VISTA PARK

MUNITIONS CLEARANCE PROCESS

INTRODUCTION

The 1,576-acre Vista Park property was formerly the southwestern corner of the Pinecastle Jeep Range used by the U.S. Army and U.S. Army Air Forces between 1943 and 1947 for ordnance demonstrations and weaponry training. To the present day, there is visible evidence of former military use of the Jeep Range in the northwest portion of the property and outlines of the three rifle and pistol/carbine ranges in the southwest. In the center of the property there are quite a number of what appear to be bomb craters 20 foot and greater across.

While the U.S. Army Corps of Engineers (USACE) conducted some limited investigation and remediation across the Former Pinecastle Jeep Range, it has not identified a timeline or funding source for cleanup of the Vista Park property. In December 2007, the City of Orlando placed a moratorium on any construction projects on the Former Pinecastle Jeep Range until each parcel was certified clear of explosives risk by a licensed or certified geophysical contractor. This remediation by a highly experienced contractor, Buffalo Restoration, will allow the landowner to develop the property and provide confidence to nearby residents and business owners that the land is safe for development and use.

Bomb craters through wetlands in 1953 report

PROJECT OBJECTIVE

This remedial action will locate, identify and properly dispose of all Material Potentially Presenting an Explosive Hazard (MPPEH) on the property in order to certify the land as clear of hazards related to munitions used on the property by the US Government, thereby relieving the parcel from the restrictions of the City's moratorium. The MPPEH contractor will locate and remove the following:

- Munitions and Explosives of Concern (MEC) consisting of:
  - o Unexploded Ordnance (UXO) 20 MM in diameter and larger (a 20 MM projectile is the smallest munition that may contain explosive components and is approximately 0.8" in diameter (20MM) and ~3.25" in length – about the size of a large thumb);
  - o Discarded Military Munitions (DMM), and
  - o Munitions Constituents (MC) in high enough amounts or concentrations to pose an explosive hazard.
- Soil containing Munitions Constituents (MC) that does not pose an explosive hazard but exceeds FDEP Soil Cleanup Target Levels - Residential;
- Munitions Debris (MD);
- Range Debris (RD), and
- Cultural Debris (CD) - scrap from non-military use, i.e. trash, plow teeth, barbed wire, horse shoes etc.

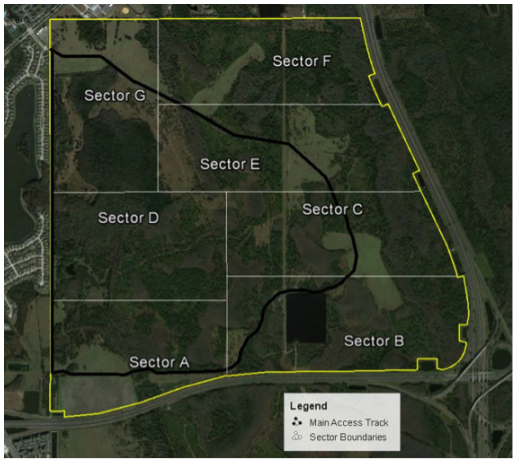
REMEDIATION PLAN

The result of this highly specialized and technical procedure will be that people can safely inhabit this property. How will it happen?

PROJECT LAYOUT

The site will be divided into seven search sectors (shown below) to allow a thorough, progressive cleanup of the property.

Specially trained technicians will perform a safety sweep of the surface and shallow subsurface land in preparation for vegetation clearing that will enable a thorough investigation of the property. Thick brush will be cleared of vegetation with remote-controlled equipment and Buffalo Restoration will subsequently mark the corners of a network of 60m by 60m grids across the project site. Each grid will be marked and identified, allowing geophysical mapping of the property to be carried out.



Approximate locations for Clearance Sectors

ADVANCED DETECTION EQUIPMENT

After the grids have been marked, Buffalo Restoration will use time domain electromagnetic (TDEM) geophysics in both vehicle towed array (VTA) and man-portable (MP) configurations. This technology produces maps of surface and sub-surface metal items and can reliably detect the locations of most ordnance items 20 MM in size and larger to the depths of penetration expected for each size of munition. The locations of each anomaly are collected for later reacquisition and removal.

Because larger air-dropped ordnance may remain at depths greater than the range of detection of TDEM technology, Buffalo Restoration will use a second technology: digital flux-gate magnetometers to reliably detect large munitions that could have penetrated deeper underground.

Time Domain Electromagnetic Vehicle Towed Array

Digital flux-gate magnetometer Vehicle Towed Array

QUALITY CONTROL SEEDING

Before detection efforts begin in each sector, the property will be "blind seeded" with uniquely labeled metal targets at random locations and various depths known only to the contractor's Quality Control Team. The Quality Control Team uses these seeds as a test to assure that the geophysical equipment always detects the items and the recovery teams remove them – or provides insights about how the processes and procedures need to be adjusted to be completely successful. The project geophysicist compares daily reports of items detected against the seeded target locations as a quality control measure to ensure the equipment and personnel are identifying the seeded targets and able to detect any anomalies that may be present.

QUALITY CONTROL ACCEPTANCE SAMPLING

Confidence that this process meets the agreed project requirements is critical. That confidence is solidified through Acceptance Sampling on all search grids. Acceptance Sampling consists of geophysically re-mapping randomly selected lanes within a group of grids formed into Lots. If any items are found that should have been recovered, the entire Lot is withdrawn, reworked and resampled while also investigating the reasons for the non-conformance. This sampling shall be carried out to the protocols contained within Military Standard 1916 Department of Defense Test Method Standard, DoD Preferred Methods for Acceptance of Product.

DETECTION, EXTRACTION AND DISPOSAL

Technicians will utilize precision surveying equipment to reacquire the location of each item that is detected and selected for removal. An Intrusive Team will then carefully investigate the identified item (whether it is metal from farm equipment or a fragment of military ordnance). If the recovered item contains explosive components but is determined safe to move, it will be transported to a designated safe zone on-site for destruction and subsequent disposal. If the item is not safe to move, it will be destroyed in place. Every found item will be identified and verified as safe before it is moved off-site for final disposal.

COMPLETION REPORTING

Throughout the project as sectors are completed, Area Specific Completion Reports will be submitted to the Florida Department of Environmental Protection (FDEP) for review and approval. Upon the completion of all sectors, a Final Completion Report will be submitted for final approval.