

J. HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing setting for hazards and hazardous materials and evaluates the effects of the proposed Measure DD Implementation Project components related to exposure to hazardous materials¹ in contaminated soil, soil gas, groundwater, and building materials. Potential public health and safety impacts that may result from project implementation are described, and mitigation measures to reduce identified impacts to a less-than-significant level are included, as appropriate.

1. Setting

This section presents the hazardous materials setting for the Measure DD Implementation Project, including previous environmental investigations completed within various project components. The regulatory framework for hazardous materials and hazardous waste, hazardous building materials, and applicable worker health and safety requirements are also described.

a. Methods. This hazards and hazardous materials evaluation was based on a review of available information included with the applications, review of environmental investigation reports and other published materials for the Measure DD Implementation Project, interviews with regulatory agency personnel, and site reconnaissance.

b. Existing Conditions. Proposed project activities that could potentially expose humans to hazards and hazardous materials are described below. Environmental investigations and historical land use information completed for specific components within each project group are also summarized.

(1) Lake Merritt and Lake Merritt Channel (Group 1). The northern portion of the Lake Merritt Channel and the roadways surrounding Lake Merritt, specifically the area around 12th Street, was historically marsh that was reclaimed with fill material in the early 1900s. Additional fill was added during the 1950s when the streets were built in their current configuration.² The source of the material is unknown. The fill material may contain metals above ambient concentrations or other hazardous materials. Many properties surrounding the Lake Merritt Channel have been used for past industrial activities that could have contributed to soil and/or groundwater contamination with metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, and semi-volatile organic compounds (SVOCs).³ Aerially-deposited lead from historical use of leaded gasoline may have affected shallow soils along roadways, and petroleum hydrocarbons, lead, and other heavy metals from railroad tracks and operations (near the southern portion of the Lake Merritt Channel improvements) are potential contaminants of concern for this

¹ The California Health and Safety Code defines a hazardous material as, "...any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment." (California Health and Safety Code Section 25501).

² Baseline Environmental Consulting, 2004, Phase I Environmental Site Assessment, 12th Street Reconstruction Project, prepared for Public Affairs Management, August.

³ URS, 2002, Feasibility Study and Greenbelt Plan for the Lake Merritt Channel, Oakland, California, prepared for the Port of Oakland, 24 June.

group.⁴ The presence of contaminated soil and/or groundwater in project construction areas could require special treatment, handling, and off-site disposal of excavated materials and could impact worker health and safety and nearby receptors during proposed construction activities.

Environmental investigations have been completed at several sites within the Lake Merritt and Lake Merritt Channel group, specifically the 12th Street area, Lakeshore Avenue, Lake Merritt Municipal Boathouse, and Lake Merritt Channel. In addition, a regulatory agency database review was completed for some locations within and immediately adjacent to the group area including Lake Merritt and the northern portion of Lake Merritt Channel.⁵ Reviews of regulatory agency information for project components and nearby sites did not identify any hazardous materials releases at or adjacent to the project groups that are under active regulatory oversight. Reported release cases at 101 Lakeside Drive, 300 Lakeside Drive, 1310 Oak Street, 1200 Lakeshore Avenue, 1225 Fallon Street (Alameda County Courthouse), and 900 Fallon Street (Laney College) have been closed indicating that remediation is complete or was not necessary.⁶

12th Street Reconstruction. A Phase I Environmental Site Assessment (ESA) for the 12th Street project area, including the northern portion of the proposed Lake Merritt Channel and Peralta Park, concluded that fill of unknown origin was placed in this area and may have contained contaminants such as metals.⁷ In addition, soils and/or groundwater could have been contaminated with organic compounds from historical adjacent land uses. An investigation of the fill in the channel and shallow soils (for aerially-deposited lead) was recommended to determine if contaminants in soil would present a health risk to construction workers and/or require that the soils be managed as a hazardous waste, once excavated.

A Phase II investigation was completed in November 2004 to selectively analyze fill, sediment, and shallow soil samples for contaminants of concern within proximity to the 12th Street improvements.⁸ All but one of the samples collected were within the proposed project area. None of the fill or sediment samples contained metals or organic compounds above the San Francisco Regional Water Quality Control Board's (Water Board) Environmental Screening Levels (ESLs) for construction/trench workers.⁹ However, three shallow soil samples within the 12th Street project area contained soluble lead above California hazardous waste thresholds.¹⁰ The Phase II report recommended additional sampling to evaluate total and soluble lead near project area roadways, once the areas and depths and grading for the project were known.

⁴ Ibid.

⁵ Environmental Data Resources, Inc (EDR). 2006, The EDR Radius Map with GeoCheck, Baseline Environmental Consulting, 2004, op. cit.

⁶ Ibid.

⁷ Baseline Environmental Consulting, 2004, op cit.

⁸ Baseline Environmental Consulting, 2005, Phase II Environmental Site Assessment, Twelfth Street Reconstruction Project, Oakland, California, 7 January.

⁹ The Water Board has developed ESLs to help expedite the preparation of environmental risk assessments at sites where impacted soil and groundwater has been identified. Data collected at a site can be directly compared to ESLs and the need for additional work evaluated. ESLs are described in further detail in the regulatory section below.

¹⁰ Wastes with total or soluble metals that equal or exceed threshold quantities as defined in Title 22, California Code of Regulations (CCR), Section 66261.24 are considered California (or non-RCRA) hazardous wastes. See the regulatory agency section for additional discussion of California and Federal hazardous waste thresholds.

An investigation for aerially-deposited lead was completed in February 2006.¹¹ Thirty soil samples were collected near roadways at the 12th Street project component and northern portion of the Lake Merritt Channel improvements to evaluate whether aerially-deposited lead may affect site construction workers. Statistical analysis of the data from the soil samples collected indicated that the concentration of total lead was below California hazardous waste thresholds and ESLs for construction workers. Soluble lead concentrations, however, were above California hazardous waste thresholds and excavated soil may therefore constitute a California hazardous waste, once excavated.

Lakeshore Avenue. In 2005, five surface soil samples were collected between Lakeshore Avenue and the northeast to eastern bank of Lake Merritt in the Lakeshore Avenue project area.¹² Concentrations of total lead for all five samples were below ESLs for residential land uses, commercial/industrial uses, and construction/trench worker direct contact. The concentrations were also substantially below California hazardous waste thresholds for total lead.

Lake Merritt Municipal Boathouse. Asbestos and lead abatement work and interior demolition activities have been completed at the Boathouse¹³ and the main renovation was underway as of the date of the preparation of this section.¹⁴ The Boathouse dates back to 1908, and was originally used as a pumping station, prior to being remodeled and used as a boathouse.¹⁵

Lake Merritt Channel. A hazardous materials study has been completed for the Lake Merritt Channel and properties within one-quarter mile of the Channel.¹⁶ The study included a regulatory records search, field inspections, and review of historical information sources. No soil sampling was performed. Several sites and issues of environmental concern were identified. These included: 1) commercial development around the Channel with hazardous materials uses; 2) railroad bridges over the Channel constructed prior to 1915, which may be associated with petroleum hydrocarbon, lead, and/or other heavy metal contamination; 3) asbestos and/or lead-based paint that may have been used during the construction and maintenance of bridges over the Channel; 4) aerially-deposited lead from vehicle emissions; 5) petroleum pipelines adjacent to the southern railroad bridge; and 6) staining identified on the ground at the east side of the Channel beneath the I-880 bridge.

(2) Waterfront Trail (Group 2). The waterfront area where the Waterfront Trail is proposed for construction is underlain by artificial fill materials, alluvium, and Bay Mud

¹¹ Baseline Environmental Consulting, 2006, Aerially-Deposited Lead Investigation, Twelfth Street Reconstruction Project, Oakland, California, prepared for Circle Point, February.

¹² Kleinfelder, 2005, Table 1, Soil Samples-Lead, Lakeshore Avenue, City of Oakland, Site Vicinity Map (Plate 1), and Soil Sample Locations (Plate 2), and analytical results.

¹³ The asbestos/lead-based paint abatement was documented by SCA Environmental, 2005, Hazardous Materials Abatement Specifications, 10 June 2005; and SCA Environmental, 2005, Final Report on Asbestos and Lead Hazard Abatement Activities, Volume 1 and 2 for 1520 Lakeside Drive, Oakland, 20 June. These documents were referenced in Measure DD Series 2003 A, 2007, op cit. but were not available for review for the Draft EIR analysis.

¹⁴ Measure DD Series 2003A, 2007, op. cit.

¹⁵ Preservation Architecture, 2004, Lake Merritt Municipal Boathouse, Historic Structures Report, prepared for Murakami/Nelson, 13 October.

¹⁶ URS, 2002, op. cit.

deposits.¹⁷ The source of this fill is unknown, and may potentially contain metals above ambient concentrations, petroleum hydrocarbons, and other hazardous materials. At some locations, the proposed trail is located near major roadways (e.g., Embarcadero, Nimitz Freeway) and railroad tracks (near the southern portion of the Lake Merritt Channel improvements), which may have contributed to shallow soil contamination within the proposed trail area. At other locations, the proposed trail is near or on industrial/commercial properties (e.g., Gallagher & Burke/Hanson Aggregates, US Audio/Capture Technologies), which may use hazardous materials.

Environmental investigations have been completed for several sites within the area proposed for the Waterfront Trail group, specifically Estuary Park, Brooklyn Basin, the Cryer/Steam Valve Site, and 66th Avenue Gateway (including Lancaster Street, Derby Street, and Alameda Avenue). The results of these investigations are described below.

Estuary Park. Proposed improvements at Estuary Park include the trail, park landscaping, parking, and water access. The adjacent Cash and Carry Warehouse site may also be incorporated into the park. However, the demolition and/or development of the Cash and Carry Warehouse site is the obligation of the Oak to Ninth Avenue Project approved in July 2006. The Oak to Ninth Avenue Project Draft EIR included mitigation measures requiring development of a cleanup plan for this location.¹⁸ The Oakland City Council approved the project on July 18, 2006 which included cleanup of Estuary Park as preparation for park improvement.¹⁹ The findings and recommendations of investigations completed at this site were incorporated into the impacts analysis included in this Draft EIR. The Cash and Carry Warehouse site would be incorporated into the park after the any required remediation and/or development are complete.

Brooklyn Basin. A Pre-Construction Sampling Report was prepared for the Brooklyn Basin property, in anticipation of the Oakland Waterfront Trail construction.²⁰ The purpose of the report was to assess potential risks to construction workers and to provide a preliminary waste profiling, should the construction activities require transport or disposal of soils. Concentrations of petroleum hydrocarbons in soils and groundwater were identified at concentrations above the ESLs in isolated locations. Arsenic, total chromium, and total lead were reported in soil above the ESLs or background levels. Some lead results were also in excess of Federal and State hazardous waste criteria in the samples collected and would be classified as a hazardous waste, once excavated. Total chromium results for two samples collected exceeded ten times the California threshold limit concentration and could also potentially constitute a State hazardous waste.²¹

Cryer/Steam Valve Site. The Oakland Waterfront Trail would cross the site. Other improvements would include a park area, parking, beach restoration, pier replacement, and potentially converting the building at the Steam Valve site for community use. The Cryer Site was used as a boatworks and boat repair site for approximately 60 years. A Phase I ESA was

¹⁷ Ninyo & Moore, 2004, Geotechnical Evaluation, 66th Avenue Gateway Project, Oakland, California, Prepared for DKS Associates, 14 April; Kleinfelder, 2006b, Geotechnical Study, Proposed Cryer Site Park, Embarcadero and Dennison Street, Oakland, California, 11 January.

¹⁸ Environmental Science Associates (ESA), 2005, op cit.

¹⁹ Measure DD Series 2003, 2007, op. cit.

²⁰ Cambria, 2004b, Letter to Mr. G. Nair, City of Oakland Public Works Agency, Environmental Services Division, Re: Pre-Construction Sampling Report, Brooklyn Basin Property, Embarcadero Way, 16 August.

²¹ Analysis for soluble chromium was not completed. Ibid.

performed for the site in 1995 and a limited soil and groundwater investigation was completed for the site and the adjoining Steam Valve site in 1998 and 2000.^{22 23} A Pre-Construction Sampling Report was prepared in 2004,²⁴ and a subsurface investigation was performed and a soil remediation plan was prepared in 2005-2006.

All buildings associated with the Cryer Site have been demolished and the site has been graded.²⁵ The building remaining at the Steam Valve Site is being considered under the proposed project for either demolition or renovation.²⁶ Based on the results of the various site investigations, the following contaminants of concern are associated with this site: metallic slag,²⁷ soil contaminated with slag, and soil contaminated with petroleum hydrocarbons and metals.²⁸ A revised Corrective Action Plan (CAP) was submitted to the Water Board in January 2006.²⁹ A Final CAP was prepared in March 2007 to address comments on the revised CAP and include agreements reached between the City of Oakland and RWQCB.³⁰ The Final CAP proposes excavating approximately 3,250 cubic in-place yards of slag and contaminated soil and capping the site with clean soil and/or concrete design elements where some slag materials may remain on-site to prevent exposure. Excavated materials would be transported off site for disposal at a permitted facility. The Final CAP has been approved by the RWQCB.³¹

66th Avenue Gateway, Lancaster Street, Derby Street and Alameda Avenue. A Pre-Construction Soil Investigation Report for the 66th Avenue Gateway was prepared in 2004. The investigation included the area west of Lancaster Street, west of Derby Street, and Alameda

²² The Phase I was cited in Kleinfelder, 2006a op cit., but was not available for review for this Draft EIR analysis.

²³ These investigations were cited in Kleinfelder, 2006a, op. cit. but were not available for review for this Draft EIR analysis.

²⁴ Cambria, 2004a, Letter report for G. Nair, City of Oakland Public Works Agency, Re: Pre-Construction Sampling Report, Former Cryer Boatyard, Embarcadero and Dennison Street, Oakland, California, 16 August.

²⁵ Kleinfelder, 2006a, op. cit.. Asbestos and lead abatement was completed prior to demolition by SCA in 2005. SCA, 2005, Final Report: Asbestos and Lead Hazard Abatement Activities, Cryer Boatyard, 1899 Dennison Street and Embarcadero, Oakland, California, prepared for the City of Oakland Public Works Agency, Environmental Services Division, 7 September.

²⁶ Asbestos and lead-based paint surveys were not identified for this building in the documents reviewed

²⁷ Slag is a product of smelting ore to purify metals; based on the results of the investigations, slag was deposited on the ground outside the former metal smith building. Wolfe Mason Associates, 2005, Letter from J. Hykes, to M. Levenson, Bay Conservation and Development Corporation Re: Cryer Site Park Design Review Submittal, 11 November.

²⁸ Kleinfelder, 2006a. op. cit.

²⁹ Ibid; Kleinfelder, 2006b, Letter to G. Nair, City of Oakland Public Works Agency, Environmental Services Division, Re: Evaluation of Possible Remedial Alternatives and Costs for the Former Cryer Boatyard Property, Oakland Waterfront Trail Project, Oakland, California, 23 May; Kleinfelder, 2006b, Letter to G. Nair, City of Oakland Public Works Agency, Environmental Services Division, Re: Evaluation of Possible Remedial Alternatives and Costs for the Former Cryer Boatyard Property, Oakland Waterfront Trail Project, Oakland, California, 23 May.

³⁰ Kleinfelder, 2007, Final Corrective Action Plan, Former Cryer Boat Yard and Steam Valve Property, Embarcadero and Dennison Street, Oakland, California, prepared for City of Oakland Public Works Agency, Environmental Services Division, 28 March.

³¹ Peter, Joel, City of Oakland, 2007, Electronic correspondence to D. Brown, LSA regarding Revised CAP for Cryer Site, 11 July.

Avenue,³² near the proposed location of the Oakland Waterfront Trail. Surface and shallow subsurface soil samples and one groundwater sample were collected during the investigation and laboratory results were compared to Water Board ESLs for residential and commercial/industrial land uses. Metals soil data were also compared to naturally-occurring metals concentrations and Federal and State hazardous waste threshold concentrations.

The investigation concluded that: 1) the locations where petroleum hydrocarbons and metals were detected at concentrations at or in excess of the ESLs appear to be small, isolated areas; 2) arsenic, total chromium and lead were detected in surface soil at levels in excess of regulatory agency action levels or background levels, and are therefore of potential concern; and 3) no metal was detected at a concentration that would characterize it as California hazardous waste based on total concentration, though additional characterization would be required to evaluate soluble metals concentrations.

(3) Recreational Facilities (Group 3). Reconstruction work at the Studio One Art Center has included asbestos and lead-based paint abatement.³³ The site was not listed on the Cortese list of hazardous materials release sites maintained by regulatory agencies.³⁴ The site was, however, listed on the State HAZNET database of hazardous waste generators for off-site shipment of photoprocessing/photochemical waste, waste organics, and waste inorganics, possibly generated during routine operation of the art studio, or from abatement activities. Waste asbestos was also identified as being shipped off-site from this location (likely from the abatement activities above).

The proposed site of the East Oakland Sports Complex at Ira Jinkins Recreation Center was not listed on the Cortese list of hazardous materials releases sites maintained by regulatory agencies.³⁵ However, the location was listed on the Formerly Used Defense Sites (FUDS) database of properties where the U.S. Army Corps of Engineers is actively working or will take necessary cleanup actions.³⁶ The listing under FUDS indicated that “no potential hazardous [wastes] were identified at the site.” Other historical uses of this site, which may have the potential for hazardous materials uses, could not be determined from review of available historical map resources.³⁷

³² Cambria, 2004c, Pre-Construction Soil Investigation Report, Alameda Avenue, Derby Street, Lancaster Street, and 66th Street, prepared for G. Nair, City of Oakland, Environmental Services Division, 28 July.

³³ Measure DD Series 2003 A, 2007, op cit. Asbestos and lead-based paint surveys and remediation documentation were not identified for review.

³⁴ Environmental Data Resources, Inc., 2007a, The EDR Radius Map Report, Studio One, 265 45th Street, Oakland, CA 94609, Inquiry No. 1856918.3s, 14 February. The Cortese database, maintained by the California Environmental Protection Agency, Office of Emergency Information, identifies public drinking water wells with detectable levels of contamination, hazardous substances sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks having a reportable release and all solid waste disposal facilities from which there is known migration.

³⁵ Environmental Data Resources, Inc., 2007b, The EDR Radius Map Report, Proposed East Oakland Recreational Facility, 9175 Edes Avenue, Oakland, Inquiry No. 1856918.1s, 14 February.

³⁶ The listing indicated that this was the Oakland Municipal Airport Detachment Housing Site. The U.S. Government acquired the property in 1943. EDR, 2007b, op. cit.

³⁷ There is no Sanborn map coverage for this site. EDR, 2007c, Sanborn Map Report, Proposed East Oakland Recreational, 9175 Edes Avenue, Oakland, California, 15 February.

(4) **City-wide Creeks (Group 4).** No previous environmental investigations for the proposed creek restoration sites within Oakland were available for this Draft EIR analysis. Restoration activities could include activities that disturb soil, surface water, and/or groundwater, and could therefore potentially release hazardous materials, if present. The activities could include: demolition of existing hardscape; realignment of utilities; grading, clearing and grubbing of existing landscaping areas; removal of undesirable plants; creek bed grading, refurbishment, or alignment; culvert repair and replacement; toe and slope stabilization activities; in-stream improvements (including daylighting creeks); and irrigation and access improvements.³⁸ The off-site transport and disposal of excavated soil and/or disposal of dewatered groundwater may be required and would be subject to State and federal regulatory agency requirements.

c. Regulatory Context. The following section provides the federal, State, and local regulatory framework for hazardous materials and waste, building materials (e.g., lead, asbestos), and worker health and safety.

(1) **Hazardous Materials and Hazardous Waste.** The use, storage, and disposal of hazardous materials, including management of contaminated soils and groundwater, is regulated by numerous local, state, and federal laws and regulations. The U.S. Environmental Protection Agency (U.S. EPA) is the federal agency that administers hazardous materials and hazardous waste regulations. State agencies include the California EPA (Cal/EPA), which includes the California Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (State Water Board), the California Air Resources Board (CARB), and other agencies. The San Francisco Bay Regional Water Quality Control Board (Water Board), the Bay Area Air Quality Management District (BAAQMD), Alameda County Department of Environmental Health (ACDEH), and Oakland Fire Services Agency (OFSA) have jurisdiction on a regional or local level.

A description of each agency jurisdiction and involvement in the management of hazardous materials and wastes is provided below.

Federal. The U.S. EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily codified in Title 40 of the Code of Federal Regulations (40 CFR). The legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA), the Superfund Amendments and Reauthorization Acts of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The U.S. EPA provides oversight for site investigation and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

State. Three State agencies, described below, regulate hazardous materials and waste applicable to the proposed project.

Department of Toxic Substances Control. In California, DTSC is authorized by U.S. EPA to enforce and implement federal hazardous materials laws and regulations. California regulations

³⁸ City of Oakland Public Works, Environmental Sciences Division, Creek Restoration Program and Acquisition Activities Description, not dated.

pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most State hazardous materials regulations are contained in Title 22 of the California Code of Regulations (CCR). DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health, and establishes cleanup levels for subsurface contamination that are equal to, or more restrictive than, federal levels. DTSC has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

State Water Resources Control Board. The State Water Board enforces regulations on how to implement underground storage tank (UST) programs. It also allocates monies to eligible parties who request reimbursement of funds to clean up soil and groundwater pollution from UST leaks. State Water Board also enforces the Porter-Cologne Water Quality Act through its nine regional boards, including the San Francisco Bay Regional Water Board, described below.

California Air Resources Board. This agency is responsible for coordination and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards, and is responsible for monitoring air quality in conjunction with the local air districts.

Regional and Local Agencies. The following regional and local agencies have regulatory authority over the proposed project's management of hazardous materials and waste on the site.

San Francisco Bay Regional Water Quality Control Board. The project site is located within the jurisdiction of the San Francisco Bay Water Board. The Water Board provides for protection of State waters in accordance with the Porter-Cologne Water Quality Act of 1969. The Water Board can act as lead agency to provide oversight for sites where the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions.

The Water Board has developed Environmental Screening Levels (ESLs)³⁹ to help expedite the preparation of environmental risk assessments at sites where impacted soil and groundwater has been identified. Data collected at a site can be directly compared to ESLs and the need for additional work evaluated.

Bay Area Air Quality Management District. The BAAQMD has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which is the responsibility of U.S. EPA and CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary sources, and the issuing of permits for activities including asbestos demolition/renovation activities (District Regulation 11, Rule 2).

Alameda County Department of Environmental Health and Oakland Fire Services Agency. ACDEH and OFSA are the primary agencies responsible for local enforcement of State and federal laws pertaining to hazardous materials management and for oversight of hazardous materials investigations and remediation in Alameda County.

³⁹ San Francisco Regional Water Quality Control Board (Water Board), 2007. Website: <http://www.waterboards.ca.gov/sanfranciscobay/esl.htm>

In Oakland, OFSA has been granted responsibility for implementation and enforcement of many hazardous materials regulations at the project site under the Certified Unified Program Agency (CUPA) Program (California Health and Safety Code Chapter 6.11). The CUPA programs include coordination of the local hazardous waste generator program, underground and aboveground storage tank management, and investigation of leaking underground storage tank sites. OFSA also implements the City of Oakland Hazardous Materials Assessment and Reporting Program, pursuant to City Ordinance No. 12323, which requires notification of hazardous materials storage, use and handling, and an assessment as to whether this storage, use and handling would cause a public health hazard to nearby sensitive receptors including schools, hospitals or other sensitive receptors.

The Oakland Office of Emergency Services (part of OFSA), provides emergency response to fire emergencies and hazardous materials incidents within the City of Oakland, and conducts vegetation management inspections for wildfire reduction. Oakland has entered into agreements with adjoining jurisdictions for cooperative response to fires.⁴⁰

Urban Land Redevelopment (ULR) Program. The ULR program is a collaborative effort by the City of Oakland and the principal agencies charged with enforcing environmental regulations (DTSC, Water Board, and ACDEH) to facilitate the cleanup and redevelopment of contaminated properties in Oakland. The program is coordinated by the City and specific to Oakland sites. The ULR Program clarifies environmental investigation requirements, and establishes Oakland-specific, risk-based corrective action (RBCA) standards for qualifying sites. RBCA standards are criteria that, when met, adequately address risk posed by contamination to human health. The RBCA standards were first submitted in 1999, and are planned for revision this year.⁴¹

(2) Lead, Asbestos, and Other Hazardous Building Materials. Prior to 1978, lead compounds were commonly used in exterior and interior paints. Lead is a suspected human carcinogen (i.e., causes cancer), a known teratogen, and a reproductive toxin (i.e., causes birth defects and sterility). Prior to the 1980s, building materials often contained asbestos fibers, also a known human carcinogen. Asbestos, used to provide strength and fire resistance, was frequently found in insulation, roofing, and siding, textured paint and patching compounds used on wall and ceiling joints, vinyl floor tiles and adhesives, and water and steam pipes, among other uses.

Demolition or renovation of structures constructed prior to 1980 has the potential to release lead particles, asbestos fibers, and/or other hazardous materials to the air, which then may be inhaled by construction workers and the general public. In addition, other common items, such as electrical transformers, fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats can contain hazardous materials, such as PCBs or mercury (described in further detail below), which may pose a risk if not handled and disposed of properly.

Federal and State regulations govern the demolition of structures where lead or material containing lead is present. Regulations pertaining to demolition of structures with lead-based paint are promulgated by the U.S. EPA, DTSC, and the U.S. Department of Housing and Urban

⁴⁰ City of Oakland, General Plan, Safety Element, Fire Hazards (Chapter 4), November 2004, <http://www.oaklandet.com>, information reviewed on 12 February 2007.

⁴¹ Mark Gomez, City of Oakland Public Works Agency, Environmental Services Division, personal communication with J. Pettijohn of Baseline, January 2007.

Development (HUD). For example, the U.S. EPA and DTSC require that lead-based paint equal to or greater than the HUD definition of lead-based paints (greater or equal to 1 mg/cm² or 0.5 percent lead by weight) be removed prior to demolition if the paint is loose and peeling. Loose and peeling paint must be disposed of as a State and/or federal hazardous waste if the concentration of lead exceeds applicable waste thresholds. State and federal construction worker health and safety regulations, described below, require air monitoring and other protective measures during demolition activities where lead-based paint is present.

Federal, State, and local requirements also govern the removal of asbestos or suspected asbestos-containing materials (ACM), including the demolition of structures where asbestos is present. These requirements are promulgated by the U.S. EPA, federal and state Occupational Safety and Health Administration (OSHA), DTSC, and the BAAQMD. All friable (crushable by hand) ACMs, or non-friable ACMs subject to damage, must be abated prior to demolition in accordance with applicable requirements. Friable ACM must be disposed of as an asbestos waste at an approved facility. Non-friable ACM may be disposed of as non-hazardous waste at landfills that will accept such wastes. Workers conducting asbestos abatement must be trained in accordance with State and federal OSHA requirements, described below.

PCBs have been used as coolants and lubricants in transformers, capacitors, heating/cooling equipment, and other electrical equipment that may be present in buildings that would be demolished or renovated under the proposed project. PCBs have not been manufactured in the United States since 1977, but may still be found in older electrical equipment and other building materials like light ballasts. PCBs have been associated with acne-like skin conditions in adults and changes in the nervous and immune system in children. PCBs are also known to cause cancer in laboratory animals and are probable human carcinogens.⁴² PCB or PCB-contaminated items require proper off-site transport and disposal at a facility that can accept such wastes.

Fluorescent lighting tubes and ballasts, computer displays, and several other common items containing hazardous materials (including mercury, a heavy metal) are regulated as “universal wastes” by the State of California. Universal waste regulations allow common, low-hazard wastes to be managed under less stringent requirements than other hazardous wastes. Management of other hazardous wastes is governed by DTSC hazardous waste rules.

(3) Worker Health and Safety. Worker health and safety is regulated at the federal level by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA). The Federal Occupational Safety and Health Act of 1970 authorizes states (including California) to establish their own safety and health programs with OSHA approval; implementation of worker health and safety in California is regulated by the California Department of Industrial Relations (DIR). The DIR includes the Division of Occupational Safety and Health (DOSH), which acts to protect workers from safety hazards through its California OSHA (Cal/OSHA) program and provides consultative assistance to employers. California standards for workers dealing with hazardous materials are contained in CCR Title 8 and include practices for all industries (General Industrial Safety Orders), and specific practices for construction, and other industries. Workers at hazardous waste sites (or working with hazardous wastes as might be encountered during excavation of contaminated soils) must receive specialized training and

⁴² Agency for Toxic Substances and Disease Registry, 2001, Tox FAQs for Polychlorinated Biphenyls (PCBs), February, <http://www.atsdr.cdc.gov>, information reviewed on 18 April 2007.

medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations.⁴³ Additional regulations have been developed for construction workers potentially exposed to lead⁴⁴ and asbestos.⁴⁵ Cal/OSHA enforcement units conduct on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

Worker health and safety in California is regulated by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA). California standards for workers dealing with hazardous materials (including hazardous wastes, asbestos, and lead) are contained in CCR Title 8 and include practices for all industries (General Industrial Safety Orders), and specific practices for construction, hazardous waste operation and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

d. City of Oakland Policies. The November 2004 Safety Element of the Oakland General Plan⁴⁶ contains the following policies regarding hazards and hazardous materials and emergency response that may apply to this project. Relevant policies from other General Plan elements are also described.

- Policy HM-1: Minimize the potential risks to human and environmental health and safety associated with past and present use, handling, storage and disposal of hazardous materials.
- Policy HM-2: Reduce the public's exposure to toxic air contaminants through appropriate land use and transportation strategies.
- Policy HM-3: Seek to prevent industrial and transportation accidents involving hazardous materials and enhance the city's capabilities to respond to such incidents.
- Policy PS-1: Maintain and enhance the city's capacity to prepare for, mitigate, respond to, and recover from disasters and emergencies.

The following policy statements from the Open Space, Conservation and Recreation (OSCAR) Element of the General Plan⁴⁷ regarding hazards and hazardous materials may apply to the proposed project:

- Policy CO-1.2: Soil contamination and hazards. Minimize hazards associated with soil contamination through the appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.
- Policy REC-4.2: Encourage maintenance practices which conserve energy and water, promote recycling, and minimize harmful side effects on the environment. Ensure that any application of chemical pesticides and herbicides is managed to avoid pollution of ground and surface waters.

The following statement from the Estuary Plan Element⁴⁸ of the General Plan regarding hazardous materials may apply to the proposed project.

⁴³ Title 8, CCR Section 5192.

⁴⁴ Title 8, CCR Section 1532.1.

⁴⁵ Title 8, CCR Section 1529.

⁴⁶ City of Oakland, General Plan, Safety Element, Hazardous Materials (Chapter 5), November 2004, <http://www.oaklandnet.com>, information reviewed on 12 February 2007.

⁴⁷ City of Oakland, General Plan, Safety Element, Appendix A, November 2004, information reviewed on-line <http://www.oaklandnet.com>, information reviewed on-line, 12 February 2007.

- Policy OAK-1.3: Undertake remediation of contaminants in conjunction with development and or improvement of relevant sites.

e. City of Oakland Municipal Code. The City of Oakland Municipal Code includes regulations for the handling of hazardous materials in the City. Title 8, Chapter 8.12 of the Oakland Municipal Code adopts California Health and Safety Code laws (Health and Safety Code Section 25500 et seq) related to hazardous materials. City Ordinance No. 12323 regarding hazardous materials reporting is described above.

f. City of Oakland's Standard and Uniformly Applied Conditions of Approval. The City of Oakland's Standard and Uniformly Applied Conditions of Approval that would apply to the proposed project are listed below. Implementation of these Conditions of Approval would ensure that a project's potential hazards and hazardous materials impacts would be reduced.

Condition 25: Hazards Best Management Practices. *Prior to issuance of a demolition, grading, or building permit.* The project applicant and construction contractor shall ensure that construction best management practices are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

- a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;
- b) Avoid overtopping construction equipment fuel gas tanks;
- c) During routine maintenance of construction equipment, properly contain and remove grease and oils;
- d) Properly dispose of discarded containers of fuels and other chemicals.
- e) Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.
- f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in Standard Conditions of Approval 50 and 52, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

Condition 29: Asbestos Removal in Structures. *Prior to issuance of a demolition permit.* If asbestos is found to be present in building materials to be removed, demolition and disposal is required to be conducted in accordance with procedures specified by Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) of Bay Area Air Quality Management District (BAAQMD) regulations, as may be amended.

Condition 50: Phase I and/or Phase II Reports. *Prior to issuance of a demolition, grading, or building permit.* Prior to issuance of demolition, grading, or building permits the project applicant shall submit to the Fire Prevention Bureau, Hazardous Materials Unit, a Phase I environmental site assessment report, and a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.

⁴⁸City of Oakland General Plan, Estuary Policy Plan, information reviewed on-line http://www.portoakland.com/realesta/reso_05.asp, adopted June 1999.

Condition 51: Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment. *Prior to issuance of a demolition, grading, or building permit.* The project applicant shall submit a comprehensive assessment report, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACM), lead-based paint, and any other building materials or stored materials classified as hazardous waste by State or federal law.

Condition 52: Environmental Site Assessment Reports Remediation. *Prior to issuance of a demolition, grading, or building permit.* If the environmental site assessment reports recommend remedial action, the project applicant shall:

- a) Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.
- b) Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.
- c) Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.

Condition 53: Lead-based Paint Remediation. *Prior to issuance of a demolition, grading, or building permit.* If lead-based paint is present, the project applicant shall submit specifications signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: Cal/OSHA's Construction Lead Standard, 8 CCR1532.1 and DHS regulation 17 CCR Sections 35001 through 36100, as may be amended.

Condition 54: Asbestos Remediation. *Prior to issuance of a demolition, grading, or building permit.* If asbestos-containing materials (ACM) are present, the project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.

Condition 55: Other Materials Classified as Hazardous Waste. *Prior to issuance of a demolition, grading, or building permit.* If other building materials or stored materials classified as hazardous waste by State or federal law is present, the project applicant shall submit written confirmation that all State and federal laws and regulations shall be followed when profiling, handling, treating, transporting and/or disposing of such materials.

Condition 56: Health and Safety Plan per Assessment. *Prior to issuance of a demolition, grading, or building permit.* If the required lead-based paint/coatings, asbestos, or PCB assessment finds presence of such materials, the project applicant shall create and implement a health and safety plan to protect workers from risks associated with hazardous materials during demolition, renovation of affected structures, and transport and disposal.

Condition 58: Fire Safety Phasing Plan. *Prior to issuance of a demolition, grading, or building permit and concurrent with any p-job submittal permit.* The project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

Condition 60: Fire Safety. *Prior to and ongoing throughout demolition, grading, and/or construction.* The project applicant and construction contractor will ensure that during project construction, all construction vehicles and equipment will be fitted with spark arrestors to minimize accidental ignition of dry construction debris and surrounding dry vegetation.

2. Impacts and Mitigation Measures

This section analyzes the potential impacts related to hazardous materials and public health and safety that could result from implementation of Measure DD. The section begins with the criteria of significance, which define which establish the thresholds for determining whether a project impact is significant. Potential hazardous materials and public health and safety impacts from the proposed project are then presented, with mitigation measures to reduce potential impacts to less-than-significant levels.

a. Criteria of Significance. The project would have a significant impact on the environment if it would:

- 1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 2) 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) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 4) 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 create a significant hazard to the public or the environment;
- 5) 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, and would result in a safety hazard for people residing or working in the project area;
- 6) Be located within the vicinity of a private airstrip, and would result in a safety hazard for people residing or working in the project area;
- 7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- 8) 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.

The level of impact to hazards and hazardous materials is discussed in the following section and summarized in Table IV.J-1.

b. Impacts and Mitigation Measures Applicable to All Project Groups. Several of the impacts related to hazards and hazardous materials that may result from the implementation of Measure DD would essentially be the same for each or most of the four project groups. These impacts are evaluated below for each criterion of significance. Where applicable, the City's Standard and Uniformly Applied Conditions of Approval (Standard Conditions of Approval, described above under Section IV.J.1.f) that would address those impacts are listed.

(1) Routine Transport, Storage, Use or Disposal of Hazardous Materials. There would be no significant increase in the routine transport, storage, use, or disposal of hazardous materials, following construction of proposed projects within the Lake Merritt and Lake Merritt

Channel, Waterfront Trail, and City-wide Creeks groups. Any hazardous materials (e.g., pesticides, herbicides, fuels) used for maintenance projects for the proposed project groups (e.g., trail, landscape, building/structure maintenance activities) would not be stored on-site since no chemical storage areas are proposed. These hazardous materials would be temporarily brought to the site to complete specific maintenance activities.

Hazardous materials may, however, be stored on-site for the Recreational Facilities group (e.g., continued use photochemicals at the Studio One Arts Center and pool chemicals at the East Oakland Sports Complex). Any transport, storage, generation, use, and/or disposal of hazardous materials following construction of the proposed project would be subject to existing hazardous materials regulations, such as those implemented by OFSA. Compliance with these existing requirements would also minimize the potential for accident conditions involving hazardous material releases and would result in a less-than-significant impact.

(2) Upset and Accident Conditions Involving Hazardous Materials Releases during Construction. For all project groups there is some potential that hazardous materials (e.g., fuels, paints) used during construction may be released accidentally to the environment.

Table IV.J-1: Summary of Potential Impacts – Hazards and Hazardous Materials

Would the Project:	Project Group ^a			
	Group 1 Lake Merritt	Group 2 Waterfront Trail	Group 3 Recreational Facilities	Group 4 City-wide Creeks
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	○	○	○	○
2. 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. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	==	==	○	==
4. 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 create a significant hazard to the public or the environment?	○	○	○	○
5. 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, and would result in a safety hazard for people residing or working in the project area?	==	○	==	○
6. Be located within the vicinity of a private airstrip, and would result in a safety hazard for people residing or working in the project area?	==	==	==	==
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	● HAZ-1	○	○	○

Would the Project:	Project Group ^a			
	Group 1 Lake Merritt	Group 2 Waterfront Trail	Group 3 Recreational Facilities	Group 4 City-wide Creeks
8. 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?	==	==	==	○

^a The Lake Merritt and Waterfront Trail groups are analyzed at the project level. The Recreational Facilities and City-wide Creeks groups are analyzed at the program level. The level of impact and the proposed mitigation measure, if any, are identified as follows:

- == No impact
 - Less-than-Significant or Less-than-Significant with standard Conditions of Approval
 - ◐ Reduced to Less-than-Significant with recommended mitigation
 - Significant
 - NA Not Applicable
- HAZ-1, etc. identifies the mitigation measure, if any, that addresses the impact and reduces it to a level that is less than significant.

Source: LSA Associates, 2007

Hazardous materials (e.g., fuels/lubricants, paints, adhesives) would be transported and used on-site for construction and redevelopment activities. In addition, construction vehicles could accidentally release hazardous materials, such as oils, grease or fuels. It is likely that these hazardous materials and vehicles would be stored by the contractor(s) at the location of the active worksite(s) for the period of construction at that location. Accidental releases of hazardous materials could impact soil and/or groundwater quality, or could result in adverse health effects to construction workers, the public, and the environment.

Construction activities will be in accordance with the Storm Water Pollution Prevention Plan (SWPPP) required for the each project component during construction activities (See Section IV.H, Hydrology and Water Quality Section, Standard Condition of Approval 62: Storm Water Pollution Prevention Plan (SWPPP)). The SWPPP will include Best Management Practices including requirements for hazardous materials storage during construction to minimize the potential for releases to occur (See Section IV.H, Hydrology and Water Quality Section).

The City and its construction contractor will also implement construction best management practices to prevent misuse of hazardous materials in accordance with the Standard Condition of Approval 25, above. All use, storage, transport, and disposal of hazardous materials during construction activities will be performed in accordance with existing local, state, and federal hazardous materials regulations.

In the event of an accidental spill of hazardous materials or other hazardous materials-related emergency during construction of the proposed project (Groups 1-4), the spill response actions required by the project's Health and Safety Plan and SWPPP as required by Standard Conditions of Approval 56, 62, and 68 (above and in Section IV.H, Hydrology and Water Quality) will be implemented. These plans would include an emergency response plan for safe and effective responses to emergencies, including the necessary personal protective equipment and other

equipment, and spill containment procedures for protection of workers, the public and the environment.

With compliance with the applicable City of Oakland's Standard Conditions of Approval and existing local, state, and federal hazardous materials regulations, use and potential accidental spills of hazardous materials during construction would be a less-than-significant impact

(3) Emit Hazardous Emissions or Use Acutely Hazardous Materials within One-Quarter Mile of an Existing or Proposed School. There would be no significant increase in hazardous materials emissions or use of acutely hazardous substances within one-quarter mile of an existing or proposed school following construction of the proposed project. With the exception of the Recreational Facilities group, hazardous materials would not be stored on-site, would only be temporarily brought on-site for construction or maintenance purposes, and therefore would not be expected to result in any potential impacts to nearby schools.

Sodium hypochlorite is currently used for disinfection of pool water in Oakland and would continue to be used for water disinfection at the East Oakland Sports Complex.⁴⁹ Sodium hypochlorite, a liquid, is not an acutely hazardous material⁵⁰ and would not result in hazardous air emissions during routine operations or as a result of an accidental release. No acutely hazardous materials were identified as being used at Studio One.⁵¹ Any potential hazardous emissions or use of acutely hazardous materials within one-quarter mile of a school associated with the Recreational Facilities group would therefore not occur. As discussed above, any hazardous materials must be managed and stored in accordance with applicable hazardous materials regulations. Compliance with these requirements minimizes the potential for upset or accident conditions involving hazardous materials releases. With compliance with existing local, state, and federal hazardous materials regulations this would be a less-than-significant impact

(4) Hazardous Materials Sites. While none of the component sites were found on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, contaminated soil is known to occur at some sites (e.g., the Cryer Site) and there is some potential to encounter hazardous materials during construction activities due to historical placement of fill from unknown sources and historical site uses. The City's Standard Condition of Approval 50: Phase I and/or Phase II Reports and Standard Condition of Approval 52: Environmental Site Assessment Reports Remediation are included as part of the project and would reduce most of these potential impacts to a level that is less than significant as described below. If hazardous materials or hazardous waste are encountered unexpectedly at a previously unidentified location, Condition of Approval 25 would reduce the impact to a level that is less than significant.

Potential sources of subsurface contamination identified in previous investigations within the proposed project area include the placement of fill, past industrial land uses, and nearby roadways and railroad alignments. Fill materials of unknown origin are known to have been placed along the existing Lake Merritt roadways, along the Lake Merritt Channel, and along areas proposed for the Oakland Waterfront Trail. Industrial land uses along the Lake Merritt Channel and areas proposed for the Oakland Waterfront Trail may have contributed to soil and/or groundwater

⁴⁹ Joel Peter, City of Oakland, personal communication with Dennis Brown, LSA Associates.

⁵⁰ Title 8, CCR Section 5189.

⁵¹ EDR, 2007a., op. cit.

contamination if historical hazardous materials releases have occurred at these locations. In addition, aerially-deposited lead and other contaminants may be present in shallow soil near roadways and rail lines.

At many locations for the Lake Merritt and Lake Merritt Channel group and the Waterfront Trail group, subsurface investigations have been completed, contamination has been identified, and/or soil remediation plans have been prepared or are currently being negotiated with regulatory oversight agencies. Subsurface investigations completed around Lake Merritt and Lake Merritt Channel have identified soluble metals at concentrations above California hazardous waste thresholds. Soils containing metals above California hazardous waste thresholds would be classified as a hazardous waste, once excavated, and would require special handling and disposal procedures. Subsurface investigations completed within the Oakland Waterfront Trail have identified metals, PAHs, petroleum hydrocarbons and slag as potential contaminants of concern. Investigations completed within the proposed Oakland Waterfront Trail project area have also identified some metals in excess of Federal and State hazardous waste criteria; these impacted soils could constitute hazardous wastes, and require special management and disposal, if hauled off-site.

Workers grading, excavating or disturbing soil and/or groundwater containing hazardous materials and hazardous wastes or previously unknown hazardous materials/wastes could experience adverse health effects. The severity of health effects would depend on the contaminant(s), concentration, use of personal protective equipment, and duration of exposure. Adverse health effects could also be experienced by nearby receptors (e.g., nearby residents and workers) during earthwork activities where hazardous materials in soil and/or groundwater are released.

Prior to issuing construction, grading, excavation or building permits for construction activities involving soil disturbance, the City would investigate whether soil or groundwater contamination requiring remediation is present in accordance with Standard Condition of Approval 50. Although not explicitly stated in the Standard Condition of Approval, the Phase I and/or Phase II environmental site assessment (ESA) investigation would be performed in conformance with state and local guidelines and regulations and industry standards, including the most recent standards adopted by ASTM International, (e.g., would be prepared by a qualified professional such as a California-registered environmental assessor, Professional Geologist, or Professional Engineer) for all project components.

The ASTM standard for Phase I ESAs requires a review of regulatory agency information, including Government Code 65962.5 hazardous material release sites. A Phase II ESA would assess the presence and extent of contamination at the site (if any) and the potential risk to human health and public safety, including construction workers and nearby receptors and future site users. A Phase II ESA would also include an evaluation for the presence of aerially-deposited lead at proposed project locations within proximity to roadways or railways in accordance with Standard Condition of Approval 50.

If the results of the subsurface Phase II investigation(s) indicate that remediation is required, the City would ensure that site remediation is completed under the oversight of the applicable state or local regulatory agency, in accordance with the Standard Condition of Approval 52. In making the assessment as to whether remediation is required, data collected in the investigations would

be compared to hazardous wastes thresholds and/or applicable Water Board ESLs. Compliance with the Standard Condition of Approval 52 also ensures that a Soil Management Plan (SMP) would be prepared and implemented for handling and disposing of impacted soil and/or groundwater in accordance with hazardous materials laws and regulations and standard industry practice.

As part of compliance with Standard Condition of Approval 52, the City would submit applicable documentation and plans required by the regulatory oversight agency regarding remediation of the contaminated soil and/or groundwater at the site. In accordance with federal and state worker safety laws and regulations and standard industry practice, the documentation and plans would include the requirement for the preparation and implementation of a project-specific Health and Safety Plan (HSP) for site workers.

Even with proper investigation of past land uses with hazardous materials uses, subsurface Phase II environmental site assessments, and completion and certification of remediation (as needed) required by Standard Conditions of Approval 50 and 52, previously unknown contaminated soil and/or groundwater or other hazards may be encountered during site development activities by construction workers resulting in adverse health effects. Standard Condition of Approval 25 describes the actions that would be taken if soil, groundwater or other environmental medium with suspected contamination were encountered during construction activities. Suspect materials might include environmental media with an identified odor or visual staining. It might also include underground storage tanks, abandoned drums or other evidence of hazardous materials or wastes. Implementation of Standard Condition of Approval 25 would reduce this potential impact to a less-than-significant level.

(5) Aviation Hazards. No private airstrips are located within a two-mile radius of any project components.⁵² Two project groups, the Oakland Waterfront Trail and East Oakland Sports Complex, are located near the Metropolitan Oakland International Airport (Oakland Airport).⁵³ There are height restrictions on buildings or structures located within proximity of airport runways in accordance with the Federal Aviation Administration Part 77 regulations. For each 100 feet of distance from a runway, one foot of structure height is permitted, up to a maximum of 20,000 linear feet distance (equivalent to approximately 3.78 miles) at which point there are no height restrictions.⁵⁴ No structures are proposed at the southern portion of the Oakland Waterfront Trail which could be subject to these height restrictions. Structures are planned for the East Oakland Sports Complex, located approximately 4,133 feet linear distance (equivalent to 0.78 mile) from the Oakland Airport's closest runway. Structures constructed at this location could not be more than approximately 41 feet in height (or approximately a 4-story structure), based on the proximity of this location to Oakland Airport. The proposed structures at

⁵² Information reviewed on-line, <http://www.skyvector.com>, 12 February 2007.

⁵³ Proposed project groups located further from OAK, include the Lake Merritt Channel (16,667 feet linear distance from OAK, equivalent to 3.15 miles) and Lake Merritt (17,733 feet linear distance from OAK, equivalent to 3.4 miles). Structures located at these locations could no be more than approximately 167 and 177 feet in height (equivalent to approximately 16 and 17 story buildings, respectively). Development proposed at these locations would not exceed these height restrictions. The North Oakland Recreational Facility, which is located more than 20,000 linear feet from OAK's runways, would not be subject to any height requirements or result in any aviation hazard.

⁵⁴ Horvath, Cindy, Senior Transportation Planner, Alameda County Airport Land Use Commission, 2007, personal communication with J. Pettijohn, Baseline, 15 February.

the East Oakland Sports Complex would not exceed the FAA height restrictions, and would therefore have a less-than-significant impact on aviation hazards.

(6) Emergency Response Plan/Emergency Evacuation Plan. The City of Oakland has adopted the Standard Emergency Management System (SEMS), a framework for standardizing emergency response procedures in California. The Oakland Office of Emergency Services' SEMS emergency plan describes how City agencies would respond to declared emergencies in the City. The Plan must be routinely updated in accordance with Action PS-1.2 of the General Plan.⁵⁵

Evacuation routes for the City of Oakland are presented in the General Plan Safety Element as part of the overall emergency plan for the City of Oakland.⁵⁶ All project groups are located near a designated evacuation route. For the Lake Merritt and the Lake Merritt Channel group, the thoroughfares that immediately surround Lake Merritt are designated evacuation routes, including Lakeside Drive, Harrison Street, Grand Avenue, Bellevue Avenue, Lakeshore Avenue, 12th Street, and 7th Street. For the Oakland Waterfront Trail and Access group, thoroughfares that parallel the Oakland Harbor and San Leandro Bay, including East 6th Street/East 7th Street/East 8th Street/East 12th Street, Embarcadero and San Leandro Street, serve as designated evacuation routes. For the Studio One Art Center, Broadway and Highway 24 are the closest designated evacuation routes, and Hegenberger Road is the closest designated evacuation route for the East Oakland Sports Complex. Other evacuation routes are located throughout the City which could be used in the event of evacuation from any City-wide Creeks.

The project would not affect evacuation routes in the vicinity of the Waterfront Trail, Recreational Facilities or City-wide Creeks groups. Work proposed in the Lake Merritt area and northern portion of the Lake Merritt Channel (7th and 12th Streets) would include street construction activities on designated evacuation routes identified in the General Plan. Under one construction phasing option for 12th Street, the street would be closed during construction.

Impact HAZ-1. The Reconstruction of 12th Street would temporarily close a designated emergency evacuation route. (S)

Mitigation Measure HAZ-1: In advance of construction, the City shall prepare detour plans for the emergency evacuation route along 12th Street in accordance with the City's Office of Emergency Services requirements. The plans shall be reviewed and approved by the Office of Emergency Services prior to the start of construction. The implementation of the plans during construction would ensure that alternative emergency evacuation routes are identified and available during project construction and would reduce the impact to a less-than-significant level. (LTS)

(7) Wildland Fires. All project groups, with the exception of the City-wide Creeks, are located outside of the City of Oakland Wildfire Prevention District area of designated "high fire hazard areas."⁵⁷ Routine inspection of these project group areas for the purpose of reducing the potential for wildfires is not conducted by the Oakland Fire Department, because they are located

⁵⁵ City of Oakland General Plan, Safety Element, Public Safety, p. 15 and p. 19.

⁵⁶ City of Oakland General Plan, Safety Element, Figure 2.1, Public Safety.

⁵⁷ Information reviewed at <http://www.oaklandnet.com/wildfirePrevention/default.htm>, 16 February 2007.

outside the high fire hazard area. Some components of the City-wide Creeks group may be located within areas designated as high fire hazard areas, but no structures are proposed as part of the creek projects and all project components would comply with Standard Condition of Approval 60 requiring the use of spark arrestors on all construction vehicles and equipment to minimize accidental ignition of construction debris and surrounding vegetation. The proposed project would therefore not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas. This is a less-than-significant impact.

c. Impacts and Mitigation Measures Unique to Specific Project Components. This section describes potential impacts that are unique to individual project components. There are no component-specific impacts associated with Criteria of Significance 1 and 3 through 8.

(1) Upset and Accident Conditions Involving Hazardous Materials Releases. ACM, lead-based coatings and PCBs may occur in buildings and other structures (e.g., overpasses) that would be demolished or renovated as part of the project. The City's Standard Conditions of Approval 29, 51, 53, 54, and 56 address these issues and are included as part of the project. Implementation of the Conditions of Approval would reduce the potential impacts to a level that is less than significant as described below.

Lead-based paint and ACM surveys and abatement have been completed for various structures considered under the proposed project in groups 1, 2 and 3 (e.g., Lake Merritt Municipal Boat House, Cryer Site within the Oakland Waterfront Trail group, Studio One). However, similar surveys have not been completed for culverts over Lake Merritt Channel and overpasses in the 12th Street project area that are planned for demolition, nor have surveys been completed for all structures planned for renovation or modification around Lake Merritt, along the Oakland Waterfront Trail, or at the East Oakland Sports Complex site. The criterion is not applicable for the City-wide Creeks group.⁵⁸

Based on the date of construction, lead-based paint or ACM could also be encountered during renovation of the Sailboat House. The last remodeling of the Sailboat House was completed in 1998. In addition, the Steam Valve Building within the Oakland Waterfront Trail group may be renovated or demolished under the proposed project. A lead-based paint and asbestos containing survey has not been completed for this location. This structure was constructed prior to the 1980s and could contain lead, ACM, or other hazardous building materials.

No PCB surveys were identified for buildings identified for demolition or renovation in information made available for review for the proposed project. As a condition of approval for any demolition permit for a structure potentially containing lead, asbestos, or PCBs under the proposed project, a lead-based paint, asbestos-containing material, and PCB survey would be performed at the structure by a qualified environmental professional in accordance with the City's Standard Condition of Approval 51. Also, any major modification to structures requires a similar survey for those portions of the structure to be modified in accordance with this condition. Based on the findings of the survey, all identified lead-based paint, asbestos and/or PCB hazards will be abated by a certified contractor in accordance with local, state, and federal requirements,

⁵⁸ This impact is not applicable to the City-wide Creeks group, since the proposed project includes no demolition or renovation of structures associated with citywide creeks.

including the requirements of the Bay Area Air Quality Management District for asbestos (Regulation 11, Rule 2). The findings of the survey will be documented by a qualified environmental professional, a plan for remediation of the hazardous building materials, and documentation of the remediation will be prepared by the City in accordance with Standard Conditions of Approval 29, 53, 54 and 56.

Other hazardous materials and wastes generated during demolition activities, such as fluorescent light tubes and mercury switches, will be managed and disposed of by the demolition contractor(s) in accordance with applicable universal waste and hazardous waste regulations. Federal, state and local worker health and safety regulations would apply to demolition or renovation activities, and the City's required worker health and safety procedures (Standard Condition of Approval 56) would be implemented for the protection of workers.

This impact is considered less than significant with implementation of the Standard Conditions of Approval and local, state, and federal hazardous materials and worker health and safety requirements.