Fremont State Street Center, LLC
c/o SummerHill Homes LLC
3000 Executive Parkway, Suite 450
San Ramon, CA 94583

July 7, 2016

Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Attention: Mr. Mark Detterman, PG, CEG

Addendum – Contour Maps
Vapor Mitigation System Design Drawings and Specifications
State Street Center, Fremont, CA

Dear Mr. Detterman:

Submitted herewith for your review is the *Addendum – Contour Maps, Vapor Mitigation System Design Drawings and Specifications, State Street Center, Fremont, California* prepared by PES Environmental, Inc.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document are true and correct to the best of my knowledge.

Very truly yours,

Katia Kamangar

Katia Kamangar
Executive Vice President
SummerHill Homes LLC

cc: Carl Michelsen, PEC Environmental, Inc.

PES Environmental, Inc.
Engineering & Environmental Services

MEMORANDUM

TO: Mark Detterman, P.G., CEG
Dilan Roe, P.E.
Alameda County Department of Environmental Health

FROM: Carl Michelsen, P.G., C.HG.
PES Environmental, Inc.

DATE: July 5, 2016

SUBJECT: Addendum – Contour Maps
Vapor Mitigation System Design Drawings and Specifications
State Street Center
Fremont, California

PROJECT NO.: 220.003.03.002

This memorandum has been prepared by PES Environmental, Inc. (PES) on behalf of Fremont State Street Center, LLC (FSSC) to provide an addendum to the Vapor Mitigation System Design Drawings and Specifications (VMS Report).[1] Contour maps of the distribution of VOCS in soil vapor and Total Petroleum Hydrocarbons (TPH) in soil were requested by Alameda County Department of Environmental Health (ACEH) in an email dated May 10, 2016.[2]

Contour maps were requested for the compounds PCE, Freon 11, Freon 12, chloroform, and benzene in soil vapor; TPH in soil; and "any other that look appropriate". Attached are the requested contour maps (Plates 1-5) that depict the distribution of PCE, benzene, Freon 11, and Freon 12 in shallow soil vapor samples and TPH as motor oil (TPHmo; no silica gel cleanup) in soil, respectively.

At the time of the January 2016 workplan (PES, 2016) which discussed the occurrence of Freon compounds in soil vapor samples, there were no RWQCB ESLs or ambient air DTSC-SLs available for Freon 11 (trichlorofluoromethane) or Freon 12

[1] PES Environmental, Inc., 2016. *Vapor Mitigation System Basis of Design Report, State Street Center, Fremont, California*. March 24

[2] Email from Mark Detterman (ACEH) to Carl Michelsen (PES), May 10, 2016.

(dichlorodifluoromethane)[3]. The most recent DTSC-SL document lists a residential ambient air (e.g., indoor air) value of 1,300 μg/m^3 for Freon 11[4]. Converting this indoor air value to a soil vapor screening value using the method described in PES, 2016 yields a soil vapor DTSC-SL of 1,300,000 μg/m^3, a value well above the maximum detected concentration of Freon 11 in soil vapor (2,300 μg/m^3). The maximum detected concentration of Freon 12 (6,400 μg/m^3) is well below the soil vapor screening level of 100,000 μg/m^3, calculated from the U.S. EPA Region 9, resident ambient air Regional Screening Level (RSL) (PES, 2016). Consequently, both Freon 11 and Freon 12 are not considered chemicals of concern.

Chloroform was infrequently detected at only one location in shallow soil and is not considered a chemical of concern. For soil, only TPHmo was detected at concentrations above screening levels. Consequently, no other compounds are considered appropriate for contouring.

