



17810

Known Distance Range (KD)



RANGE DESIGN GUIDE



RANGE AND TRAINING LAND PROGRAM – MANDATORY CENTER OF EXPERTISE

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE

HUNTSVILLE, ALABAMA

256-895-1534

[EMAIL RTLP](#)

General

This document contains design and construction requirements specific to a standard Known Distance (KD) range, FCC 17810. Use the range specific information in this section along with the appropriate general sections in the RDG for information on range features that are generic to multiple range types.

Purpose

The Known Distance (KD) range is designed to train advanced rifle marksmanship and target engagement techniques with immediate downrange feedback and competition. This range is used to train and familiarize Soldiers with the skills necessary to identify, calculate distance, engage, adjust aim, and hit targets to 1,000 meters. It is also used for squad-designated marksmanship (SDM) training and certification. The range has a single target line and individual firing lines spaced at 100-meter increments from 100 to 1,000 meters.

Primary Features

The primary features of the ranges are divided into two categories: the Range and the Range Operations and Control Area (ROCA).

Range

The standard drawings are included at the end of this section.

Layout

The standard KD Range has 32 lanes each 10 meters wide. It has a single target line and multiple firing lines. There are firing lines spaced at 100-meter intervals from 100 to 1000 meters. It includes paths or other provisions for soldiers walking between firing lines. The firing lines are generally raised to provide line of sight to the targets. Include lane markers at each firing point that indicates both the lane number and target distance. The maximum angle of fire from each firing line to the target is two degrees, positive or negative

The table below provides the target count.

NUMBER	FEATURE
32	KD Target Lifter
1	Target Wall
1	Target Storage Bunker
	Range Signage

Firing Line

The KD Range has individual firing lines at 100-meter intervals starting at 1000 meters from the target to 100 meters. Design the firing positions for easy mowing. Provide walking access to each firing line and between each distance.

Down Range

The KD Range includes a target wall. The wall protects the lifters, the target storage bunker, and the downrange personnel. Details of the target wall and storage bunker are on the detail sheets at the end of this section. The standard target storage bunker is the ‘lean-to’ type shed. Other options for downrange target storage are an in-wall bunker or a standalone building, use of other than the ‘lean-to’ type requires an exception to standard.

Line of sight

Refer to the [Line of Sight](#) (LoS) section of the RDG for LoS requirements, procedures and submittal requirements. The maximum angle of fire from each firing line to the target is two degrees, positive or negative. Each lane must be able to see the target from the prone position at each firing position.

Electrical Range Design

The standard KD Range does not have downrange power or powered targets. Bringing power downrange for lights, powered lifters, limit markers, etc., can add significant cost and may require an exception to standard. Coordinate with RDT and the MCX.

ROCA

Refer to the ROCA section of the RDG for general design information. The ROCA for the KD Range is based on the standard Small Arms ROCA without the Operations Storage Building.

The Control Tower does not have computer scoring capabilities. It is only used to control the firing on the range and for safety. It must have an unrestricted view of the firing lines.

NAME	SIZE	UoM	RDG SECTION
Control Tower – Small Arms	1	EA	Range Control Towers
Classroom Facility	800	SF	Classroom and AAR Facilities Part 1 Classroom and AAR Facilities Part 2
Latrine: Vault (Latrine: Water)	330 (550)	SF	Latrines
Bleacher Enclosure	1	EA	Bleacher Enclosure
Covered Mess	800	SF	Covered Mess
Ammunition Breakdown Building	185	SF	Ammunition Breakdown Building

Targetry

The KD Range has manual target lifters with no automated scoring. Personnel behind the target wall lift and mark the targets.

Requirement Documents

Refer to Training Circular TC 25-8, Training Ranges, for additional information and references to the FM's, ARTEPs, TCs, etc. that describe and require the training on this type of range. The latest TC 25-8 is available at Army Knowledge Online (www.us.army.mil) and the General Dennis J. Reimer Training and Doctrine Digital Library (www.train.army.mil).

Additional Information

None



Ft McCoy, WI



Ft Bliss, TX

