

# Manual of Range Specification



**Howard County Government**  
**Department of Inspections, Licenses and Permits**  
**3430 Court House Drive**  
**Ellicott City, MD 21043**  
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**Updated: 10.14.2010**

1. No range or shooting area may be used in Howard County unless it has been inspected by the Department of Inspections, Licenses and Permits and received written approval for use as a range or shooting area. Except for approvals of temporary or single day shotgun turkey shoots and ranges which shall be clearly marked for the number of days approved, all approvals shall be for a period of 1 year. The certificate of approval shall be displayed at ranges.
2. Within 15 days of receipt of an application for use of a shooting arrange or area, the Department of Inspections, Licenses and Permits shall inspect the area and send the applicant written approval or disapproval of the application. If the application is disapproved, the department shall indicate the specific defects which caused the disapproval.
3. Applicants for approval of ranges or shooting areas shall be familiar with the provisions of Subtitle 4 "Firearms Control" of Title 8 "Crimes and Misdemeanors" of Howard County Code.
4. The Department of Inspections, Licenses and Permits shall revoke approval for the use of any range or shooting area where weapons are used other than those approved for use of that range.
5. Outdoor ranges shall be designed, constructed and operated so that maximum day time sound level limits set forth in the noise control regulations of the Maryland Department of Health and Mental Hygiene shall not be exceeded on adjacent properties. Weapon firing at outdoor ranges is prohibited between the hours of 10:00pm and 7:00am.
6. All ranges shall have adequate toilet and hand washing facilities available.
7. If the range or shooting area fails to conform to the requirements of this manual, the Department of Inspections, Licenses and Permits shall suspend its approval of the range or shooting area. The suspension shall be issued in writing and the specific defects causing the suspension shall be listed. Upon correction of the defects, the range or shooting area shall be inspected and the approval reinstated.
8. Any interested party who is aggrieved by a decision of the Department of Inspections, Licenses and Permits in approving or disapproving range or shooting area may appeal the decision to the Director of Inspections, Licenses and Permits.
9. All ranges or shooting areas in use and licensed as of the effective date of adoption of this manual (...1985) shall be considered as having approval of the Department of Inspections, Licenses and Permits until the expiration of their annual Department of Inspections, Licenses and Permits certificate of compliance. Those ranges not in compliance with the provisions of these regulations at the expiration of the Department of Inspections, Licenses and Permits certificate shall be allowed a reasonable period of time to comply, not to exceed 6 months from the effective date of this manual or the expiration of the certificate, whichever is later. Written compliance schedules, with interim provisions for the protection of health, safety and community welfare shall be approved by the Department of Inspections, Licenses and Permits with the concurrence of the Howard County Health Department.

MINIMUM REQUIREMENTS FOR  
TEMPORARY OR SINGLE DAY USE  
SHOTGUN TURKEY SHOOTS AND RANGES

1. **Temporary Permit.**

The Department of Inspections, Licenses and Permits may issue a permit for a single day or temporary shotgun turkey shoot. Temporary means no more than 2 consecutive days.

The Department of Inspections, Licenses and Permits may issue these permits for up to 15 aggregate days per year at any one location.

2. **Range Officer.**

The club or organization sponsoring the shoot shall assign one person familiar with firearms and the safe operation of a firing range to be range officer. The club or organization shall register the name and address of the range officer with the Department of Inspections, Licenses and Permits prior to issuance of the permit.

The range officer or the officer's designated assistant shall be situated behind the firing line, but if full view of the firing line. The range officer may have assistant officers. The officer's duties and responsibilities shall not be transferred to assistant officers during the shoot unless the range officer must leave the area because of an emergency.

3. **Inspection and Approval.**

The Department of Inspections, Licenses and Permits shall inspect the area of the shoot which may be established and approved outdoor shotgun range and approve it before the range is used and permit is issued.

