Meeting
Former Pacific Electric Motors Site (RO0000411)

Aspire Public Schools – LFR Inc.
Alameda County Department of Environmental Health

September 11, 2008

Meeting Agenda

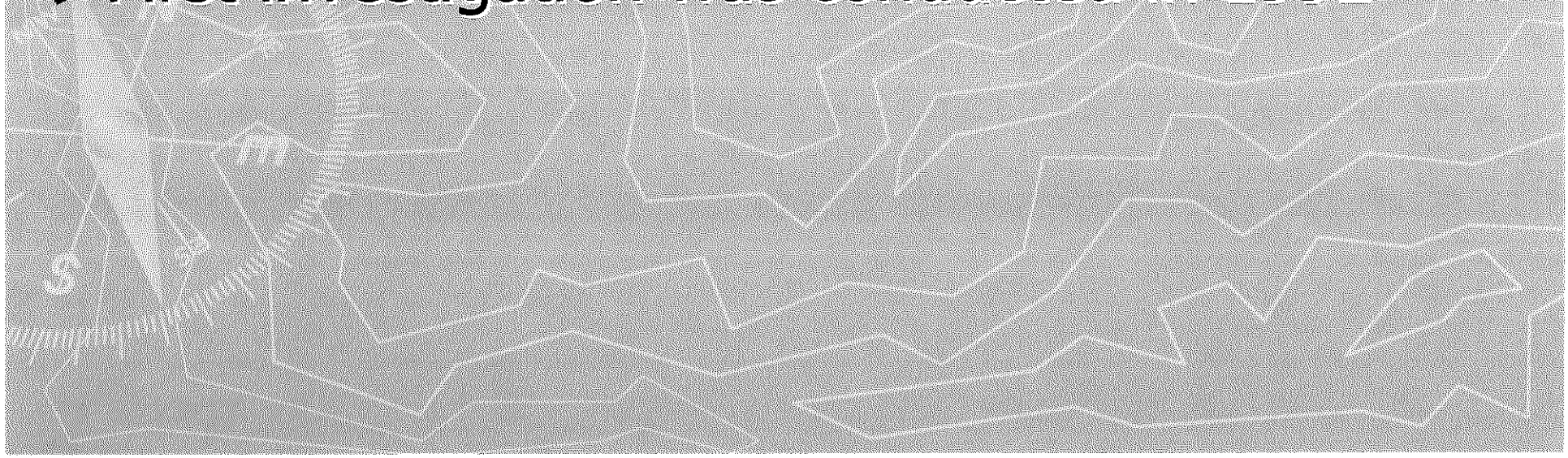
- Review of Investigation and Remedial Activities Completed at the Site
  Current Conceptual Site Development Plan
- Results of Soil Vapor Survey and Johnson & Ettinger Model
- Potential Remedial Alternatives
- Requirements Going Forward

Site Location

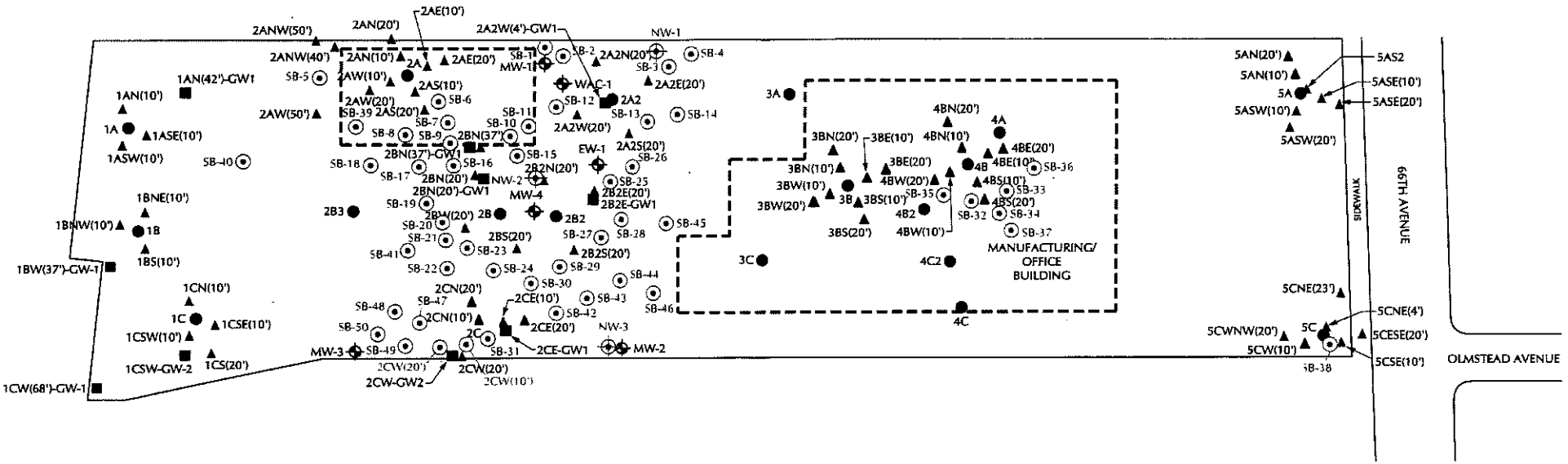
Site Plan

Previous Soil & Groundwater Investigations

- Several phases of soil & groundwater investigation by others and LFR
- First investigation was conducted in 1992



