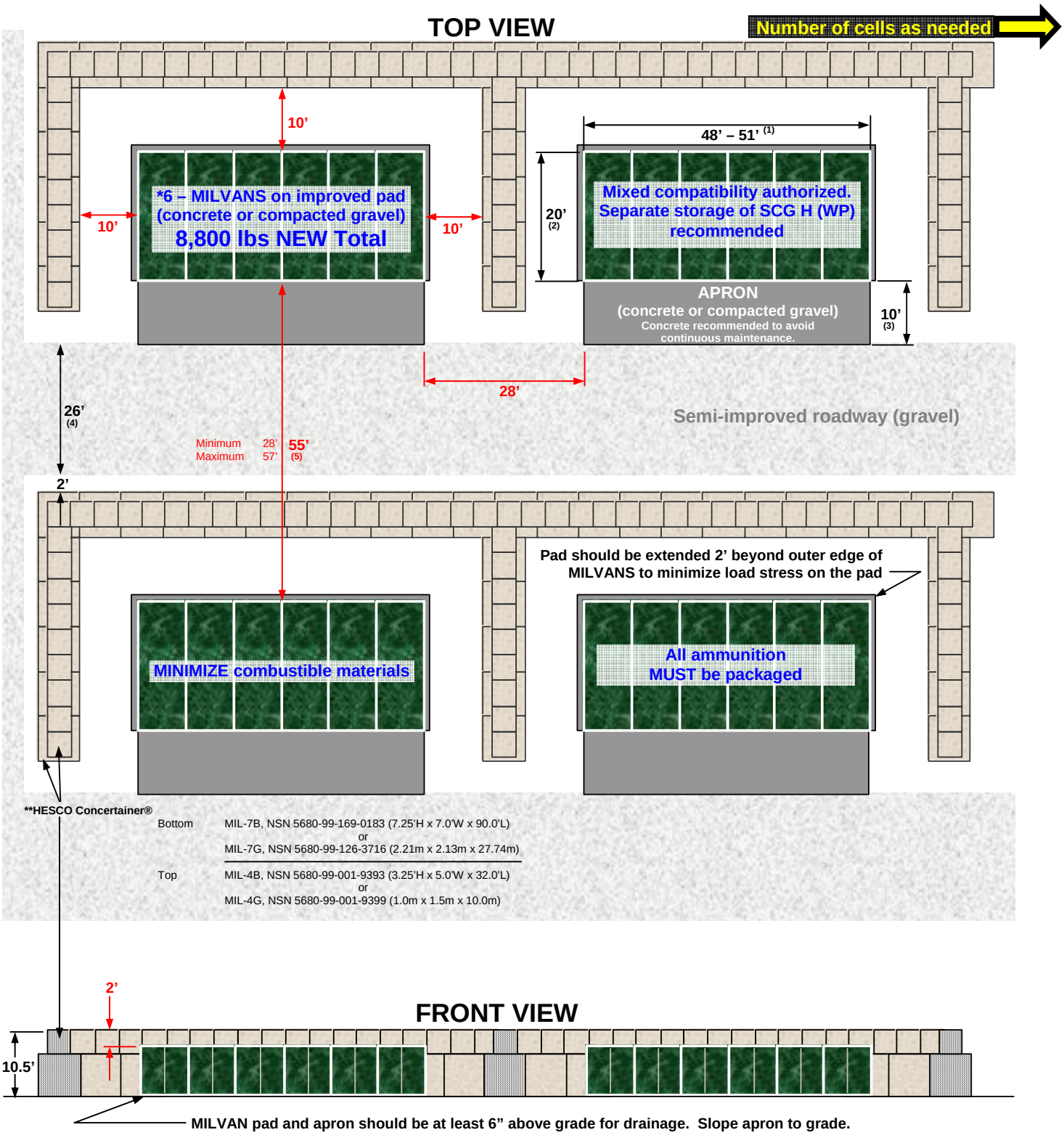
Prepared by Mr. Jeff Paddock, Fall 2008
References used include DOD 6055.09-Std and DA PAM 385-64

AMMUNITION STORAGE TO BLAHA CRITERIA

Dimensions in **red** are critical dimensions.

