

City of Brisbane

Planning Commission

TO: Planning Commission For the Meeting of March 10, 2016

FROM: John Swiecki, ^{DAS} Community Development Director

SUBJECT: Brisbane Baylands Deliberation Meeting #3 - Appropriate Mix of Uses within the Baylands (continued)

Background:

At its meeting of February 25, 2016, the Planning Commission continued its Baylands deliberations by discussing the appropriateness of various non-residential land uses. A summary of the initial direction regarding key principles and non-residential land uses for the Baylands as discussed by the Planning Commission is provided in Attachment 1.

Tonight's meeting continues the Planning Commission's discussion of basic land use types. The Commission is being asked this evening to discuss housing within the Baylands and whether residential use should be further explored in subsequent planning and environmental policy discussions.

As was discussed at the January 28 meeting, any decisions or determinations reached this evening are subject to reconsideration and modification by the Commission in later discussions and prior to the Commission's final recommendation.

Discussion:

At the outset of its deliberations, the Commission established basic principles for development of the Baylands that any concept plan or specific use must meet. Key among these principles in relation to this evening's discussion is:

"Ensure that the site is safe for the future uses approved for development by the City..."

Any consideration of residential uses within the Baylands is predicated on the requirement that the site is made safe during construction, as well as over the long-term. As the Commission considers whether housing should be further explored in subsequent planning and environmental policy discussions, it should also consider whether the information in the record sufficiently demonstrates that the Baylands can be made safe for residential development.

The relationship between housing and remediation in the Baylands is described well in the Baylands Sustainability Framework¹ which states:

“There is a strong tension between the lack of housing, let alone affordable housing, and sustainable communities, which are best served by a strong relationship between housing, jobs and transportation. The question of whether housing will be allowed as part of the Baylands development has important impacts on sustainability and the approach to creating an economic plan. The Baylands is currently planned for commercial and industrial uses in the City’s General Plan, and citizens have expressed strong concerns about changing the plan to allow housing because of soil contamination and apprehension that remediation would not render the site safe for people living there...”

“The housing issue is further complicated by disagreement over the adequacy of the regulatory standards that would be applied to the determination of safe living environments...”

“Brisbane’s General Plan prohibits housing in the Baylands. Many residents have expressed concern that housing in the Baylands would not be safe because of potential exposure to toxic materials that have been used and disposed of in the landfill and former rail yard. On the other hand, there are many studies that show that housing can safely be built on formerly contaminated sites, such as the Schlage site in neighboring San Francisco...”

“The concern over contamination exposure is one of the main reasons why the citizens of Brisbane in their General Plan have prohibited housing as a land use in the Baylands...”

“The Lead Authority for the Operable Unit 1 (OU-1) portion of the site is the Department of Toxic Substances Control, DTSC. The Lead Authority for the OU-2 portion of the site is the Regional Water Quality Control Board (RWQCB). The former landfill portion of the site is under the authority of the RWQCB and San Mateo County Department of Environmental Health. There will certainly be differences in standards and application; standards and expectations will need to be negotiated with City, developer and agencies.”

Issues to be Considered in Relation to Residential Development

Safety/Site Remediation

The discussion in this staff report is limited to consideration of residential uses within the Baylands. The DSP/DSP-V scenarios propose approximately 4,400 residential units west of the Caltrain line, within the areas subject to remediation designated as OU-1 and OU-2. No housing is proposed within the former landfill portion of the site easterly of the train tracks. As such, the discussion in this staff report is focused on housing-related remediation and safety issues associated with OU-1 and OU-2. A specific discussion of Title 27 landfill closure in relation to potential land uses within the closed landfill portion of the site will be undertaken in a subsequent deliberations meeting to consider the safety implications of developing on that portion of the site.

¹ *Sustainability Framework for the Baylands, Final Report*, Accepted by the City Council on November 5, 2015.

Regulatory Authority for Site Remediation

DTSC has the regulatory authority for remediation of OU-1. The RWQCB has the regulatory authority for remediation of OU-2. Responsibilities of DTSC and RWQCB for site remediation include:

- Reviewing existing studies, as well as requiring any additional studies the regulatory agencies determine are needed to appropriately characterize the site, i.e., determine the nature and extent of contamination for purposes of setting risk-based clean up goals and developing site remediation plans;
- Setting risk-based cleanup goals for the land uses approved by the City of Brisbane through the preparation of a human health risk assessment;
- Reviewing and approving plans for site remediation which would be required to meet risk-based cleanup goals set in the human health risk assessment;
- Undertaking project-level CEQA review for remediation of OU-1 and OU-2;
- Overseeing physical remediation of OU-1 and OU-2;
- Certifying completion of site remediation; and
- Undertaking such post-remediation activities as the regulatory agencies determine are necessary to ensure public health and safety.

The City of Brisbane maintains the authority to determine land use within the Baylands, along with the authority to regulate development, including the timing of development in relation to the regulatory agencies' remediation review and approval process.

Regulatory Review Process for Remediation

DTSC and RWQCB will review existing studies, as well as any additional characterization studies the regulatory agencies determine are needed to assess the site prior to developing remediation plans OU-1 and OU-2. Characterization studies describe the nature and extent of contaminants in environmental media, along with analysis as to the extent to which such contaminants might pose a threat to public health or the environment.