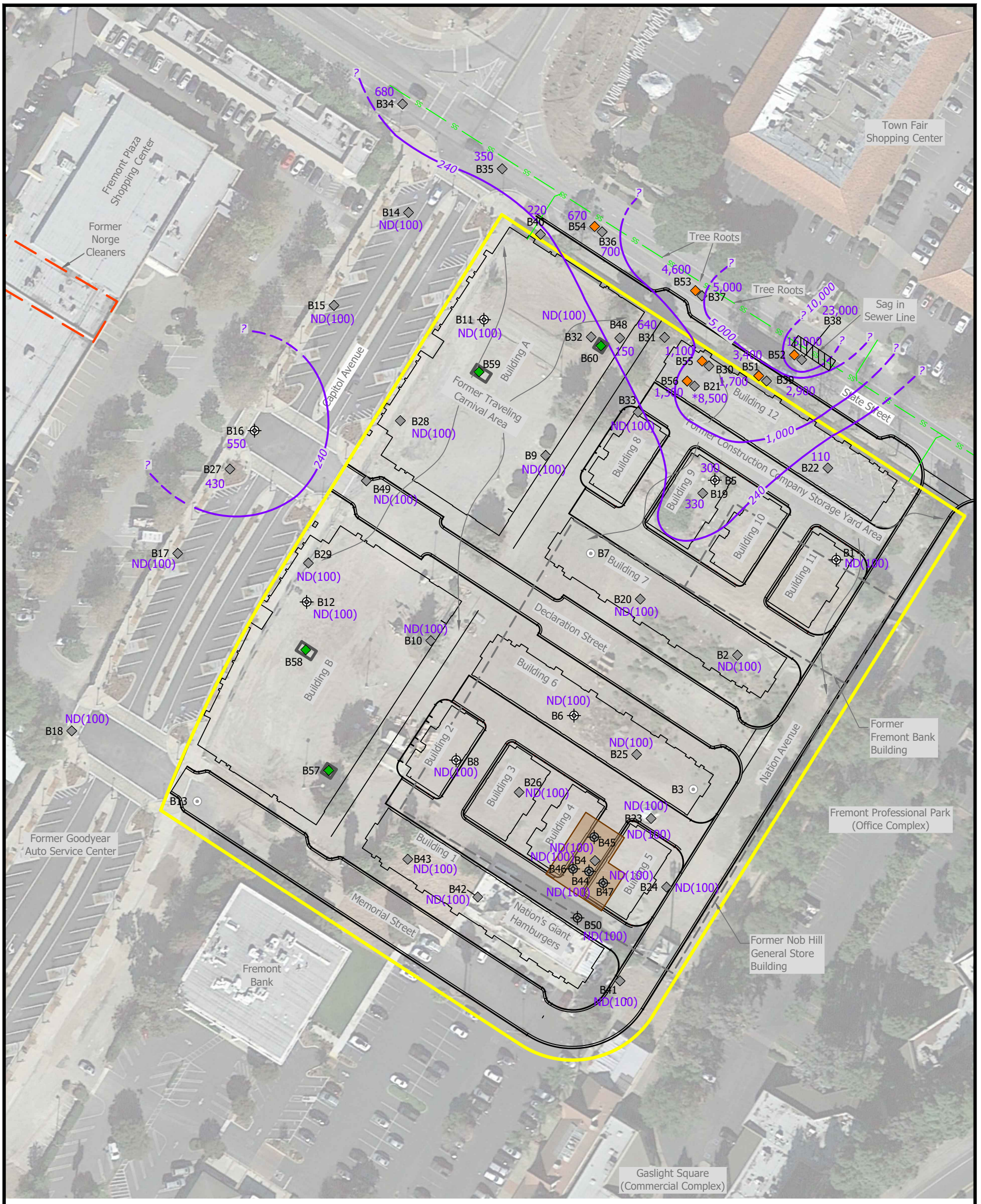
Attachment 1 – Plates 1 through 5

[3] PES, 2016. *Work Plan for Soil Excavation and Well Destruction, 39155 and 39183 State Street, Fremont, California*. January 29.

[4] DTSC, 2016. *Human Health Risk Assessment (HHRA) Note, HERO HHRA Note Number 3, DTSC-Modified Screening Levels (DTSC-SLs)*. June.