(1) Nominal width of 6 MILVANS (each MILVAN 8' to 8.5' wide)
(2) Nominal length of MILVAN
(3) Improved approach apron recommended for forklift maneuvering (reduced maintenance cost)
(4) Minimum roadway width to accommodate forklift maneuvering to/from MILVANS (greater distance recommended but not to exceed 28', see note 5)
(5) Minimum distance required MILVAN to MILVAN is 28' not to exceed a maximum distance of 57' (based on 2 degree rule for barricade height 2 ft above MILVANS; this rule is under review by DDESB and may change in the near future; new standard will be barricade height 1' higher than line-of-sight from top of MILVAN to top of MILVAN in adjacent cell(s))

* Fewer MILVANS may be used however, critical dimensions are the same.
** HESCO barricades depicted in this drawing are the recommended configuration. Other configurations are permissible provided the configuration is stable and provides a minimum height of 10.5'.



AMMUNITION STORAGE USING BLAHA CRITERIA

4 rows of 5 cells for a total of 20 cells, 6 MILVANS per cell (120 MILVANS)

8,800 lbs NEW per cell (176,000 lbs total NEW capacity)

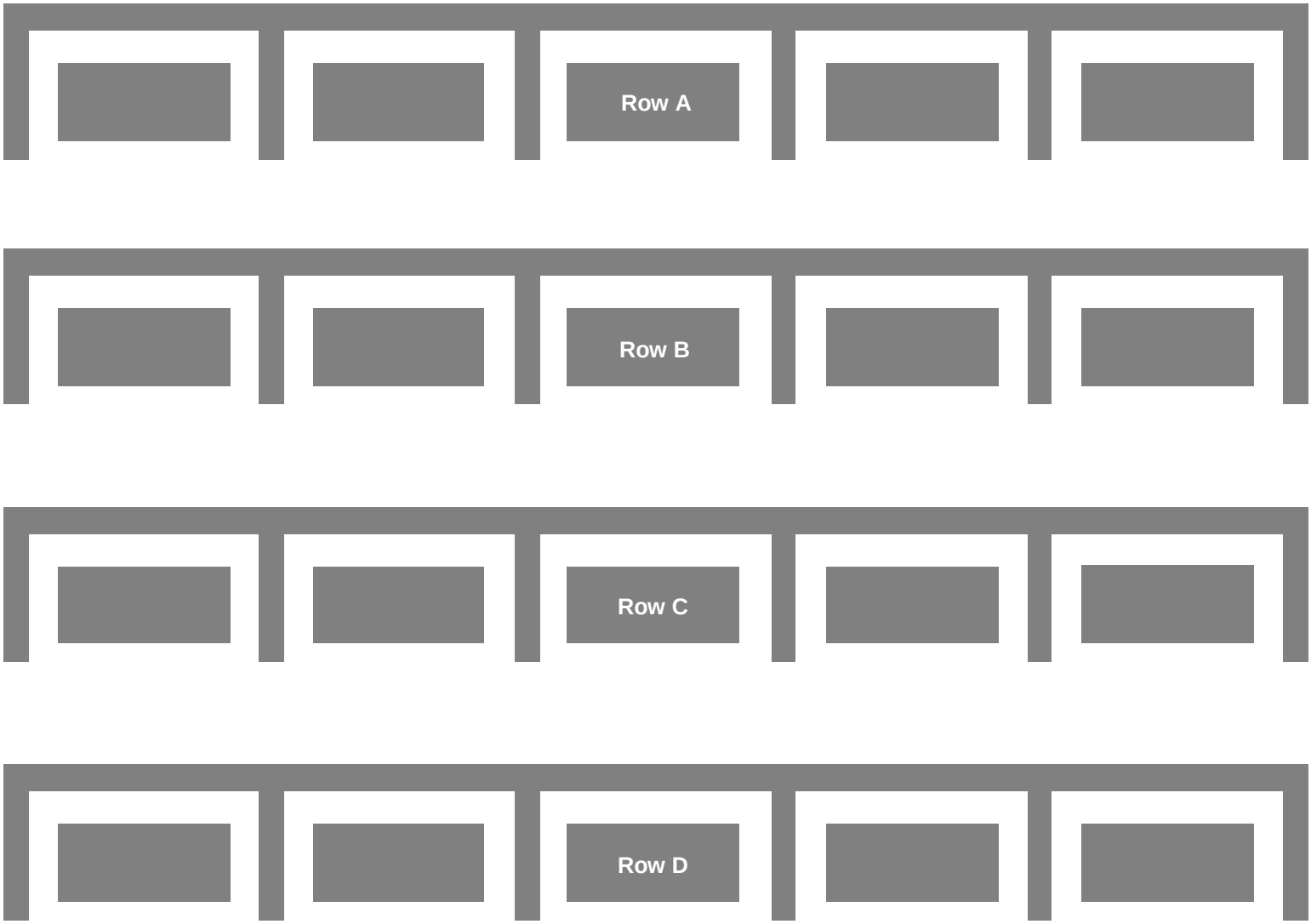
Each cell has the following Q-D:

Rows A thru C

IBD	1,250’
PTRD	750’
ILD(B)	186’

Row D

IBD	1,250’
PTRD	750’
ILD(U)	372’ (to the south)

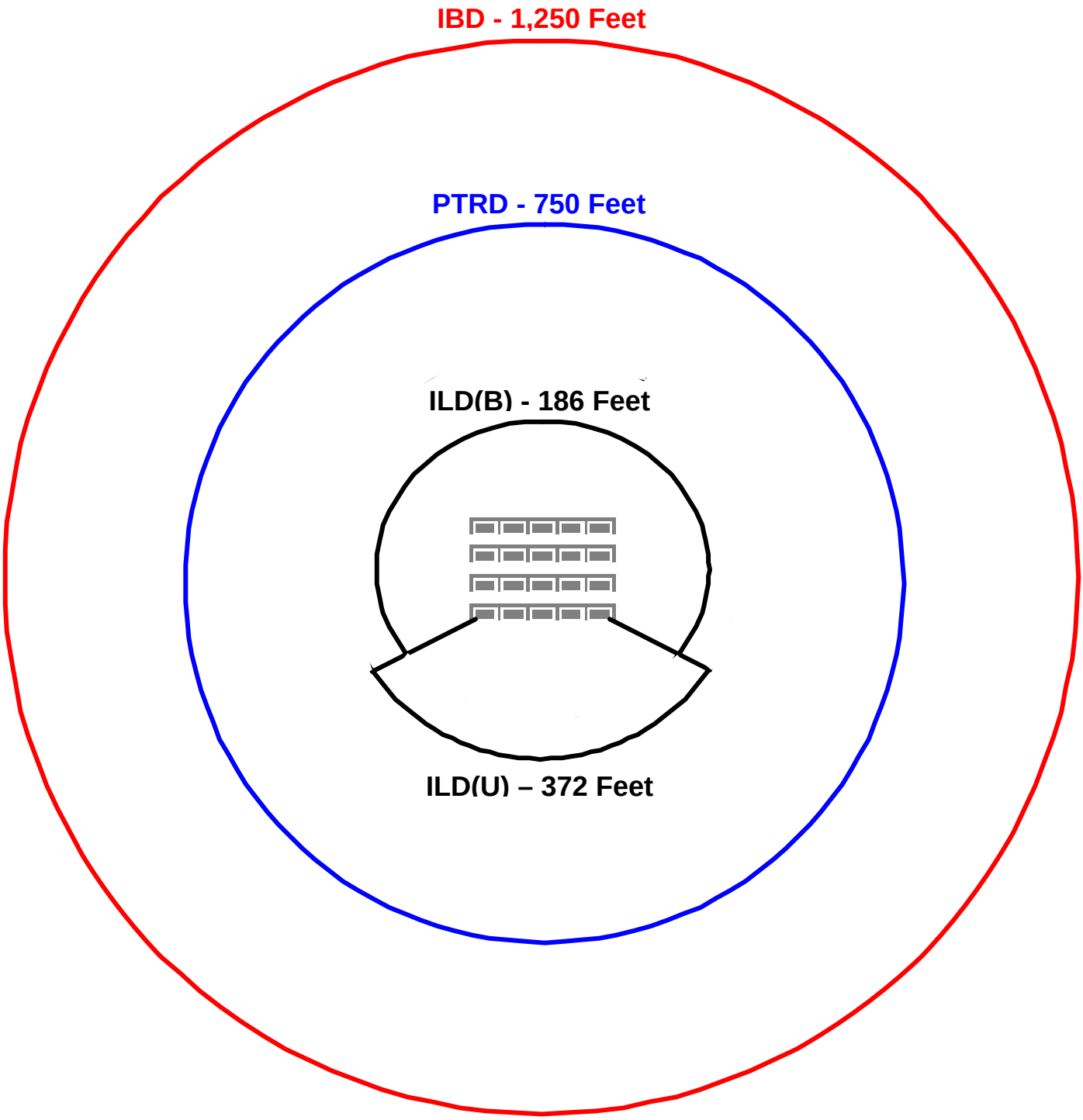


IBD **Inhabited Building Distance**
Installation boundary, hospitals, living quarters, admin buildings, trng & rec areas with structures, critical facilities such as main power generation facilities & certain types of transmission lines,etc.

PTRD **Public Traffic Route Distance**
Public Roads, Non-ammo related on base roads, DoD runways/taxiways

ILD(B) **Intraline Distance (Barricaded)**