Following completion of all required studies, updated human health risk assessments will be prepared for OU-1 and OU-2 subject to DTSC and RWQCB oversight to evaluate development-specific exposure pathways for the land uses the City determines it might approve within the Baylands.

Human health risk assessments are used to derive risk-based cleanup goals that are protective of human health and the environment based on specific land uses, rather than employing a "one size fits all" approach. The use of risk-based cleanup goals recognizes the widely varying amount of exposure people could have to onsite contaminants in different types of land uses. Thus, cleanup goals and remediation standards can be based on residential or commercial/industrial land use

scenarios (as well as construction)². In the case of the Baylands, the human health risk assessments for OU-1 and OU-2 will evaluate the land uses the City determines could be developed within the Baylands, evaluate the site-specific health risks associated with those land uses, and develop cleanup goals and remediation standards for OU-1 and OU-2 to ensure that (1) the site can be developed safely and (2) the site is safe for the land uses approved by the City.

Once the human health risk assessments have been prepared, remedial action plans (RAPs) for achieving the identified cleanup goals will be prepared by the project applicant and reviewed and approved by DTSC for OU-1 and the RWQCB for OU-2. The RAPs will identify the specific remedial technologies to be undertaken to achieve cleanup goals, technical specifications for those cleanup technologies, and requirements for monitoring during and following site remediation. The State regulatory agencies would also determine whether land use covenants to limit uses to those indicated in the RAPs were warranted based on the cleanup goals.

Because approval of RAPs for remediation of OU-1 and OU-2 would require discretionary actions by the DTSC and RWQCB, proposed RAPs would be subject to environmental review pursuant to the requirements of CEQA.

The City can make a request to both regulatory agencies, i.e., the DTSC and RWQCB, they would like to be added to the list of “interested parties” which provides a forum for the City to provide written comments on the RAP to DTSC or the RWQCB. This ensures the City’s concerns are brought to the attention of the regulatory agency during the review of the RAP. Additionally the City can participate in the CEQA process undertaken by the regulatory agencies for the RAPs.

Determining Safety: Risk-Based Remediation Standards

Risk-based decision making is a tool used by regulatory agencies to ensure that contaminated properties are properly remediated, and that the cleanup goals established for site remediation are protective of human health, safety and the environment. Rather than applying a single standard for remediation of each potential contaminant to all sites regardless of their intended use and the ways in which people using the site could be exposed to onsite contaminants, risk-based cleanup goals are site-specific cleanup standards based on site-specific information including the types and concentrations of the contamination present, the future intended use of the property (and resulting human health risks based on such use), the expected receptor populations that may be exposed to the impacted media during project construction and operation, the anticipated potential exposure pathways, and amount of the time receptor populations would be anticipated to be exposed to the impacted media.

² Typically, the RWQCB and DTSC require remediation to proceed based on the more stringent residential scenario standards, applying these criteria even where no residential use is proposed if the regulatory agency determines that the responsible party for remediation is reasonably capable of meeting the more stringent standard. Where the regulatory agencies determine the responsible party for remediation is not reasonably capable of meeting the more stringent residential-level standard for non-residential uses, commercial/industrial remediation criteria are applied. In such cases, the RWQCB and DTSC will require land use covenants. In that case, should the City approve a different land use than proscribed by the land use covenants, i.e., residential, additional site characterization, derivation of risk-based cleanup goals and remediation would be required.

For example, if the intended future use of a property is residential, risk based cleanup goals would be calculated for construction workers and future residents. By comparison, if the intended future use is office, risk based cleanup goals would be calculated for construction workers, office workers, and landscape/maintenance workers. In both cases, construction workers would be exposed to impacted media for a short period of time during the construction of the project. Because exposure frequency and duration are greater for residential uses than for commercial/industrial uses, residential uses are more sensitive in relation to human health risks, and resulting remediation standards are more stringent than for commercial industrial uses. Commercial office or industrial workers and landscape maintenance workers would potentially be exposed to impacted media for a shorter time than residents of a residential area as they work in the office or industrial building or on the grounds of the project after development is completed. Similarly, active recreational areas, such as parks and ball fields would result in greater potential exposure of people to onsite contaminants than would open space areas not designed for human activities, and result in more stringent cleanup requirements.

Determinations as to the human health risks associated with any particular contaminated site are analyzed in a “human health risk assessment” prepared according to federal (USEPA) and State (DTSC) guidance, and are reviewed and approved by the regulatory agency or agencies responsible for remediation of a particular site. The primary objectives of human health risk assessments are (1) to ensure that human health risks have been properly evaluated based on a property’s future intended use, and (2) based on the types and levels of contamination present on the site, to develop risk-based cleanup goals to protect the health of future site users.

