

**APPENDIX I**

**Explosives Siting Plan**

FORA ESCA REMEDIATION PROGRAM

---

Appendix I: Explosives Siting Plan

DRAFT FINAL  
Group 1 Remedial Investigation / Feasibility Study Work  
Plan

Volume 2 - Sampling and Analysis Plan

Parker Flats Munitions Response Area Phase II

Former Fort Ord  
Monterey County, California

November 13, 2008

*Prepared for:*

**FORT ORD REUSE AUTHORITY**

100 12th Street, Building 2880  
Marina, California 93933



*Prepared Under:*

Environmental Services Cooperative Agreement  
No. W9128F-07-2-01621

*and*

FORA Remediation Services Agreement (3/30/07)

Document Control Number: 09595-08-086-005

*Prepared by:*

## CONTENTS

CONTENTS .....	I-I
ACRONYMS AND ABBREVIATIONS.....	I-III
1.0 INTRODUCTION.....	I-1
1.1 Explosive Storage Magazines.....	I-1
1.2 Engineering Controls.....	I-1
1.3 Munitions and Explosives of Concern .....	I-2
1.4 Minimum Separation Distance .....	I-2
1.4.1 Maximum Fragmentation Distance MSD for Intentional Detonations.....	I-2
1.4.2 Hazardous Fragment Distance MSD for Nonessential Personnel for Unintentional Detonations .....	I-2
1.4.2.1 Authorization to Use Unintentional Detonation MSD HFD.....	I-3
1.4.3 Team Separation Distance .....	I-3
1.4.4 Increase of MSD .....	I-3
1.5 Demolition Areas.....	I-4
1.6 Footprint Areas.....	I-4
1.6.1 Detonation Site and Blow-in-Place.....	I-4
1.6.2 Collection Points.....	I-5
1.6.3 In-Grid Consolidated Shots .....	I-5
2.0 REFERENCES.....	I-5

## TABLES

- 1 Minimum Separation Distances

## FIGURES

- 1 Location Map
- 2 Parker Flats MRA Phase II Remedial Investigation Area
- 3 Parker Flats MRA Phase II Remedial Investigation Minimum Separation Distances
- 4 Explosive Storage Location (Building 763) Minimum Separation Distances
- 5 Explosive Storage Location (Building 764) Minimum Separation Distances

- 6 Explosive Storage Location (Building 765) Minimum Separation Distances
- 7 MSDs and Fragmentation Characteristics for Projectile, 37 mm, Low Explosive MK I
- 8 MSDs and Fragmentation Characteristics for Projectile, 75 mm, MK I (Shrapnel)

## ACRONYMS AND ABBREVIATIONS

Army	U.S. Department of the Army
ASP	Ammunition Supply Point
BRAC	Base Realignment and Closure
DDESB	Department of Defense Explosives Safety Broad
ESCA RP	Environmental Services Cooperative Agreement Remediation Program
ESL	explosive storage location
ESP	Explosives Siting Plan
FORA	Fort Ord Reuse Authority
ft	foot or feet
FUDS	Formerly Used Defense Sites
HFD	hazardous fragment distance
LDSP	Land Disposal Site Plan
LE	Low Explosive
MEC	munitions and explosives of concern
MFD	maximum fragmentation distance
MGFD	munition with the greatest fragmentation distance
mm	millimeter
MRA	Munitions Response Area
MSD	minimum separation distance
POM FD	Presidio of Monterey Fire Department
RI	Remedial Investigation
SUXOS	Senior Unexploded Ordnance Supervisor
TSD	team separation distance
USACE	United States Army Corps of Engineers
UXO	unexploded ordnance
UXOSO	Unexploded Ordnance Safety Officer

## 1.0 INTRODUCTION

The former Fort Ord, Monterey County, California is the focus of this Explosives Siting Plan (ESP) in support of a Remedial Investigation (RI) to be conducted at the Parker Flats Munitions Response Area (MRA). This is Phase II of the Parker Flats RI and covers approximately 482 acres that potentially contain munitions and explosives of concern (MEC). Detailed information about the Parker Flats MRA can be found in the Group 1 Remedial Investigation and Feasibility Study Work Plan (ESCA RP Team 2008b). This plan for siting explosives operations conforms to the requirements of Data Item Description MR-005-004.

Figure 1 shows the location of the former Fort Ord and the general site layout. Figure 2 shows the Phase II RI area of the Parker Flats MRA. Figure 3 includes all anticipated minimum separation distances (MSDs) for the Parker Flats MRA Phase II.

### 1.1 Explosive Storage Magazines

Explosive donor charges will be drawn from the established explosive storage location (ESL). The ESL is the former Fort Ord Ammunition Supply Point (ASP) shown on Figure 1. The Department of Defense Explosives Safety Board (DDESB) approved the siting and final safety submission for this ASP on March 8, 1990. The ASP's magazines are standard earth-covered facilities. After Fort Ord closed under Base Realignment and Closure (BRAC), DDESB approved a change to the use of the magazines and resited them to allow the U.S. Department of the Army ("Army") to use the magazines for the storage of demolition materials for unexploded ordnance (UXO) contractors executing Fort Ord's munitions response actions. The Army used the magazines in this way for a number of years. The Army is no longer using the magazines and will eventually deed transfer the entire ESL to the Fort Ord Reuse Authority (FORA). Until transfer, the ESL will temporarily remain Army property, but the Army has granted a right of entry to FORA to allow FORA's contractors to use it to store demolition explosives. The ESL will continue to be used for UXO contractor munitions response actions for approximately 7 years. Siting of these magazines is covered under the DDESB final approval of the "2<sup>nd</sup> Addendum to the 3<sup>rd</sup> Amendment to the 17 Feb 94 Land Disposal Site Plan (LDSP) for BRAC of Fort Ord, California," dated January 14, 2008 (ESCA RP Team 2008a). The MSD requirements for each of the three earth-covered facilities being used at the ESL (Buildings 763, 764, and 765) are shown on Figures 4, 5, and 6.

### 1.2 Engineering Controls

Engineering controls will be implemented during intentional detonations per the guidance set forth in HNC-ED-CS-S-98-7, Use of Sandbags for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions. Only one item will be disposed of at a time when engineering controls are being employed.

