

**DRAFT**  
**ADDITIONAL SAMPLING WORKPLAN FOR**  
**LENDRUM COURT**

PRESIDIO OF SAN FRANCISCO, CALIFORNIA

*Prepared for:*  
The Presidio Trust  
San Francisco, CA

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Presidio of San Francisco, California

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Presidio of San Francisco, California

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## 1 INTRODUCTION

On behalf of the Presidio Trust (“Trust”), Erler & Kalinowski, Inc. (“EKI”) has prepared this Additional Sampling Workplan for field investigation of Lendrum Court (“Site”) in the North Fort Scott Area, located in the northwest corner of the Presidio of San Francisco (Figure 1). This Workplan has been prepared for the Trust to address data gaps identified in the February 2014 *Lendrum Court Investigation Summary Report and Screening Risk Evaluation* (“Investigation Summary Report and Screening Risk Evaluation”; EKI, 2014) and, as directed by the Department of Toxic Substances Control (“DTSC”) (DTSC, 2014), to determine the extent of debris and to evaluate the risks posed by potential chemicals of concern (“COCs”).

## 2 BACKGROUND

### 2.1 Site Description

Lendrum Court is located in the northwest corner of the Presidio, north of Doyle Drive, in the North Fort Scott Area of the Presidio (Figure 1). The Lendrum Court Site is comprised of residential Buildings 1259, 1278, 1279, 1280, and 1282. Building 1257 and 1258 are located along Armistead Road, but for purposes of this investigation are considered part of the Site as the backyards open onto Lendrum Court.

This area is comprised of residential units, paved streets and parking areas, and vegetated landscape areas.

### 2.2 Lendrum Court Site Investigation History

In December 2012, the Trust notified the DTSC of the likely presence of debris fill beneath Lendrum Court on the basis of visible broken glass and ash observed in limited trenching activities (Trust, 2012). In February 2013, the DTSC requested the Trust prepare a Preliminary Endangerment Assessment (“PEA”) Workplan (DTSC, 2013a). The Trust prepared the PEA Workplan (EKI, 2013) and upon DTSC approval (DTSC, 2013b), the Trust implemented the work in June 2013. Findings from the PEA Workplan investigation are summarized in the Investigation Summary Report and Screening Risk Evaluation (EKI, 2014). DTSC approved the PEA in a letter dated 7 March 2014 (DTSC, 2014). In that letter the DTSC stated that further investigation at Lendrum Court was required to determine the extent of debris and to evaluate the risks posed by potential COCs.

In April 2014, the Trust submitted a workplan to determine if Army-era debris was present in the broader North Fort Scott and Pilots Row neighborhoods. DTSC approved that work plan on April 30, 2014. The work was completed in May 2014 and a report of findings submitted to the DTSC on July 8, 2014. The investigation report documents that debris fill is limited to the Lendrum Court neighborhood.

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This Additional Sampling Workplan was prepared as a second phase of investigation, to determine the extent of debris fill and estimate the health and environmental risk associated with the debris fill in the Lendrum Court Area.

## 2.3 Site Use History

A summary of the site chronology from available maps and aerial photos is provided in Table 1. Appendix A contains copies of the maps and photos.

### 2.3.1 Lendrum Court

#### *Features Identified Before 1936*

- Reservoir: An 80,000-gallon water reservoir is shown on maps from 1896 through 1921 in the vicinity Building 1282. Based on aerial photos of the area in 1936, the reservoir appears overgrown and is assumed to be no longer in use as of 1936.
- Coal House: Historical maps and aerial photographs from the 1920s to approximately 1932 show a coal house located southeast of Lendrum Court; around 1933, the coal house was replaced by the Storey Avenue houses.
- Incinerator: A Presidio map dated 1921 indicates the presence of an incinerator approximately 150 feet south of present day Lendrum Court; the incinerator is not shown on any later maps. The approximate historical location of the incinerator is shown on Figure 2. A structure that may potentially be the incinerator is visible in an aerial photo from 1929; in a subsequent photo of the same area from 1932, the structure is no longer visible.
- Fill: An aerial photo from 1929 shows the addition of fill or grading in the present day location of Buildings 1278 and 1279; this feature is visible in almost all subsequent aerial photos of the area.

#### *Features Identified from 1936 to 1946*

- Soil Movement: Aerial photos from 1936 show significant soil handling activities conducted in the vicinity of the current Buildings 1253 through 1258 for the construction of Highway 101 in preparation for the connection to the Golden Gate Bridge.
- Pipe Excavation: An excavation apparently for the former Fuel Distribution System (“FDS”) passes underneath Highway 101 towards Building 951, beneath the present day locations of Buildings 1255 and 1282. The portion of this pipeline passing underneath Building 1282 was removed prior to 1996 and the portion of the pipeline passing underneath Building 1255 was abandoned in place (IT Corporation, 1999; Montgomery Watson, 1999). The remainder of the FDS

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pipeline passing through the Lendrum Court area was removed during 1996 and 1997.

- Road Construction: Between 1939 and 1946, entrance and exit ramps for Highway 101 were constructed south of Lendrum Court in the vicinity of the former incinerator.

### *Features Identified After 1946*

- Residential Construction: Aerial photographs and Army historical maps indicate that the current Lendrum Court residential buildings and parking areas were constructed in 1970.

#### 2.3.2 Armistead Road, Hoffman Street, and Ramsel Court

While this sampling workplan focuses on activities in Lendrum Court, the air photos in Appendix A include the surrounding Fort Scott area. Residential construction in these areas occurred at the same time as at Lendrum Court.