Human health risk assessments are used to evaluate the potential adverse health impacts that receptor populations, i.e., humans, could experience if exposed to a dose of a particular constituent or chemical present in soil, water, air, or food via exposure pathways such as ingestion, inhalation, and dermal contact. Receptor populations usually are site-specific and may include, but are not limited to, construction workers, residential populations, commercial office or industrial workers, and landscape maintenance workers. The constituents or chemicals present on a site are assessed based on their toxicity, whether the constituent is carcinogenic, i.e. cancer-causing or non-carcinogenic, the exposure pathway(s) by which the receptor population might be exposed to such constituents or chemicals, i.e., through eating, breathing, or skin contact, and the level of the dose to which the receptor population could be exposed. Based on the most recent DTSC guidance, the following exposure parameters are used in human health risk assessments³:

- Body weight (adult, child)
- Averaging time of exposure in days (carcinogens, non-carcinogens)
- Exposure duration in years (adult, child)
- Exposure frequency (days/year)
- Exposure duration (hours/day)

³ DTSC guidance provides default exposure parameters for use in risk assessment at California hazardous waste sites. For example, the default parameter for adult body weight is 80 kg (176 pounds) and 15 kg for children (33 pounds).

- Inhalation rate (adult, child)
- Drinking water ingestion (adult, child)
- Soil ingestion (adult, child)
- Particulate emission factor
- Skin surface area for soil contact (adult, child)
- Soil adherence factor (adult, child)
- Dermal absorption rate (chemical specific)
- Dermal permeability coefficient from water (chemical specific)
- Showering/bathing scenario (skin surface area, exposure time, and exposure frequency for both adults and children)

The residential exposure scenario that would be used by regulatory agencies assumes that an individual is exposed to the “exposure point concentration” of site constituents or contaminants (defined as either the maximum concentrations detected in the medium assessed, or the 95% upper confidence level of the mean) for the first 30 years of life⁴, 24 hours a day, 350 days/year. Essentially, this scenario assumes that an individual on the site would be consuming, inhaling or touching site constituents and contamination from birth for 30 years. For this reason, the resulting estimated risk and hazard values are extremely conservative, which dictates a more conservative remediation than a commercial exposure scenario.

The commercial exposure scenario is similar to residential in terms of the dose of contaminants assumed, but the length of exposure reflects commercial use. Specifically, it assumes that an adult is exposed to the exposure point concentration of site constituents or contaminants for 250 days/year for 25 years. Additionally, the threshold to which the estimated risk values are compared is more conservative for the residential scenario, i.e., 1×10^{-6} versus the commercial scenario threshold of 1×10^{-5} .

The residential threshold indicates an incidental increase in the potential for 1 person in a population of 1 million (1×10^{-6}) to have an adverse impact to their health due to exposure to the exposure point concentration of the constituent or contaminant for 350 days/year over 30 years. This exposure frequency and duration is unrealistic and therefore highly conservative to account for the uncertainty inherent in site characterization, exposure and remediation.

The threshold for the commercial scenario indicates an incidental increase in the potential for 1 person in a population of 100,000 (1×10^{-5}) to have an adverse impact to their health due to exposure to the exposure point concentration of the constituent or contaminant for 250 days/year over 25 years.

Additionally, to account for exposure to multiple constituents on a site, estimated risk values for individual constituents are added together to provide a summed risk value due to exposure to all

⁴ Ages 0-6 are assessed as a child exposure and ages 7-24 are assessed as an adult exposure.

detected constituents or contaminants in the medium assessed on a site. This summed risk value for exposure for all constituents onsite is compared to the appropriate threshold value for the exposure scenario.

Concerns were expressed in comments on the EIR and at public hearings that existing California regulatory processes and standards might not provide an adequate level of safety for residential and other uses within the Baylands. The Sustainability Framework recognizes that “citizens have expressed strong concerns about... housing because of soil contamination and apprehension that remediation would not render the site safe for people living there.” The Sustainability Framework also notes that there is community “disagreement over the adequacy of the regulatory standards that would be applied to the determination of safe living environments.”

DTSC’s Health and Ecological Risk Office (HERO) reviews risk assessments performed by consultants on behalf of project applicants and/or developers. HERO’s staff includes individuals with medical degrees, as well as advanced toxicology, pharmacology, environmental science, epidemiology, industrial hygiene and biology degrees. The HERO reviewer assigned to a risk assessment will also have his or her work peer-reviewed by another HERO Staff before the comments are disseminated to the project applicant or developer.

The RWQCB uses the State of California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) to review risk assessments performed by consultants on behalf of project applicants and/or developers. OEHHA’s staff also prepares the Proposition 65 lists of chemicals and includes individuals with medical degrees, veterinary degrees, advanced toxicology and pharmacology degrees. The OEHHA reviewer assigned to a risk assessment also has his or her work peer-reviewed by another OEHHA staff member before comments are disseminated. OEHHA staff will calculate the estimated risk and hazard values using the exposure point concentrations, exposure scenario, exposure frequency and duration as presented in the risk assessment after first confirming the values are acceptable to OEHHA. In essence, OEHHA checks the calculations to ensure the resulting risk and hazard values have been derived appropriately and no mathematical errors were made.

It is not uncommon for HERO and OEHHA Staff to propose a more stringent risk based clean up goal than presented in the risk assessment.

Ensuring Safety during Construction

Grading and site construction must comply with Bay Area Air Quality Management District (BAAQMD) Rule 8-40-306, Rule 8-40-402 and Rule 8-40-405. Rule 8-40-306, “Contaminated Soil Excavation and Removal” is an amended rule that controls the emissions of volatile organic compounds (VOCs) from soil excavation and removal operations. The rule defines contaminated soil as soil with an organic concentration greater than 50 parts per million by volume (ppmv). Real time monitoring during soil disturbance, such as grading and over-excavation to achieve compaction, with an organic vapor analyzer (OVA) every 15 minutes will ensure compliance. Daily monitoring logs are kept of the OVA readings. Should soil with VOC concentrations greater than 50 ppmv be discovered, the soil will be appropriately segregated, stockpiled, profiled and disposed.