In areas where an acceptable fragmentation distance cannot be achieved, items that are safe to move may be moved to another area as long as the movement does not require transportation

on public roads. If movement to another area is not possible, engineering controls (in accordance with HNC-ED-CS-S-98-7) will be employed to reduce the fragmentation hazard.

### 1.3 Munitions and Explosives of Concern

All recovered MEC will be blown-in-place in the grid found; engineering controls will be utilized to mitigate the hazard posed by fragments produced by the detonation.

### 1.4 Minimum Separation Distance

Figure 3 includes all anticipated MSDs for the Parker Flats MRA Phase II. The selection of the munition with the greatest fragmentation distance (MGFD) for the Parker Flats Phase II area is based on the results of MEC investigations and removal action in the Parker Flats MRA Phase I and Phase II areas.

- The MGFD for the northern portion of the Parker Flats Phase II area is the 37 millimeter (mm), MK I, Low Explosive (LE) projectile. This is a conservative assumption because 37 mm LE projectiles were only found in the Parker Flats Phase I areas, and none have been found in the Phase II areas.
- The MGFD for the southern portion of the Parker Flats Phase II area is the 75 mm MK I (shrapnel) projectile.

#### 1.4.1 Maximum Fragmentation Distance MSD for Intentional Detonations

The maximum fragmentation distance (MFD) is in accordance with the Fragmentation Data Sheet for the 37 mm, MK I, LE projectile, and will be used for intentional detonations, as shown on Figure 3. The MFD for the 37 mm, MK I, LE projectile is 816 feet (ft) and the MFD for the 75 mm MK I (shrapnel) is 743 ft. Engineering controls for intentional detonations, per the guidance set forth in HNC-ED-CS-S-98-7, Use of Sandbags for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions, will be employed to reduce the MFD.

The withdrawal distance or MSD for intentional detonations using sandbags is 200 ft, as shown on Figure 3. Engineering controls will be utilized for single item detonations only. Any inhabited buildings that fall within the MSD will be evacuated during MEC operations. All roadways will be blocked, with road guards (or equivalent) to ensure that nonessential personnel do not enter the MSD during MEC activities.

#### 1.4.2 Hazardous Fragment Distance MSD for Nonessential Personnel for Unintentional Detonations

The MSD for nonessential personnel is as shown on Figure 3. The hazardous fragment distance (HFD) will be used for unintentional detonations based on the Fragmentation Data Sheet. The MSDs for intentional and unintentional detonations are provided in Table 1.

**Table 1: Minimum Separation Distances**

MEC Operation	MSDs (ft)			
	37 mm MK I, LE		75 mm MK I (Shrapnel)	
	Essential Personnel	Nonessential Personnel	Essential Personnel	Nonessential Personnel
<b>Unintentional Detonations</b>	NA	68	NA	200
<b>Intentional Detonations with Engineering Controls</b>	200	200	200	200
<b>Intentional Detonations without Engineering Controls</b>	816	816	743	743

NA = Not Applicable (see team separation distance section below)

**1.4.2.1 Authorization to Use Unintentional Detonation MSD HFD**

United States Army Corps of Engineers (USACE) has intrusively investigated millions of surface MEC items and subsurface anomalies that have the potential to be UXO over the past 15 years on more than 1,000 project locations for Formerly Used Defense Sites (FUDS), BRAC, and active installations. These are extremely conservative estimates. On one project alone, USACE investigated over 3,000,000 anomalies, of which approximately 1.67% were UXO, with no accidents or unintentional detonations. For these reasons, the probability of an unintentional detonation, due to project activities, is assessed to be “Extremely Low,” and the use of the HFD, for unintentional detonations, is warranted and authorized.

**1.4.3 Team Separation Distance**

Team separation distance (TSD) will be in accordance with the Fragmentation Data Sheet’s K40 distance as shown on Figures 7 and 8. TSDs are 18 ft for the 37 mm MK I, LE and 10 ft for the 75 mm MK I (shrapnel).

**1.4.4 Increase of MSD**

If, during the course of operations, a munition with a greater fragmentation distance is encountered, the MSD will immediately be adjusted in accordance with DDESB Technical Paper 16, and operations will continue. In response, an amendment to this ESP will be expeditiously submitted.



## 1.5 Demolition Areas

No dedicated demolition area will be established at the Parker Flats MRA Phase II RI area. MEC identified within the Parker Flats MRA Phase II RI area will be blown-in-place using engineering controls to mitigate the hazard posed by fragments produced by the detonation.

## 1.6 Footprint Areas

There are no identified disposal areas.

### 1.6.1 Detonation Site and Blow-in-Place

Recovered MEC will be blown-in-place within the investigation area or transect found within the Parker Flats MRA. Material Potentially Presenting an Explosive Hazard and items requiring demilitarization may be stored in the MEC explosive magazine and added to future planned demolition shots. Items that are unsafe to move will be disposed of in the location where they are encountered.

Prior to initiation of demolition operations, all nonessential personnel will be evacuated from the exclusion zone. Before the demolition charges are primed, all avenues of ingress will be physically blocked by guard personnel. Radio communications will be maintained between all involved parties at all times. Avenues of ingress are not to be opened without the permission of the Senior Unexploded Ordnance Supervisor (SUXOS). A constant state of vigilance will be maintained by all personnel to detect any intrusion into the fragmentation zone including over flights by aircraft. Upon completion of disposal operations, the disposal team's UXO Technician III (Demolition Supervisor) and the Unexploded Ordnance Safety Officer (UXOSO) will visually inspect each disposal shot. The Technician III will perform a visual inspection of the disposal site(s). The UXOSO will stand by at a safe distance and be prepared to render assistance in the event of an emergency. Upon completion of this inspection and providing that there are no residual hazards, the SUXOS will authorize the resumption of operations.

Prior to any detonation, the SUXOS will initiate the appropriate notification and approval procedure. The SUXOS will schedule the demolition to allow sufficient time to complete all notifications and approvals.

Notifications and approvals will be conducted as follows:

- Complete the MEC Disposal Checklists and notifications for each disposal operation
- Request Presidio of Monterey Fire Department (POM FD) to perform an on-site fire risk assessment. For planned detonations, risk assessments require a 3-day notification and demolition shots require a 5-day notification. POM FD will expedite risk assessments for demolition shots that cannot be delayed. Following property transfer, requirements for risk assessments will be determined by the City of Seaside Fire Department, if the detonation is being conducted within the jurisdiction of the City of Seaside, or by the

Salinas Rural Fire District, if the detonation is being conducted within the jurisdiction of Monterey County.