ATTACHMENT 1

PLATES 1 THROUGH 5



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- B17 — Soil Vapor Sampling Location (PES, 2014-2015)
- B6 — Soil Vapor and Soil Sampling Location (PES, 2014-2015)
- B13 — Soil Sampling Location (PES, 2014-2015)
- B53 — Soil Vapor Sample Location (PES, 2016)
- B57 — Soil Vapor Sample Location within planned elevator pit (PES, 2016)
- SS — Sanitary Sewer Line
- Planned Area of Excavation
- 106 — PCE Concentrations in Shallow Soil Vapor Concentrations in micrograms per cubic meter (µg/m^3)
- 240 — PCE Isoconcentration contour in µg/m^3 (Dashed where inferred; queried where uncertain)
- ND(100) — Not detected at or above the indicated laboratory reporting limit
- * — Data not used for contouring

0 80 SCALE IN FEET

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Aerial Photo: October 30, 2015 (Google 2016)

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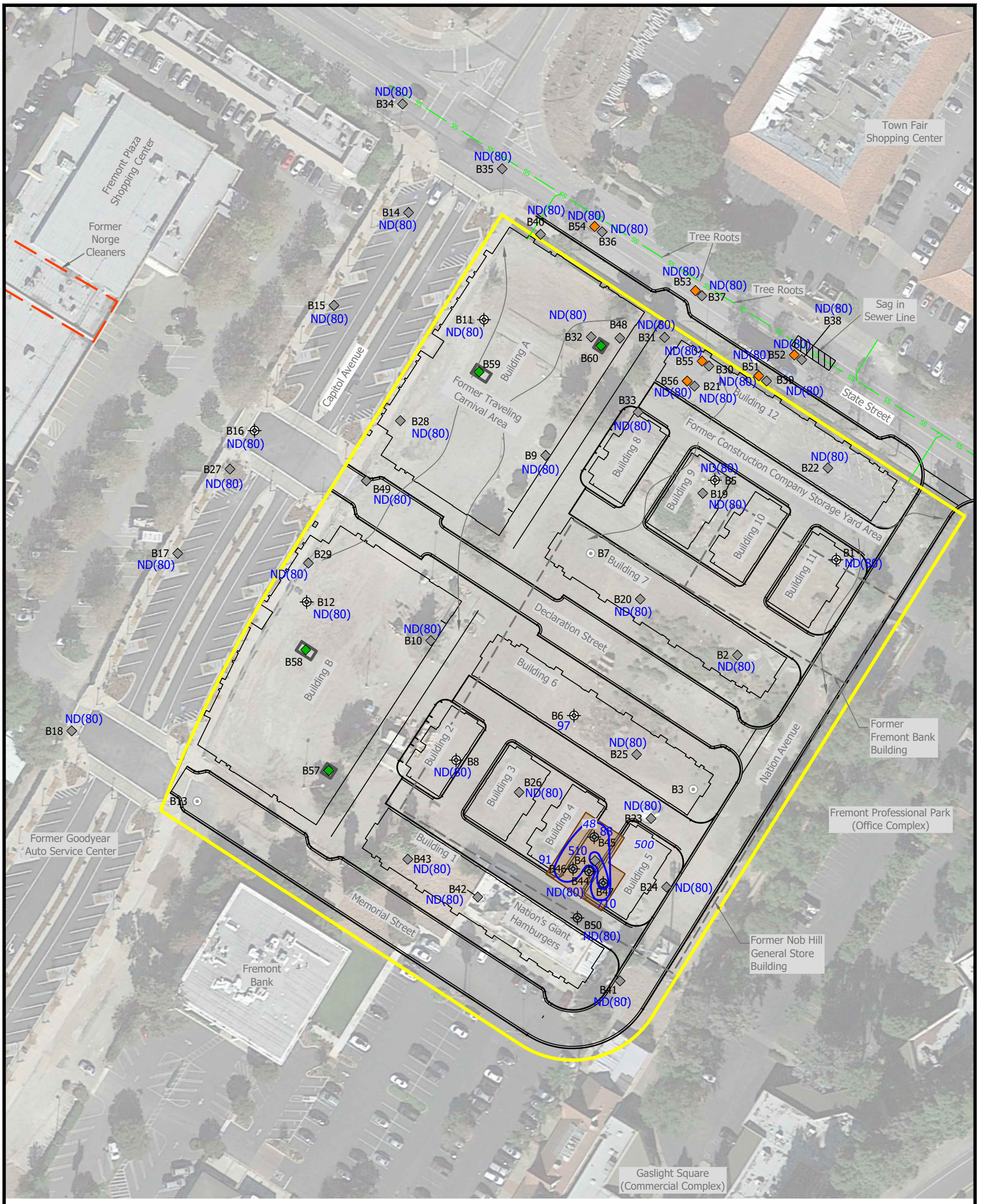
PCE Concentrations in Shallow Soil Vapor
State Street Center
Fremont, California