Soil and Groundwater Samples



LEGEND

- MW-1 ⊕ MONITORING WELLS
- 1B ● PEA SAMPLE LOCATIONS - MARCH 2005
- 1C1 ▲ SSI SOIL SAMPLE LOCATIONS - AUG/SEPT 2005
- 1AN-GW ■ SSI GW SAMPLE LOCATIONS - AUG 2005
- SB-1 ⊙ LFR SSI SAMPLE LOCATIONS - DEC 2005/JAN 2006
- NW-1 ⊕ NESTED MONITORING WELL

NOTE: BUILDINGS NOT TO SCALE; LOCATIONS ARE APPROXIMATE

N

0 55 FEET

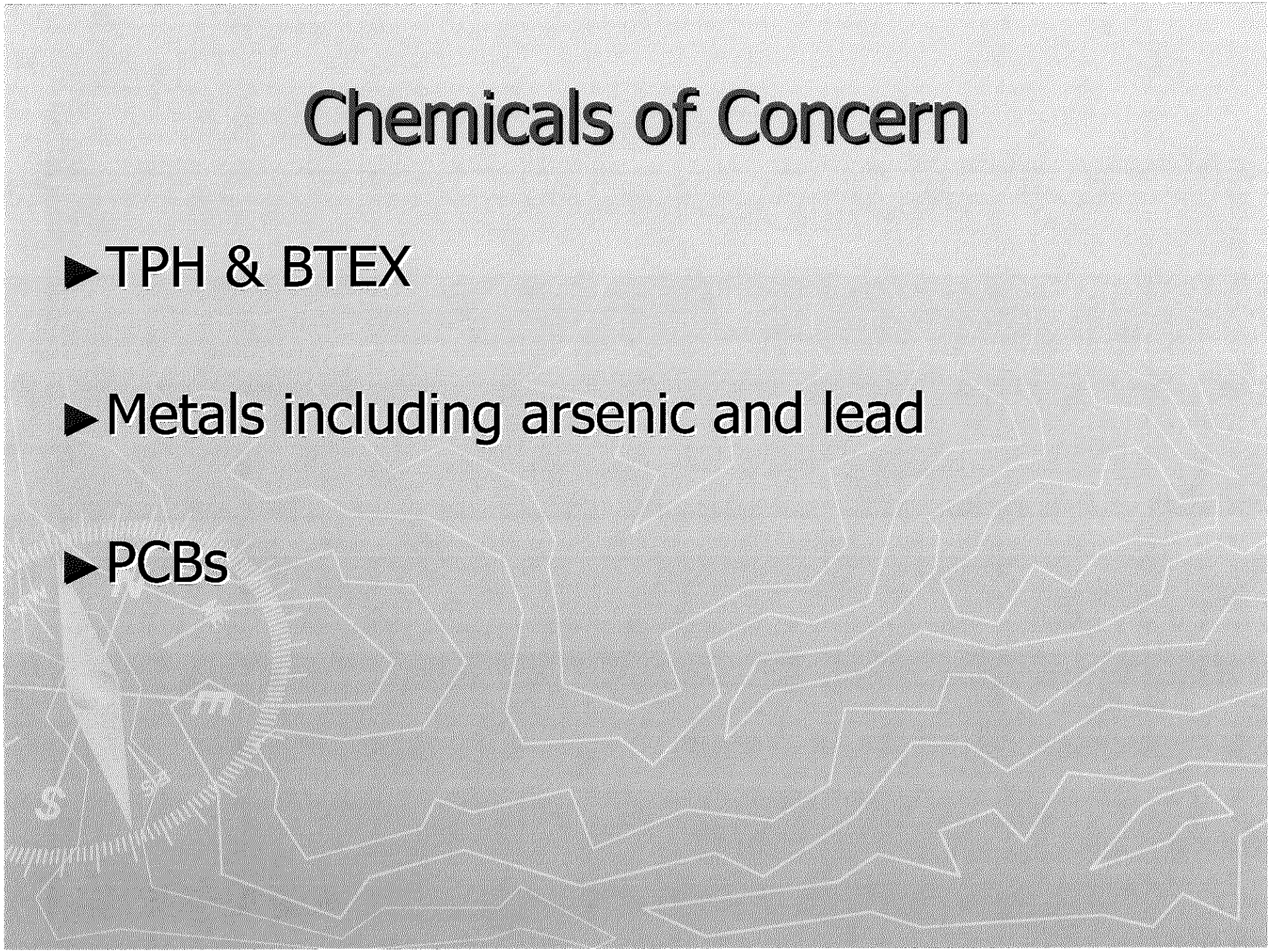
(APPROXIMATE SCALE: 1" = 55')

Site Conditions

- Soil Type - inter-bedded intervals of low permeability silt and clay with thinner intervals of sand and gravel
- Depth to Groundwater – approximately 5 to 6 feet below ground surface
- Groundwater Flow Direction – to the west - southwest