#### 2.3.3 Locations of Existing Buildings

Figure 2 shows the locations of the present day Lendrum Court, Armistead Road, and Ramsel Court Buildings superimposed on an aerial photo from 1938 using Google Earth.

- Buildings 1259, 1278, and 1279 are approximately located near the edge of the fill and grading that was observed in the 1922 aerial photo;
- Buildings 1253 through 1256 appear to be located near the edge of the area disturbed by the construction of Highway 101 in 1936;
- Buildings 1257 and 1258 are located slightly down slope (northeast) of area disturbed by the construction of Highway 101;
- The FDS pathway visible in the 1936 aerial photo appears to pass underneath Building 1255 and beneath Building 1282; Building 1282 also appears to be located at approximately the same location as the former 80,000 gallon reservoir that is observed on maps from 1896 through 1921 and is visible in aerial photos up to 1934;
- The present day Armistead Playground appears to be located at the same location as the tennis court that was installed around 1936; and,
- Buildings 1236 and 1238 appear to be located just west of the former tennis court.

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## 3 INVESTIGATION PURPOSE AND OBJECTIVES

This section identifies the purposes and objectives of the field investigation.

### 3.1 Field Investigation Purpose

The goals for this Additional Sampling Workplan are to:

- (1) Determine the extent of debris at the Lendrum Court Site; and,
- (2) Conduct additional characterization of the debris fill to identify COCs for the Site and to better evaluate the potential risk to human health or the environment.
- (3) Collect engineering data to facilitate evaluation of potential remedial alternatives, such as topography in the area of debris fill.

### 3.2 Field Investigation Objectives

To achieve the goals identified above, the following objectives have been established:

- Clear dense vegetation in the northeastern and eastern portion of the site to allow access for inspection, sampling, and surveying. The debris fill is anticipated to extend to a break in the slope approximately 100 feet behind Buildings 1279, 1278, and 1259 based on the historic photos of fill and grading activity. This area is densely vegetated. Shrubs in the area will be cut close to the ground surface and removed from site. Trees will remain in place until final remedial designs are completed. Vegetation removal is simpler outside of bird nesting season (between August 1 and December 31), as well as during dry weather. Therefore, removing vegetation coincident with this investigation supports remedial construction in the spring/summer of 2015, assuming all other remedial tasks are accomplished. The site will be winterized to prevent erosion following the investigation.
- Find the limits of the debris fill in the Lendrum Court Area using potholes and test pits. A combination of potholes and test pits will allow visual observation and assessment of subsurface conditions. Use of potholes can help quickly identify debris-containing areas. The test pits will be advanced to confirm the boundaries of the debris fill, especially in the area to the north and east of Buildings 1259, 1278, and 1279. Areas for potholing at the perimeter of the known extent of debris are shown on Figure 3. Additionally, between 5 and 9 test pits will be excavated in accessible areas as shown on Figure 3. The subsurface strata of the test pits will be logged and inspected for debris. The potholing and trenching strategy is described in more detail in Section **Error! Reference source not found.**
- Examine the debris encountered for visual evidence of ash. If ash is encountered, the ash will be documented and sampled as described below.
- Collect additional soil samples for debris fill characterization. In the February 2014 Investigation Summary Report and Screening Risk Evaluation, polycyclic aromatic hydrocarbons (“PAHs”), dioxins, and furans were identified as potential chemicals of

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concern (“PCOCs”) pending additional site investigation and analysis. This investigation is intended to provide additional data to statistically evaluate whether these chemicals are Site chemicals of concern (“COCs”). During the June 2013 sampling event, the Trust collected and analyzed five soil samples for dioxins and furans. At the end of this investigation, the Trust plans to have analyzed at least ten soil samples for dioxins and furans by EPA Method 1613B to create a statistically significant data set. These samples will include the five samples analyzed from June 2013 and up to five samples from this investigation at Lendrum Court.

- Collect soil samples to confirm debris limits. Collect confirmation samples to confirm limits of soil impacts associated with debris fill. Samples will be analyzed for lead as an indicator of potential impacts outside of debris fill limits.
- Survey the area containing debris fill. As described above, this field event is intended to gather details for remedial design such as thickness of debris, potential for consolidating or covering the edges of the debris (such as thickness at edges, topography at debris edges, and ability to anchor cover materials), and the extent of trees that are present within the debris.

Groundwater is not expected to be encountered and therefore no groundwater samples will be collected as part of this investigation.

## **4 FIELD INVESTIGATIVE APPROACH**

In June 2013, the Trust excavated 13 test pits to evaluate subsurface conditions in the Lendrum Court area (EKI, 2014). Test pits effectively allow visual observation of the subsurface strata and debris can be inspected and assigned to a layer. However, due to the dense vegetation northeast of Buildings 1259 to 1279, on the west side of the sidewalk near former test pit 1279TP214, and south of Lendrum Court, extensive clearing operations to allow access to mechanical equipment will be required to perform trenching in this area. Shallow soil excavation or potholing by hand tools is proposed for these densely vegetated areas as key information about the presence or absence of debris in these areas is expected to be readily ascertained. The findings of potholing or hand excavation will be used to determine effective locations for test pits in the field, allowing the vegetation clearing and excavation efforts to concentrate on locations where potholing has revealed shallow deposits of debris. In addition, approximately 10 test pits will be excavated within and around the Lendrum Court Area (Figure 3) in readily accessible areas to determine whether debris fill materials are present and to collect additional samples of debris and ash.