Ammo offices/breakrooms, all non-strg related operations (from strg & from each other), vehicle holding yards, container stuffing/unstuffing, minor maint, buildup/breakdown, etc.

ILD(U) **Intraline Distance (Unbarricade**
Same as ILD(B)

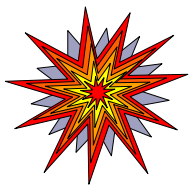


Prepared by Mr. Jeff Paddock, Fall 2008
References used include DOD 6055.09-Std and DA PAM 385-64

Blast and Fragmentation Effects Chart

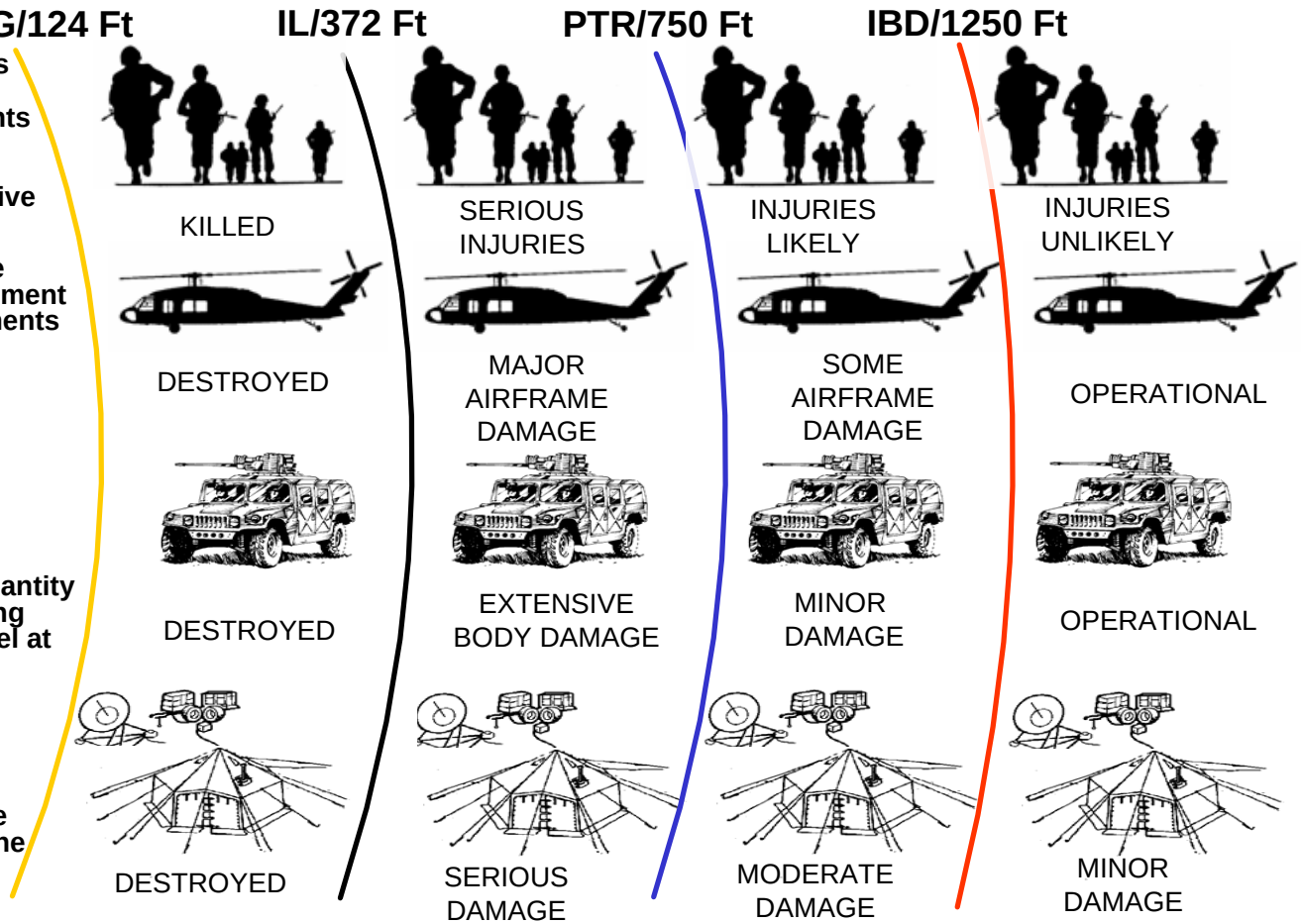
This chart represents the potential effects from blast & fragments from an accidental detonation of up to 8,800 lbs. net explosive weight (NEW).