PLATE 1

220.003.04.007	22000304007_Contours	CJM	7/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- B17 — Soil Vapor Sampling Location (PES, 2014-2015)
- B6 — Soil Vapor and Soil Sampling Location (PES, 2014-2015)
- B13 — Soil Sampling Location (PES, 2014-2015)
- B53 — Soil Vapor Sample Location (PES, 2016)
- B57 — Soil Vapor Sample Location within planned elevator pit (PES, 2016)
- SS — Sanitary Sewer Line
- Planned Area of Excavation
- 88 — Benzene Concentrations in Shallow Soil Vapor Concentrations in micrograms per cubic meter (µg/m^3)
- 48 — Benzene Isoconcentration contour in µg/m^3 (Dashed where inferred; queried where uncertain)
- ND(80) — Not detected at or above the indicated laboratory reporting limit

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SCALE IN FEET

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Aerial Photo: October 30, 2015 (Google 2016)

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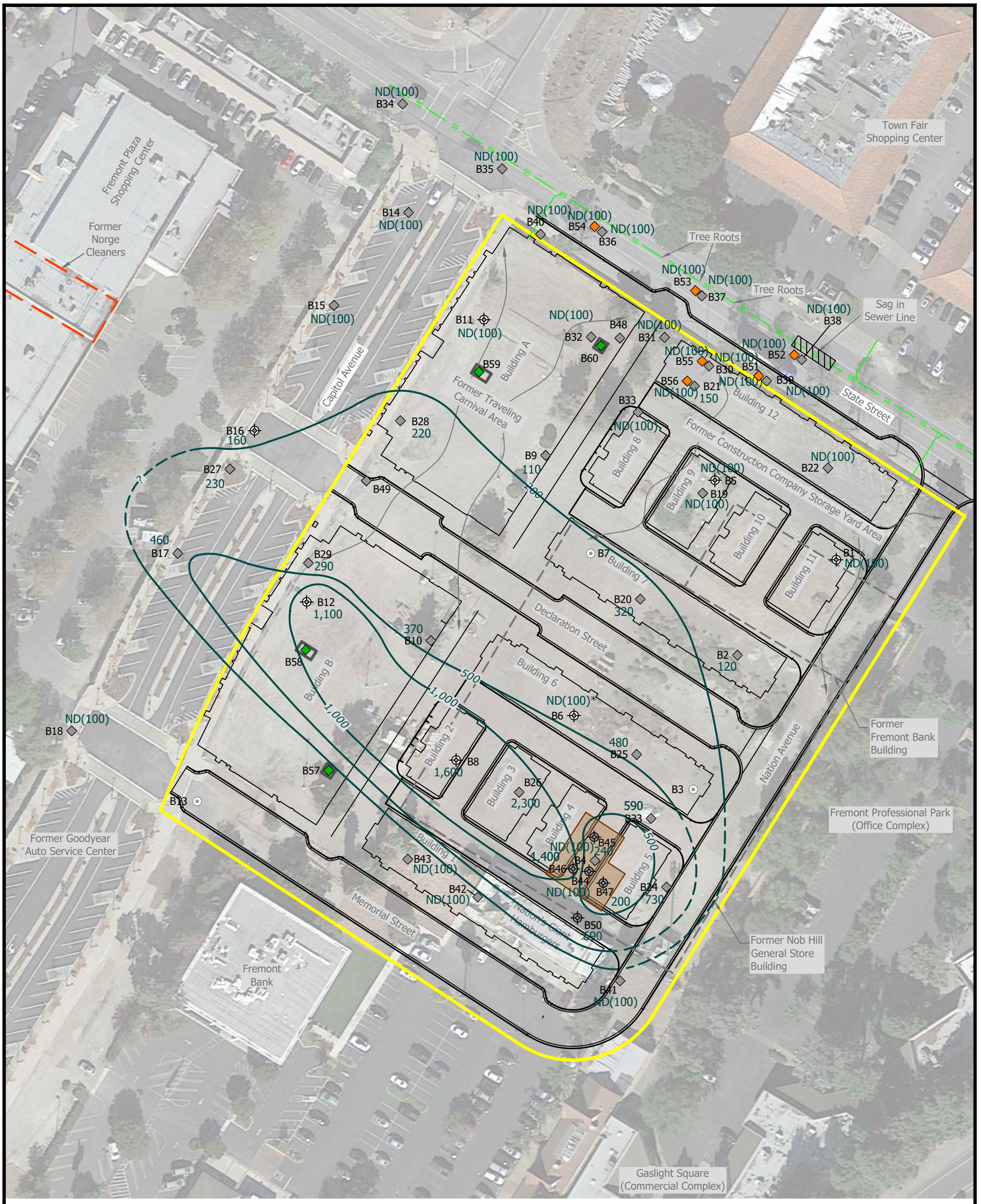
Benzene Concentrations in Shallow Soil Vapor
State Street Center
Fremont, California