- Complete a Detonation Approval Checklist/Risk Assessment and submit to the FORA ESCA Remediation Program Manager for approval.

### 1.6.2 Collection Points

Collection points are not applicable to this project.

### 1.6.3 In-Grid Consolidated Shots

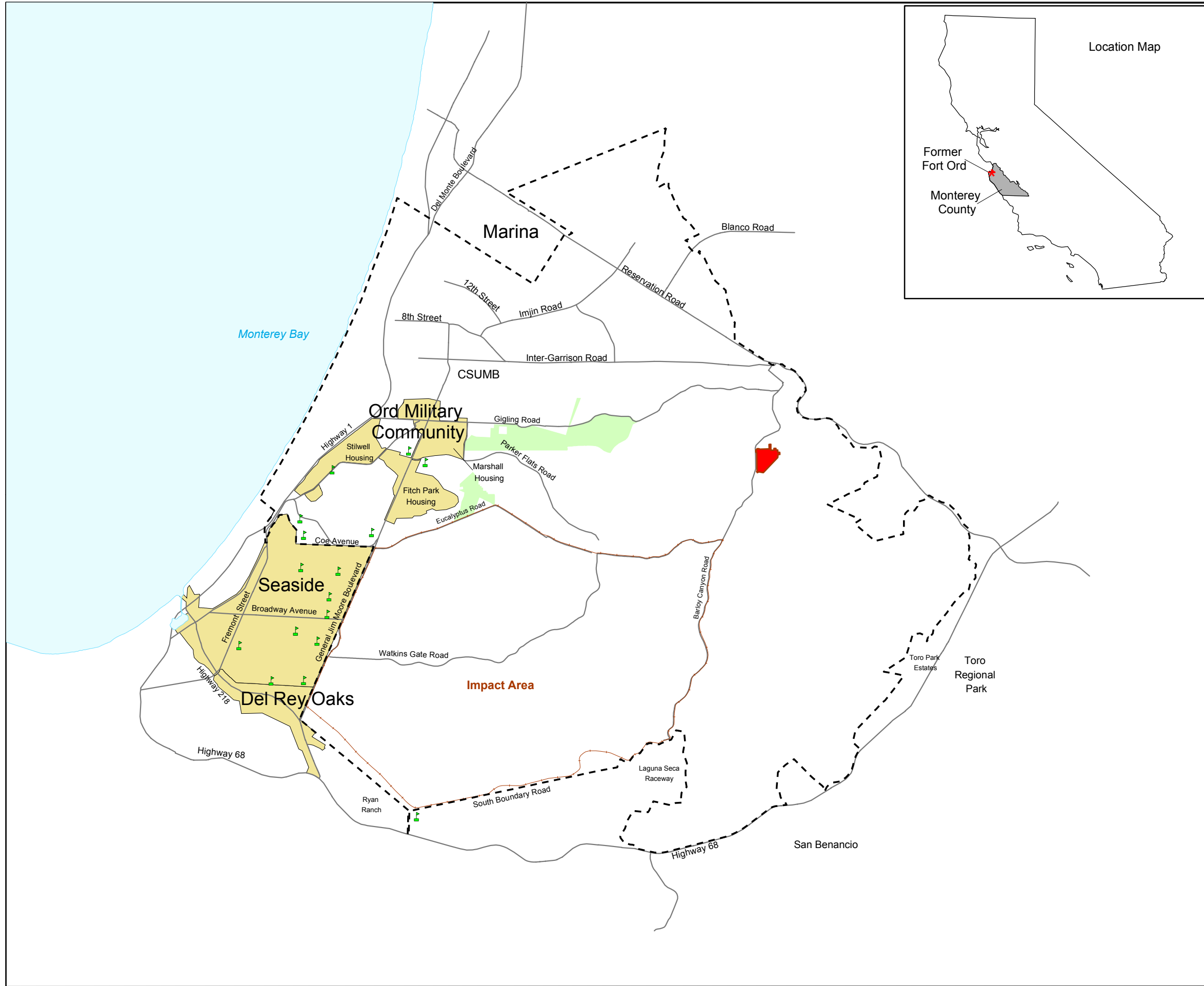
In-grid consolidated shots are not applicable to this project.

## 2.0 REFERENCES

Environmental Services Cooperative Agreement Remediation Program Team (ESCA RP Team). 2008a. 2nd Addendum to the 3rd Amendment to the 17 Feb 94 Land Disposal Site Plan (LDSP) for BRAC of Fort Ord, California, Phase II Seaside Munitions Response Area (MRA) Removal Action, Former Fort Ord, Monterey County, California. January 14.

———. 2008b. Draft Group 1 Remedial Investigation/Feasibility Study Work Plan, Volumes 1 and 2, Seaside and Parker Flats MRAs, Former Fort Ord, Monterey County, California. May 23.

T:\Projects\Parker Flats\P1 work plan volume 2\Parker Flats from Matt\20082102\MXD\_Files\_Parker Flats\MXDs\Figure\_1\_1.mxd - 9/17/2008 @ 1:14:27 PM



**Legend**

- Parker Flats Phase II Remedial Investigation Area
- Residential Communities
- Former Ammunition Supply Point 69 (ASP-69)
- Schools
- Impact Area Boundary
- Roadways
- Former Fort Ord Boundary