Soldiers can become casualties and equipment damaged from fragments <u>and</u> blast effects.



Fragments from the detonation of any quantity of fragment-producing ammunition will travel at least 1,250 feet. The distance required to protect from blast becomes smaller as the NEW decreases.

Personnel effects are based on troops in the open not wearing protective gear.



DESTROYED → NON-COMBAT READY ← COMBAT EFFECTIVE

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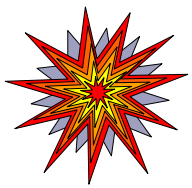
References used include DOD 6055.09-Std and DA PAM 385-64

Blast and Fragmentation Effects Chart

This chart represents the potential effects from blast & fragments from an accidental detonation of up to 30,000 lbs. net explosive weight (NEW).

Soldiers can become casualties and equipment damaged from fragments <u>and</u> blast effects.



Fragments from the detonation of any quantity of fragment-producing ammunition will travel at least 1,250 feet. The distance required to protect from blast becomes smaller as the NEW decreases.

Personnel effects are based on troops in the open not wearing protective gear.

MAG/342 Ft	IL/560 Ft	PTR/750 Ft	IBD/1250 Ft
KILLED	SERIOUS INJURIES	INJURIES LIKELY	INJURIES UNLIKELY
DESTROYED	MAJOR AIRFRAME DAMAGE	SOME AIRFRAME DAMAGE	OPERATIONAL
DESTROYED	EXTENSIVE BODY DAMAGE	MINOR DAMAGE	OPERATIONAL
DESTROYED	SERIOUS DAMAGE	MODERATE DAMAGE	MINOR DAMAGE
K-6 / 27 PSI	K-18 / 3.5 PSI	K24 / 2.3 PSI	K-40 / 1.2 PSI