Rule 8-40-402 “Reporting, Excavation of Contaminated Soil” states that notice must be provided to the BAAQMD at least 5 days prior to excavation and in addition to the names of the contractor(s) performing the work an estimate of the volume of contaminated soil to be excavated must be provided in writing.

Rule 8-40-405 “Reporting, Contaminated Soil Excavations Unrelated to Underground Storage Tank Activities” states within 30 days of completion of the excavation a report must be filed with the BAAQMD providing documentation of compliance with Rule 8-40 and the requirements of 8-40-301 through 8-40-306. Such written documentation should include the daily monitoring logs of the VOC monitoring using an appropriately calibrated OVA performed by a qualified technician.

A Soil Management Plan will be required prior to construction. The Soil Management Plan provides a history of the site, summarizes the environmental assessments, investigations, risk assessments and remedial activities (with references), provides a list of applicable regulations the construction contractor and subcontractors must comply with, provides dust control, erosion and runoff control measures, air monitoring requirements pursuant to Rule 8-40, backfill source evaluation requirements and provides directions for handling, treatment and storage of impacted soil (pending profiling and disposal) discovered during construction activities. Impacted soil may be visually noticeable, i.e., discolored or a different consistency, or odiferous, or be identified using the OVA in compliance with Rule 8-40.

Applicable regulations may include, but are not limited to the following:

- Occupational Safety and Health, Title 29 Code of Federal Regulations (CFR), Regulations for General Industry (Part 1910) and Construction (Part 1926).
- Environmental Protection Agency (EPA), Title 40 CFR, National Emissions Standard for Hazardous Air Pollutants (NESHAPS), (Part 61, Subpart A).
- United States Department of Transportation (USDOT) Regulations, Title 49 CFR.
- Title 8 California Code of Regulations (CCR), California Occupational Safety and Health Administration (Cal-OSHA) Regulations, Chapter 4, Division of Industrial Relations, General Industry Safety Orders and Construction Safety Orders.
- Title 22 CCR, Social Security, Division 2, Department of Social Services - Department of Health Services, and Division 4, Environmental Health.

Long-Term Liability following Site Remediation

The property owner (UPC or its successor) holds the environmental liability under the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C.A. § 9601 *et seq.* (CERCLA). In addition, the Baylands is subject to the regulatory oversight of DTSC and the RWQCB pursuant to Corrective Action Orders enforceable by State law, and non-compliance is punishable by substantive monetary fines. The City has no liability in relation to hazardous materials remediation.

Following initial development approvals, developers purchasing land for site-specific development within the Baylands would each undertake due diligence before closing any escrow, becoming the

landowner of record, and thereby accepting liability for any hazardous conditions that may arise following site remediation. As site-specific development occurs and is sold to individual property owners, these new property owners would also undertake due diligence before closing any escrow, becoming the landowner of record, and accepting liability for site contamination. To protect long-term users of the site, the City could require establishment of a property owners' association that would be required to undertake long-term monitoring of soils and groundwater conditions, along with responsibility for any future remediation should it become necessary. Such a requirement for long-term monitoring would be similar to requirements placed on landowners within Sierra Point for long-term monitoring of conditions at the former landfill on that site.

Even after a RAP is implemented, regulatory agencies reserve the right to require additional assessment, investigation and/or remediation after site closure if a contaminant found offsite is determined to be from a source onsite or in the event new toxicological information is discovered for known contaminants onsite.

Other Issues to be Considered in Relation to Residential Development within the Baylands

Brisbane General Plan Site Remediation Provisions

Relevant General Plan policies regarding site remediation within the Baylands include:

- *Policy 172:* Establish that it is of the highest priority that contaminated lands in Brisbane be remediated.
- *Policy 173:* The City shall not grant approval of a development project on a contaminated site unless a plan for remediation of the site has first been approved and adopted by all Federal, State and local agencies having jurisdiction over the remediation plan.
- *Policy 174:* Include the remediation requirements of Federal, State and local agencies in the process of making determinations on land use designations and development applications.
- *Policy 175:* Assure that any development otherwise permitted on lands filled with municipal waste is safe by implementing the following programs.
 - *Program 175a:* Exchange information with the California Integrated Waste Management Board⁵, San Mateo County Health System Environmental Health Division and other responsible agencies regarding the requirements for safe and successful landfill development, utilizing the experience of Sierra Point.
 - *Program 175b:* Require evidence that scientific testing and verification has taken place to the satisfaction of regulatory agencies.
 - *Program 175c:* Encourage property owners of filled lands to complete all testing and related requirements of the Federal, State and local agencies well in advance of requesting land use permits from the City.
- *Policy 328 (Northeast Bayshore Subarea):* Through the appropriate regulatory agencies, control the handling of toxic materials and the remediation of any contamination.

⁵ Now called "CalRecycle."