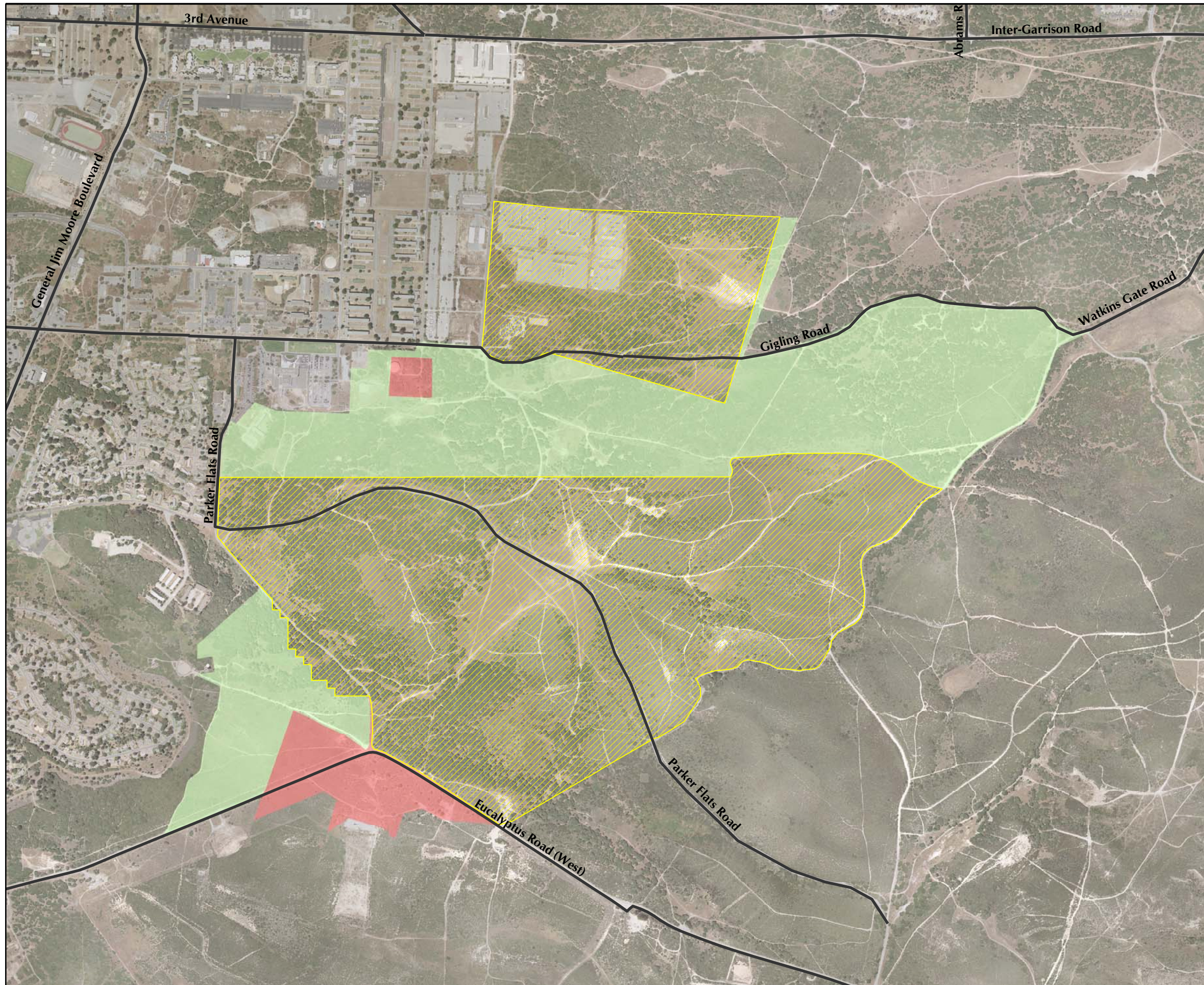
0 5,000 10,000  
Feet

**LFR**  
**WESTON SOLUTIONS**  
**Westcliffe Engineers, Inc.**





**Location Map**  
FORA ESCA RP  
Monterey County, California

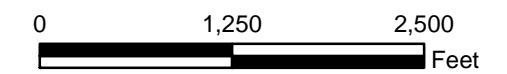
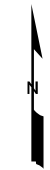
**Figure 1**

T:\Projects\Parker Flats\P1 work plan volume 2\ParkerFlats\_fromMantM20082102\MXD\_Files\_ParkerFlats\MXD\Figure\_1\_2.mxd - 9/17/2008 @ 1:14:25 PM



**Legend**

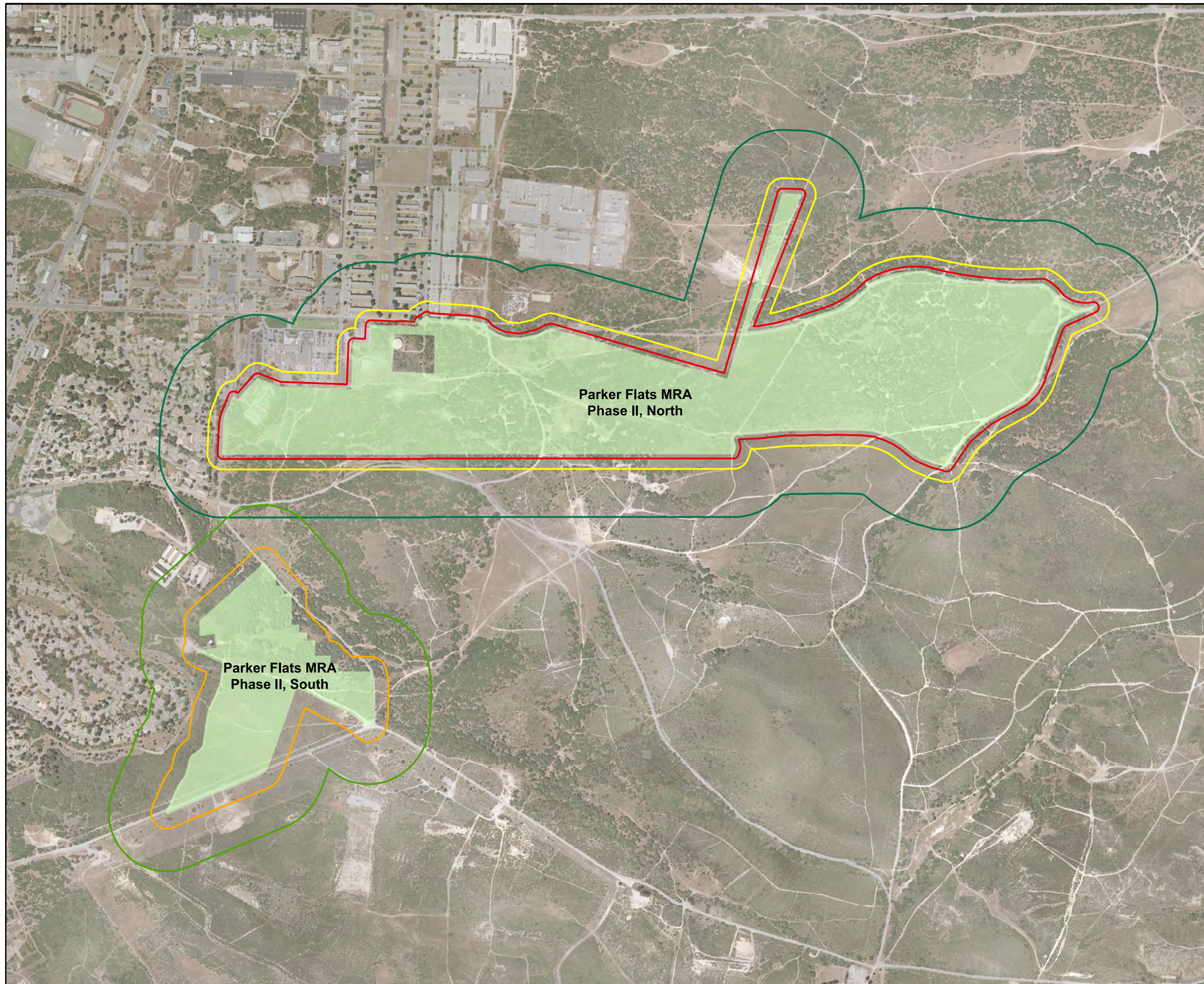
-  Phase II Remedial Investigation Area
-  Major Road
-  Phase I Remedial Investigation Area
-  Phase II Removal Action Completed