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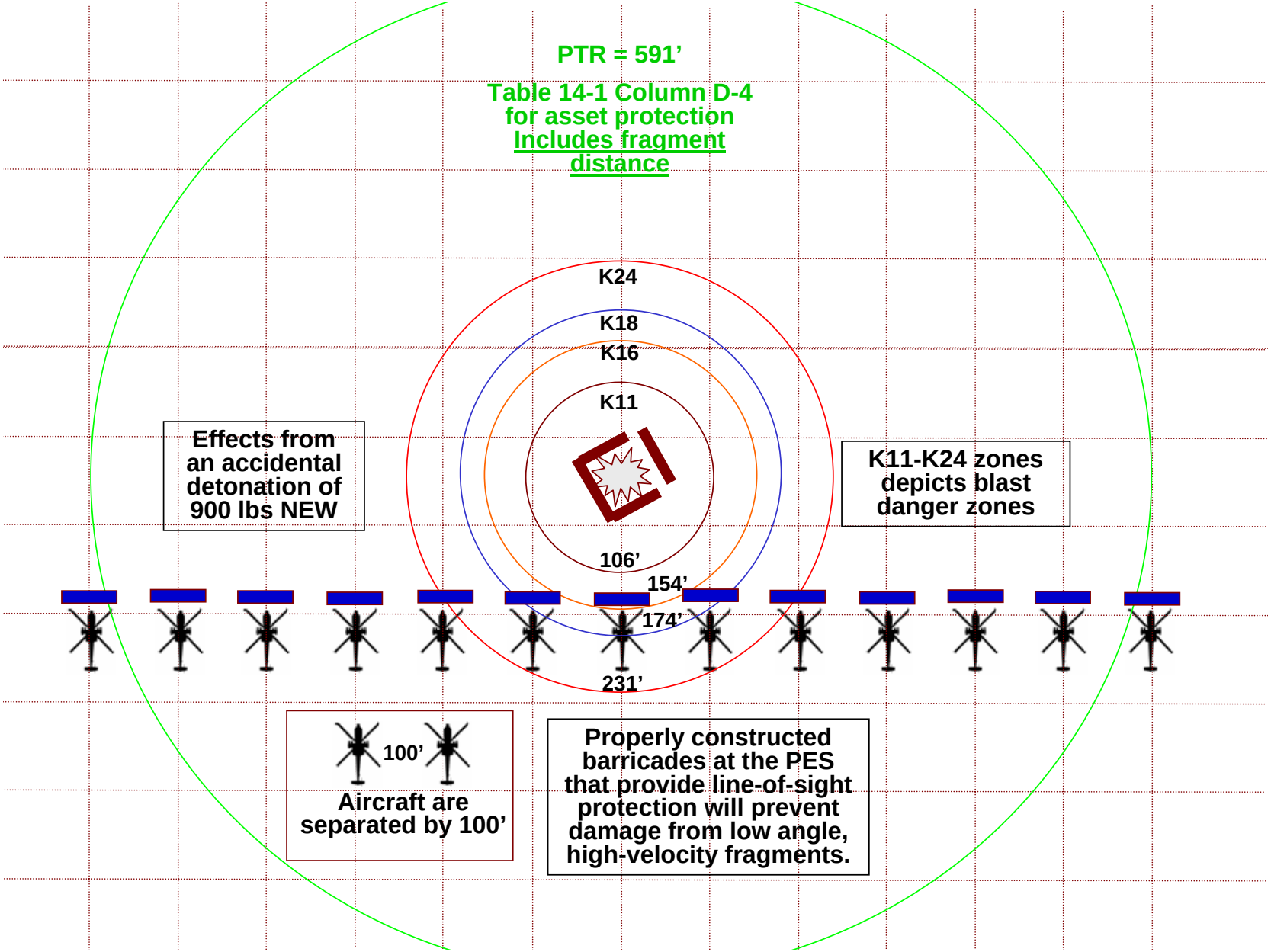

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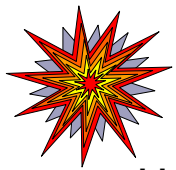
Blast/Fragments Effects Chart

This chart represents the potential blast and fragments effects



from an accidental detonation of up to 900 lbs. NEW

MAG K11 8 psi	Actual K16 ~ 4.3 psi	IL (U) K18 3.5 psi	PTR K24 2.3 psi
Personnel will be killed by direct action of blast, debris, or hard surface impact	Effects will be similar to K18	Serious personnel injuries are likely from fragments, debris, and firebrands. There is a 1% chance of eardrum damage.	Personnel in open are not expected to be killed or seriously injured. Some fragment and debris injuries possible.
Aircraft will be destroyed by blast, thermal, and debris effects		Aircraft can expect to suffer considerable structural damage from blast. Fragments and debris are likely to cause severe damage.	Aircraft should suffer damage to appendages and skin from blast and fragments. The aircraft should be operational with minor repair.
106 feet	154 feet	174 feet	231 feet

DESTROYED → NON-COMBAT READY ← COMBAT EFFECTIVE