- *Policy 365 (Baylands Subarea):* Comply with applicable Federal, State and regional standards for development on landfill.
- *Policy 368 (Baylands Subarea):* Comply with the requirements of remediation plans approved by the Department of Toxic Substances Control, the Water Quality Control Board and other responsible agencies in conjunction with development on lands that have been contaminated by toxic substances.
- *Policy 370 (Baylands Subarea):* Provide risk assessment analysis identifying toxic contamination, landfill limitations and other related factors and resultant environmental impacts in order to address, mitigate and disclose the characteristics of the land and its suitability for safe development.
- *Policy 371 (Baylands Subarea):* Disclose the underlying assumptions of all risk analyses for toxic lands and lands that are considered at risk for liquefaction.
- *Policy 387 (Beatty Subarea):* Development on landfill shall comply with applicable Federal, State and regional standards.
- *Policy 391 (Beatty Subarea):* Work closely with regulatory agencies to encourage ongoing toxic remediation programs and monitoring by those agencies.

Thus, the City’s existing General Plan policies place responsibility for oversight of remediation on Federal, State and local regulatory agencies to ensure the safety of future development. General Plan policies also require (1) approval of remediation plans by Federal, State and local regulatory agencies prior to development approvals by the City, and (2) completion of remediation to the standards of Federal, State and local regulatory agencies.

Baylands Sustainability Framework Discussion of Site Remediation

The basic principles discussed by the Planning Commission on January 28 stated that relevant provisions of the Baylands Sustainability Framework should be incorporated into the General Plan. In addition to the statements cited above, Sustainability Framework provisions relevant to site remediation and Title 27 landfill closure include:

- **Key Performance Indicators⁶**
 1. Determine the highest practical standard for remediation of the site to ensure human health. The developer will be required to consult an independent third-party credible source, acceptable to the City, for recommendations.
 2. Seek regulatory recommendations for best practices for testing, remediating, and monitoring the contamination that exists at the Baylands. Install permanent testing and monitoring stations and engage a third-party testing body to perform regular testing and provide an annual report to the City of Brisbane. A financial mechanism for supporting long term monitoring should be built into the approved plan.

⁶ Key Performance Indicators are described in the Sustainability Framework as “a general set of indicators and targets that can be established in the planning phase of the project that set a direction and intention. They are not meant as prescriptive requirements, but as alternate methods may be appropriate to achieving the goals of the Principles.”

- **Implementation**

3. To ensure ongoing knowledge of site conditions that impact human health, consult an independent third-party credible source, acceptable to the City, for recommendations to determine appropriate monitoring protocols. Install toxics monitoring equipment and provide annual reporting of levels in locations required to be monitored by Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board and/or San Mateo County Department of Environmental Health. Engage a third-party testing company, to be approved by the City, to provide annual testing and reporting. Demonstrate that there is an enforceable, ongoing financial mechanism to support the annual testing and reporting requirements.

The Sustainability Framework also states the “need for an experienced, citizen respected, independent firm to ensure proper remediation and monitoring of the contamination for the community is critical to the safety and success of this development.”

While the Sustainability Framework recognizes the regulatory authority of DTSC, the Regional Water Quality Control Board, and the San Mateo County Health System for site remediation and Title 27 landfill closure, the Framework document also recognizes “there will certainly be differences in standards and application; standards and expectations will need to be negotiated with City, developer and agencies.”

Thus, the Sustainability Framework supplements General Plan policy by suggesting that the City not simply accept whatever Federal, State and local regulatory agencies might do in relation to site remediation. The Framework suggests that the City become an active participant in the remediation review, approval, and implementation process by independently reviewing studies, plans, and recommended remediation standards, including working with regulatory agencies to seek the highest practical standard for remediation of the site to ensure human health and implementing third party testing and long-term monitoring.

EIR Mitigation Measure 4.G-2: Timing of Site Remediation and Land Use Approvals

The Baylands EIR concludes that site characterization to date, combined with the regulatory process described above, will ensure that public health and safety will be protected under any land use scenario the City might choose to approve at a General Plan level. The Baylands EIR further concludes that there is *not* sufficient information to support adoption of a specific plan at this time. This is due in large part to the risk-based nature of the regulatory process described above, whereby remediation requirements may be dependent on the land uses that are approved. The EIR conclusion is also consistent with General Plan Policy 173, which states that the City “shall not grant approval of a development project on a contaminated site unless a plan for remediation of the site has first been approved and adopted by all Federal, State and local agencies having jurisdiction over the remediation plan.”

EIR Mitigation Measure 4.G-2a therefore sets forth the following relationship between the City’s planning review and the regulatory agencies’ site remediation processes.

1. **The City identifies appropriate lands uses within the Baylands (General Plan/Concept Plan).** The City would determine the appropriate types, intensities, and location of land uses within the Baylands at the General Plan/Concept Plan level.
2. **The applicant prepares plans for Remedial Action Plans for OU-1 and OU-2 for regulatory agency review and approval.** Based on the land uses determined by the City to be appropriate for the Baylands, Remedial Action Plans would be prepared and submitted by the applicant to the RWQCB and DTSC. Review by those regulatory agencies would then be undertaken and the plans would be revised as needed, leading to their approval by the RWQCB and DTSC.
3. **The applicant prepares development regulations (Specific Plan) for the Baylands for review and approval by the City.** Only after (1) the City determines appropriate land uses for the Baylands at the General Plan/Concept Plan level and (2) approval of remedial action plans for OU-1 and OU-2, would the City consider adoption of a specific plan for the Baylands.
4. **The applicant undertakes remediation of OU-1 and OU-2 subject to regulatory agency oversight.** Following approval of remedial action plans by the regulatory agencies, along with review and approval by the City of needed grading permits, physical remediation of the Baylands would be undertaken by the applicant, subject to regulatory agency oversight.
5. **The applicant prepares site-specific development plans for review and approval by the City, and development within the Baylands occurs.** Remedial actions required for OU-1 and OU-2 must be completed prior to site development within those areas.

