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*Dwight Hoenig, President*

March 16, 2015

Paresh Khatri  
Sr. Hazardous Materials Specialist  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway,  
Alameda Ca. 94502

Subject: Proposed Mercury Investigation; 1315 Court St. Alameda California

Dear Mr. Khatri:

As discussed during our recent phone conversation, this letter provides a proposed work plan to further delineate the extent of mercury impacts which have been identified at the residential property of Mr. Paul Meuser located at 1315 Court Street in Alameda.

**Background:**

On January 21, 2014, Mr. Meuser contacted the California Emergency Management Agency and the National Response Center to report a finding of elemental mercury, in soil, at the rear of his home at the Subject address. The Alameda County Department of Environmental Health (ACDEH) was contacted and, in turn, contacted the Department of Toxic Substances Control (DTSC). Ultimately, on January 29, 2014, the DTSC emergency response contractor, Parc Specialty arrived on-site to conduct an initial evaluation and limited cleanup of an elemental Mercury release. (The residence and spill release area are shown on Figure 1.)

According to information provided by the ACDEH, Parc Specialty evaluated the spill site using a hand held Mercury Vapor Analyzer and completed a removal action consisting of the manual excavation and off-site disposal of approximately two, 55 gallon drums of soil and debris. However, based on residual Mercury vapor detections and visual observations, some amount of elemental Mercury remains on site.

As a result, the ACDEH requested that Mr. Meuser undertake a further investigation and initiate potential soil remediation as described in California Health and Safety Code §101480.

**Site Setting:**

Dwight Hoenig of Turner/Maclane inspected the release area and the home site at 1315 Court Street in the company of the homeowner, Mr. Paul Meuser on February 11, 2015. The home site is in a residential neighborhood consisting of single family stand-alone homes developed in approximately 1905.

The homes, yards and landscaping appear to reside on native soils with the color and texture of a Brown Silt-Sand sequence (Quaternary Alluvium, undifferentiated Beach-Dune sequences; USGS Open File Report #06-1037) common in this portion of Alameda Island.

The spill location which was the focus of the limited soil removal action is located in the No indications of imported fill, slag, or waste products were observed in the native soil in the area of the mercury spill or the surrounding soil throughout the backyard area.

Inspection of the excavated soil removal area does evidence small 'blebs' of liquid mercury still present in the shallow soil column. However, a close inspection of the concrete retaining wall footings indicates the presence of small amounts of liquid mercury present on the upper surface of the footings, clearly indicating that the mercury release post-dates the installation of the retaining wall. This is an important observation in that it suggests that the extent of the mercury release is localized and likely confined to the subject property.

#### **Applicable Cleanup Criteria:**

Environmental screening levels for Mercury are established by the California Office of Environmental Health Hazard Assessment, also known as OEHHA. OEHHA publishes and updates risk screening levels for a variety of common contaminants in a tabular format known as the "California Human Health Screening Levels" or CHHSLs. The CHHSLs establish the *contaminant concentration screening levels* which address various exposure pathways such as direct contact, ingestion, or inhalation of particulates or vapors. Contaminant concentrations below these screening levels are not considered to represent a significant threat to human health. The current CHHSLs table was published by OEHHA on September 23, 2010.

Two specific CHHSL values are relevant to the release at this property:

1. **Soil Screening Number;** measured in milligrams of Mercury per Kilogram of soil or 'total mercury'. This value is established to assess risks associated with ingestion, inhalation of particulates and dermal absorption. The current CHHSLs value established for Mercury in residential settings is **18 mg/kg**.
2. **Soil Gas Screening Number;** measured in micrograms/liter of soil gas. This number relates to the concentration of Mercury vapor present in pore spaces within the soil matrix beneath residential structures. The current CHHSLs screening value for residential soil vapor is 0.045 ug/L.

Vapor readings taken at the time the removal action was completed reported soil vapor concentrations exceeding EPA and California State Action Levels.