### **4.1 Combined Potholing and Trenching Strategy Rationale**

Based on previous investigations, the estimated extent of debris fill is shown on Figure 3. Potholes and test pits will be used to confirm this boundary which is anticipated to roughly coincide with the break in slope to the northeast of Buildings 1259, 1278 and 1279; Lendrum Court Road to the south of Building 1259, Armistead Road to the south

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of Buildings 1257 and 1258, the walking path to the west of Building 1257 leading to Building 1282, and the walking path between Building 1280 and 1279.

Sampling grids will be established at the presumed boundaries of the debris fill around the perimeter of Lendrum Court (see Figure 3). EKI will construct a grid system in the field with markers to provide a frame of reference, allowing the potholing to be conducted with locations measured from known grid corners, using physical landmarks such as the edge of houses as visual reference points when possible.

In the area northeast of Buildings 1279, 1278 and 1259, in grids A1 through H2, EKI will use potholes to evaluate the presence or absence of debris. Based on preliminary field walks, the surface expression of debris ends approximately 50 to 70 feet behind Buildings 1259 to 1279. Potholes will be hand dug with a shovel or mattock in each grid. Potholes will extend to encountered debris, or about 24 inches in depth, whichever comes first. Once debris is encountered, digging will stop, the location will be identified as containing debris, and a step-out pothole will be excavated. This process will continue until debris fill is not encountered. At that point a test pit will be excavated to confirm the absence of debris at depth and establish the extent of debris fill.

A similar approach will be used in grids I, J, K, L and M. The number of potholes or test pits within a specific grid area will vary based on field conditions, including topography, access, and results of other potholes or test pits. In the vicinity of grid L (near Building 1282 on Figure 3), the June 2013 investigation found debris in test pit 1279TP212, but the sample results from soil in the debris layer did not contain chemicals of concern above applicable screening levels. Potholing in this grid is intended to focus on the presence of debris and, if encountered, whether or not the debris is chemically impacted or inert.

### 4.2 Test Pit Location Rationale

Several planned test pits are shown on Figure 3; others will be located in the grid areas based on the strategy described above. Overall, the purpose of the test pits is to identify the vertical limits of the debris and so samples of the debris fill and underlying soil can be collected. The purposes of the specific test pits are described below.

- 1279TP301 and 1279TP302 are intended to confirm the southwest debris boundary. Test pits are anticipated to be up to approximately 2 feet wide and 8 feet long. These test pits will be excavated to depths sufficient to identify native material below any debris fill. The maximum proposed depth of these test pits is approximately 8 feet below ground surface (“bgs”), or the reach of the backhoe, whichever is shallower. Test pits in which no debris material is observed will be logged but no samples will be collected. If debris is encountered additional pot holes or test pits to the south of Armistead Road (grid areas J1 through J4) will be excavated to confirm the southern boundary of the debris fill.
- 1279TP303 through 1279TP305 are intended to delineate the extent of the Lendrum Court Area debris fill material based on previous test pit locations and air photo data. The length of these test pits will vary, and may be extended in the field to find the

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limits or edges of debris, if observed. Where debris materials are observed, EKI will collect samples from the overburden and debris fill layers (i.e., two samples per test pit). Test pits in which no debris material is observed will be logged but no samples collected.

- Additional test pits as described above, will be excavated within heavily vegetated areas (gridded areas shown on Figure 3) as needed to delineate the extent of debris. The number, extent, and locations of additional test pits will be determined in the field based on observations from potholing. Additional test pits will be numbered sequentially beginning with 1279TP306.
- Four optional test pits in areas anticipated to contain debris based on previous trenching are marked as tentative and will only be excavated if needed to obtain sufficient samples for statistical analysis of PAHs, dioxins, and furans.

### 4.3 Sample Strategy

Soil samples will be collected to complete the debris fill characterization, at a frequency of approximately one sample of debris fill per grid area in which debris fill is encountered. Based on field conditions and professional judgment, a minimum of five soil samples will be selected from the collected debris fill soil samples and submitted to the laboratory for analysis to complete characterization of metals, PAHs, and dioxins and furans.

Additionally, the overburden soil will be sampled at the outside limits of the debris fill area and selected samples will be analyzed for lead as in indicator of chemical impacts. These sample results will be used to confirm the limits of impacts associated with debris fill.

### 4.4 Pothole, Test Pit, and Sample Identification

In accordance with the *Presidio-Wide Quality Assurance Project Plan and Sampling and Analysis Plan* (“QAPP”; Tetra Tech, 2001) and its Addendum (Trust, 2011), sample location identification codes for test pit samples are based on “1279” for Building 1279, a central building within Lendrum Court; “TP” for test pit; and sequential numbering starting at 301 to indicate that this is the Trust’s third round of sampling for the Lendrum Court Area. The media sampled (soil) will be marked on the chain of custody form and input into the media field in the Trust database when the data are uploaded. Identifiers highlighting the material sampled and the sample depth will be appended to the sample name to identify the material the sample represents and the depth from which it was collected; “S” will be used to identify shallow or overburden soil samples, “D” will be used to identify debris or debris and ash materials, and “B” will be used to identify native material below the debris or debris and ash layers. In keeping with the QAPP, an overburden soil sample collected at 2 feet bgs from test pit 1279TP301 will be designated as 1279TP301-S[2]; similarly, a debris and ash sample collected at 3.5 feet bgs from test pit 1279TP309 will be designated as 1279TP309-D[3.5].

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Potholes will be labeled with “SB” to indicate soil boring, their grid location, such as A2-1 for the first pothole in grid cell A2. If a sample is collected from 1 foot deep from a pothole from grid A2, the sample labeling will follow the QAPP and be designated as 1279SBA2-1[1].

### **4.5 Test Pit Excavation and Logging**

Test pits will be excavated with a subcontractor-operated backhoe. Proposed test pit locations are shown on Figure 3. The locations of the test pits will be finalized in the field with representatives of the Trust, and will depend upon the presence of surface, subsurface, and overhead obstructions, as well as site topography.

A qualified person will log soil lithology during trenching, and document test pit sidewalls with photographs. Logging will include observation of test pit sidewalls as well as excavation spoils. Field personnel will log percentage of debris present, if any debris is encountered. Field personnel will coordinate with the Trust Archeology Department if debris is encountered.

Test pits will be backfilled and compacted by wheel rolling by the backhoe on the same day they are excavated.

### **4.6 Sampling Method**

Soil samples will be collected using a backhoe bucket or manually, if the excavation is less than four feet deep and can be safely entered. Soil samples will generally be collected in the center of the horizon being sampled, at least one foot below ground surface. A multi-increment sampling method (ITRC, 2012) will be employed in the field and at the analytical laboratory as a recent U.S. EPA publication indicates that multi-incremental sampling can provide more reproducible results (U.S. EPA, 2013) and because the use of multi-incremental sampling is specifically recommended by U.S. EPA for dioxin site assessment (U.S. EPA, 2011; U.S. EPA, 2013). The field multi-increment sampling method involves the collection of approximately 20 to 30 subsamples from the specific layer being sampled along all sidewalls of the test pit or pothole. As described in the ITRC guidance, a simple random sampling pattern will be used to collect samples, as constructing a sample gridding on the interior test pit sidewalls would be difficult. Incremental samples will be collected in new one-gallon Ziploc bags, labeled, and placed on ice for delivery to the analytical laboratory under chain-of-custody procedures.

As stated above, no samples will be collected if debris is not encountered. Sampling will be conducted in accordance with the Presidio QAPP and its Addendum.

## **5 FIELD PROCEDURES**

Standard field methods and procedures are described in the Trust’s Standard Operating Procedures (“SOPs”) included in the QAPP. The SOPs include the methods and procedures for collecting soil samples, surveying sample locations, sample preservation

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and transportation, and general equipment decontamination. Laboratory QA/QC procedures are also described in the QAPP and its Addendum.

### **5.1 Preparation for Field Work**

EKI, in consultation with the Trust, and a representative of the DTSC, if present, will select locations in the field for test pits.

The Trust will notify Lendrum Court residents. A draft notification letter is included as Appendix B.

Prior to initiation of field activities, EKI will perform the following tasks:

- update its site-specific health and safety plan;
- request and review the results of Trust utility plans and Trust underground utility surveys;
- notify Underground Services Alert (“USA”) of planned subsurface work at least 48 hours prior to the initiation of all subsurface work; and
- obtain necessary dig permits from the Trust.

The trenching contractor will rely upon available plans and utility maps provided by the Trust.

### **5.2 Vegetation Clearing**

Vegetation clearing will be necessary to facilitate trenching in densely vegetated areas. Such vegetation clearing may include of the felling, trimming and cutting of immature trees, and the removal of downed timber, shrubs, and grasses to a vegetation height of approximately six inches above ground surface. Removal of mature trees is not anticipated at this time, though if dead or dying trees are identified within apparent debris areas, these trees may be considered for removal. Trees and vegetation to be left standing will be protected from damage using barriers or similar means. Vegetation clearing will be coordinated with the Trust’s Forestry Department, and will be timed such that it occurs outside the bird nesting season (i.e., after August 1<sup>st</sup>). An access pathway through the heavily vegetated gridded area will be cleared by the contractor prior to initiation of trenching activities (Figure 3).

Cleared vegetation will be removed and recycled to the extent feasible. At the conclusion of sampling, cleared areas will be evaluated for erosion potential. Cleared areas with exposed soil or limited vegetation will be covered with mulch and/or erosion control blankets or other means to limit potential for erosion until remedial investigations are completed and any required actions implemented.

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## 5.3 Surveying of Sampling Locations

The grid coordinates, potholes, and test pit sample locations will be surveyed by a California licensed land surveyor. The ground surface elevation and the horizontal coordinates of each location will be surveyed. The horizontal coordinates will be reported in NAD 83. The vertical coordinates will be reported in both the North American Vertical Datum 88 (“NAVD 88”) as well as 1907 Presidio Lower Low Water (“PLLW”) vertical datum. Local benchmarks will be provided by the Trust. Survey data will be used to update maps, and to document sample locations, if collected. Survey data will also be used to prepare design figures, including extent of debris, building corners, sidewalks and utilities, surface topography, trees, and other features that will need to be considered during remedial design.

## 5.4 Management of Investigation-Derived Wastes

Layers of soil will be returned to the test pits in the order that they were removed and wheel-rolled to compact. Potholes will be refilled with spoils and vegetation replaced, where practicable. No investigation-derived wastes are expected to be generated as a result of this investigation.