Chemicals of Concern

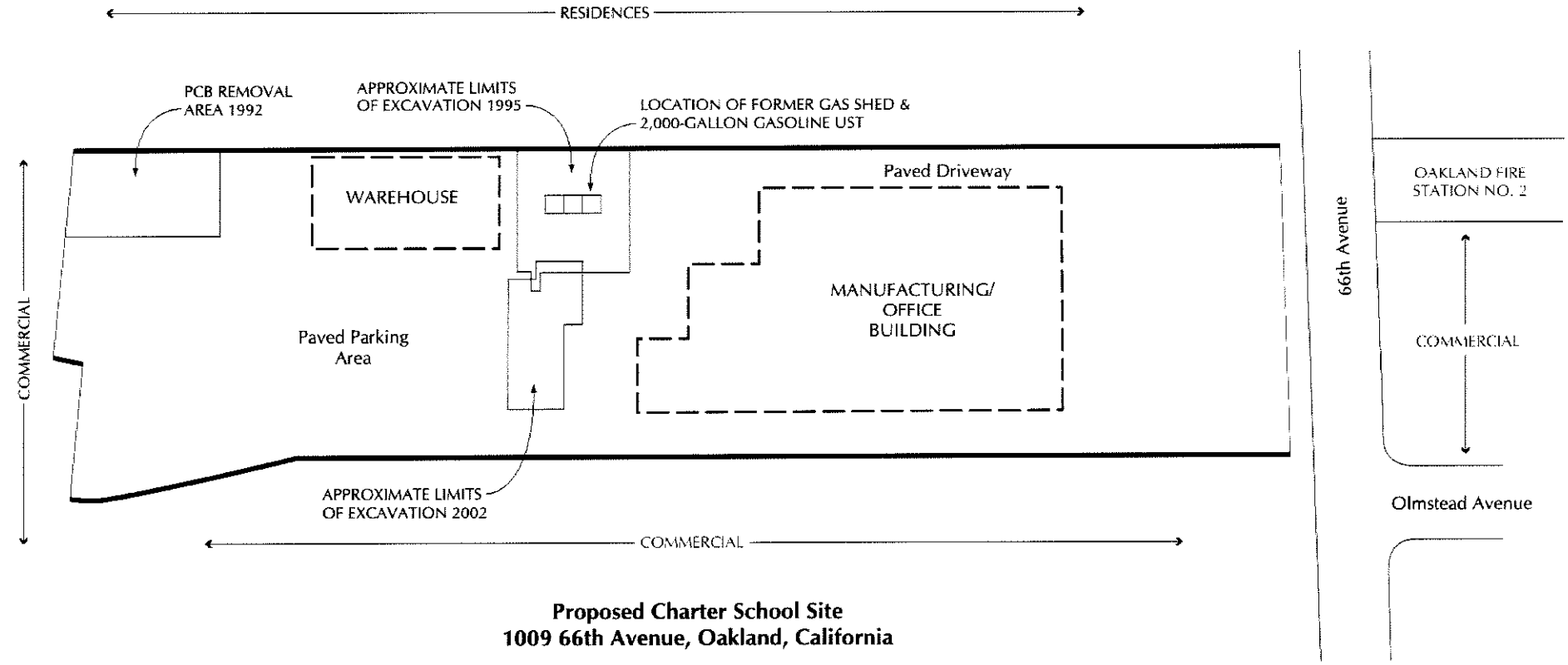
- TPH & BTEX
- Metals including arsenic and lead
- PCBs



Previous Remedial Activities

- Remedial Actions
  - Removal of PCB-affected soil in 1992 and 1993 (~400 cubic yards)
  - Removal of 2,000 gallon UST in 1995
  - Removal of 1,500 cubic yards of TPH affected soil & 116,000 gallons of TPH affected groundwater - 1995
  - Removal of 700 cubic yards of TPH affected soil & 65,000 gallons of groundwater – 2002
  - Placed Oxygen Releasing Compound in the backfill of the excavation, soil borings, and 8 monitoring wells - 2002