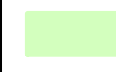
**Parker Flats MRA  
Phase II Remedial  
Investigation Area**  
  
FORA ESCA RP  
Monterey County, California

**Figure 2**

T:\Projects\Parker Flats\PI work plan volume 2\ParkerFlats\_fromMatt\20082102\MXD\_Files\_ParkerFlats\MXDstFigure\_1\_3.mxd - 9/17/2008 @ 1:14:26 PM



### Legend

 Parker Flats MRA  
Phase II Remedial Investigation Area

#### Parker Flats MRA - Phase II, North

 Hazardous Fragmentation Distance of  
68 Feet for Projectile, 37mm, LE MK I

 Minimum Separation Distance of 200 Feet  
for Sandbagged Detonations

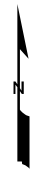
 Maximum Fragmentation Distance of  
816 Feet for Projectile, 37mm, LE MK I

#### Parker Flats MRA - Phase II, South

 Hazardous Fragmentation Distance of  
200 Feet for Projectile, 75mm,  
MK I (shapnel)  
AND

Minimum Separation Distance of 200 Feet  
for Sandbagged Detonations

 Maximum Fragmentation Distance of  
743 Feet for Projectile, 75mm,  
MK I (shrapnel)



0 1,250 2,500  
Feet



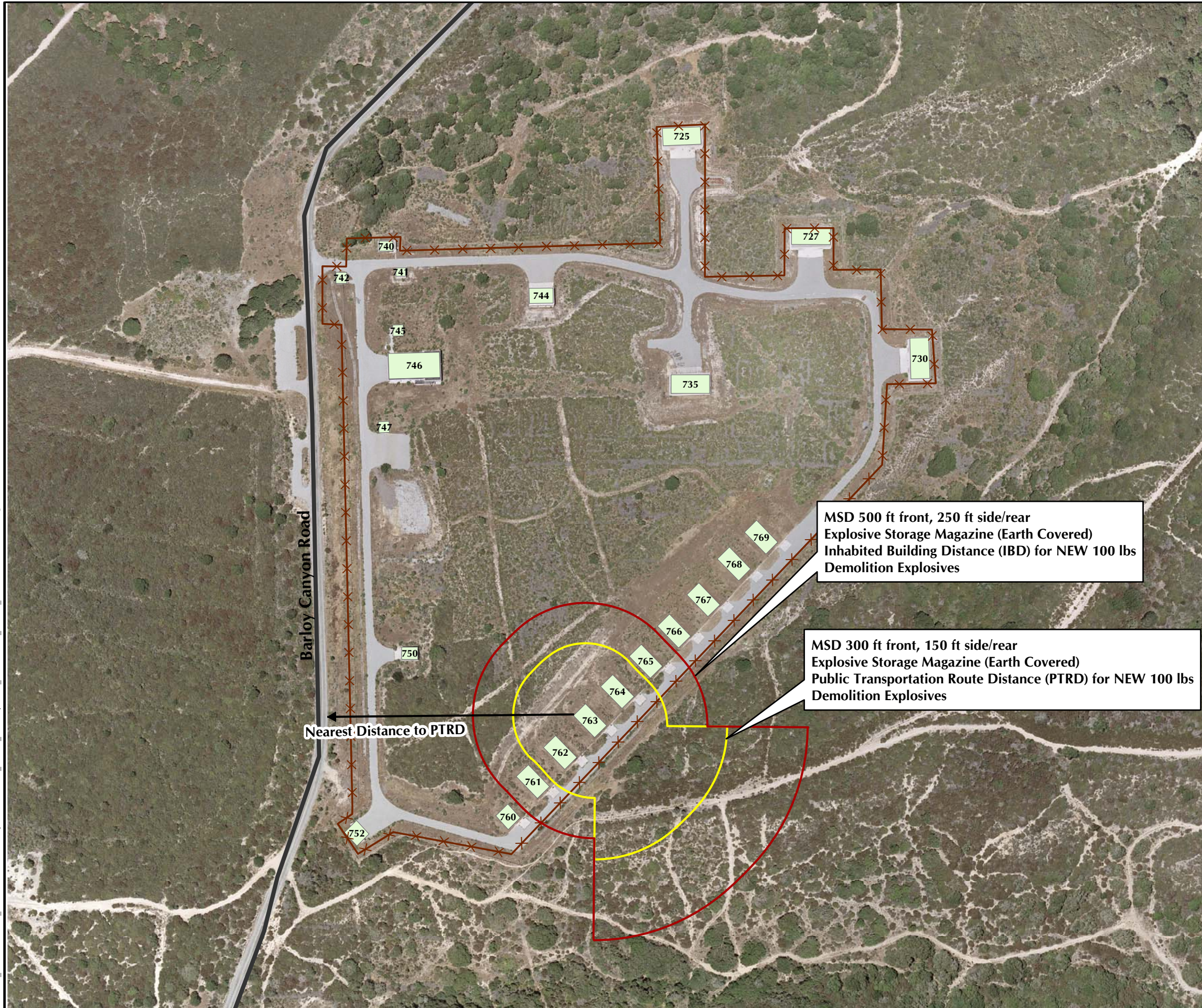
Westcliffe  
Engineers, Inc.