## 5.5 Analytical Methods

The analytical methods planned are generally the same as those conducted at the June 2013 Lendrum Court investigation and include the following:

- PAHs by EPA Method 8270C with selective ion monitoring (“SIM”);
- Title 22 metals by EPA Method 6020; and,
- If ash is encountered in debris, up to 7 samples will be analyzed for dioxins and furans by EPA Method 1613B. Any debris and ash containing samples that are not analyzed for dioxins and furans will be stored at 4 degrees Celsius in the event that additional analysis is necessary.

Because lead was a key indicator of chemical impacts in the 2013 Lendrum Court investigation, pothole samples defining the edge of debris will only be analyzed for lead as the edge confirmation samples.

## 5.6 Analytical Laboratory

Soil samples will be submitted to Curtis & Tompkins, Ltd. of Berkeley, California, (“Curtis & Tompkins”) for sample preparation using the Incremental Sampling Methodology (“ISM”) preparation protocol. In the ISM protocol, each sample is dried, mixed, and systematically split into subsamples; small samples from each increment are then collected and mixed to create the multi-increment sample used for analysis. Samples for TPH, metals, and PAHs will be analyzed by Curtis & Tompkins. After ISM preparation, any samples for dioxins will be sent to Vista Analytical Laboratory of El Dorado Hills, California. Both of these laboratories are certified by the State of California.

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Sample handling and analysis will be in accordance with the Presidio QAPP, as amended, with a Level II data report. All samples will be analyzed on a standard turnaround time.

### 6 SCHEDULE FOR IMPLEMENTATION OF THE SAMPLING PLAN

Field work will commence upon DTSC approval of this Additional Sampling Workplan. EKI estimates that approximately two weeks will be required to obtain permits, prepare work authorizations for contractors, mark the sampling locations, and conduct the underground utility surveys. Implementation of this Additional Sampling Workplan is anticipated to require approximately three weeks, which includes some time for vegetation removal and inspecting the site after the vegetation is removed. The results of the investigation will be presented to DTSC in an Additional Sampling Summary Report.

### 7 REFERENCES

DTSC, 2013a. Letter from George Chow to Ms. Eileen Fanelli of the Presidio Trust dated 19 February 2013, requesting preparation of a Preliminary Endangerment Assessment for Lendrum Court.

DTSC, 2013b. Letter from George Chow to Ms. Eileen Fanelli of the Presidio Trust dated 13 June 2013, approval of the *Preliminary Endangerment Assessment Workplan, Presidio of San Francisco, California* dated May 2013.

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**TABLE 1**  
**Historic Maps and Aerial Photos Reviewed to Develop Lendrum Court, Armistead Road, Hoffman Street,**  
**and Ramsel Court Site-Use History**

Lendrum Court  
 Presidio Trust, San Francisco, California

Date	Document Type	Description
1871	Map	1871 map shows a large cloud labeled "drifting sands" to the south of the present-day Lendrum Court, Armistead Road, and Ramsel Court area.
December 1921	Map	1921 map shows an incinerator located near the present-day Lendrum Court, Armistead Road, and Ramsel Court area. Coal shed and 80,000 gal reservoir also shown, with YMCA directly west of Lendrum Court, north of current Building 1208.
November 30, 1922	Photo	1922 aerial photo shows a coal shed near the future Lendrum Court area, with possible incinerator in the background. Current Building 1208 is present in foreground.
April 12, 1929	Photo	1929 aerial photo shows a coal shed near the future Lendrum Court area, with possible incinerator in the background. Building 968 is located along Hoffman Street on the left-hand side of the picture. Fill material appears to have been placed southwest (to the right) of Building 951. Reservoir visible. YMCA visible near track.
January 10, 1932	Photo	1932 aerial photo shows a coal shed near the future Lendrum Court area. No evidence of incinerator. The area of fill identified in the 1929 aerial photo is covered in vegetation. Reservoir and Aboveground Storage Tank 970 visible. An unidentified structure is located east (above and to the right) of Building 968. YMCA visible near track.
January 1934	Photo	1934 aerial photo shows that coal shed near the future Lendrum Court area has been removed, and replaced by Storey Avenue houses. Reservoir visible. YMCA previously near track removed.
1936	Photo	1936 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area from directly above. Highway 101 is under construction and significant ground disturbance is seen alongside the future Highway 101. Outline of reservoir appears overgrown. A portion of the former Fuel Oil Distribution Pipeline passes underneath Highway 101 and cuts through the future Lendrum Court area heading northeast towards Building 951. A tennis court is visible to the south of Building 969.
March 28, 1936	Photo	1936 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area from above. Hwy 101 access to Golden Gate Bridge has been constructed. Outline of reservoir appears overgrown. Trees appear to have been planted in the Armistead Road and Ramsel Court Area.
January 8, 1938	Photo	1938 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area from directly above. Highway 101 is in use. A tennis court is visible south of Building 969. Outline of reservoir appears overgrown.
January 24, 1939	Photo	1939 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area. Highway 101 has been constructed. Trees are visible in the Armistead Road and Ramsel Court Area.