**Investigation Workplan:**

The purpose of the proposed investigation is to determine the extent of elemental mercury contamination which exceeds the established screening levels. The major elements of the investigation include the following Tasks:

**1. Establish a grid of temporary vapor monitoring points:**

Install a series of up to 36, two foot deep soil borings. Borings will be manually driven to total depth of two feet. The boring spacing in the immediate vicinity of the spill will be no greater than 18 inches on center. The borings throughout the remainder of the yard will be located on five ft. centers. The borings will be marked in the field and recorded in a log book with individual numbers corresponding to each location.

**2. Surface Seal the Boreholes:**

Cap each boring with a retrievable one inch cork, driven to shallow depth to allow the bore hole to equilibrate for a period of 24 hours.

**3. Instrumentation:**

Borehole Vapor Sampling: Turner/Maclane will provide a calibrated and certified Mercury Vapor Analyzer (Jerome J505 or equivalent) which meets or exceeds EPA standards for industrial or residential remedial actions.

**4. Vapor Measurement:**

Following a 24 hour equilibration period, each borehole will be sequentially opened and scanned with the vapor analyzer. The readings will be individually recorded and mapped for each location. The borings will be backfilled with clean sand following vapor analysis.

(Note: We understand that ACDEH has concerns regarding the potential presence of Mercury on adjacent residential properties. To address this concern we are proposing to request permission to do limited confirmation soil vapor sampling on the two adjacent properties. However, permission to enter and sample these properties can only be granted by the property owners. Turner/Maclane will advise the ACDEH regarding our efforts access to these adjacent properties.)

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*Dwight Hoenig, President*

**5. Confirmation Soil Sampling:**

Following vapor analysis, a minimum of 4 soil samples will be collected for laboratory analysis for total mercury. (EPA Method 7473) The purpose of this analysis is to calibrate and verify the vapor survey results and to quantify the total soil concentrations per the OEHHA soil screening criteria for total mercury.

**6. Reporting:**

Following all field, sampling and analysis activities, a report will be prepared documenting the procedures, methodology, sample locations, analytical results and conclusions.

Recommendations for any further remedial actions, if necessary, will be made following consultation with ACDEH staff.

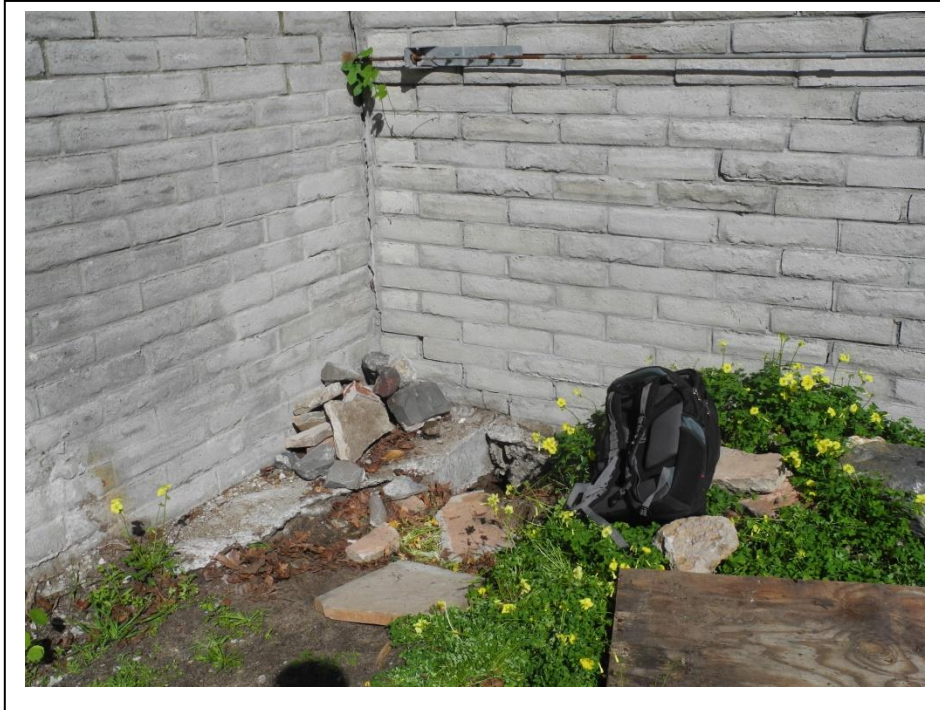
We are prepared to undertake this investigation upon approval of this workplan. Please feel free to contact us with any questions or comments you may have regarding this workplan.

