

July 5, 2018

Ms. Natalie Noyes
DAVID J. POWERS AND ASSOCIATES
1871 The Alameda, Suite 200
San Jose, California 95126

Re: HUD Explosive and Fire Hazards Review
Heritage House Project
3700, 3710 and 3720 Valle Verde Drive
Napa, California

Dear Ms. Noyes:

This HUD Explosive and Fire Hazards Review was performed for David J. Powers and Associates, who is preparing an Environmental Impact Report for proposed redevelopment of an existing building and surrounding property with a multi-family housing project. The project is to be located on the property addressed as 3700, 3710 and 3720 Valle Verde Drive in Napa, California.

Purpose

The purpose of this HUD Explosive and Fire Hazards Review was to identify facilities in the vicinity of the project site having significant observed or reported Specific Hazardous Substances (per 24 CFR Part 51 C, Appendix I) storage, and to evaluate the "acceptable separation distance (ASD)" for the storage containers with respect to their proximity to the project site. This letter was prepared in accordance with the Agreement for Professional Services dated June 11, 2018.

Scope of Work

This survey was conducted in general accordance with 24 CFR Part 51 Subpart C, Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature. The scope of work performed included the tasks on the following page.

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1355 Poe Lane, San Jose, CA 95130
Phone: 408-307-0129



- ◆ Performed a visual survey of the site vicinity in an attempt to identify readily observable names and addresses of businesses located within an approximately 2,000-foot radius of the project site appearing to have the potential to store significant quantities of Specific Hazardous Substances (list appended to this letter) in stationary aboveground containers.
- ◆ Requested the most recent available hazardous materials inventory for each of the identified facilities through the Napa County Environmental Health Department (NCEHD); reviewed available/provided inventories.
- ◆ Calculated ASDs for facilities with reported storage of qualifying quantities of Specific Hazardous Substances stored in aboveground containers.

Identified Potentially Significant Vicinity Facilities

On June 20, 2018, a visual survey of the businesses/facilities within approximately 2,000 feet of the project site was performed in an attempt to identify those appearing likely to store significant quantities of Specific Hazardous Substances. Current hazardous materials/waste inventories for four identified facilities were requested from the NCEHD; one of the identified facilities had a hazardous materials inventory on file, which the NCEHD provided via email.

The NCEHD provided documentation reporting storage of Specific Hazardous Substances (per 24 CFR Part 51 C, Appendix I) at quantities determined to warrant calculation of ASDs, in general accordance with the procedures outlined in 24 CFR Part 51 C, for one facility.

A summary of the facility with storage of Specific Hazardous Substances, and the most conservative calculated ASD, is presented in the following table. The complete ASD calculations are included as an attachment to this letter.

IDENTIFIED POTENTIALLY SIGNIFICANT FACILITY AND ASSOCIATED ASD

Facility Name	Facility Address	Approximate Distance from Site* (feet)	Calculated ASD (feet)
Queen of the Valley Medical Center	1000 Trancas Street	912	30 gallons xylene = 64

* Distance from anticipated storage location of explosive and/or flammable material to nearest property line of the project site measured using ruler feature of Google Earth.

Conclusions

Based on the calculated values, the ASD for the identified Specific Hazardous Substances reported at vicinity facilities is satisfied for the project site.

Limitations

The conclusions and recommendations made in this letter regarding potentially significant Specific Hazardous Substances users within the site vicinity were based on business names/addresses readily observable from accessible public right-of-ways and review of provided readily available documents containing data collected and/or reported by others at the time this study was performed. Other businesses using Specific Hazardous Substances may have been located within a 2,000-foot radius of the site but were not observable or readily identifiable at the time this study was performed; data collected and/or reported by others may or may not have been accurate. The accuracy and completeness of hazardous materials information provided by the SCCEHD is unknown. More accurate information on types, quantities, and storage conditions of explosive and/or flammable materials used at vicinity facilities could be obtained through performance of a site reconnaissance and/or interview with the business operators.

The data and conclusions presented in this letter are applicable only to the time this study was performed. Businesses and materials used within the site vicinity likely will change over time and this study should be updated as appropriate, to ensure that the most currently available data has been included. As with all HUD Explosive and Fire Hazard Reviews, the extent of information obtained was a function of client demands, time limitations, access limitations, and budgetary constraints.