Areas of Soil Excavation

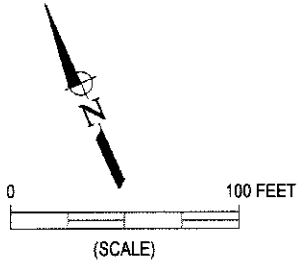


Proposed Charter School Site
1009 66th Avenue, Oakland, California

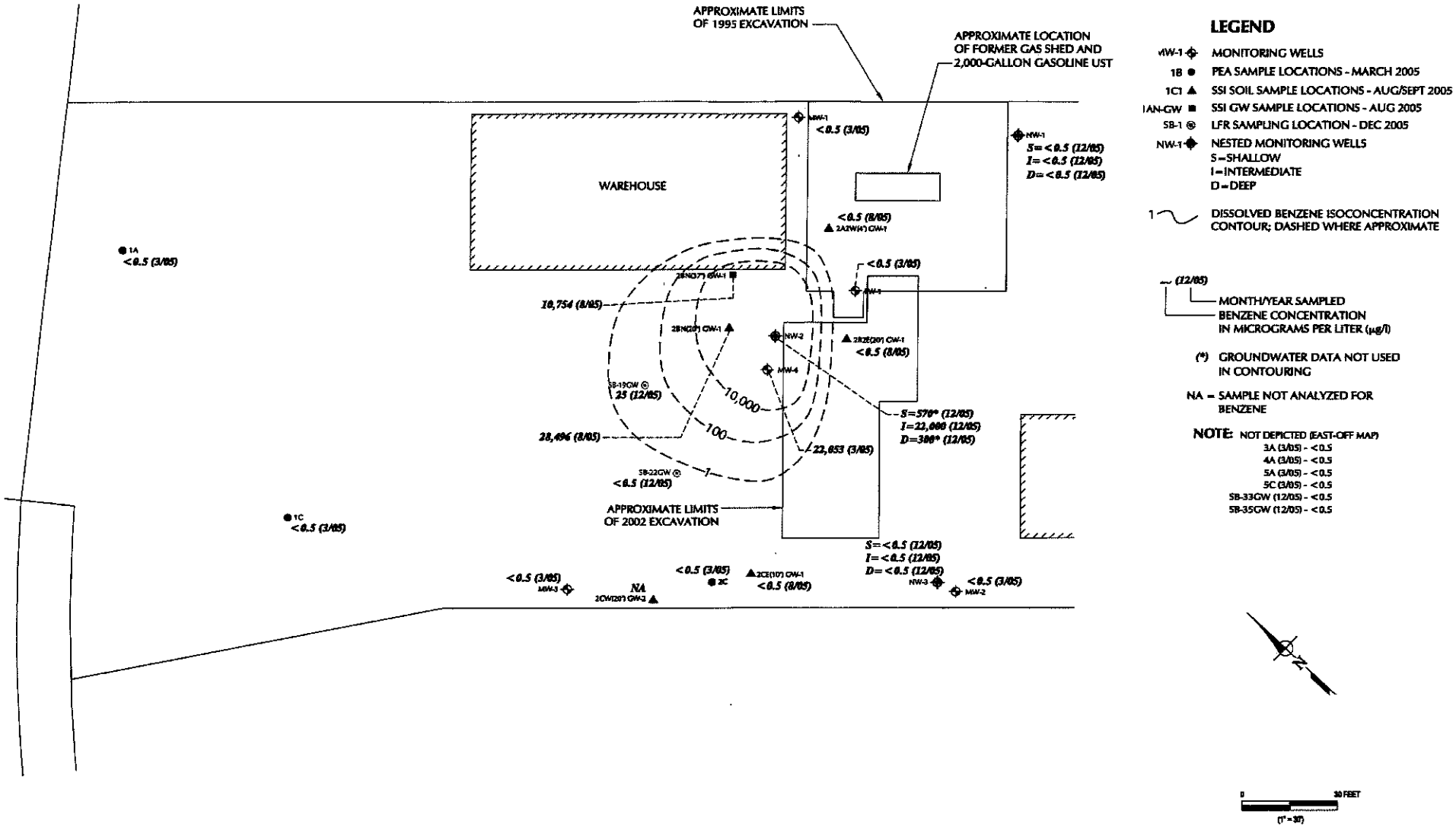
EXPLANATION

SITE BOUNDARY

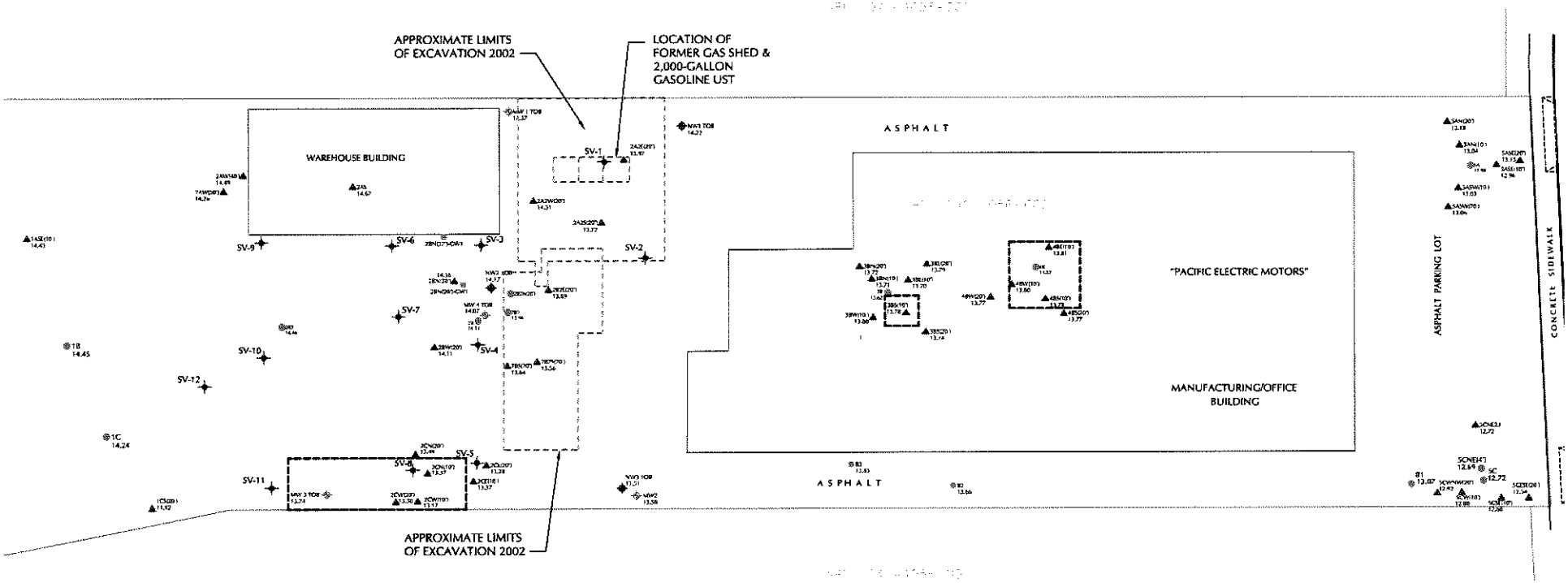
EXISTING BUILDING



Benzene in Groundwater - Dec. 2005



Soil Vapor Sample Locations



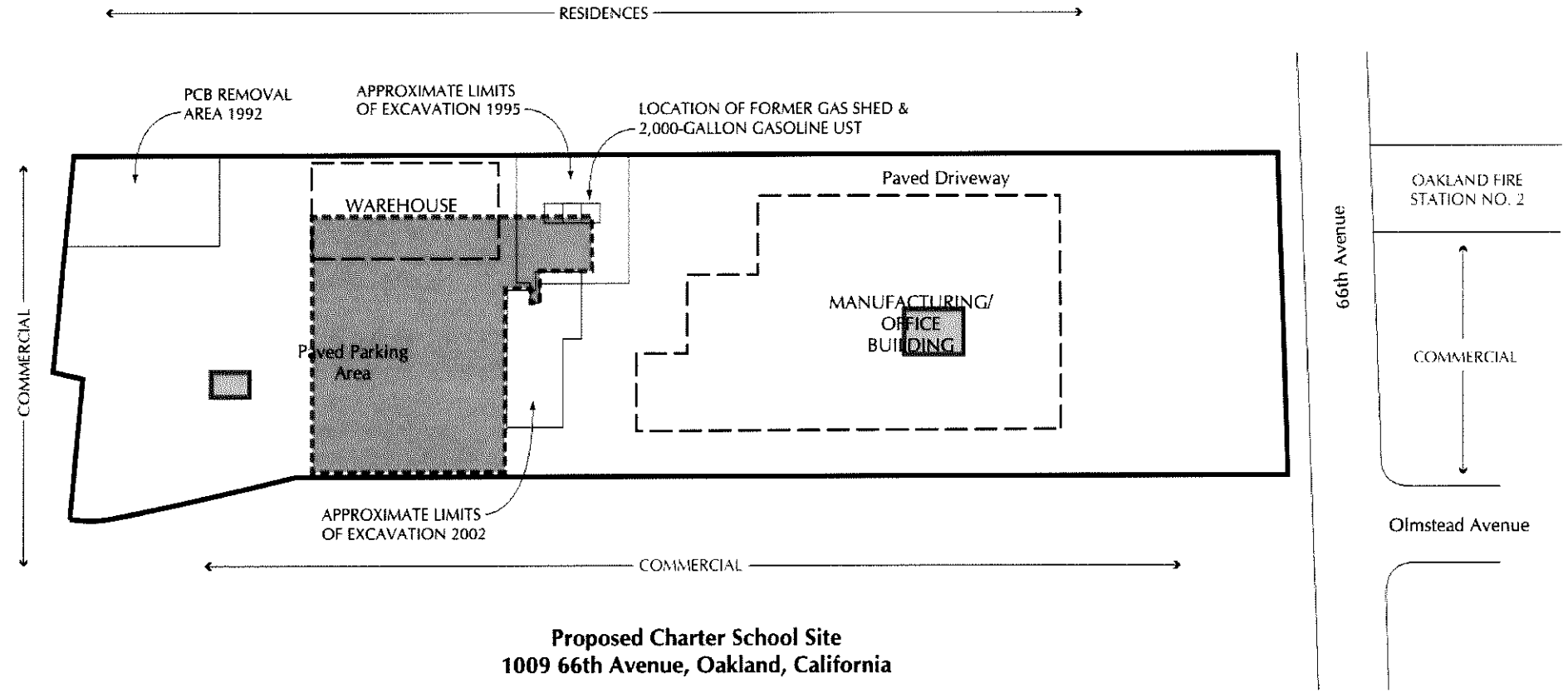
EXPLANATION

- SV-2 — LFR SOIL VAPOR SAMPLE - AUGUST 2008
- MW1 — MONITORING WELLS
- 1B — PEA SAMPLE LOCATIONS - MARCH 2005
- 1C — SSI SOIL SAMPLE LOCATIONS - AUG/SEPT 2005
- 1-4% GW — SSI GW SAMPLE LOCATIONS - AUG 2005
- PROPOSED AREAS OF EXCATION - 3 to 5 FEET BGS
- NW1 — NESTED MONITORING WELLS; S = SHALLOW, I = INTERMEDIATE, D = DEEP

0 40 FEET
(SCALE: 1" = 40')