Sincerely,



Dwight Hoenig,  
President, Turner/Maclane Inc.

**Site Photos**

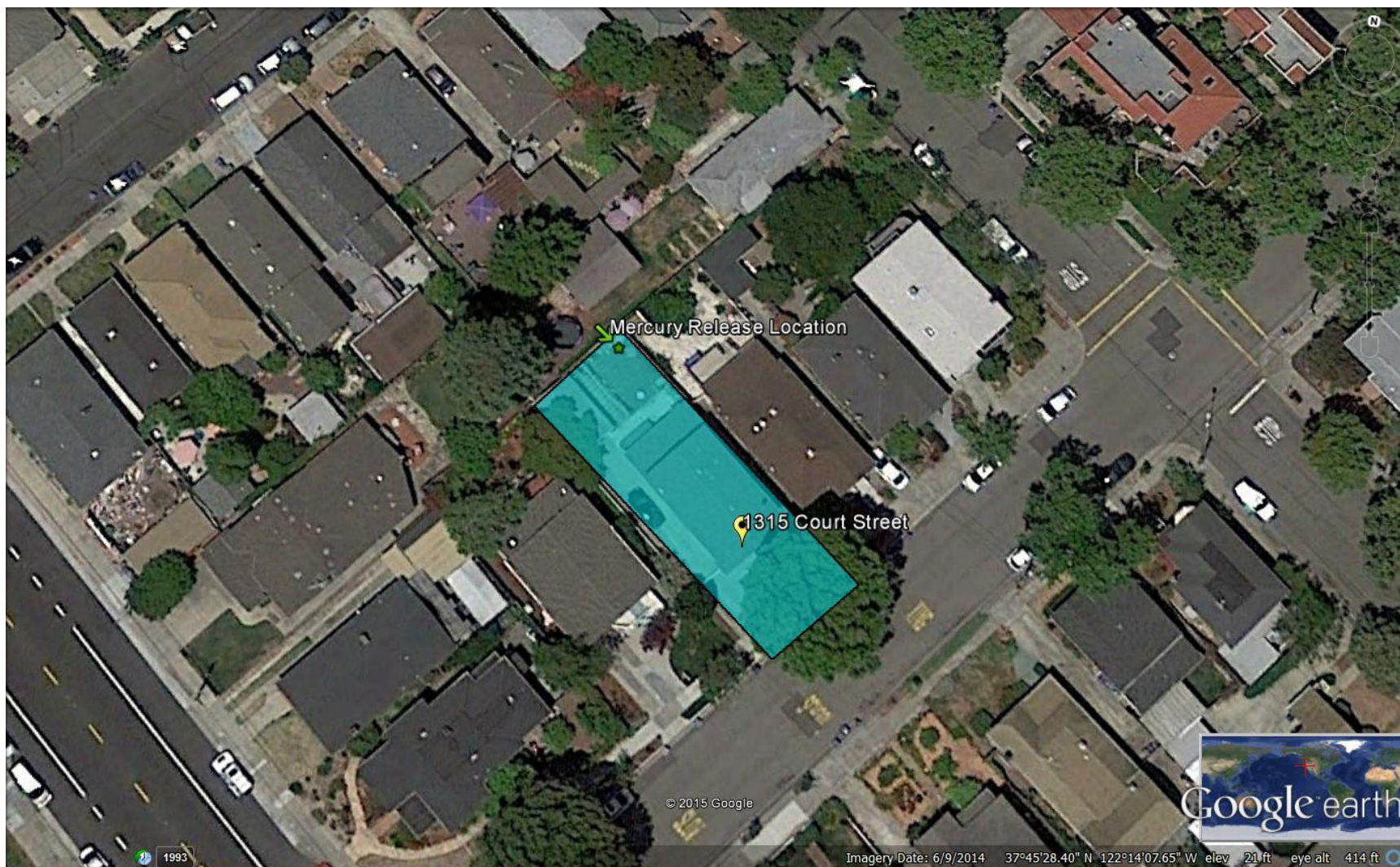


<b>Project No.</b> 1315 Court St. Alameda, Ca.	<b>Description</b>	Rear Yard: North Corner Retaining Wall	<b>Photo #1</b>
		Presumed Mercury Spill Location	<b>Photo Date</b> February 11, 2015