**Parker Flats MRA  
Phase II Remedial Investigation  
Minimum Separation Distances**

FORA ESCA RP  
Monterey County, California

Figure 3

K:\001\_EMA\03609595\_FORD\GIS\ArcGIS\Projects\ParkerFlats\_Phase2\_RISafety\Buffer\_EastGarrison\_Bld763\_SSWP.mxd - 5/19/2008 @ 12:56:48 PM



MSD 500 ft front, 250 ft side/rear  
Explosive Storage Magazine (Earth Covered)  
Inhabited Building Distance (IBD) for NEW 100 lbs  
Demolition Explosives

MSD 300 ft front, 150 ft side/rear  
Explosive Storage Magazine (Earth Covered)  
Public Transportation Route Distance (PTRD) for NEW 100 lbs  
Demolition Explosives

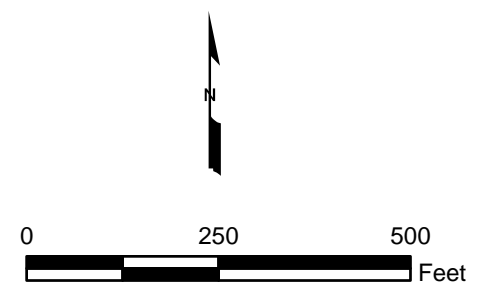
Nearest Distance to PTRD

**Legend**

- Building
- Major Road
- Fencing

**Minimum Separation Distance (MSD)**

- Public Traffic Route
- Inhabited Buildings



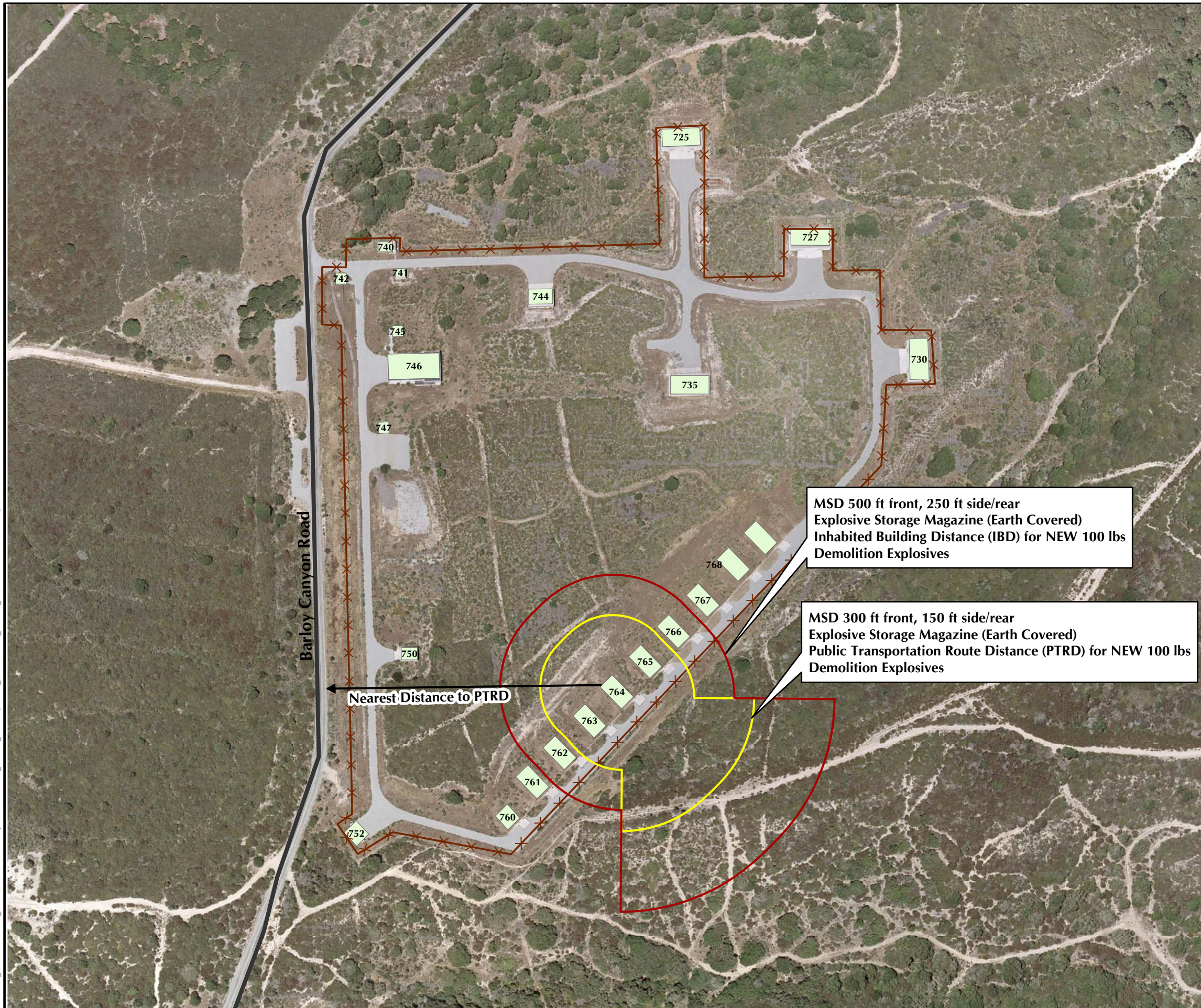
**LFR**  
**WESTON SOLUTIONS**  
**Westcliffe Engineers, Inc.**

**Explosive Storage Location  
(Building 763)  
Minimum Separation Distances**

FORA ESCA RP  
Monterey County, California

**Figure 4**

K:\001\_EMAV03609595\_FORD\GIS\ArcGIS\Projects\ParkerFlats\_Phase2\_RISafety\Buffer\_EastGarrison\_Bld764\_SSWP.mxd - 5/19/2008 @ 12:56:47 PM