SOURCE: TRONOFF ASSOCIATES

Areas of TPH – and BTEX Affected Soil



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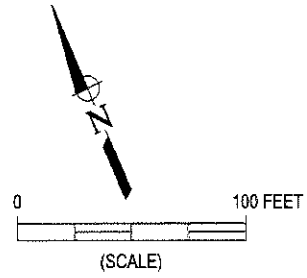
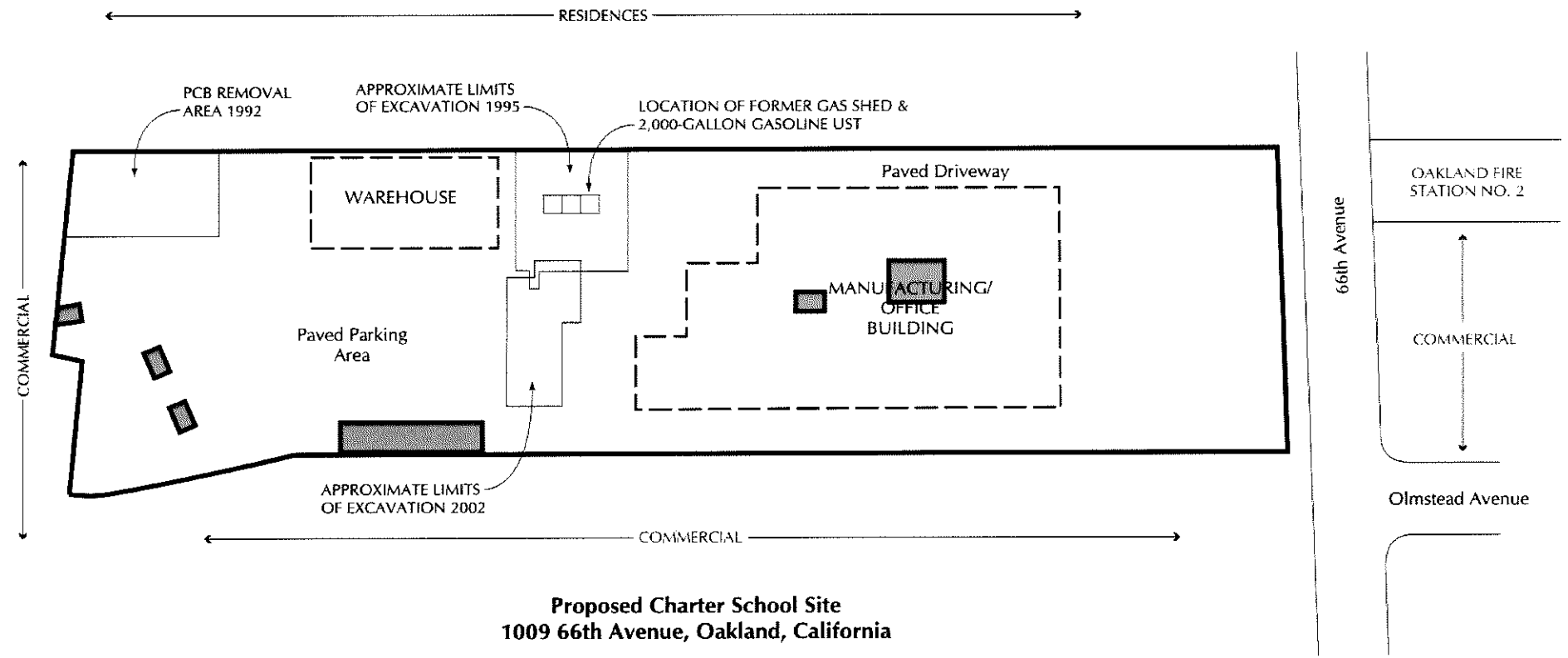
EXPLANATION

- **SITE BOUNDARY**
- **EXISTING BUILDING**
- **TPH-AFFECTED SOIL 10 FEET BGS OR GREATER**
- **PROPOSED AREA OF EXCAVATION TPH & BTEX AFFECTED SOIL 3 TO 5 FEET BGS**



Proposed Areas of Excavation
PCB - Affected Soil



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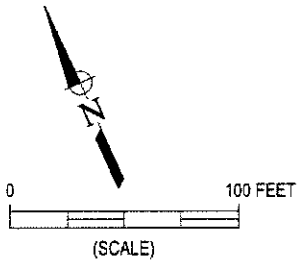
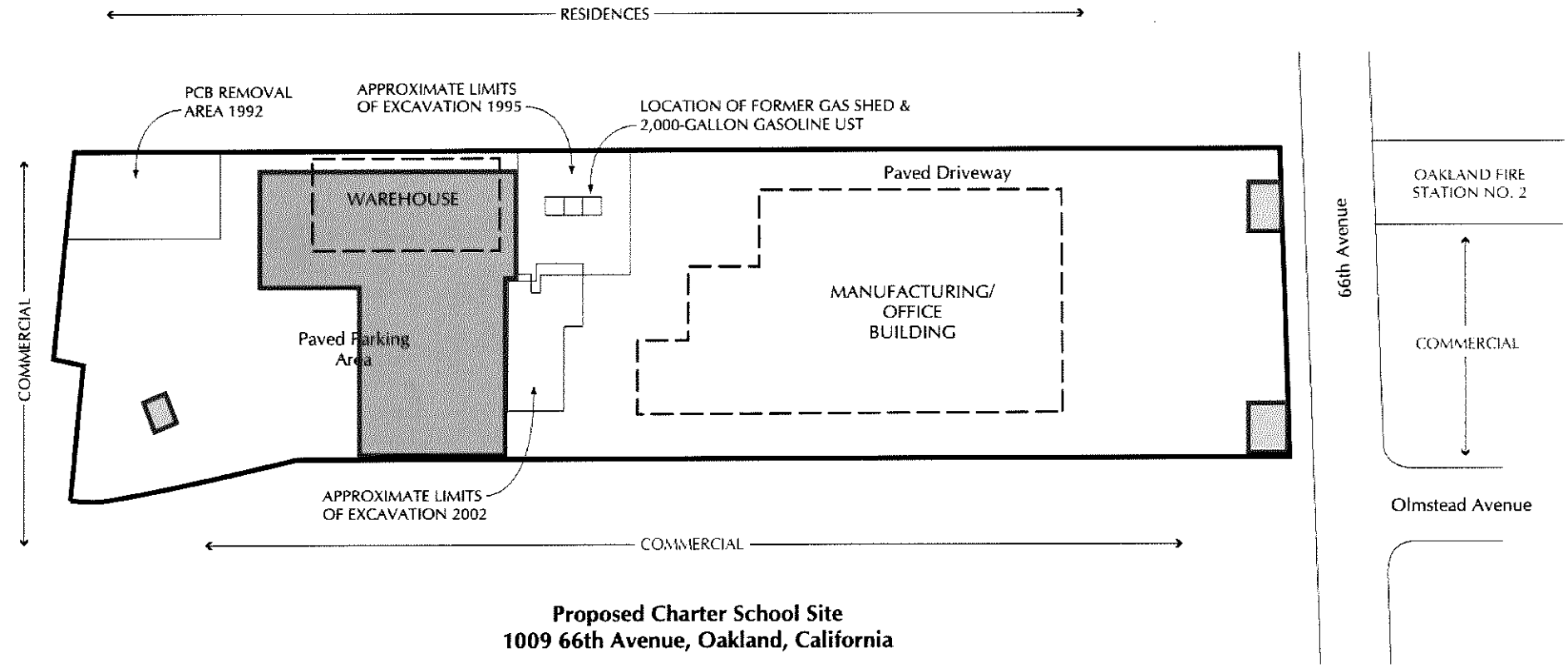
EXPLANATION