This letter was prepared for the sole use of David J. Powers and Associates. No warranty, expressed or implied, has been made, except that the services have been performed in accordance with environmental principles generally accepted at this time and location.

Thank you for allowing Running Moose Environmental Consulting, LLC to assist you with this project. If you have any questions, please do not hesitate to call.

Sincerely,

Running Moose Environmental Consulting, LLC



Belinda P. Blackie, P.E.
P.E. Number C56448
Principal Environmental Engineer

References

California Environmental Reporting System (CERS). *Hazardous Materials and Wastes Inventory Matrix Report, Queen of the Valley Medical Center, 1000 Trancas St., Napa, 94558*. June 13, 2018.

Cornell Law School, Legal Information Institute. *Appendix I to Subpart C of Part 51 – Specific Hazardous Substances*. Undated. https://www.law.cornell.edu/cfr/text/24/appendix-I_to_subpart_C_of_part_51

HUD. *24 CFR Part 51 Subpart C, Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature, Acceptable Separation Distance (ASD) Electronic Assessment Tool*. 2018.
<https://www.hudexchange.info/environmental-review/asd-calculator/>

HUD Exchange. *Explosive and Flammable Facilities*. 2018.
<https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities/>

***Specific Hazardous Substances
(per Appendix I to Subpart C of Part 51)***

Hazardous Liquids	Hazardous Gases
Acetic Acid	Acetaldehyde
Acetic Anhydride	Butadiene
Acetone	Butane
Acrylonitrile	Ethene
Amyl Acetate	Ethylene
Amyl Alcohol	Ethylene Oxide
Benzene	Hydrogen
Butyl Acetate	Liquefied Natural Gas (LNG)
Butyl Acrylate	Liquefied Petroleum Gas (LPG)
Butyl Alcohol	Propane
Carbon Bisulfide	Propylene
Carbon Disulfide	Vinyl Chloride
Cellosolve	
Cresols	
Crude Oil (Petroleum)	
Cumene	
Cyclohexane	
No. 2 Diesel Fuel	
Ethyl Acetate	
Ethyl Acrylate	
Ethyl Alcohol	
Ethyl Benzene	
Ethyl Dichloride	
Ethyl Ether	
Gasoline	
Heptane	
Hexane	
Isobutyl Acetate	
Isobutyl Alcohol	
Isopropyl Acetate	
Isopropyl Alcohol	
Jet Fuel and Kerosene	
Methyl Alcohol	
Methyl Amyl Alcohol	
Methyl Cellosolve	
Methyl Ethyl Ketone	
Naptha	
Pentane	
Propylene Oxide	
Toluene	
Vinyl Acetate	
Xylene	

ASD Calculations

All ASDs were calculated using the program at:
<https://www.hudexchange.info/environmental-review/asd-calculator/>

Values listed in summary table within the letter were rounded to the nearest whole foot.

Queen of the Valley Medical Center – 1000 Trancas St.

- 6 gallons LPG (pressurized)
ASD for Blast Over Pressure = 38.00 feet
ASD for Thermal Radiation for People = 30.42 feet
ASD for Thermal Radiation for Buildings = 4.34 feet
- 30 gallons xylene (ambient pressure)
ASD for Thermal Radiation for People = 64.18 feet
ASD for Thermal Radiation for Buildings = 9.94 feet