The City's primary role in the remediation of onsite contamination within the Baylands is to define allowable land uses for the Baylands. Based on these land uses, DTSC and the RWQCB would review and approve remedial action plans based on risk-based cleanup standards and requirements to ensure that site remediation is completed and the site is safe prior to development within affected areas.

Overall Framework for City Participation in Regulatory Agencies' Review and Approval of Site Remediation Studies and Plans

The City's General Plan, the Baylands Sustainability Framework, and EIR Mitigation Measure 4.G-2a, form a framework within which the City can work with the regulatory agencies, and coordinate regulatory agency review and approval of remedial action plans with the City's land use and development review and process. This framework includes the City accomplishing the following:

- Defining the types, intensities, and location of land uses to be permitted by the City as the basis for site remediation studies, plans, clean-up standards and actions;
- Working with regulatory agencies to establish the highest practical standard for remediation of the site to ensure human health;
- Providing City input to regulatory agencies regarding site remediation and landfill closure studies, plans, and actions, including the City engaging third party technical professionals to assist in:
 - Seeking implementation of best practices for testing, remediating, and monitoring onsite contamination;

- Seeking the highest practical standard for remediation of the Baylands;
- Reviewing remediation and landfill closure studies, along with proposed remediation and landfill closure plans and actions;
- Providing comments to regulatory agencies;
- Negotiating any differences in standards, implementation requirements, or expectations for performance between the City, regulatory agencies, and developer;
- Performing regular testing, monitoring, and providing an annual report to the Brisbane City Council; and
- Establishing a financial mechanism to support long term monitoring;
- Ensuring that site remediation is completed and approved by regulatory agencies prior to City approval of a specific plan for the Baylands;
- Ensuring that approved specific plan(s) are consistent with General Plan policies and approved site remediation plans;
- Ensuring that site remediation is completed prior to development as follows:
 - For OU-1, before permitting site-specific development within OU-1; and
 - For OU-2, before permitting site-specific development within OU-2.

In the event it is determined through the regulatory process that it would be infeasible to remediate the site to accommodate any particular land use approved by the City, the appropriateness of such a land use for the Baylands would be re-evaluated by the City.

Current General Plan Policy Prohibits Housing in the Baylands

General Plan Policy 330.1 prohibits residential development within the Baylands. Concerns specifically cited in the General Plan include potential community character impacts and concerns over toxic contamination. As part of its development application, UPC has requested that the City amend its General Plan to remove this prohibition, and allow the City to consider residential development within the Baylands. State law permits such a General Plan amendment request, and the Planning Commission is obligated to consider this request and make a recommendation to the City Council. During its public hearings, the Commission heard substantial testimony both for and against inclusion of housing within the Baylands.

Aside from the safety issues discussed in detail above, some public hearing testimony, as well as Draft EIR comments, stated that there is no compelling reason for the City to change its policy prohibiting residential use in the Baylands and the City is not obligated to do so. Other commenters asserted that the current housing shortage and jobs/housing imbalance in the Bay Area provide ample reason for the City to amend its General Plan to allow for housing on the Baylands.

Discussion of Housing in the Baylands Sustainability Framework

The Baylands Sustainability Framework addresses the potential for housing on the Baylands in relation to several issues other than site remediation, which was discussed above. The Framework recognizes that a sustainable development program for the Baylands could include residential uses,

and sets forth the key performance indicators and implementation measures for residential uses to be applied if residential is included in the Baylands. The Sustainability Framework includes the following housing-related provisions in addition to those previously discussed:

- **Zero Carbon Buildings Implementation**

6. Review master plan for transit oriented development approach using mixed use, clustered buildings conducive to transit usage. If housing is allowed in the project, establish minimum target of 75% of commercial and residential population within $\frac{1}{4}$ to $\frac{1}{2}$ mile radius of transit opportunities, and alternative modes of transit (e.g. Electric Vehicles/EVs, bikes) are planned for. (Implementation of transportation strategies to be addressed in Sustainable Transportation).

- **Sustainable Transportation Summary Approach**

We will reduce emissions from transportation first by reducing the need to move long distances and also by reducing the need for fossil fuel based modes. We will create an easy pedestrian and bicycle lifestyle, where the location of jobs, restaurants, retail, services and recreation are in close proximity to each other. If housing is allowed, it will be incorporated into this web of mutual efficiency.

- **Sustainable Transportation Implementation Strategies**

3. Create an easy pedestrian and bicycle lifestyle, where the location of jobs, restaurants, retail, services, recreation and housing (if permitted) are in close proximity to each other.