**Legend**

- Building
- Major Road
- Fencing

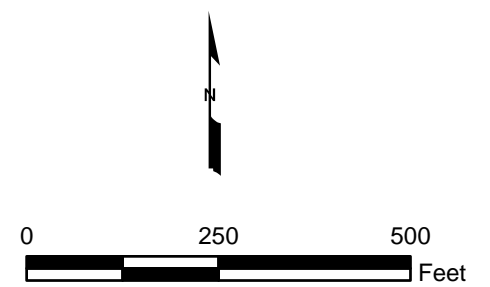
**Minimum Separation Distance (MSD)**

- Public Traffic Route
- Inhabited Buildings

MSD 500 ft front, 250 ft side/rear  
Explosive Storage Magazine (Earth Covered)  
Inhabited Building Distance (IBD) for NEW 100 lbs  
Demolition Explosives

MSD 300 ft front, 150 ft side/rear  
Explosive Storage Magazine (Earth Covered)  
Public Transportation Route Distance (PTRD) for NEW 100 lbs  
Demolition Explosives

← Nearest Distance to PTRD

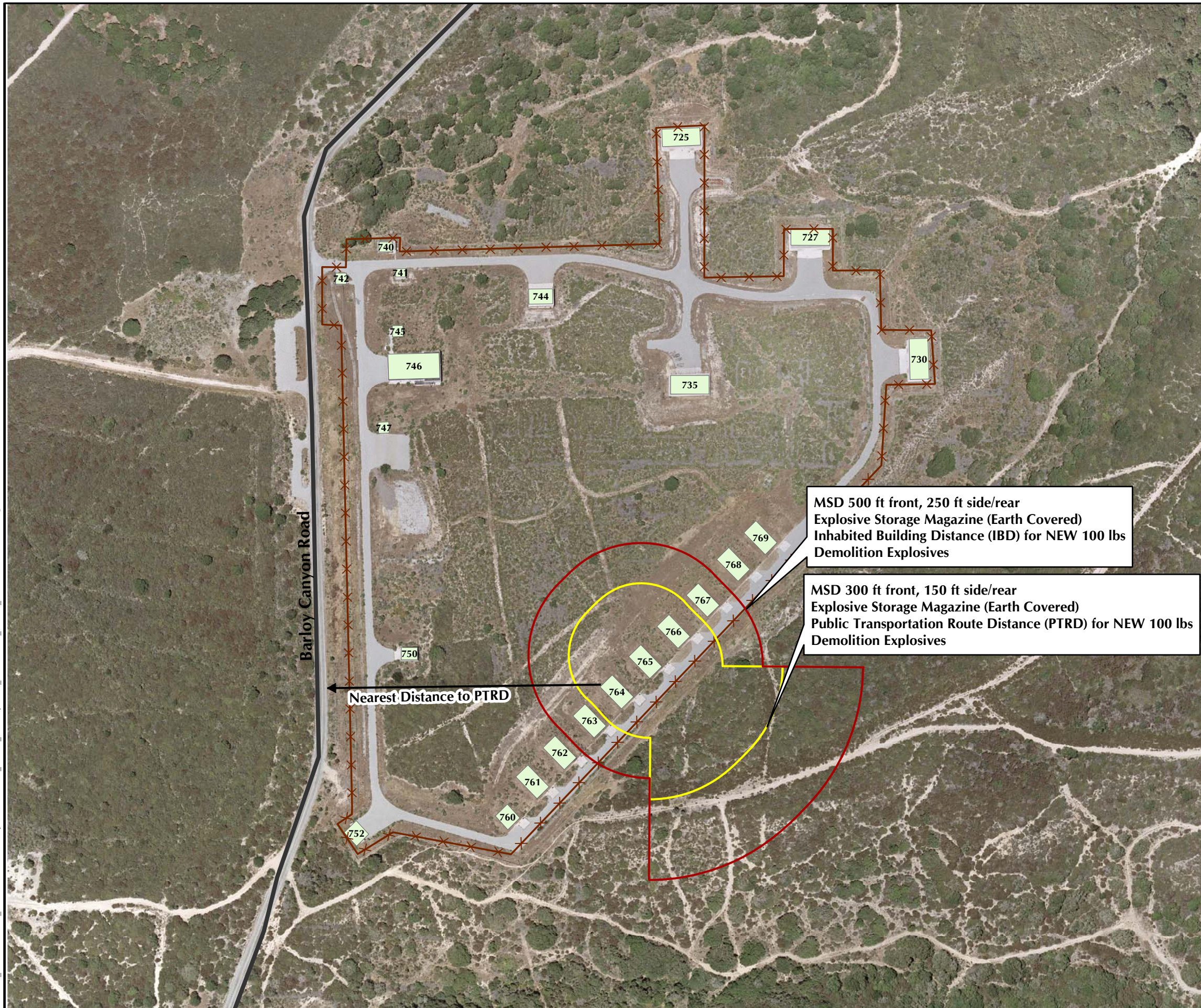


**LFR**  
**WESTON SOLUTIONS**  
**Westcliffe Engineers, Inc.**

**Explosive Storage Location  
(Building 764)  
Minimum Separation Distances**  
  
FORA ESCA RP  
Monterey County, California

**Figure 5**

K:\001\_EMA\03609595\_FORD\GIS\ArcGIS\Projects\ParkerFlats\_Phase2\_RISafety\Buffer\_EastGarrison\_Bld765\_SSWP.mxd - 5/19/2008 @ 12:56:48 PM

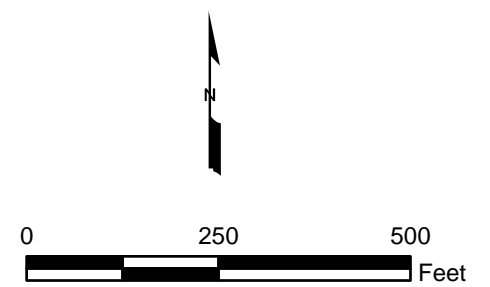


**Legend**

- Building
- Major Road
- Fencing

**Minimum Separation Distance (MSD)**

- Public Traffic Route
- Inhabited Buildings



**LFR**

**WESTON SOLUTIONS**

**Westcliffe Engineers, Inc.**

**Explosive Storage Location  
(Building 765)  
Minimum Separation Distances**

FORA ESCA RP  
Monterey County, California

**Figure 6**



# FRAGMENTATION DATA REVIEW FORM

Database Revision Date 12/31/07

Category:	Black Powder Round	DODIC:	
Munition:	37 mm Mk I, LE Practice	Date Record Created:	7/30/2004
Primary Database Category:	projectile	Last Date Record Updated:	7/9/2007
Secondary Database Category:	37 mm	Individual Last Updated Record:	Crull
Munition Case Classification:	N/A	Date Record Retired:	