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location Engineering SubBasement Boiler Room	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 6.1 - Toxic Substances	Adjunct LC Boiler Water Treatment	Gallons	110	55	55	0	- Physical Flammable			
Toxic	CAS No 1310-73-2	State Liquid	Storage Container Plastic/Non-metalic Drum		Pressue	Waste Code	- Physical Corrosive To Metal - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation			
		Type Mixture			Temperature					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location Facilities sub basement boiler room	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 3 - Flammable and Combustible Liquids	Formula 1558	Gallons	110	50			- Physical	Cyclohexylamine	5 %	
Combustible Liquid, Class II, Corrosive	CAS No 100-37-8	State Liquid	Storage Container Plastic/Non-metalic Drum		Pressue	Waste Code	- Health Acute	Sodium Hexametaphosphate	8 %	
		Type Mixture			Temperature		- Health Skin	Sodium Bisulfite	8 %	
							- Health Serious	Potassium Sulfite	8 %	
							Corrosion			
							Irritation			
							Eye Damage Eye			
							Irritation			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location Gas Yard	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 2.2 - Nonflammable Gases	Air	Cu. Feet	2540	254	2540	0	- Physical Gas	nitrogen	78 %	7727-37-9
	<u>CAS No</u> 132259-10-0	<u>State</u> Gas	<u>Storage Container</u> Cylinder		<u>Pressue</u> > Ambient	<u>Waste Code</u>	Under Pressure	oxygen	21 %	7782-44-7
		<u>Type</u> Pure	Days on Site: 365		<u>Temperature</u> Ambient			Argon & Misc.	1 %	
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 1	Argon Compressed	Cu. Feet	1736	217	1736		- Physical Gas			
	<u>CAS No</u> 7440-37-1	<u>State</u> Gas	<u>Storage Container</u> Cylinder		<u>Pressue</u> Ambient	<u>Waste Code</u>	Under Pressure	- Health Skin		
		<u>Type</u> Pure	Days on Site: 365		<u>Temperature</u> Ambient			Corrosion		
								Irritation		
								- Health		
								Respiratory Skin		
								Sensitization		
								- Health Serious		
								Eye Damage Eye		
								Irritation		
								- Health Simple		
								Asphyxiant		
DOT: 2.2 - Nonflammable Gases Cryogen	Carbon Dioxide	Cu. Feet	3400	225	2550	0	- Physical Gas	Carbon Dioxide	25 %	
	<u>CAS No</u> 124-38-9	<u>State</u> Gas	<u>Storage Container</u> Cylinder		<u>Pressue</u> > Ambient	<u>Waste Code</u>	Under Pressure	Air		
		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> Ambient			- Health Skin		
								Corrosion		
								Irritation		
								- Health Simple		
								Asphyxiant		
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 1, Cryogen	Helium	Cu. Feet	1302	217	1302	0	- Physical Gas			
	<u>CAS No</u> 7440-59-7	<u>State</u> Gas	<u>Storage Container</u> Cylinder		<u>Pressue</u> Ambient	<u>Waste Code</u>	Under Pressure	- Health Skin		
		<u>Type</u> Pure	Days on Site: 365		<u>Temperature</u> Ambient			Corrosion		
								Irritation		
								- Health Simple		
								Asphyxiant		
DOT: 2.1 - Flammable Gases Flammable Gas	Liquefied Petroleum Gas (lpg)	Gallons	20	6	0.25	0	- Physical			
	<u>CAS No</u> 74-98-6	<u>State</u> Liquid	<u>Storage Container</u> Aboveground Tank, Rail Car		<u>Pressue</u> > Ambient	<u>Waste Code</u>	Flammable	- Health		
		<u>Type</u> Pure	Days on Site: 365		<u>Temperature</u> Ambient			Respiratory Skin		
								Sensitization		