- **Local and Sustainable Food Discussion**

Areas for growing food, including fruit trees, may need special analysis to ensure the safety of the soil for that purpose, so this is left out of the KPIs for now. If zoning is changed to allow housing on site, this issue will need to be resolved.

- **Culture and Heritage Implementation**

- 5.f. If housing is included in the project, consider community gardens as an amenity and a local economic development/small business opportunity. Encourage the relationship of local farming to sustainable food restaurants in Brisbane.

- **Economic Vitality with Equity & Ecology Key Performance Indicators**

3. If housing is approved by the citizens of Brisbane, create a live work site based on the principles established by the BedZED (Beddington Zero Energy Development) in England.
4. If housing is approved by the citizens of Brisbane, establish a threshold of affordable housing serving diverse income groups based on current local data. The City will establish this threshold. Affordable housing should be integrated, not separated, into the development.

- **Economic Vitality with Equity & Ecology Implementation Strategies**

3. If housing is included in the plan, include live-work and affordable housing in the project.
 - a. Quantity of live-work to be determined by a local market analysis determining viability of live-work at Baylands.

- b. Levels of affordability shall be determined by level of need for the subregion, such as low income, very-low income and moderate income per ABAG designations. City still needs to identify levels of affordability.

Community Survey Results Regarding Housing in the Baylands

The results of the Baylands community survey indicate that 55 percent of residents either somewhat or strongly oppose multi-family residential development within the Baylands, while 42 percent of residents would either somewhat or strongly support such development.

The primary reasons given by survey respondents for opposing residential development within the Baylands include concerns regarding:

- Changes in Brisbane’s character;
- More pressing needs for other uses;
- Safety in relation to existing site contamination; and
- Increased traffic congestion.

When provided with information on (1) the existing General Plan prohibition against housing in the Baylands, (2) the number of housing units existing within Brisbane (approx. 2,000) and (3) the number of units proposed by the applicant (4,400), respondents to the community survey were asked how many housing units would be appropriate to include in future Baylands development. The community survey received the following responses:

Number of Units	Response
Zero	43%
1-500	15%
501-1,000	13%
1,001-2,000	10%
2,001-3,000	6%
3,001-4,000	3%
4,001-5,000	2%
5,001 or more	1%
No answer provided	6%

Environmental Implications of Housing

The provision of mixed-use development featuring close proximity of housing to transit and employment opportunities is a key component of the Bay Area’s regional plan (Plan Bay Area), as well as statewide efforts to reduce vehicle miles travelled and resulting greenhouse gas and air pollutant emissions. Within the Bay Area, a combination of high housing costs and an overall lack of housing in comparison to employment opportunities have required many Bay Area workers to live outside of the Bay Area or have relatively long commutes within the Bay Area. As noted in the Framework, for Bay Area residents, being able to live close to where they work:

“is an option that many working class people can no longer achieve. With the lack of affordable housing and jobs that pay well enough to keep up with the high cost of living, the diversity of our neighborhoods is eroding because so many people are priced out; it’s becoming increasingly difficult for sons and daughters, seniors who want to downsize, and people with average wages to live in the communities they’ve called home for many years. Many cities in the region are behind in the provision of affordable and work force housing, as well as market rate housing that is affordable to the middle class.”

The result of the high cost of housing in the Bay Area is that the region as a whole, and in particular employment centers such as San Francisco and Silicon Valley, provide more jobs than housing for workers. As a result, long commutes on congested freeways and highways are common. For example, the 2010 Census reported that substantially more people worked in Brisbane (6,780 jobs) than there were Brisbane residents in the work force (2,310), meaning that the majority of people working in Brisbane commute to the City from other communities, primarily by automobile. In addition, only 12.9 percent of employed Brisbane residents reported working in Brisbane⁷. Thus, any Baylands development that would increase the community’s employment base but not its housing base would increase the need for Brisbane workers to commute into the community from outlying areas. Such increased commuting into Brisbane would result in increased traffic congestion, GHG and air pollutant emissions, and increased consumption of non-renewable fossil fuels.

While the inclusion of housing within the Baylands will not guarantee that people would both live and work within the Baylands or within Brisbane, increasing local housing supply will increase the *opportunity* for Brisbane workers (both within the Baylands and the community as a whole) to live near their place of employment in Brisbane. Development of employment-generating uses within the Baylands in the absence of new housing, on the other hand, would limit the opportunity for Brisbane workers to live near work. Providing housing in addition to employment-generating uses within the Baylands would also tend to reduce *average* commute distances over time as compared to providing for new jobs within the Baylands, but not new housing. Reductions in average commute distances would result in lower levels of energy consumption and GHG and air pollutant emissions over time than would maintaining current average commute distances.

The findings of the EIR regarding the effect of placing residential development in proximity to employment-generating uses within the Baylands on whether people walk, bicycle, or take transit to work are consistent with existing Brisbane commute patterns. A review of the 2010 Census indicates that 6.0 percent of the 2,310 workers living in Brisbane reported that they either walked or rode a bicycle to work. Another 11.9 percent reported that they took public transit to work, and 2.3 percent reported they worked at home. By increasing the proximity of housing to employment and transit, including housing in the mix of Baylands land uses would be likely to increase commutes by walking, bicycling, and transit than currently exists for Brisbane as a whole, thereby reducing long-term energy consumption and GHG/air pollutant emissions.