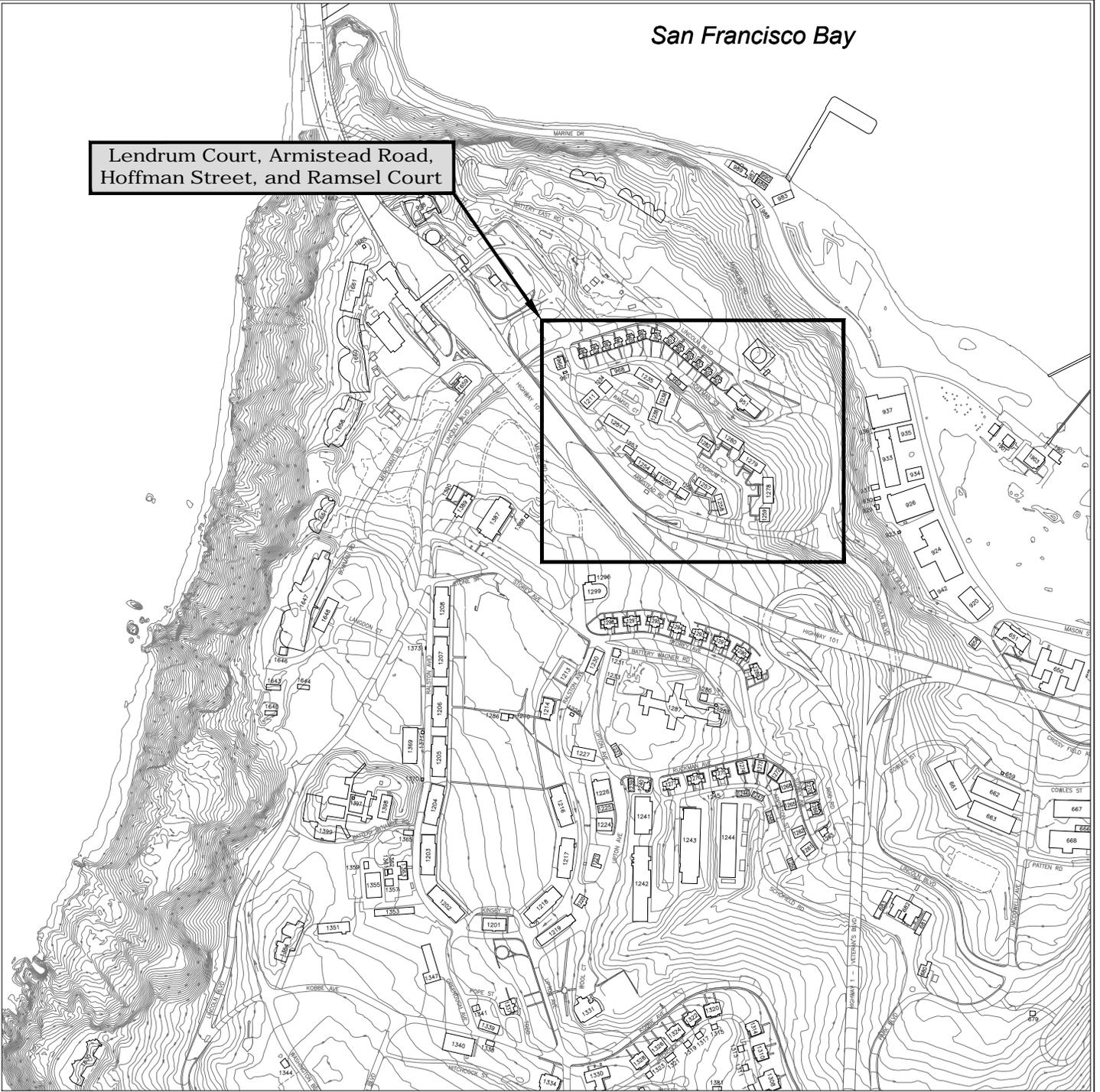
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**Historic Maps and Aerial Photos Reviewed to Develop Lendrum Court, Armistead Road, Hoffman Street,**  
**and Ramsel Court Site-Use History**

Lendrum Court  
 Presidio Trust, San Francisco, California

Date	Document Type	Description
January 24, 1939	Photo	1939 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area from directly above. Highway 101 is in use. A tennis court is visible south of Building 969. Trees are visible in the Armistead Road and Ramsel Court Area.
January 24, 1939	Photo	Oblique 1939 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area. Highway 101 is in use. A tennis court is visible south of Building 969. Trees are visible in the Armistead Road and Ramsel Court Area.
July 28, 1946	Photo	Aerial photo showing the future Lendrum Court Area and Ramsel Court Area. Entrance and exit ramps to Highway 101 have been constructed. The approximate location of the former incinerator is shown on the figure. A tennis court is visible south of Building 969. Trees are present in the Armistead Road and Ramsel Court Area.
1940 to 1965	Maps	Four maps, dated May 29, 1940, October 10, 1958, December 8, 1961, and November 10, 1965 were reviewed. No changes were noted. Maps not reproduced in Appendix.
May 20, 1969	Map	1969 map shows planned Lendrum Court Area as "under construction" for 1970.
March 24, 1975	Map	1975 map shows Lendrum Court Area construction finished.
<b><i>Aerial Photo Used in to Overlay Locations of Existing Buildings</i></b>		
July 31, 1938	Photo	1938 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area from directly above.
July 31, 1938	Photo	1938 aerial photo shows the future Lendrum Court Area and Armistead Road and Ramsel Court Area from directly above. Google Earth was used to overlay 3-dimensional images of the present day buildings (and building numbers) on the July 1938 aerial photo (for several buildings, only the outline is visible). Buildings 1278 and 1279 appear to be located on the edge of the fill material noted in the 1929 aerial photo. Building 1259 intersects a former dirt road. Building 1282 appears to be in the location of the former 80,000 gallon reservoir. Buildings 1257 and 1258 appear to be located slightly northeast of the materials disturbed during construction of Highway 101 and Buildings 1253 through 1256 appear to be located at the edge of these disturbed materials. A portion of the former Fuel Oil Distribution System pipeline passes underneath Highway 101, Buildings 1255 and 1282, and between Building 951 and Building 952.