- **SITE BOUNDARY**
- **EXISTING BUILDING**
- **PROPOSED AREA OF EXCAVATION PCB-AFFECTED SOIL 3 TO 5 FEET BGS**



Proposed Areas of Excavation Metals - Affected Soil



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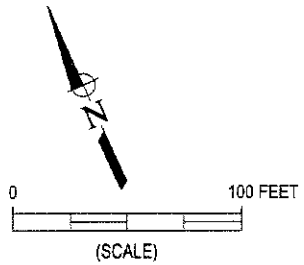
EXPLANATION

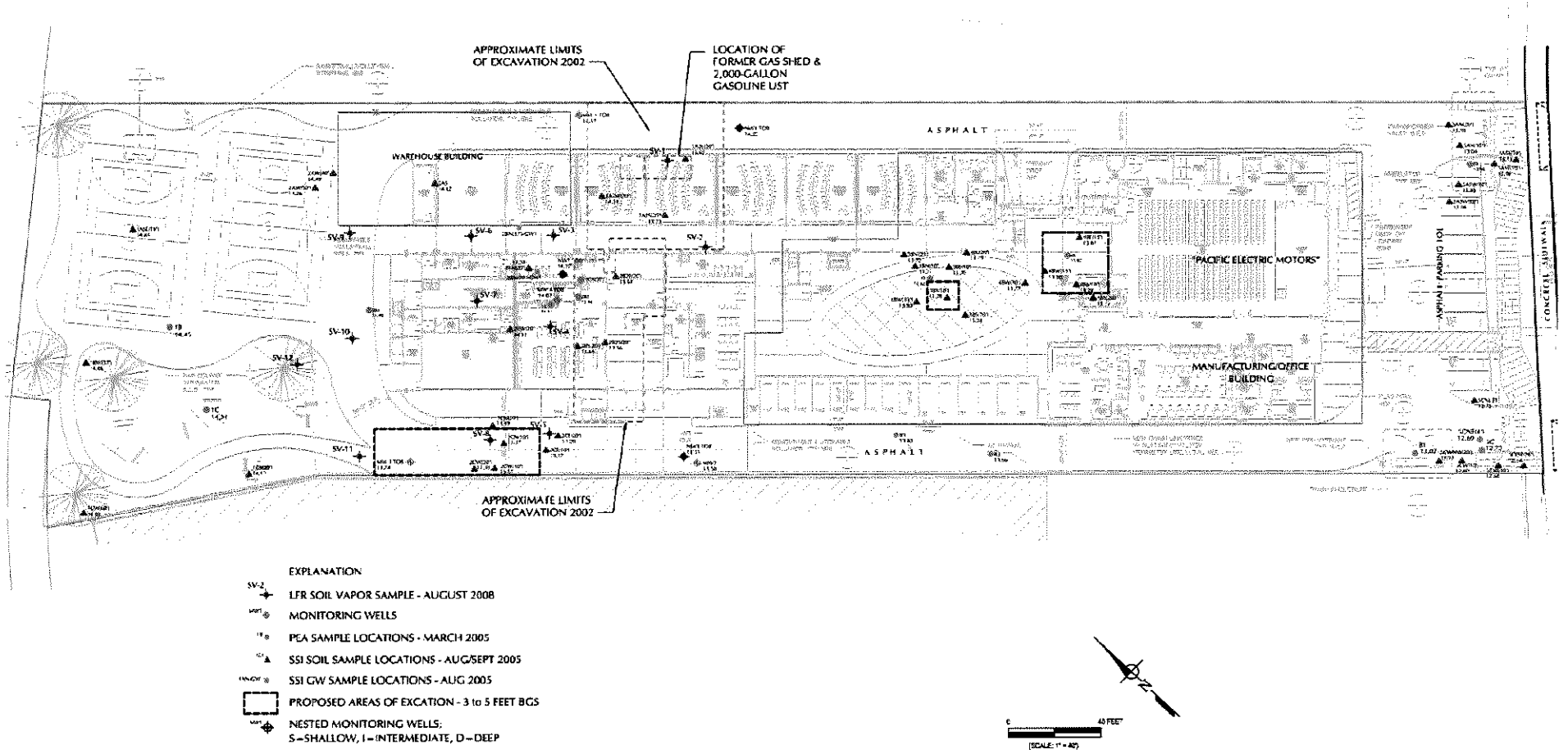
SITE BOUNDARY

EXISTING BUILDING

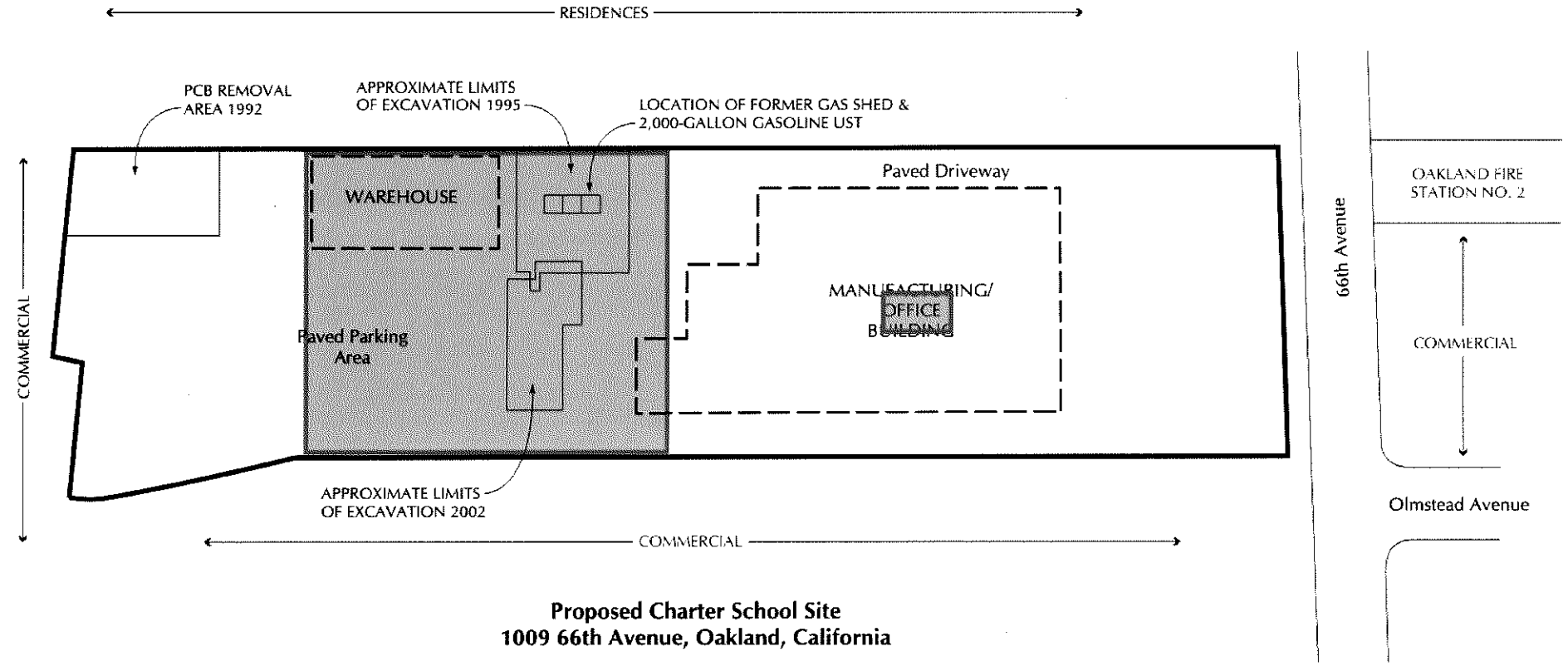
PROPOSED AREA OF EXCAVATION METALS-AFFECTED SOIL 3 TO 6 FEET BGS



Current Site Development Plan



Proposed Areas for a Vapor Barrier



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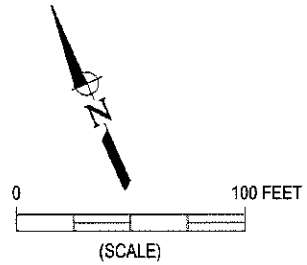
EXPLANATION

- **SITE BOUNDARY**
- **EXISTING BUILDING**
- **PROPOSED AREA OF VAPOR BARRIER**



Johnson & Ettinger Vapor Model

- Used to estimate potential vapor transport and intrusion at the Site
- Followed DTSC Guidance
- Used site specific parameters for soil type, moisture content, bulk density, water and air filled porosity
- Water filled porosity was elevated (35.8%) which restricts vapor flow from the subsurface

Johnson & Ettinger Vapor Model Results

	Maximum Soil Vapor Concentration (µg/m3)	Estimated Indoor Air Concentration (µg/m3)	Estimated Cancer Risk	Estimated Hazard Index
Benzene	6,200	0.022	2.70E-07	7.10E-04
Toluene	10,000	0.031	NA	9.70E-05
Ethylbenzene	41,000	0.102	1.00E-07	9.80E-05
Total Xylenes	162,200	0.403	NA	3.90E-03
Totals:			4.E-07	5.E-03

Requirements Going Forward

- Evaluate Remedial Measures
  - Excavation of affected soil to approximately 6 feet bgs
  - Ozone Sparging
  - Thermal Desorbtion
- Install a vapor-moisture barrier for either scenario
- Prepare a Remedial Action Work Plan