PLATE
2

220.003.04.007	22000304007_Contours	CJM	7/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- B17 — Soil Vapor Sampling Location (PES, 2014-2015)
- B6 — Soil Vapor and Soil Sampling Location (PES, 2014-2015)
- B13 — Soil Sampling Location (PES, 2014-2015)
- B53 — Soil Vapor Sample Location (PES, 2016)
- B57 — Soil Vapor Sample Location within planned elevator pit (PES, 2016)
- SS — Sanitary Sewer Line
- Planned Area of Excavation
- 690 — Freon11 Concentrations in Shallow Soil Vapor Concentrations in micrograms per cubic meter (µg/m^3)
- 500 — Freon11 Isoconcentration contour in µg/m^3 (Dashed where inferred; queried where uncertain)
- ND(100) — Not detected at or above the indicated laboratory reporting limit
- * — Data not used for contouring

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SCALE IN FEET

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Aerial Photo: October 30, 2015 (Google 2016)

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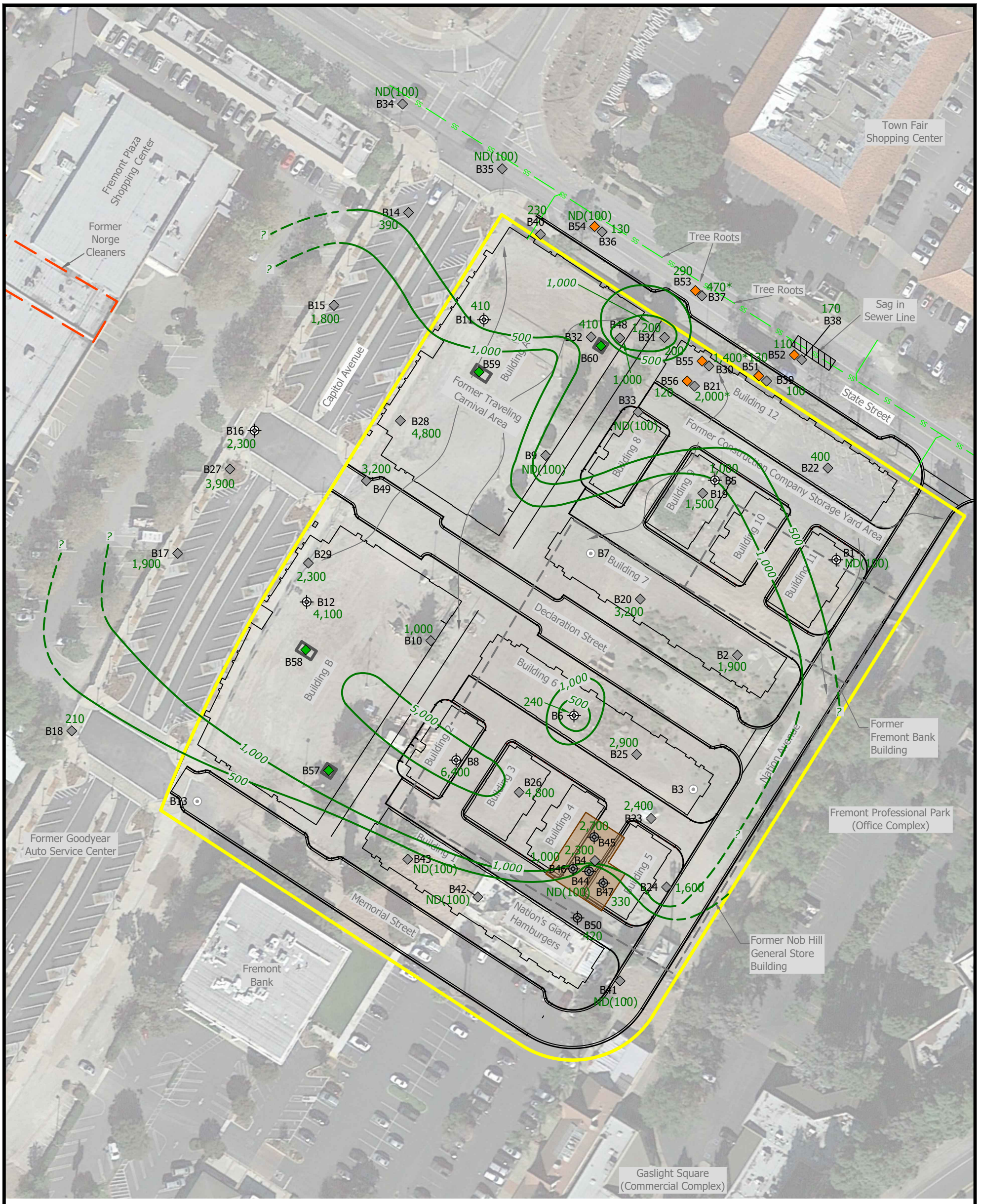
Freon11 Concentrations in Shallow Soil Vapor
State Street Center
Fremont, California