San Francisco Bay

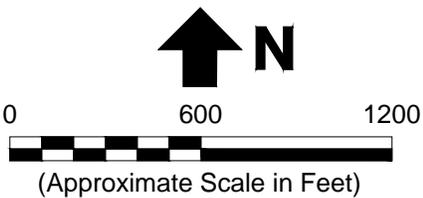
Lendrum Court, Armistead Road, Hoffman Street, and Ramsel Court



Reference: Basemap source: Presidio Trust, 2006.

Note:

- 1. All locations are approximate.



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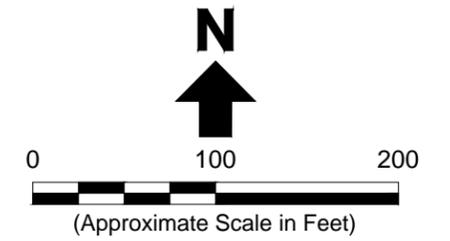
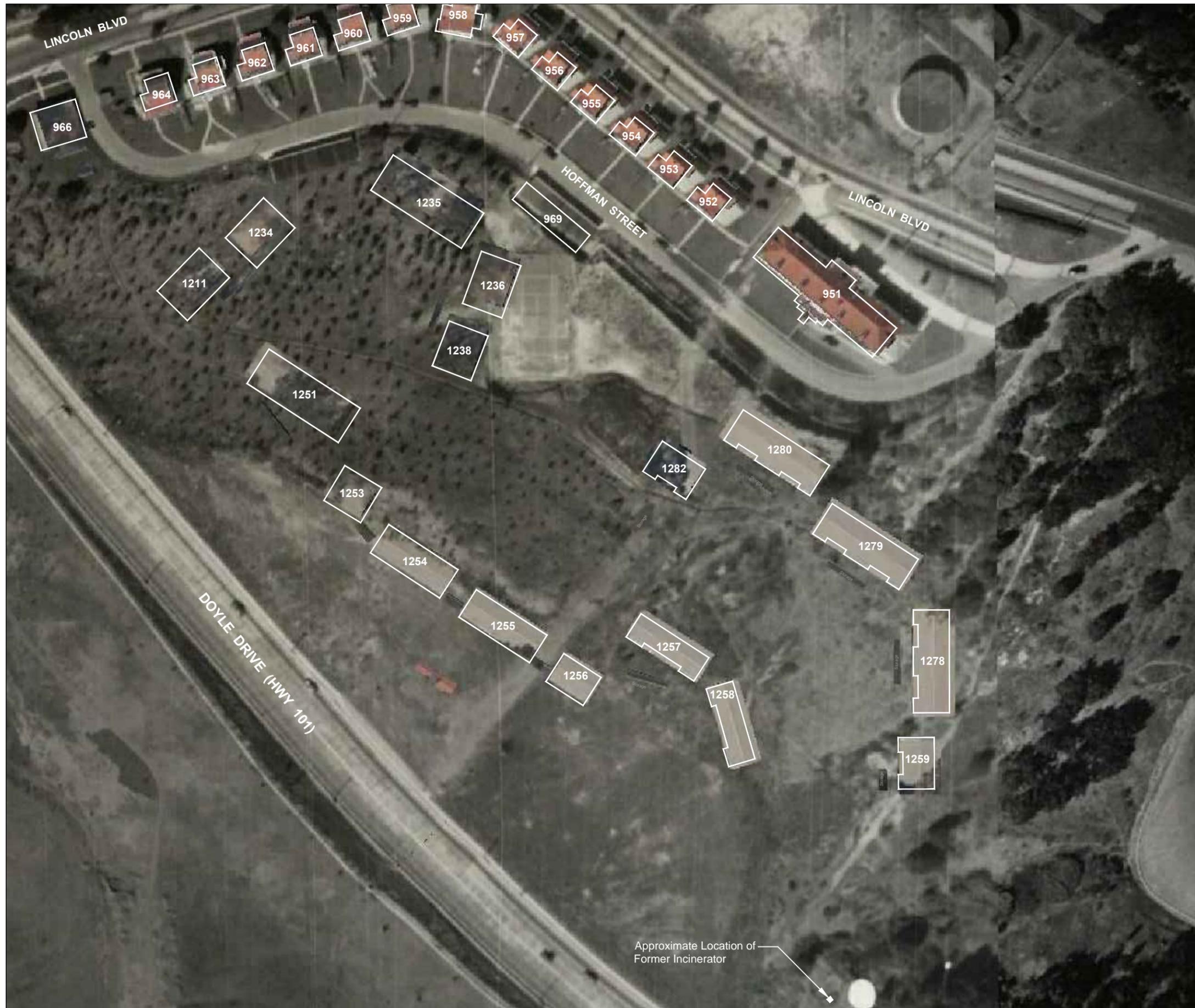
Site Location Map

North Fort Scott Area  
The Presidio Trust  
San Francisco, CA

March 2014  
EKI B00025.07

Figure 1





**Legend:**  
 Building with Building Number

- Notes:**
1. All locations are approximate.
  2. Aerial photo source: Google Earth Pro, 1938 Aerial Photograph.
  3. Overlay of existing buildings from Google Earth Pro and Presidio Trust 2011 Basemap (See Note 3 on Figure 3).

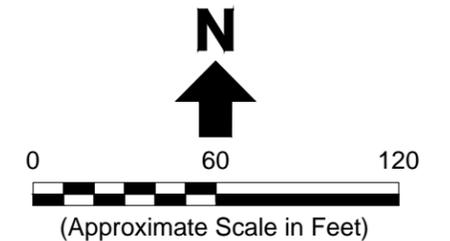
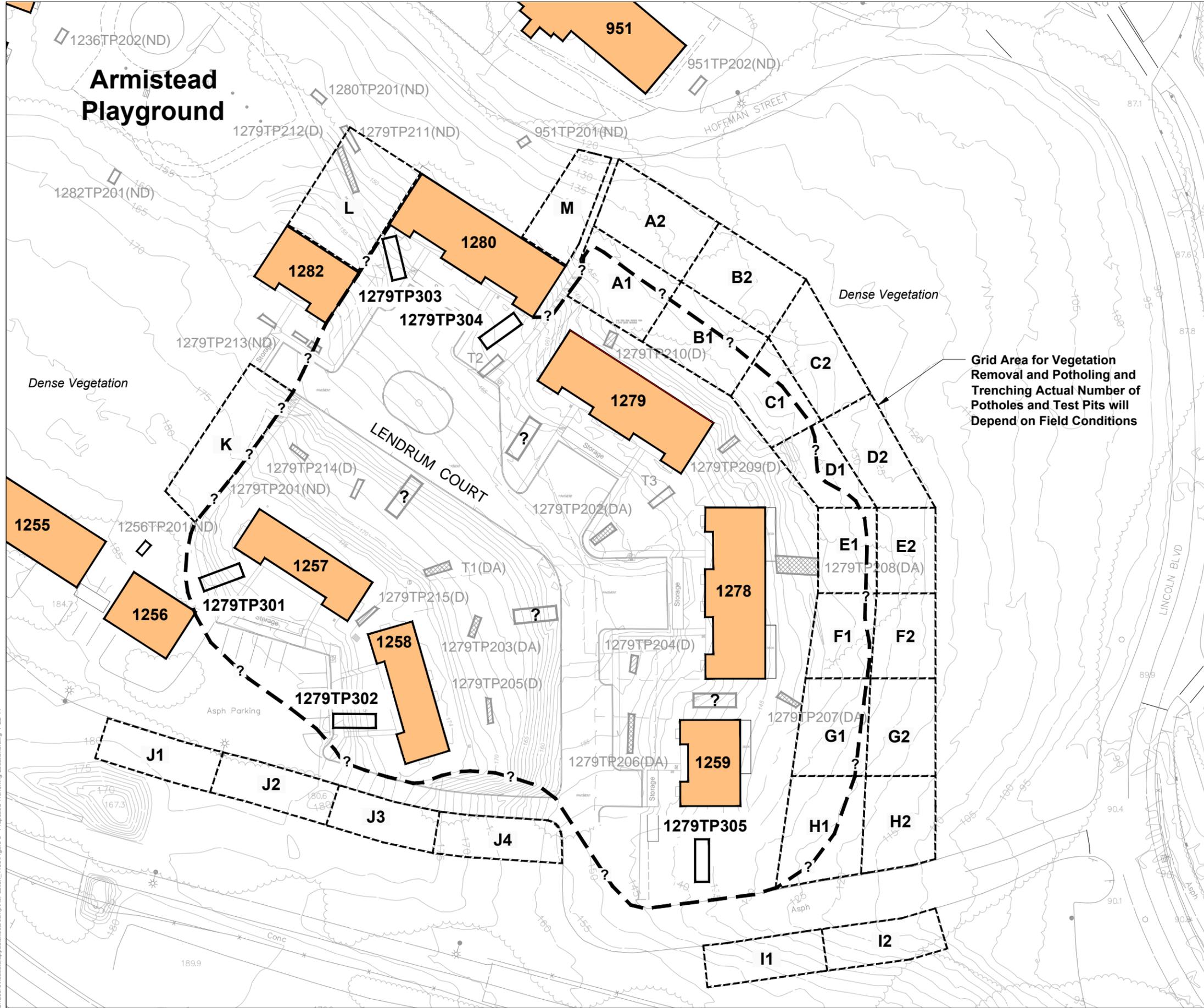
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Overlay of Existing Buildings on  
 1938 Aerial Photograph  
 North Fort Scott Area

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 San Francisco, CA  
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Figure 2



- Legend:**
- Building with Building Number
  - Existing Contour
  - Obscured Areas
  - Proposed Trench Locations, "?" if Tentative
  - Estimated Extent of Debris Fill
  - Grid Area with Grid Number

- Existing Exploratory Trenches at Lendrum Court**
- (ND) No Debris or Ash Observed
  - (D) Debris Observed
  - (DA) Debris and Ash Observed

- Notes:**
1. All locations are approximate.
  2. Lendrum Court Area: by PLS Surveys, Inc., dated 9 July 2013; California State Plane Coordinate NAD27.
  3. Basemap Source: by Presidio Trust, dated 30 April 2011, California State Plane Coordinate NAD83.

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Proposed Sampling Locations



Lendrum Court Area  
 The Presidio Trust  
 San Francisco, CA  
 July 2014  
 EK1 B00025.07

Figure 3

C:\Users\rcasat\appdata\local\temp\Asp\Publish\_4168\Figure 3 - Proposed Trenching Locations.dwg 7-22-14