4. **Posting Requirements.**

Signs reading DANGER, FIRING RANGE KEEP OUT, shall be displayed every 150 feet around the perimeter at a height of 4 or more feet from the ground. The lettering on the sign shall be of adequate size to be easily read at a distance of 50 feet by a person with 20/20 vision. Signs may be hand lettered.

5. **Safety Zone.**

There shall be a safety zone starting 10 feet behind the firing line and ending at least 200 yards beyond the targets. The zone shall extend 50 feet on either side of the firing range.

No person's livestock, public roads or vehicles shall be permitted within this safety zone area.

6. **Firing Line Safety.**

All shooting shall be done from a clearly marked firing line and firing points. Weapons shall remain open behind the firing line. At the firing line, weapons shall be pointed down range at all times. Before shooters leave the firing line, weapons and actions shall be open and checked for clear. The firing line shall be kept clear of debris and expended casing. Only range officials shall be in front of the firing line and then, only after the range officer has declared the firing line safe and clear.

7. **Targets.**

The area between the firing line and the targets shall be relatively flat, and free of debris, obstacles, large stones and shrubbery. Targets shall be set up or mounted so that shots fired at them will be in the direction of the shot fall zone.

8. **Ammunition.**

All ammunition shall be issued by the club or the officer's assistant to shooters at the firing line only. No ammunition shall be issued behind the firing line.

9. **Parking and spectator facilities.**

There shall be sufficient spectator space behind the firing line so that the spectators do not interfere with the safe operation of the firing line. Adequate parking facilities for the shooting participants shall be located at least 50 feet behind the firing line.

## MINIMUM REQUIREMENT FOR OUTDOOR SHOTGUN RANGES

### 1. **Inspection and Approval.**

The Department of Inspections, Licenses and Permits shall inspect and approve the area before the range is built and again before it is completed and used.

### 2. **Posting.**

Signs reading DANGER, FIRING RANGE, KEEP OUT shall be posted every 150 feet and at least 4 feet from the ground around the entire perimeter of the firing range and along both sides of the driveway and or paths leading to the range. The signs shall be of stiff, permanent material with heavy block lettering at least 4" high. The lettering should contrast in color with the sign so as to provide a high degree of visibility. Signs shall be posted within 10 feet of the edge of the wooded area or, if cleared, at the edge of the safety and shot fall zones.

### 3. **Skeet and Trap House Construction.**

- a. Skeet and trap houses shall be designed and constructed so as to give maximum protection and safety to the operator.
- b. Skeet houses shall be constructed of reinforced concrete, concrete block, brick, plywood or board of a sufficient thickness to keep fired shot or projectiles from penetrating the building to the area housing the machinery operators.
- c. Trap houses shall be constructed of reinforced concrete slabs at least 4" thick or cement filled block at least 6" thick. There shall be a floor drain in the trap house. The launching door shall face away from the firing line.
- d. The houses shall be constructed so as not to deflect shot back at the firing line if struck by shot.
- e. There shall be a master "on/off" switch available to the range officer that will disable all electrical machinery at the skeet or trap houses.

### 4. **Shot Fall Zone for International Shooting.**

- a. There shall be a shot fall zone for both the skeet and trap ranges.
- b. Skeet fields shall have no less than a 180 degree shot fall zone (80 degrees each side of centerline) with the axis starting midway between the high and low house (see attached diagram). The shot fall zone shall be at least 300 yards deep in all directions of the 160 degrees measuring from skeet houses with the first 100 yards being cleared of all trees and obstacles.
- c. Trap fields shall have at least 100 degree (50 degrees each side of centerline) shot fall zone with the axis or angle beginning at the trap house. The shot fall zone shall be at least 300 yards deep in all directions of the 100 degrees measuring from the trap house (see attached diagram), with the first 100 yards cleared of all trees and obstacles.
- d. Multiple trap fields may overlap shot fall zones provided that the fields are designed so that the trap houses are parallel to the firing line and at least 40 yards apart.
- e. The shot fall zone may be in planted crops, but the range shall not be used and shots shall not be fired while the farmer is working within the shot fall zone area.