<b>Project No.</b> 1315 Court St. Alameda, Ca.	<b>Description</b>	Mercury Soil Excavation Area	<b>Photo #2</b>
		Retaining wall, footings and native soil	<b>Photo Date</b> February 11, 2015

**Figures**



**Figure 1**  
Residential Site Location:  
1315 Court Street  
Alameda California



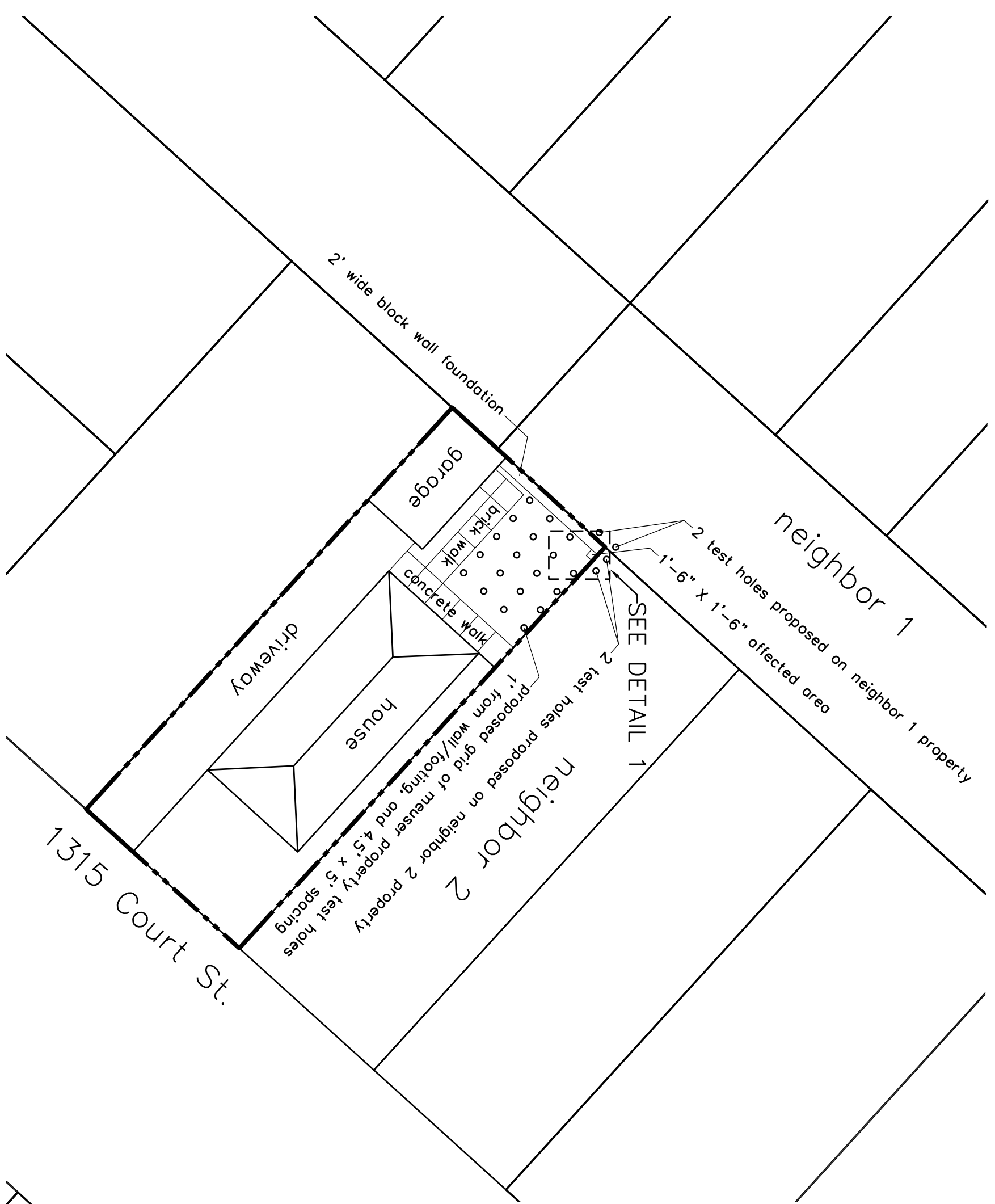
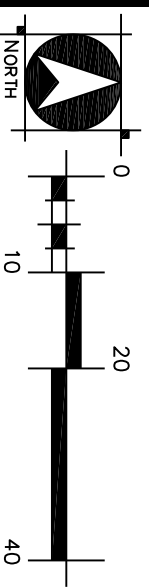
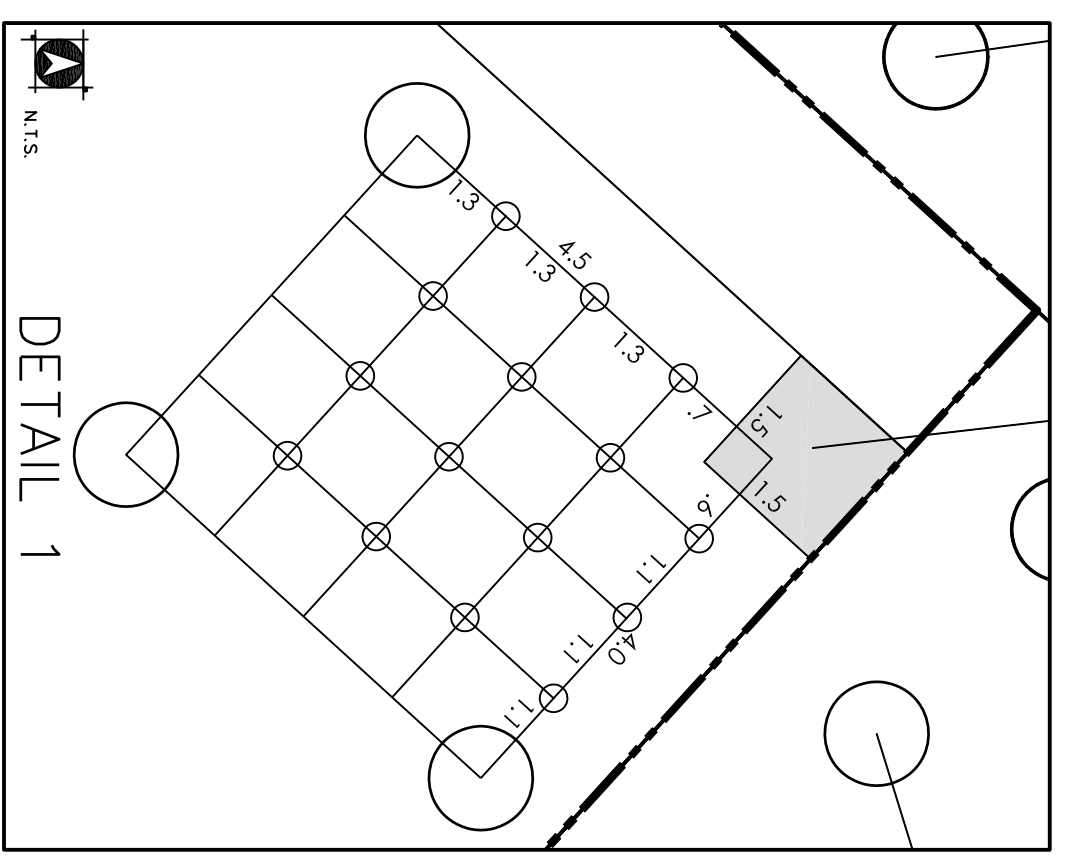


FIGURE #2  
PROPOSED MERCURY VAPOR SAMPLING LOCATIONS



ADDITIONAL TEST HOLE  
GRID NEAR AFFECTED AREA