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location Gas Yard	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 1	Nitrogen CAS No 7727-37-9	Cu. Feet State Gas Type Pure	3810 Storage Container Cylinder Days on Site: 365	225	2794	0	- Physical Oxidizer - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Specific Target Organ Toxicity			
DOT: 2.2 - Nonflammable Gases Oxidizing Gas, Gaseous, Cryogen	Nitrous Oxide CAS No 10024-97-2	Cu. Feet State Gas Type Pure	10925 Storage Container Cylinder Days on Site: 365	557	10925		- Physical Gas Under Pressure - Physical Oxidizer - Health Skin Corrosion Irritation - Health Specific Target Organ Toxicity - Health Simple Asphyxiant			
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2, Cryogen	Oxygen CAS No 7782-44-7	Cu. Feet State Gas Type Pure	3810 Storage Container Cylinder Days on Site: 365	600	2794	0	- Physical Flammable - Physical Gas Under Pressure - Health Skin Corrosion Irritation			
DOT: 2.2 - Nonflammable Gases Cryogen, Oxidizing Gas, Liquefied	Oxygen, Liquid CAS No 7782-44-7	Gallons State Liquid Type Pure	9525 Storage Container Aboveground Tank Days on Site: 365	9000	7000	0	- Physical Gas Under Pressure - Health Skin Corrosion Irritation - Health Simple Asphyxiant			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location Hazardous Waste Trailer	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 6.1 - Toxic Substances	Acetic Acid and Chloroform	Gallons	110	30	40	220	- Health Acute	Acetic Acid	40 %	64-19-7
Corrosive, Toxic	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Toxicity	Chloroform	40 %	67-66-3
		Liquid	Plastic/Non-metalic Drum		Ambient	551	- Health			
		<u>Type</u>			<u>Temperature</u>		Reproductive			
		Waste	Days on Site: 365		Ambient		Toxicity			
							- Health Skin			
							Corrosion			
							Irritation			
							- Health Specific			
							Target Organ			
							Toxicity			
DOT: 6.1 - Toxic Substances	Formaldehyde	Gallons	110	30	40	220	- Physical	Formaldehyde	37 %	50-00-0
Highly Toxic, Oxidizing, Class 1, Flammable Liquid, Class I-A	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable	Methanol	15 %	67-56-1
	50-00-0	Liquid	Plastic/Non-metalic Drum		Ambient	551	- Physical Oxidizer			
		<u>Type</u>			<u>Temperature</u>		- Health			
		Waste	Days on Site: 365		Ambient		Carcinogenicity			
							- Health Acute			
							Toxicity			
							- Health Skin			
							Corrosion			
							Irritation			
							- Health Specific			
							Target Organ			
							Toxicity			
DOT: 3 - Flammable and Combustible Liquids	Xylene	Gallons	110	30	40	220	- Physical			
Flammable Liquid, Class I-C	<u>CAS No</u>	<u>State</u>	<u>Storage Container</u>		<u>Pressue</u>	<u>Waste Code</u>	Flammable			
	1330-20-7	Liquid	Tank Inside Building		Ambient		- Health Skin			
		<u>Type</u>			<u>Temperature</u>		Corrosion			
		Waste	Days on Site: 365		Ambient		Irritation			
							- Health			
							Respiratory Skin			
							Sensitization			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER	Chemical Location Pavilion Mech. Room, Facilities Sub Basement Boiler Room	CERS ID 10171981
Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558		Facility ID Status Submitted on 6/13/2018 3:40 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 5.1 - Oxidizing Substances Toxic, Unstable (Reactive), Class 1, Oxidizing, Class 1, Water Reactive, Class 1	Biocide GC CAS No 10049-04-4	Gallons	110	55	80		- Physical Oxidizer	Chlorine Dioxide	0 %	10049-04-4
		State Liquid	Storage Container Plastic/Non-metallic Drum		Pressue	Waste Code				
		Type Mixture			Temperature		- Health Serious Eye Damage Eye Irritation			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location West Wing Basement & Engineering SubBasement	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	Formula 3007, Sodium chlorite <10%	Gallons	300	55	110		- Physical Oxidizer			
Corrosive	CAS No 7758-19-2	State Liquid Type Mixture	Storage Container Plastic/Non-metalic Drum		Pressue Temperature	Waste Code	- Physical Corrosive To Metal - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation			
DOT: 8 - Corrosives (Liquids and Solids)	Formula 5307 GC	Gallons	300	55	110		- Physical Oxidizer	Hydrochloric Acid	33 %	7647-01-0
Corrosive	CAS No 7647-01-0	State Liquid Type Mixture	Storage Container Plastic/Non-metalic Drum		Pressue Temperature	Waste Code	- Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. QUEEN OF THE VALLEY MEDICAL CENTER Facility Name QUEEN OF THE VALLEY MEDICAL CENTER 1000 TRANCAS ST, NAPA 94558	Chemical Location West Wing Dock, Herman Family Pavilion	CERS ID 10171981 Facility ID Status Submitted on 6/13/2018 3:40 PM
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DOT Code/Fire Haz. Class	Common Name	Unit	Quantities			Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only)		
			Max. Daily	Largest Cont.	Avg. Daily			Component Name	% Wt	EHS CAS No.
DOT: 3 - Flammable and Combustible Liquids	Diesel Fuel No. 2	Gallons	26000	10000	13000	0	- Physical	Ethyoxiated Long Chain Alcohols	0 %	
	<u>CAS No</u> 68476-34-6	<u>State</u> Liquid	<u>Storage Container</u> Belowground Tank		<u>Pressue</u> Ambient	<u>Waste Code</u>	- Flammable - Health Respiratory Skin Sensitization	Solvent Dewaxed Heavy Paraffinic Distillate	8 %	
Combustible Liquid, Class II		<u>Type</u> Mixture	Days on Site: 365		<u>Temperature</u> Ambient			Tetrapropenyl Phenol	0 %	
								Zinc Alkyl Dithiophosphate	2 %	