PLATE
3

220.003.04.007	22000304007_Contours	CJM	7/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- B17 — Soil Vapor Sampling Location (PES, 2014-2015)
- B6 — Soil Vapor and Soil Sampling Location (PES, 2014-2015)
- B13 — Soil Sampling Location (PES, 2014-2015)
- B53 — Soil Vapor Sample Location (PES, 2016)
- B57 — Soil Vapor Sample Location within planned elevator pit (PES, 2016)
- SS — Sanitary Sewer Line
- Planned Area of Excavation
- 690 — Freon12 Concentrations in Shallow Soil Vapor Concentrations in micrograms per cubic meter (µg/m^3)
- 500 — Freon12 Isoconcentration contour in µg/m^3 (Dashed where inferred; queried where uncertain)
- ND(100) — Not detected at or above the indicated laboratory reporting limit
- * — Data not used for contouring

0 80 SCALE IN FEET

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Aerial Photo: October 30, 2015 (Google 2016)

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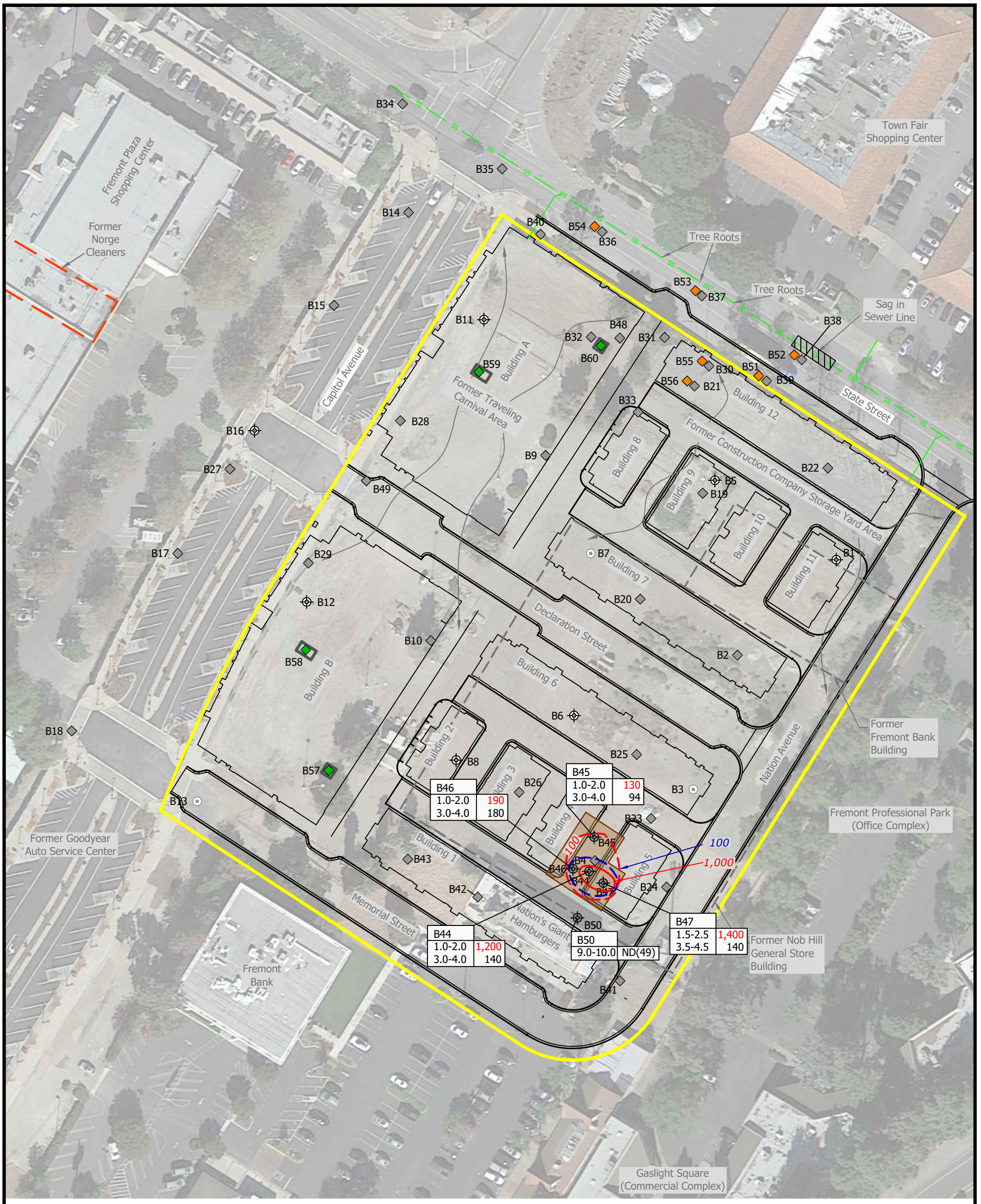
Engineering & Environmental Services

Freon12 Concentrations in Shallow Soil Vapor
State Street Center
Fremont, California

PLATE 4

220.003.04.007	22000304007_Contours	CJM	7/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- B17 — Soil Vapor Sampling Location (PES, 2014-2015)
- B6 — Soil Vapor and Soil Sampling Location (PES, 2014-2015)
- B13 — Soil Sampling Location (PES, 2014-2015)
- B53 — Soil Vapor Sample Location (PES, 2016)
- B57 — Soil Vapor Sample Location within planned elevator pit (PES, 2016)
- SS — Sanitary Sewer Line
- Planned Area of Excavation
- 1,400 — TPH Motor Oil Concentrations in Shallow Soil Concentrations in micrograms per kilograms (mg/kg)
- 140 — TPH Motor Oil Concentrations in Deeper Soil Concentrations in micrograms per kilograms (mg/kg)
- 100 — Motor Oil Soil Isoconcentration contour in mg/kg for 1.0 to 2.5 feet bgs depth interval
- 100 — Motor Oil Soil Isoconcentration contour in mg/kg for 3.0 to 4.5 feet bgs depth interval
- ND(49) — Not detected at or above the indicated laboratory reporting limit

N

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SCALE IN FEET

Aerial Photo: October 30, 2015 (Google 2016)

PES Environmental, Inc.
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TPH Motor Oil Concentrations in Shallow Soil
State Street Center
Fremont, California

PLATE 5

220.003.04.007	22000304007_Contours	CJM	7/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE