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# HAZARDOUS MATERIALS

## INTRODUCTION

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either 1) cause, or significantly contribute to, an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; or 2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous waste (a subset of hazardous materials) refers to hazardous material that is abandoned, discarded or recycled.

The information summarized below was derived from several sources including:

- Gabewell, Inc. with Harding Lawson Associates, 2000, “Final Closure and Post-Closure Maintenance Plan, Oyster Point Landfill, South San Francisco, California”. September
- EIP Associates, 2006, “Draft Environmental Impact Report/Environmental Assessment, South San Francisco Ferry Terminal Project”. Chapter 3.6. February 14.
- Kleinfelder, 2007, “Feasibility Study and Cost Estimate, Proposed Oyster Point Marina Redevelopment, South San Francisco, California”. November 12.
- Perkins + Will, 2009, “Master Plan + Design Guidelines, Shorenstein/SKS, Oyster Point”. Draft. September 10.
- Treadwell & Rollo, 2009a, “Methane Mitigation Systems: Description and Unit Costs, Oyster Point Landfill/Oyster Point Business Park, South San Francisco, California”. Draft. January 29.
- Treadwell & Rollo, 2009b, “Geotechnical Investigation of the Landfill Cover, Oyster Point Landfill, South San Francisco, California”. Draft. February 13.
- Review of the Department of Toxic Substances and Control (DTSC) Database ([www.envirostor.dtsc.ca.gov](http://www.envirostor.dtsc.ca.gov)) (November 17, 2009).
- Review of the State Water Resources Control Board Geotracker Database (accessed via the above referenced Envirostor website).
- The City of South San Francisco General Plan and East of 101 Area Plan Element.

## REGULATORY SETTING

### CALIFORNIA CODE OF REGULATIONS, TITLE 27, DIVISION 2

The primary design and construction standard related to the presence of landfill waste at the OPSP area is Title 27 of the California Code of Regulations (CCR), Division 2 (Solid Waste). The two state

regulatory agencies cited in Title 27 CCR Division 2 are the State Water Resources Control Board (SWRCB) and the California Integrated Waste Management Board (CIWMB). The San Mateo County Health Services Agency (SMCHSA) – Environmental Services Division is the Local Enforcement Agency (LEA) as per Title 27 CCR Section 2005.

### **BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

The Bay Area Air Quality Management District (BAAQMD) is responsible for monitoring site operations that affect air quality. Air pollution control measures at the site are directed towards minimizing fugitive dust emissions and controlling landfill gas (LFG) migration. Regulation 8, Rule 34 requires all landfill operators to collect and process landfill gas. Based on estimates that the entire landfill exceeds one million tons of refuse, Regulation 8, Rule 34 would require the City of South San Francisco to reduce emissions of methane and non-methane organic compounds from the waste decomposition process at Oyster Point Landfill. However, the site should qualify for an exemption from Regulation 8, Rule 34 (8-34-110) because it meets the following criteria:

- It is a closed or inactive landfill, and has no design capacity available for future refuse deposition,
- It last received waste at least 30 years ago (1970), and
- The owner has demonstrated that the site does not pose a health risk to the public health and safety, nor does it threaten the environment under the California Health and Safety Code, Section 41805.5.

In order to be exempt from BAAQMD Regulation 8 Rule 34, the City of South San Francisco shall submit a Design Capacity Report to BAAQMD. It is assumed that the development site will not need an active LFG collection and treatment system. However, it is assumed that the buildings shall require, at a minimum, a passive LFG venting system, which would need to have the capacity to be retrofitted to an active system by the addition of blowers. Therefore, a new emission source for the proposed development for the emitting gases collected under the hotel foundation would be reviewed under BAAQMD Regulation 8 Rule 2 as a general organic emission source and Regulation 2 Rule 5 as a new source of toxic air contaminants.

An Application for Authority to Construct/Permit to Operate (form P-101B) shall be necessary to file a minimum of 30 days prior to construction in order to coordinate and document regulatory exemption.

### **REGIONAL WATER QUALITY CONTROL BOARD - SAN FRANCISCO**

The landfill portion of the OPSP site previously operated under Waste Discharge Requirements issued by the RWQCB. The RWQCB issued on June 21, 2000 Order No. 00-046 – Updated Waste Discharge Requirements and Recision of Order No. 77-19 for City of South San Francisco Oyster Point Landfill, South San Francisco, San Mateo County.

### **SAN MATEO COUNTY HEALTH SERVICES AGENCY**

The SMCHSA, as the LEA, is responsible for enforcement of the final closure and post-closure maintenance activities of the landfill under Title 27 CCR Chapter 1, Section 20005, as overseen by the CIWMB, including items related to LFG control and monitoring. Approval of the final post-closure development application by the LEA is required prior to site construction. Details for these planned closure and post-closure actions for the entire Oyster Point Landfill, including the OPSP area, are provided by in the Final Closure and Post-Closure Maintenance Plan (PCMP) (Gabewell, 2000).

## CITY OF SOUTH SAN FRANCISCO

The City of South San Francisco Planning, Engineering, and Building Divisions shall review all architectural, structural, civil, electrical, and landscape plans and specifications associated with the entire development. Typically a City Fire Department shall review and approve the LFG monitoring and alarm systems within the buildings as well.

In addition, the City of South San Francisco General Plan contains several policies that relate to hazardous materials and waste, mainly contained in General Plan Section 8.3, shown in **Table 11.1**.

**Table 11.1: Select General Plan Policies Regarding Hazardous Materials**

<b>Policy</b>	<b>Goal</b>
8.3-G-1	Reduce solid and hazardous waste, and recycle to slow the filling of landfills in accord with the California Integrated Waste Management Act of 1989.
8.3-G-2	Enforce revised zoning ordinance prohibition of intensive industrial production of hazardous waste and the permanent storage of hazardous materials. Limit light industrial uses that produce hazardous waste, such as auto repair and auto painting businesses.
8.3-I-3	Establish a Geographic Information Systems (GIS) database of sites included on the Cortese List. The GIS should assist in the development approval process.
8.3-I-4	Establish an ordinance specifying routes for transporting hazardous materials. Routes should not pass through residential areas or other sensitive areas and allow specific times for transport to reduce the impact and accident risk during peak travel periods.

Source: City of South San Francisco General Plan

## OTHER REGULATIONS, PLANS AND PROGRAMS

The Hazardous Materials Business Plan is used to keep track of the use of hazardous materials by businesses in accordance with both state and federal laws. The California Accidental Release Prevention (CalARP) Program is a merging of the federal and state programs for the prevention of accidental release of regulated toxic and flammable substances. The goal is to eliminate the need for two separate and distinct chemical risk management programs. CalARP is the Federal Risk Management Plan Program with additional state requirements, including a list of regulated substances and thresholds and requires preparation of a Risk Management Plan for businesses using regulated substances.

The Hazardous Waste Generator Program was started in 1984 when the State of California DTSC authorized the Health Department to inspect and regulate non-permitted hazardous waste generators in San Mateo County based on the Hazardous Waste Control Law found in the California Health and Safety Code Division 20, Chapter 6.5 and regulations found in the CCR, Title 22, Division 4.5.

The groundwater protection program is funded wholly or in part, by the United States Environmental Protection Agency (USEPA), under Cooperative Agreement L-009450-1-0 to the State Water Resources Control Board (SWRCB) and by Contract 8-014-550 to the County of San Mateo. In conjunction with these laws the underground storage tank program was created to regulate the chief source of underground contamination, leaking underground storage tanks (LUSTs) or fuel tanks (LUFTs).

Many regulatory agencies maintain a database of sites. Currently, both the DTSC ([www.envirostor.dtsc.ca.gov](http://www.envirostor.dtsc.ca.gov)) and State Water Resources Control Board ([geotracker.swrcb.ca.gov](http://geotracker.swrcb.ca.gov))

maintain online searchable databases of hazardous materials sites. Other databases with information on hazardous materials sites include the Federal Superfund list started through the Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA) of 1980 and the USEPA, the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), HAZNET, the leaking underground storage tank information system (LUST), and the Cortese list. Air pollution is regulated through the Bay Area Air Quality Management District (BAAQMD).

These programs and regulations are intended to restrict environmental contamination, including hazards to wildlife, provide protection for natural resources, and limit public exposure to harmful chemicals. Specific programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under the Occupational Health and Safety Administration at both the Federal Level (OSHA) and the state level (CAL-OSHA). Title 40 of the Federal Code of Regulations covers worker training and safety regulations pertinent to hazardous materials. OSHA regulations for hazardous waste operations training in California are found in both the Code of Federal Regulation 29CFR, Section 1910.120(e) and CCR Title 8, General Industry Safety Orders (GISO) 5192. The law requires General Site Workers receive a minimum of 40 hours of instruction off the site, and a minimum of three days of actual field experience, while Occasional Site Workers receive a minimum 24 hours of instruction off the site, and a minimum of one day actual field experience.

Transportation of hazardous materials on the highways is regulated primarily through the Federal Department of Transportation (DOT) and the California Department of Transportation (CALTRANS). This includes a system of placards, labels, and shipping papers required to identify the hazards of shipping each class of hazardous materials. Existing federal and state laws address risks associated with the transport of hazardous materials. These laws include regulations outlined in the Hazardous Materials Transportation Act administered by the DOT. Caltrans is mandated to implement the regulations established by the DOT, which is published as the Code of Federal Regulations, Title 49, commonly referred to as 49 CFR. The California Highway Patrol (CHP) enforces these regulations. Regulations of hazardous materials and wastes include the manufacture of packaging and transport containers; packing and repacking; labeling; marking or placarding; handling; spill reporting; routing of transports; training of transport personnel; and registration of highly hazardous material transport.

## **SETTING**

### **SITE HISTORY**

Prior to the development of the Oyster Point landfill in the 1950's, the San Francisco Bay shoreline was located at the west end of the OPSP area. West of the original shoreline there was a low shale and sandstone bluff which comprised a portion of the original Oyster Point. Following the 1957 enactment of laws prohibiting open air burning of rubbish in the Bay Area, plans were made to establish a solid waste disposal site on the submerged lands just east of the original Oyster Point. The landfill was developed in three phases. The first area to be filled extended about 1,500 feet eastward from the original bluff. Filling of the first section began in 1957 and was completed by late 1961. In 1962, a small craft harbor was constructed along the north shore of the landfill. To create a filled breakwater for the east side of the marina, the second phase of landfill was placed in the form of a mole extending from the eastern end of the first fill and north about 400 feet into the bay. The third phase of filling began in 1964 and was accomplished by dredging up Bay Mud and forming mud dikes and a dike-enclosed cell in which solid waste was later placed.

The Oyster Point Landfill was in operation from 1957 to 1970. Landfill closure activities were conducted from 1970 to 1981 and in 1987. The RWQCB has historically been the LEA regulating the landfill. The RWQCB issued Order No. 00-046 – Updated Waste Discharge Requirements and Recision of Order No. 77-19 for City of South San Francisco Oyster Point Landfill, South San Francisco, San Mateo County on June 21, 2000. This document updated the 1977 self-monitoring and closure program for the landfill. The Updated Waste Discharge Requirements apply only to the landfill portion of the OPSP.

The landfill is currently owned by the City of South San Francisco and is operated as a marina, ferry terminal, hotel, office space and open space. The City of South San Francisco and the San Mateo County Harbor District hold responsibility for landfill maintenance pursuant to a Joint Powers Agreement.

Portions of the OPSP area are outside the boundaries of the former landfill.

### VICINITY HAZARDOUS MATERIALS SITES

There are numerous hazardous materials sites throughout the area east of Highway 101 in South San Francisco, reflecting the long industrial history of the area. Due to the density of sites, only those within or bordering the OPSP area are discussed here since potential contamination from these adjacent sites would have the greatest potential impact during development of the site. The sites were identified in the Geotracker and Envirostor databases, which are maintained by SWRCB and DTSC respectively, as shown in **Table 11.2**.

**Table 11.2: Vicinity Hazardous Materials Sites**

NAME/ADDRESS	CONTAMINANTS OF CONCERN	POTENTIAL MEDIA AFFECTED	CASE STATUS/DATE	DATABASE
Oyster Cove Marina 385 Oyster Point Blvd.	Gasoline	Soil	Closed as of 10/12/1994	Geotracker - Luft
Seaboard Paper Co. 336 Oyster Point Blvd.	Gasoline	Groundwater (non-drinking water)	Closed as of 11/1/1995	Geotracker - Luft
Wildberg Bros 349 Oyster Point Blvd.	Gasoline	Soil	Closed as of 7/17/2001	Geotracker - Luft
Wildberg Bros 349 Oyster Point Blvd.	Arsenic, lead, antimony and compounds, mercury and compounds, nickel	Soil	Certified as of 11/30/1987 5-yr review on 11/28/1995 confirmed No Further Action status	Envirostor – Voluntary Cleanup

The facility at 349 Oyster Point Blvd. is located adjacent to the OPSP area. While all of the sites are identified as having prior releases of hazardous materials, there is no reported evidence available from the databases of active leaks or contamination from these sites affecting soil or groundwater that could migrate to the OPSP area or represent significant releases in the OPSP area requiring any additional actions. Given the closed status of sites, any residual or off-site contamination would likely be secondary to the contamination present on the OPSP area from the landfill.

In addition, the 2006 Draft EIR for the Ferry Terminal (EIP Associates, 2006) presented search information obtained from Environmental Data Resources, Inc. for a wider variety of regulatory databases. Databases containing information for sites on or immediately adjacent to the OPSP area include:

**CERCLIS-NFRAP** - Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Response Action Planned

**ERNS** Emergency Response Notification System

**RCRIS-LQG & RCRIS SQG** - Resource Conservation and Recovery Information System Large & Small Quantity Generators.

**CHMIRS** California Hazardous Material Incident Report System

**CORTESE:** Contains listing for LUST (Leaking Underground Storage Tank), SWF/LS, and Cal-Sites databases.

**SWF/LF** Solid Waste Information System

**CA FID** Facility Inventory Database of USTs

**HAZNET:** Hazardous Waste Database.

**VCP:** Voluntary Cleanup Program

Files were also obtained directly from the South San Francisco Fire Department and the San Francisco Bay RWQCB.

The Ferry Terminal Draft EIR (EIP, 2006) contained the following information regarding facilities located on or immediately adjacent to the current OPSP area (see Figure 3.3 in Chapter 3: Project Description for exact locations):

**Former Landfill** (within the OPSP) – “Listed on the CERC-NFRAP database. This listing is due to the closed, unlined Class III landfill that extends across the project site. Listing on this database indicates that the site was determined not to be eligible for listing on the NPL. Status of the landfill is closed, meaning that the landfill is no longer accepting waste and that it is covered with a cap. An order was issued by the San Francisco Bay Regional Water Quality Control Board (RWQCB) in response to a previous proposed development (Order No. 00-046 issued June 21, 2000). The order imposes new closure and post-closure requirements on the City as part of future development. New closure and post-closure requirements are presented to ensure that future development and construction activities at the site:

- › Maintain the landfill cap and cutoff wall integrity
- › Minimize settlement-induced leachate generation
- › Prevent hazardous accumulations of landfill gas
- › Inhibit migration of leachate and landfill gas

In addition, quarterly monitoring of subsurface landfill conditions is ongoing. Further investigation could be required by the RWQCB in such instances as a proposed change in land use, proposed development activities, or if a release from the landfill is discovered. As

such, a Development (or Redevelopment) Proposal shall be submitted to the RWQCB in accordance with Order No. 00-046 for the project site.

› The Ferry Terminal Draft EIR (EIP, 2006) indicated that several areas of the landfill cover did not meet Title 27 requirements. The areas are indicated in Figure 9 of the Geotechnical Investigation of the Landfill Cover (Treadwell & Rollo, 2009b), and include three different potential deficiencies,

1. Six areas where the landfill cover thickness is less than 4 feet
2. Four areas where a low hydraulic conductivity layer thickness is less than 1 foot thick
3. One area where permeability of low hydraulic conductivity is greater than  $1 \times 10^{-6}$  cm/sec

**671 Marina Boulevard** (within the OPSP) —“Listed as a small quantity generator of hazardous waste. This facility has been occupied by various boat sales and maintenance companies since its construction. Based on San Mateo County Health Department—Environmental Health Division (SMCHDEHD) records reviewed, wastes reported to have been generated at this facility in the past include waste oil, oily debris/filters, Safety Kleen solvent, waste acetone, waste coolant, and glycol. These wastes were generated during boat maintenance activities. Waste oil was formerly stored within a 350-gallon AST at this facility. Solvent storage sinks were formerly located within the service areas. Waste acetone was stored within a 55-gallon drum. The EDR indicates that no violations were reported in connection with hazardous waste management at this facility. Safety Kleen solvent is no longer used at this facility. Corrections noted in the most recent SMCHDEHD inspection (2000) of this facility include disposing of all unused chemicals (lube oil, batteries, diesel, gasoline, acetone), providing housekeeping beneath compressors, storing batteries and drums under cover, and not allowing soapy water to enter the storm drain. These corrections have been implemented”. In addition the site had “a release of 50 gallons of propane from a loose fitting on a propane tank.”

**95 Harbor Master Road** (within the OPSP) —“Eight incidents were listed in the ERNS.

These incidents included:

- › A reported oily sheen on the eastern end of the launch ramp in 2002
- › A release of one-half cup of diesel fuel into the bay during replacement of fuel lines at the fuel dock in 2000 (cleaned up using absorbents and booms)
- › A release of two pounds of diesel in 1992 (contained using booms)
- › A release of hydraulic oil from a bilge pump of a vessel due to the rain in 2000 (remediated using booms and absorbents)
- › A 40-foot sheen of fuel from a sunken sailboat in 1998 (remediated using booms)
- › Two other listings for 95 Harbor Master Road did not provide details”

In a separate database, there was a report of “an unknown sheen extending from a boat that sunk was reported in November 2002.”

**925 Marina Boulevard, 671 Marina Boulevard, & 1 Harbor Master Road** (within the OPSP)

—Based “on information provided in the EDR report, wastes transported from the site for off site disposal include organic solids; unspecified organic liquid mixture; waste oil and mixed oil; oil containing waste; hydrocarbon solvents; aqueous solution with less than 10% total organic residues; off-specification, aged, or surplus organics; and oxygenated solvents. During the most recent site visit, wastes observed to be stored at the site were within the used oil collection area and within the yard of the Harbor District maintenance building. Drums containing monitoring well purge water, one drum containing waste oil, and two totes containing waste oil were observed in the yard. Limited staining has occurred at the base of the drum and totes; however, it is limited to the surface of the asphalt.”

**384 Oyster Point Boulevard** (within the OPSP) — “According to records reviewed, a UST was formerly located to the south of this facility, near the northern boundary of the project site. This UST was 1000 gallons in capacity and was formerly used for a generator at this facility. This UST was removed in August 2002. No releases from the UST were noted.”

**385 Oyster Point Boulevard** (within the OPSP) - “Based on SMCHDEHD records reviewed, facilities currently and formerly located at this facility that generate/store hazardous waste include Oyster Cove Marina, Oxon Media, Intervention Therapeutics Corporation, AXYS Pharmaceuticals, ChemRX, and Morrow Services. Waste solvent, waste flammable liquids, waste corrosive liquids, and medical waste were reported to be generated. No significant concerns or releases were noted in hazardous waste management records for this facility. project site, based on the data available.” According to alternate database information for the site “two 350-gallon waste oil USTs were removed from this facility in July 1992. Based on confirmation samples, these locations were over excavated in August 1992. Two monitoring wells were installed and monitored for four quarters. Groundwater was below detection limits for four quarters for total petroleum hydrocarbons as diesel (TPH-d), total petroleum hydrocarbons as motor oil (TPH-mo), and total oil and grease (TOG). The LUST case was granted closure in October 1994.”

**375 Oyster Point Boulevard** (within the OPSP) —“No violations were reported in connection with hazardous waste management at this facility. This facility was not listed on any databases searched by EDR that indicate that a release has occurred.”

**349 Oyster Point Boulevard** (adjacent to the OPSP) —“Based on records reviewed for this facility, a fuel oil UST was removed from this facility in 1982. In 1997, during construction activities, impacted soil from the UST was discovered under a concrete slab. According to a case closure memorandum, the groundwater beneath this facility does not have appreciable beneficial uses due to its natural salinity from its proximity to the bay. The soil was excavated and the LUST case for this facility was closed in July 2001. Its listings on the VCP database are likely due to the former use of this facility as a metals refining/metals recovery facility. Elevated metals (zinc, nickel, and antimony) were reported in groundwater beneath this facility. Remedial actions included dredging the lagoon on the northern portion of this facility, sludge removal, filling the lagoon with clean soil, and removal of a slag pile. Groundwater monitoring at this facility indicted that groundwater flowed to the north, towards the Bay. Elevated metal concentrations in groundwater do not appear to extend to the south of this facility, towards the project site, based on the data available.”

## IMPACTS AND MITIGATION MEASURES

### STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based upon CEQA Guidelines thresholds:

1. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
2. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
3. Would the project produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
4. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
5. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? Would the Project result in a safety hazard for people residing or working in the Project Area?
6. For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project Area?
7. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
8. Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

### HAZARDOUS MATERIALS USE, TRANSPORT

This section pertains to recurring transportation, use or disposal of hazardous materials as part of long term site activities. One time transportation, use or disposal of hazardous materials related to construction and development is discussed in the following sections.

**Impact Haz-1: Routine transportation, use or disposal of hazardous materials.** While specific tenants have not yet been identified, research laboratories are likely to handle materials considered to be biological hazards, chemical hazards and/or carry a risk of fire or explosion. The risk of accidental upset and environmental contamination from routine transport, storage, use and disposal of hazardous and potentially hazardous materials to the public and environment is a *potentially significant* impact.

The proposed development includes construction of office buildings and research laboratories. Depending upon the specific nature of research planned at the proposed facilities, which has not yet been determined, there are likely to be both hazardous and potentially hazardous materials stored and used on the site that will eventually require disposal. There are likely to be biological hazards, chemical hazards and risk of fire or explosion. There is also likely to be transportation of hazardous materials to and from the site, probably traveling along Highway 101 and Oyster Point Boulevard.

## Mitigation Measures

**Haz-1a:** **Plan Review for Adherence to Fire and Safety Codes.** Building space shall be designed to handle the intended use, with sprinklers, alarms, vents, and secondary containment structures, where applicable. These systems shall pass plan review through the City of South San Francisco Planning, Building and Fire Departments.

**Haz-1b:** **Construction Inspection and Final Inspection Prior to Occupancy.** During construction, the utilities including sprinkler systems shall pass pressure and flush tests to make sure they perform as designed. At the end of construction, occupancy shall not be allowed until a final inspection is made by the Fire Department for conformance of all building systems with the Fire Code and National Fire Protection Agency Requirements. The inspection shall include testing of sprinklers systems, alarm systems, ventilation and airflow systems, and secondary containment systems. The inspection shall include a review of the emergency evacuation plans. These plans shall be modified as deemed necessary.

**Haz-1c:** **Hazardous Materials Business Plan Program.** Businesses occupying the development shall complete a Hazardous Materials Business Plan for the safe storage and use of chemicals. The Business Plan shall include the type and quantity of hazardous materials, a site map showing storage locations of hazardous materials and where they may be used and transported from, risks of using these materials, material safety data sheets for each material, a spill prevention plan, an emergency response plan, employee training consistent with OSHA guidelines, and emergency contact information. Businesses qualify for the program if they store a hazardous material equal to or greater than the minimum reportable quantities. These quantities are 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases.

Exemptions include businesses selling only pre-packaged consumer goods; medical professionals who store oxygen, nitrogen, and/or nitrous oxide in quantities not more than 1,000 cubic feet for each material, and who store or use no other hazardous materials; or facilities that store no more than 55 gallons of a specific type of lubricating oil, and for which the total quantity of lubricating oil not exceed 275 gallons for all types of lubricating oil. These exemptions are not expected to apply to on-site laboratory facilities.

Businesses occupying and/or operating at the proposed development shall submit a business plan prior to the start of operations, and shall review and update the entire Business Plan at least once every two years, or within 30 days of any significant change, including without limitation, changes to emergency contact information, major increases or decreases in hazardous materials storage and/or changes in location of hazardous materials. Plans shall be submitted to the San Mateo County Environmental Health Department (SMCEHD) Business Plan Program, which may be contacted at (650) 363-4305 for more information. The SMCEHD shall inspect the business at least once a year to make sure that the Business Plan is complete and accurate.

**Haz-1d:** **Hazardous Waste Generator Program.** Qualifying businesses shall register and comply with the hazardous waste generator program. The State of California DTSC authorized the SMCEHD to inspect and regulate non-permitted hazardous

waste generators in San Mateo County based on the Hazardous Waste Control Law found in the California Health and Safety Code Division 20, Chapter 6.5 and regulations found in the CCR Title 22, Division 4.5. Regulations require businesses generating any amount of hazardous waste as defined by regulation to properly store, manage and dispose of such waste. SMCEHD staff also conducts surveillance and enforcement activities in conjunction with the County District Attorney's Office for businesses or individuals that significantly violate the above referenced law and regulations.

**Haz-1e: Compliance with Applicable Laws and Regulations.** All transportation of hazardous materials and hazardous waste to and from the OPSP area shall be in accordance with CFR Title 49, US Department of Transportation (DOT), State of California Department of Transportation (Caltrans), and local laws, ordinances and procedures including placards, signs and other identifying information.

Implementation of the above mitigation measures for uses handling hazardous materials in the OPSP, including office/R&D buildings as part of the Phase I Project, would reduce the impact of routine transportation, use or disposal of hazardous materials to a level of *less than significant* through compliance with existing regulations, plans and programs as discussed specifically in mitigation measures Haz-1a through Haz-1e that act to ensure adequate safety levels are reached and maintained throughout the life of the OPSP.

## ACCIDENTAL HAZARDOUS MATERIALS RELEASE

The OPSP area was formerly a municipal landfill, and is proposed to be developed as a multi-use area including biotechnology research, office, hotel, commercial/retail and open space. As such, there are potential hazardous materials release concerns related to the former use and to the proposed future uses of the OPSP area.

### Construction-Period

**Impact Haz-2: Accidental Hazardous Materials Release During Disturbance of Landfill Materials.** Site preparation and construction activities in the vicinity of the landfill could result in release of hazardous solid waste, groundwater and/or soil vapor and the potential for direct exposure to workers engaged in soil excavation and dewatering activities. This represents a *potentially significant* impact.

The majority of the waste disposed of at the landfill was municipal, non-hazardous, material. However decomposing organic waste generates methane and areas of hazardous materials in the subsurface have been encountered, primarily related to two mapped sumps. In addition, hazardous household wastes (i.e., paint cans) have been found during trenching activities. Contaminants in groundwater (leachate) have been identified at the site. Redevelopment plans include site grading, construction of a sub-grade parking structure, and installation of utility trenches, which will involve excavation of landfill waste material. Excavated non-hazardous waste will be relocated on-site. Excavated hazardous waste would be removed from the site and transported for appropriate off-site disposal. Parking structure installation will likely require construction dewatering of the subgrade. Soil gases, primarily methane, have been identified at the site at levels exceeding the lower explosive limit (LEL).

### **Mitigation Measure**

**Haz-2: Waste Excavation and Re-disposition.** A plan shall be written for management of excavated wastes/refuse. Non-hazardous excavated waste shall be re-deposited

in an alternate part of the site and any hazardous waste shall be relocated off-site for appropriate disposal. The plan can be a section of the Site Management Plan (Mitigation Measure Haz-4a), or a stand alone document. The plan shall include measures to avoid releases of wastes or waste water into the environment and to protect workers and the public. The details of the plan shall be based, in part, on the amount of material to be removed and the final design of foundation structures, but will generally include the following, as deemed appropriate by the regulatory agencies, particularly DTSC and RWQCB:

- To the greatest extent possible, use existing boring data to obtain pre-characterization of refuse for off-site disposal, and to pre-plan areas to be removed versus areas to be re-deposited on-site.
- Divide excavation areas into daily sections; plan to complete excavation and backfilling a section during each working day. Minimize the time period that refuse is exposed.
- Review existing boring data and existing site documentation to evaluate potential subsurface materials to be encountered.
- Stake out area to be excavated.
- If excavation is to be conducted at depths where groundwater is to be encountered, conduct dewatering to minimize worker potential direct contact with groundwater. Removed groundwater shall be treated in accordance with the requirements outlined in the Site Management Plan (Mitigation Measure Haz-4a).
- Screen excavation site with a portable photoionization detector and combustible gas monitor for landfill gasses. Continue screening progress of each excavation section as work proceeds. Use foam suppressants or 6 inches minimum of daily soil cover for nuisance odors.
- Provide carbon dioxide gas source (fire extinguisher or cylinder) to flood excavation as necessary to prevent migration of gases into atmosphere above excavation, minimize explosive or fire potential, and control nuisance and odors.
- Begin excavation and segregate soil and /or clay cap material above refuse for reuse as foundation layer.
- Upon reaching refuse, place refuse into dump truck standing by on-site.
- Dispose of each truck load of refuse immediately after filling equipment. All loads to be covered when hauling. Refuse shall be either re-deposited on-site in a specified area, or hauled to an off-site disposal facility.
- Prior to relocation, field verify each load for disposal classification type (landfill classification, Class 3 or Class 2). If waste for off-site disposal is characterized as either California or Federal Hazardous Waste as defined in the criteria described in CCR Title 22 Section 66261, then the hazardous waste shall be tracked using the Uniform Hazardous Waste Manifest System (USEPA Form 8700-22).
- Hazardous and if necessary, non-hazardous waste shall be transported to the appropriate disposal facility using a permitted, licensed, and insured transportation company. Transporters of hazardous waste shall meet the

requirements of 40 CFR 263 and 22 CCR 66263. Copies of uniform hazardous waste manifests signed by the designated waste disposal facility shall be retained for at least five years from the date the waste was accepted by the initial transporter. Copies of records pertaining to the characterization of hazardous or nonhazardous waste shall be retained for a minimum of three years.

- Upon reaching over-excavation depth, place a minimum of 6-inch thick layer of appropriate backfill soil on excavation bottom to seal exposed refuse surface. Place soil by the end of the same day excavation is completed.
- Upon completion of excavation, begin cap placement procedures.

Specific measures shall be targeted to minimize the duration of waste exposure, plan for appropriate final destination of wastes based on the presence of contaminants of concern, allow for adjustment in plan based on unexpected occurrences, and to protect worker safety and the public. Additional work plan measures are discussed in Haz-4a. In addition, worker protection measures for soil and dewatering are discussed in Haz-6a. Measures specific to off-site air quality during construction are included in mitigation measure Air-4.

Implementation of mitigation measure Haz-2 would reduce the impact related to accidental hazardous materials release during disturbance of landfill materials to a level of *less than significant* through implementation of measures to avoid releases of wastes or waste water into the environment and to protect workers and the public during excavation and re-disposition of landfill materials, which is anticipated to occur during the Phase I Project and may also occur during subsequent construction activities at the landfill site, such as buildout of the hotel site.

**Impact Haz-3: Accidental Release of Hazardous Building Materials.** During demolition of existing buildings, hazardous building materials could be released from structures at the site. These represent *potentially significant* impacts.

### Mitigation Measure

**Haz-3: Demolition Plan and Permitting.** A demolition plan with permit applications shall be submitted to the City of South San Francisco Building Department for approval prior to demolition. Prior to obtaining a demolition permit from the Bay Area Air Quality Management District (BAAQMD), an asbestos demolition survey shall be conducted in accordance with the requirements of BAAQMD Regulation 11, Rule 2. Prior to building demolition, hazardous building materials such as peeling, chipping and friable lead-based paint and asbestos containing building materials, if identified on the site, shall be removed in accordance with all applicable guidelines, laws, and ordinances. The Demolition Plan for safe demolition of existing structures shall incorporate recommendations from the site surveys for the presence of potentially hazardous building materials, as well as additional surveys if required by the City. The demolition plan shall address both on-site Worker Protection and off-site resident protection from both chemical and physical hazards. Contaminated building materials, if identified, shall be tested for contaminant concentrations and shall be disposed of to appropriate licensed landfill facilities. The Demolition Plan shall include a program of air monitoring for dust particulates and attached contaminants, as merited by the surveys. The need for dust control and suspension of work during dry windy days shall be addressed in the plan.

Implementation of mitigation measure Haz-3 would reduce the impact related to accidental release of hazardous building materials to a level of *less than significant* through compliance with existing regulations and permitting requirements to ensure any hazardous building materials in structures to be demolished are identified and removed safely. This would be applicable to any buildings demolished as part of the Phase I Project or subsequent phases of development under the OPSP.

#### Post-Construction and Operations

**Impact Haz-4: Accidental Future Hazardous Materials Release of Pre-existing Site Materials.** Landfill materials, which include hazardous materials in solid waste, groundwater and soil vapor, shall remain on-site following construction. Installation of new structures presents the potential for build up of soil gasses within the structures, posing a risk to building occupants and additional loading of the site surface could increase the rate of on-site waste settlement, leading to off-site migration of leachate. This represents a *potentially significant* impact.

As discussed above, there are both known and potential hazardous solid materials in the landfill and contaminants in the groundwater (leachate). Increasing development on the site could lead to an increased rate of on-site waste settlement and off-site migration of leachate. Additionally, soil gasses, primarily methane, have been identified at the site at levels exceeding the lower explosive limit (LEL). A series of passively vented landfill gas recovery trenches were installed in 2007 with the goal of decreasing methane levels in the soil. Installation of new structures presents the potential for build up of soil gasses within the structures, posing a risk to building occupants. (The landfill cap upgrades referred to as mitigation measure Haz-4a are included as part of the Phase I Project.)

#### **Mitigation Measures**

**Haz-4a: Landfill Cap Upgrades.** A landfill cap currently exists to prevent exposure of the public to impacted solids or groundwater. The cap shall be repaired and upgraded to meet CCR Title 27 requirements. CCR Title 27 requires closed landfills have a minimum 4 foot cap, consisting of a 2 foot base layer, a 1 foot clay layer with specified low hydraulic conductivity and a 1 foot erosion control layer. The minimum 4 feet of clean material that comprises the cap shall prevent exposure of the underlying material, preventing releases at the surface. The low hydraulic conductivity layer shall also act to minimize generation of leachate.

**Haz-4b: Use Of Deep Foundations To Prevent Load Induced Settlement.** Buildings on fill shall be supported using driven steel or concrete piles founded in stiff to hard clays, dense sands or weathered bedrock underlying the fill. Both the structural loads and building floor slabs shall be supported on piles. This will avoid placing additional building loads on fill material.

**Haz-4c: Minimization of Irrigation Water Use.** Landscaping of the site shall be selected to stabilize the soil, prevent erosion, and reduce the need for extensive irrigation. Excessive water could infiltrate the landfill cap and produce leachate. To prevent this, low-water vegetation shall be selected to reduce irrigation water. In addition the thickness of the erosion resistant layer in landscaped areas will be increased to minimize intrusion of roots into the lower layers of the cover.

**Haz-4d: Monitoring for Leachate Migration.** A series of natural and man-made barriers have been implemented to prevent migration of impacted leachate into the surrounding area. Based on monitoring at the site implemented per the PCMP, these measures are currently effective in preventing releases. Leachate shall

continue to be monitored, as discussed in Haz-4e, below. Leachate containment for the landfill portion of the OPSP shall be upgraded as needed during and following construction, as per the requirements of RWQCB Order No. 00-046 and the PCMP.

**Haz-4e: Operation and Maintenance Activities.** Operation and maintenance (O&M) activities are expected to occur indefinitely at the site. Operation and maintenance activities shall include inspections and observations of site features to protect the landfill cap, prevent utility damage, maintain gravity flow of sewer systems, maintain the landfill gas barrier and venting systems, and monitor for leachate and groundwater contaminant concentrations. O&M shall act to prevent releases of hazardous materials by identifying deficits in engineering controls prior to release events.

Mitigation measures Haz-4a through Haz-4e include measures to reduce the risk of future releases related to the existing landfill materials that will reduce the OPSP's impact related to accidental future hazardous materials release of pre-existing site materials to a level of *less-than-significant*. These measures would be applicable to any development on the landfill site including portions of the Phase I Project as well as subsequent phases under the OPSP, such as development on the hotel site.

**Impact Haz-5: Accidental Hazardous Materials Release of Laboratory Chemicals.** Following construction, operations at the proposed facilities are expected to represent a continuing threat to the environment through accidental release of hazardous materials since the site is proposed to include laboratory facilities, where hazardous materials stored or used on site could lead to an accidental release. This represents a *potentially significant* impact.

#### Mitigation Measure

**Haz-5: California Accidental Release Prevention Program (CalARP).** Future businesses at the development shall check the state and federal lists of regulated substances available from the SMCEHD. Chemicals on the list are chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable or explosive. Businesses shall determine which list to use in consultation with the SMCEHD.

Should businesses qualify for the program, they shall complete a CalARP registration form and submit it to SMCEHD. Following registration, they shall submit a Risk Management Plan (RMP). RMPs are designed to handle accidental releases and ensure that businesses have the proper information to provide to emergency response teams if an accidental release occurs. All businesses that store or handle more than a threshold quantity (TQ)<sup>1</sup> of a regulated substance shall develop a RMP and follow it.

Risk Management Plans describe impacts to public health and the environment if a regulated substance is released near schools, residential areas, hospitals and childcare facilities. RMPs shall include procedures for keeping employees and customers safe, the handling regulated substances, staff training, equipment

<sup>1</sup> California Code of Regulations; Title 19. Public Safety; Division 2. Office of Emergency Services; Chapter 4.5 California Accidental Release Prevention (CalARP) Program, § 2770.5.

maintenance, checking that substances are stored safely, and responding to an accidental release.

Implementation of this mitigation measure Haz-5 for uses handling hazardous materials in the OPSP, including office/R&D buildings as part of the Phase I Project, would reduce the OPSP's impact related to Accidental Release of Laboratory Chemicals to a level of *less-than-significant* through compliance with the California Accidental Release Prevention Program including implementation of Risk Management Plans as appropriate.

## HAZARDOUS MATERIALS NEAR SCHOOLS

The OPSP area is not located within one-quarter mile of a school site. Therefore the OPSP, including the Phase I Project, would have *no impact* based on proximity to school sites.

## HAZARDOUS MATERIALS SITES

The site has a well-documented history of use as a municipal landfill, including the use of two sumps for disposal of liquid wastes including hazardous materials. In addition, there have been a variety of historic and active USTs and ASTs on site. A series of site upgrades have been installed to mitigate for potential impacts related to the landfill including construction of a landfill cap, installation of a sea wall to prevent leachate migration and installation of methane collection trenches. Collectively these modifications have reduced the hazardous materials exposure risks to an acceptable level. However, future use of the site could result in potential exposure if not appropriately mitigated.

**Impact Haz-6: Exposure to Contaminated Soil, Soil Vapor, and Groundwater.** As currently designed, utilities and foundation slabs shall be separated from landfill wastes by a minimum of 4 feet of clean material, however the potential for future maintenance work to penetrate into the subsurface where contamination remains cannot entirely be discounted. Soil and groundwater disturbance presents an exposure hazard to workers and trespassers. Disturbance of the subsurface also increases the potential for contamination to spread through surface water runoff, and through wind blown dust. These impacts are *potentially significant*.

The potential for accidental release of and construction-worker exposure to existing hazardous materials during build-out under the OPSP is discussed separately under Impact Haz-2 above. Accidental release of existing hazardous materials following construction are discussed under Impact Haz-5.

## Mitigation Measures

**Haz-6a: Development and Implementation of Site Management Plans.** A Site Management Plan shall be prepared that addresses the exposure risk to people and the environment resulting from future demolition, construction, occupancy, and maintenance activities on the property. The plans for the landfill portion of the OPSP shall be in accordance with RWQCB order No. 00-046, the PCMP and recommendations of the Environmental Consultant, and shall be reviewed and approved by the RWQCB, DTSC, the SMCEHD Groundwater Protection Program and the City of South San Francisco Public Works Department.

Specific mitigation measures designed to protect human health and the environment shall be provided in the plan. At a minimum, the plan shall include the following:

- 1) Requirements for site specific Health and Safety Plans (HASP) shall be prepared in accordance with OSHA regulations by all contractors at the OPSP area. This includes a HASP for all demolition, grading and excavation on the site, as well as for future subsurface maintenance work. The HASP shall include appropriate training, any required personal protective equipment, and monitoring of contaminants to determine exposure. The HASP shall be reviewed and approved by a Certified Industrial Hygienist. The plan shall also designate provisions to limit worker entry and exposure and shall show locations and type of protective fencing to prevent public exposure to hazards during demolition, site grading, and construction activities.
- 2) Requirements for site-specific construction techniques that would minimize exposure to any subsurface contamination shall be developed. This shall include dewatering techniques to minimize direct exposure to groundwater during construction activities, treatment and disposal measures for any contaminated groundwater removed from excavations, trenches, and dewatering systems in accordance with local and Regional Water Quality Control Board guidelines. Groundwater encountered in excavations shall not be discharged into the neighboring storm drain, but into a closed containment facility, unless proven to have concentrations of contaminants below established regulatory guidelines. Extracted contaminated groundwater shall be required to be stored in tanks or other sealed container until tested. If testing determines that the water can be discharged into the sanitary sewer system, then the applicant shall acquire a ground water discharge permit from the City of South San Francisco Sanitary Sewer District and meet local discharge limits before being allowed to discharge into the sanitary sewer. Water shall be analyzed for the chemicals of concern at the site, including benzene, ethylbenzene, xylenes, chlorobenzene, naphthalene and additional compounds as requested by the receiving facility or the City of South San Francisco.
- 3) Waste relocation. Relocation or removal of existing landfill waste/refuse will be required for landfill cap upgrades and for site construction. Excavated waste can either be re-deposited on site or disposed of at an active landfill facility. Off-site disposal will require pre-characterization of the waste for acceptance at an approved waste disposal facility. Waste manifests will be prepared to document transportation and disposal. On-site disposal shall require proper placement, compaction, and capping of the refuse material. In either case, segregation of Class 2 and Class 3 from Class 1 material for disposal purposes shall be performed on-site to the extent possible. No Class 1 material shall be relocated or re-deposited on-site. BAAQMD Regulation 8 Rule 34 section 118 documents a limited exemption for construction activities at landfill sites. This section specifies that when the construction activities are related to “installing, expanding, replacing, or repairing components of the landfill gas, leachate, or gas condensate collection and removal systems.” Excavation for cap upgrades falls under this exemption. Excavation for construction purposes will also likely fall under this exemption. As such it will be necessary to provide BAAQMD with construction plans and other documentation as detailed under this regulation for the purposes of obtaining a letter of exemption from BAAQMD. Excavation procedures are also discussed in Measure Haz-2.

- 4) Future subsurface work plan. The plan shall document procedures for future subsurface landscaping work, utility maintenance, etc., with proper notification, where applicable. The plan shall include a general health and safety plan for each expected type of work, with appropriate personal protective equipment, where applicable. This plan may be included in the operations and maintenance plan as appropriate.

**Haz-6b:** **Landfill Gas System.** Section 21160 of Title 27 of the CCR requires that closed landfills implement and maintain landfill gas control. A landfill gas (LFG) venting system shall be placed under the bottom slabs of each structure built entirely or partially over landfill material, to collect and vent the build up of gases diffusing through the landfill cap. The LFG system shall include spray-applied vapor barrier membranes, horizontal collection and passive venting, gas detection and monitoring. The system shall either have backup active collection and venting or shall be designed to facilitate retrofitting with an active system, if measures warrant the retrofit. Potential migration of LFG into the building space shall be mitigated by the collection and venting system, and secondly by the spray-applied membrane. Subsurface landfill gases shall be vented by a network of perforated piping placed beneath the building slabs. The exhaust gases shall be manifolded to a series of riser piping that is to be vented above structure roofs. Passive landfill gas systems do not require permits, however if an active system is installed, either at the time of construction or as part of a retrofit, a BAAQMD permit will be needed.

**Haz-6c:** **Non-use of Groundwater.** Water supply wells shall not be installed at the site. This will prevent direct contact between the public and site groundwater and leachate.

**Haz-6d:** **San Mateo County Environmental Health Department Closure of Existing Facilities.** Any businesses on the site that are currently registered in the hazardous materials business plan program shall submit a closure work plan in accordance with the SMCEHD Business Closure Policy prior to vacating the property. The closure plan shall detail any necessary sampling and remediation. Closure shall not be granted until businesses have demonstrated there is no need for further remediation, and shall include documentation of the removal of any hazardous chemicals.

Implementation of mitigation measures Haz-6a through Haz-6d during disturbance of landfill materials, , which is anticipated to occur during the Phase I Project and may also occur during subsequent construction activities at the landfill site, such as buildout of the hotel site, would reduce the impact from exposure of construction and maintenance workers and the public to contaminated soils, groundwater and soil vapor to a level of *less-than-significant*.

## AIRPORT LAND USE PLAN

**Impact Haz-7** **Airport Land Use Plan.** The OPSP would be located within the jurisdiction of the Airport Land Use Plan for the San Francisco International Airport. According to the East of 101 area plan, the most stringent height limits in South San Francisco are south of Forbes Boulevard and Lindenville (the area between Railroad Avenue, South Spruce Avenue, and San Mateo Avenue), which is south

of the site. Federal Aviation Regulations, Part 77, limits building heights to an elevation of 161 feet above mean sea level, approximately 12 to 14 stories, in the most restricted areas, increasing at a slope of 20:1 to a height of 361 feet above mean sea level. Since the tallest building portion would not exceed 161 feet in height, the OPSP would be in compliance with the Airport Land Use Plan. The impact of the OPSP on the Airport Land Use Plan is *less-than-significant* with no mitigation warranted.

The OPSP area is not located within the vicinity of a private airstrip. Private aircraft are sometimes granted air space in the East of 101 area, but OPSP buildings and structures are expected to conform to design guidelines for visibility and meet aviation requirements. Therefore, the OPSP, including the Phase I Project, would have *no impact* relating to a private airstrip.

### ADOPTED EMERGENCY RESPONSE PLAN

Although there will be some realignment of existing roads, no changes to the major access and evacuation routes are planned. Roads shall be designed to have adequate capacity for ingress/egress to the OPSP area. As the site is located at the shoreline, roads do not and will not exist which go through the site to other areas. Therefore, the OPSP would have *no impact* related to an adopted emergency response plan.

### WILDLAND FIRES

The OPSP area is urbanized and is not in an area adjacent to wildland subject to wildfires. Therefore the OPSP, including the Phase I Project, would have *no impact* from wildland fires.

### CUMULATIVE HAZARDS AND HAZARDOUS MATERIALS IMPACTS

**Impact Haz-8: Cumulative Hazardous Impacts.** The OPSP would be one of numerous sites, some of which are also existing hazardous materials sites that are anticipated to undergo development/redevelopment in the vicinity. The OPSP would contribute to a cumulative increase in the number of sites handling hazardous materials, and would result in a cumulative increase in transportation, use, disposal, and potential for exposure to and/or accidental release of hazardous materials during both construction and operations. However, the cumulative impact is expected to be slight and identified project-specific mitigation measures would reduce this impact to a *less-than-significant* level with no additional mitigation required.

Potentially significant impacts of the OPSP are detailed above under the Impact Analysis section of this document. While build-out of the OPSP would incrementally increase the use and transport of hazardous materials as well as the potential for accidental release, implementation of the identified mitigation measures Haz-1b, Haz-1c, Haz-1d, Haz-1e, Haz-1f and Haz-5 would reduce the cumulative impact to *less-than-significant*.

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