**Munition Information and Fragmentation Characteristics**

Explosive Type:	Black Powder
Explosive Weight (lb):	0.03400
Diameter (in):	1.4567
Max. Fragment Weight (lb):	0.034207
Critical Fragment Velocity (fps):	1368

**Theoretical Calculated Fragment Range**

HFD [Range to No More Than 1 Hazardous Fragment per 600 Square Feet] (ft):	68
MFR-V [Vertical Range of Max Weight Fragment] (ft):	570
MFR-H [Horizontal Range of Maximum Weight Fragment] (ft):	816

**Overpressure Distances**

Inhabited Building Distance (12 psi), K40 Distance:	10
Inhabited Building Distance (09 psi), K50 Distance:	13
Intentional MSD (0055 psi), K328 Distance:	83

**Minimum Thickness to Prevent Perforation**

4000 psi Concrete (Prevent Spall):	1.69
Mild Steel:	0.20
Hard Steel:	0.16
Aluminum:	0.41
LEXAN:	2.49
Plexi-glass:	1.37
Bullet Resist Glass:	1.07

**Required Sandbag Thickness**

Max Fragment Weight (lb)SB:	0.034207
Critical Fragment Velocity (fps)SB:	1368
Kinetic Energy 106 (lb-ft <sup>2</sup> /s <sup>2</sup> )SB:	0.0320
Required Wall Roof Sandbag Thickness (in)SB:	12
Expected Maximum Sandbag Throw Distance (ft)SB:	25
Minimum Separation Distance (ft)SB:	200

**Water Containment System and Minimum Separation Distance:**

Max Fragment Weight (lb)W:	0.034207
Critical Fragment Velocity (fps)W:	1368
Kinetic Energy 106 (lb-ft <sup>2</sup> /s <sup>2</sup> )W:	0.0320
Water Containment System:	5 gal carboys/ inflatable pool
Minimum Separation Distance (ft)W:	200/200

C:\Documents and Settings\MSMiller\Desktop\FortORD\_410815\_15\_08\Template\_8\_5X11\_portrait.mxd - 5/15/2008 @ 3:30:41 PM



**MSDs and Fragmentation Characteristics for Projectile, 37 mm, Low Explosive MK I**  
 FORA ESCA RP  
 Monterey County, California

**Figure 7**

# FRAGMENTATION DATA REVIEW FORM

Database Revision Date 12/31/07

Category:	<input type="text" value="Black Powder Roun"/>	DODIC:	<input type="text"/>
Munition:	<input type="text" value="75 mm Mk1 (Shrapnel)"/>	Date Record Created:	<input type="text" value="7/30/2004"/>
Primary Database Category:	<input type="text" value="projectile"/>	Last Date Record Updated:	<input type="text" value="7/18/2005"/>
Secondary Database Category:	<input type="text" value="75 mm"/>	Individual Last Updated Record:	<input type="text" value="Crull"/>
Munition Case Classification:	<input type="text" value="N/A"/>	Date Record Retired:	<input type="text"/>

### Munition Information and Fragmentation Characteristics

Explosive Type:	<input type="text" value="Black Powder"/>
Explosive Weight (lb):	<input type="text" value="0.19000"/>
Diameter (in):	<input type="text" value="2.9528"/>
Max Fragment Weight (lb):	<input type="text" value="0.026600"/>
Critical Fragment Velocity (fps):	<input type="text" value="1200"/>

### Theoretical Calculated Fragment Range

HFD [Range to No More Than 1 Hazardous Fragment per 600 Square Feet] (ft):	<input type="text" value="200"/>
MFR-V [Vertical Range of Max Weight Fragment] (ft):	<input type="text" value="523"/>
MFR-H [Horizontal Range of Maximum Weight Fragment] (ft):	<input type="text" value="743"/>

### Overpressure Distances

Inhabited Building Distance (12 psi), K40 Distance:	<input type="text" value="18"/>
Inhabited Building Distance (09 psi), K50 Distance:	<input type="text" value="23"/>
Intentional MSD (0065 psi), K328 Distance:	<input type="text" value="148"/>

### Minimum Thickness to Prevent Perforation

4000 psi Concrete (Prevent Spall):	<input type="text" value="2.14"/>
Mild Steel:	<input type="text" value="0.14"/>
Hard Steel:	<input type="text" value="0.11"/>
Aluminum:	<input type="text" value="0.28"/>
LEXAN:	<input type="text" value="1.76"/>
Plexi-glass:	<input type="text" value="0.96"/>
Bullet Resist Glass:	<input type="text" value="0.76"/>

### Required Sandbag Thickness

Max Fragment Weight (lb)SB:	<input type="text" value="0.026600"/>
Critical Fragment Velocity (fps)SB:	<input type="text" value="1200"/>
Kinetic Energy 106 (lb-ft <sup>2</sup> /s <sup>2</sup> )SB:	<input type="text" value="0.0192"/>
Required Wall Roof Sandbag Thickness (in)SB:	<input type="text" value="12"/>
Expected Maximum Sandbag Throw Distance (ft)SB:	<input type="text" value="25"/>
Minimum Separation Distance (ft)SB:	<input type="text" value="200"/>

### Water Containment System and Minimum Separation Distance:

Max Fragment Weight (lb)W:	<input type="text" value="0.026600"/>
Critical Fragment Velocity (fps)W:	<input type="text" value="1200"/>
Kinetic Energy 106 (lb-ft <sup>2</sup> /s <sup>2</sup> )W:	<input type="text" value="0.0192"/>
Water Containment System:	<input type="text" value="5 gal carboys/ inflatable pool"/>
Minimum Separation Distance (ft)W:	<input type="text" value="200/200"/>

C:\Documents and Settings\MSMiller\Desktop\FortORD\_4108\5\_15\_08\Template\_8\_5x11\_portrait.mxd - 5/15/2008 @ 3:30:41 PM



**MSDs and Fragmentation Characteristics for Projectile, 75 mm, MK I (Shrapnel)**  
FORA ESCA RP  
Monterey County, California

**Figure 8**