-being of the animal. Recommendations include the following.

- a) Sufficient air exchange to suit conditions.
- b) Protection from environmental extremes.
- c) A secured container with non-slip flooring.
- d) Sufficient space to allow each canine to turn about freely, to stand, sit and lie in a comfortable, normal position.
- e) Containers should prohibit animals from making contact with each other and the general public.

**10.5.3** Canines should not be left unattended in a vehicle/vessel. If circumstances warrant a canine being left unattended in a vehicle, the following precautions shall be undertaken for the health and safety of the canine.

- a) The canine shall be checked at regular intervals based on the environmental conditions.
- b) The interior temperature shall be maintained at less than 85°F (29.5°C) or greater than 45°F (7.2°C) and should be tailored to the dog's physical state and condition.
- c) A temperature warning system should be in place to alert the handler of increased interior temperature and prevent the risk of heat injury to the canine.

NOTE Warning systems may fail and do not preclude the need for checks.

## **10.6 Canine Veterinary Health Care Plan**

**10.6.1** A veterinarian shall examine canines at least once a year.

In addition to vaccinations canines also shall receive at least annual checks for internal (endoparasites) and external (exoparasites) parasites and a blood chemistry profile.

**10.6.2** Some canines work in more hazardous circumstances and should be monitored more frequently.

The organization, kennel staff or the handler shall be responsible for coordinating veterinary examinations.

**10.6.3** Immunizations shall be given in accordance with the recommended American Animal Hospital Association, AAHA Canine Vaccination Guidelines to include:

- a) rabies – vaccination in accordance with state and local laws;
- b) canine distemper (CDV);
- c) canine adenovirus (type 2) (CAV-2) (Canine Hepatitis);
- d) parvovirus (CPV-2);
- e) leptospirosis – based on organization specific risks;
- f) bordetella – based on organization and environmental specific risks; and
- g) any new vaccine(s) – based on organization and environmental specific risks.

There may be additional regional/national requirements which shall be considered for required vaccine(s) and/or titer(s) in accordance with federal, state and local laws and as required by AAHA (American Animal Hospital Association) Canine Vaccination Guidelines.

**10.6.4** Preventative medications for fleas, ticks, and heartworm shall be administered according to FDA approved dosing schedule by the handler or designated caregiver.

**10.6.5** If additional reasons arise for veterinary care, it is the responsibility of the handler or designated responsible party to ensure that timely and appropriate care is provided.

**10.6.6** Refer to local, state and federal agencies if a canine bites a person for applicable rabies quarantine regulations.

**10.6.7** Veterinarians with working dog knowledge (e.g., specialized, military, AAHA) should be consulted in the development and maintenance of the canine's health care plan and any specialized treatment required.

## Annex A (informative)

### Bibliography

The following bibliography is not intended to be an all-inclusive list, review, or endorsement of literature on this topic. The goal of the bibliography is to provide examples of publications addressed in the standard.

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