**5. Shot Fall Zone for Non-international Shooting.**

The shot fall zone shall be determined by taking Journee's formula and adding 50 yards, i.e. shot diameter in inches x 2200 + 50 yards ( for standard American 12-16-20-28 shells). e.g. for #9 shot, the shot fall zone will be  $.08 \times 2200 + 50 = 176 + 59 = 226$  yards.

**6. Station identification.**

Each station on the skeet or trap field shall be clearly marked and easily identified by the shooters.

**7. Electrical Wiring.**

All electrical wiring leading up the firing line and in front of the firing line shall be buried under the ground and shall conform to the Howard County Electrical Code. Electrical wiring coming out of the ground leading to electrical equipment or lighting shall be encased in electrical conduit.

**8. Safety Rules.**

- a. The cease fire light and/or flag shall be checked and operable before each day's firing.
- b. When a cease fire light and/or flag is activated, all firing points on the firing range, including the adjoining trap ranges, will cease firing until the problem has been corrected, the light turned off and the flag dropped.
- c. Shotguns shall remain unloaded until on the firing line.
- d. Firearms out of the cases shall be opened and remain open until carried onto the firing line and shall be kept pointed down range.
- e. Firing shall be done only from the firing stations designated by the club.
- f. Actions shall not be closed on live ammunition unless the shooter is standing on the designated stations and muzzle is pointed in the general direction of the down range or shot fall zone area.
- g. Larger shot sizes than B-B shall be fired either on an approved outdoor rifle or pistol range. Only #7 ½, 8 and 9 shot shall be used for non-international shooting.
- h. Each range shall submit a copy of its safety rules.

MINIMUM REQUIREMENTS  
OUTDOOR LARGE BORE RIFLE RANGES

**1. Inspection and Approval.**

The property and/or range area shall be inspected and approved by Department of Inspections, Licenses and Permits before the range is built and again before it is completed and used.

**2. Posting Requirement.**

Signs reading DANGER, FIRING RANGE, KEEP OUT shall be displayed every 150 feet around the perimeter of the firing range at a height of 4 or more feet from the ground. The sign shall be of stiff permanent material with heavy block lettering a least 4" high. The lettering should contrast in color with the sign so as to provide a high degree of visibility. There shall be additional signs behind the backstop and along both sides of the driveway and /or paths leading to the range.

**3. Embankments and Backstop.**

There shall be embankments or impenetrable walls on either side of the firing range. Embankments shall be constructed of soft dirt containing no larger stones, rocks, slate, clay or landfills refuse. Impenetrable walls shall be built of the type recommended by the National Rifle Association. Beyond the target area, running the width of the range shall be dirt backstop, which shall connect to the side embankments or walls. The backstop shall contain no large stones, rocks, landfill waste material, slate, blue rock, clay or scrap metal. The embankment walls shall start 10 feet behind the firing line and run to the backstop and shall be at least 8 feet high, measured from the highest point of the firing line. The backstop shall be at least 15 feet high.

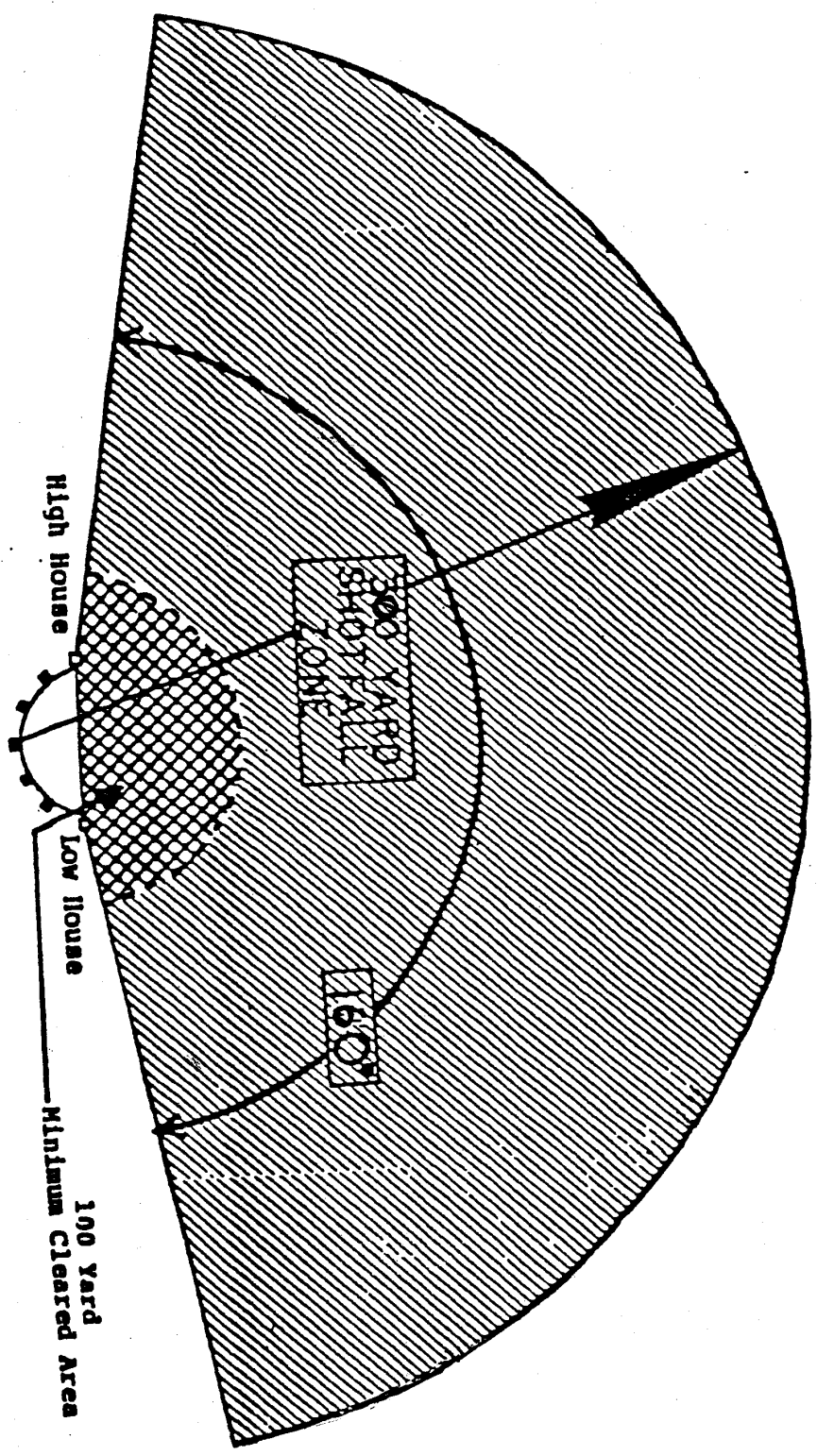
**4. Firing Line; Targets.**

- a. Each firing point shall be a least 5 feet wide to allow each shooter ample room to move and change positions and to allow a margin of safety for each shooter.
- b. The ground between firing line and targets shall be smooth, free of stones and shrubbery, and seeded or sodded.
- c. Target frames or holders shall not deflect fired projectiles toward the area of the firing line.
- d. Targets shall be mounted high enough that all bullets fired at them shall impact into the backstop and not on the ground in front of the backstop.
- e. There shall be no roads, residential property or grazing livestock for 700 yards beyond the rear of the backstop unless the firing range is designed with overhead baffles and eyebrow ricochet catcher.

**5. Safety Rules.**

- a. All firearms shall remain unloaded on the firing range except for guns in immediate use.
- b. Rifle racks shall be provided behind the firing line for safe storage of firearms not in immediate use.
- c. All firing shall be done from an established firing line.
- d. Bolts shall not be closed on live ammunition unless the firearm is pointed at the backstop.

# SKEET FIELD-SHOT FALL ZONE





MINIMUM REQUIREMENTS  
OUTDOOR PISTOL AND SMALL BORE RIFLE RANGES

**1. Inspection and Approval.**

The property and/or range area shall be inspected and approved by the Department of Inspections, Licenses and Permits before the range is built and again before it is completed and used. The Department of Inspections, Licenses and Permits may require an adequate overhead baffling and eyebrow ricochet catcher be permanently installed in order to protect the surrounding areas during use the range.

**2. Posting Requirement.**

Signs reading DANGER, FIRING RANGE, KEEP OUT shall be displayed every 150 feet around the perimeter of the range at a height of 4 or more feet from the ground. There shall be additional signs behind the backstop and along both sides of the road, driveway and paths leading to the firing range. The signs shall be of stiff permanent material with heavy block lettering at least 4" high. The lettering should contrast in color with the sign so as to provide a high degree of visibility.

**3. Embankments and Backstop.**

There shall be embankments or impenetrable walls on either side of the firing range. Embankments shall be constructed of soft dirt containing no large stones, rock, slate, clay or landfill refuse. Impenetrable walls shall be of cement filled block reinforced with steel or of a type recommended by the National Rifle Association.

Beyond the target area shall be a dirt backstop which shall connect to the side embankments or walls. The backstop shall contain no large stones, rocks, land fill waste material, slate, blue rock, clay or scrap metal. The backstop shall have an adequate and properly designed ricochet catcher.

The embankment walls shall start 10 feet behind the firing line and run up to the backstop and shall be at least 8 feet high, measured from the highest point of the firing line. The backstop shall be at least 15 feet high.

**4. Firing Line; Targets.**

- a. Each firing point shall have a shooting stand or table for each firing point, for the pistol shooter to mount his pistol case.
- b. Each firing point for a pistol range shall be at least 4 feet wide.
- c. The ground between firing line and targets shall be smooth and free of stones and shrubbery and seeded or sodded.
- d. The firing line or positions shall remain stable.
- e. All shooting shall be done from an established firing line.
- f. The target stands or frames shall not deflect the fired projectile toward the area of the firing line.
- g. Targets shall be mounted high enough so that all bullets fired at them shall impact into the backstop and not on the ground in front of the backstop.
- h. The target stands shall be movable so that the distance between the firing line and the targets can be changed for different courses of fire.
- i. There shall be no roads, residential property or grazing livestock for 700 yards beyond the rear of the backstop unless the range is designed with approved permanent overhead baffles and eyebrow ricochet catcher.

5. **Safety Rules.**

- a. Rifle racks shall be provided behind the firing line for safe storage of firearms not in immediate use.
- b. All firing shall be done from the established firing line.
- c. Bolts shall not be closed on live ammunition unless the firearm is pointed at the backstop.

MINIMUM REQUIREMENTS  
OUTDOOR FIRING RANGES FOR PNEUMATIC GUNS

**1. Inspection and Approval.**

The property and/or range area shall be inspected and approved by the Department of Inspections, Licenses and Permits before the range is built and again before it is completed and used.

**2. Posting Requirements.**

Signs reading DANGER, FIRING RANGE, KEEP OUT shall be displayed every 50 feet around the perimeter of the firing range at a height of at least 6 feet from the ground. There shall be additional signs in all conspicuous locations, along both sides of the driveway and/or paths leading to the range and behind the backstop and the area within 50 feet of the left and right boundaries of the range and 100 feet behind the backstop or targets.

The signs shall be of a stiff, permanent material with heavy block lettering at least 4" high. The lettering should contrast in color with the sign so as to provide a high degree of visibility.

**3. Boundaries and Backstop.**

On either side of the range there shall either be impenetrable walls at least 8 feet high or densely planted evergreen wooded area at least 100 feet deep. In back of the targets there shall be a backstop, running the entire width of the range and connecting to the side boundaries. The backstop shall be constructed so that fired projectiles are rendered helpless or useless and so that fired projectiles will not ricochet. Suggestions for the backstop include slanted metal, earthen berm or hill, commercial bullet traps, 100 feet of densely planted evergreen trees.

**4. Firing Line; Targets.**

- a. Each firing point for standing shall be at least 3 feet wide.  
If the range is to be used for prone firing, firing points shall be at least 5 feet wide.
- b. The ground between the firing line and targets shall be relatively flat, smooth, free of large stones, shrubbery and rock and shall be seeded or sodded.
- c. Target frames or holders shall not reflect the fired projectile toward the area of the firing line.
- d. The firing line or positions shall remain stable.
- e. All shooting shall be done from the firing line.
- f. Targets shall be mounted high enough so that all bullets fired at them shall impact into the backstop and not on the ground in front of the backstop.
- g. Targets stands or frames shall be movable for different distances of firing.
- h. There shall be no road, residential property or grazing livestock within the range danger area.

**5. Safety Rules.**

- a. Rifle racks shall be supplied behind the firing line for safe storage of guns not in immediate use.
- b. Complete range rules shall be established and taught to allow a safe and adequate range (refer to current National Rifle Association Range Rules).

MINIMUM REQUIREMENTS  
INDOOR PISTOL AND SMALL RIFLE RANGES

**1. Ventilation, Heating and Noise Control Systems.**

Indoor ranges shall be designed, constructed and operated in accordance with the recommendations and design considerations published by the National Institute for Occupational Safety and Health, contained in the criteria document entitled "Lead Exposure and Design Considerations for Indoor Firing Ranges" (NIOSH-76-130), or any successor document.

**2. Backstop.**

The backstop should be strong enough and thick enough to take constant impact from the largest caliber projectile to be fired on the range without causing weakness or damage to the backstop (Refer to the National Rifle Association for standards and manufacturers).

- a. The range owner shall be responsible for proving the strength and stopping power of the backstop.
- b. The backstop should be tilted at an appropriate angle (no more than 45 degrees) to safely deflect the fired projectile into a bullet trap designed to render the projectile harmless.
- c. There shall be an access entrance or crawl way for inspection of the rear of the backstop. The entrance or crawl way shall have a locked door which shall be kept locked except during inspection of the backstop.
- d. Behind the backstop there shall be a concrete or brick wall thick enough to stop a projectile which has pierced the backstop.

**3. Targets.**

- a. The target holders shall not deflect the fired projectile back at the firing line.
- b. The target shall have a minimum of 75 foot candles of lighting on each of the targets and across the firing line.
- c. The lighting at the target line shall remain on at all times the firing range is in use. Lighting at the firing line may be turned off only during firing exercises.

**4. Walls, Ceilings, Doors and Windows.**

Walls and ceilings shall be made of material which deflects a misfired projectile and contains it within the range area.

Doors and windows between the firing line and backstop shall be kept locked and protected by deflections plates in order to keep a projectile from going through to the outside or another part of the building.

**5. Electrical.**

All electrical wiring and conduit in front of the firing line shall be protected against damage from a misfired projectile.

The lighting control for the firing line and the target line may have separate switches. All switches shall be located behind the firing line and within view of the firing line and targets.

6. **Safety.**

- a. The range area and building shall be equipped with firefighting equipment as required by the Howard County Code.
- b. Dividers, projecting up to 12 inches behind the firing line may be installed between the firing pints in order to protect the shooters from ejected brass and side blast from the shooters on either side.
- c. Ear and eye protection devices should be used while the range is in use.
- d. The range shall be operated according to the current National Rifle Association Range Safety Rules.