⁷ The majority of working Brisbane residents reported working outside of San Mateo County, primarily in San Francisco (53.1 percent).

Even with the substantial amount of housing that will be developed in the Candlestick Point-Hunters Point, Executive Park, and Schlage Lock projects, there remains a large regional shortfall of housing. The large amount of housing being approved in San Francisco near the Baylands in the Candlestick Point-Hunters Point, Executive Park, and Schlage Lock projects will be accompanied by substantial employment-generating development, and will not fully solve the need for additional housing in the area. While Plan Bay Area projections show a total of 16,150 new housing units being developed between 2010 and 2040 within the Bayview/Hunters Point/Candlestick Point Priority Development Area (PDA) and the San Francisco portion of the San Francisco/San Mateo Bi-County PDA, Plan Bay Area also notes that this housing will be accompanied by commercial development and the creation of 10,530 new jobs within those same developments. Overall, ABAG projects an increase of 103,960 housing units as compared to an increase of 209,237 jobs within the cities of Brisbane, San Francisco, South San Francisco, and Daly City as a whole between 2010 and 2040, exclusive of the Baylands.

Potential Effects of Residential Development on Community Character

Potential changes to community character resulting from residential development on the Baylands could result in several different ways. From a physical perspective, the style and character of residential development in the Baylands (multi-family attached units in an urban mixed-use setting) would be substantially different than the more suburban character of existing Brisbane residential neighborhoods. Additionally, any residential development permitted within the Baylands would be physically separated from other residential neighborhoods in the City. The extent to which these factors might impact community cohesion or community character cannot be fully known or quantified. Other aspects of community character would be impacted by the intensity and scale of any permitted future development. These considerations can be more easily quantified using metrics such as building height, mass and number, of units. In the event the Planning Commission wishes to consider any residential development on the Baylands, questions of development intensity will be addressed in subsequent deliberations.

Municipal Cost-Revenue Characteristics of Residential Development

It has also been pointed out that historically in California residential uses typically do not pay for themselves, and the costs to the City of providing ongoing services to residences exceed the revenues to the city generated by these new units. Completion of fiscal studies is pending, and no evidence has been presented which demonstrates this project would not follow this typical pattern.

Next Meeting:

Following this hearing, the Planning Commission will continue its series of deliberations meetings on **April 14, 2016**, which will focus discussion of the appropriate distribution of land uses within the Baylands.

Attachment:

1. Planning Commission Interim Direction through the February 25 Deliberations Meeting
2. Portion of October 8, 2015 Planning Commission Staff Report addressing the Site Remediation and Title 27 Landfill Closure

Attachment 1

Interim Planning Commission Direction for the Baylands as of the February 25, 2016 Deliberations Meeting

1. Basic principles for development of the Baylands

- “The City of Brisbane and its Mountain will remain a place independent and distinct, with a small town quality and a volunteer spirit, where diversity is welcomed and everyone can participate in town meetings, and elected officials carefully consider the desires and needs of the citizens, and govern through circumscribed rules and regulations only as required for the public health and safety and the protection of the environment.” *Brisbane General Plan, Chapter 3, page 1.*
- “Though small town Brisbane cannot be duplicated in the Baylands, the Community’s values will be woven throughout the development. Buildings will be aesthetically creative, enhance open space and public areas, convey the appearance of an organized/independent development process rather than large scale development based on generic standards, and generally enhance the aesthetic and cultural value of Brisbane.” *Sustainability Framework, page 73.*
- Preserve large unbroken blocks of open space that provide for restoration of wetland areas and provide continuity and flow of open space throughout the Baylands.
 - “Open space,” as used in these principles means:
 - Lands for the provision of active and passive recreation;
 - Lands for the protection of resources (e.g., sensitive habitat areas); and
 - Lands for the protection of public health.
 - Site-specific developments will be provided with independent open space areas.
- Protect key habitat areas, including the Brisbane Lagoon and potential habitat areas adjacent to it, Icehouse Hill, and wetlands.
- Restore the Roundhouse, provide for rail-related and educational uses at the Roundhouse, and maintain compatible development adjacent to it.
- Maintain a transit orientation for new development, including use of the Baylands to enhance access from Central Brisbane to the Bayshore Caltrain Station and other transit services within the Baylands.
- Incorporate the principles of the Sustainability Framework for the Baylands into future development.
 - Use the Sustainability Framework as a reference document in the review of the Baylands proposed General Plan Amendment, Concept Plans, Specific Plan(s) and site-specific developments; and
 - Incorporate provisions of the Sustainability Framework into General Plan policy and conditions of approval for Specific Plan(s) and site-specific developments.

- Ensure that the site is safe for the future uses approved for development by the City in relation to:
 - Site remediation and Title 27 landfill closure;
 - Seismic and geologic hazards;
 - Flooding, including hazards related to sea level rise;
 - Traffic safety and emergency response; and
 - Provision of public safety services.
- Provide appropriate infrastructure and site amenities for each increment of development within the Baylands.
 - Each increment of development must be provided with appropriate infrastructure, services and facilities, and site amenities.
 - Adequate water supply must be ensured.
 - Development phasing shall include specific milestones for provision of environmental site mitigation (e.g., remediation and landfill closure, open space dedication, habitat restoration, transit and roadway improvements, and infrastructure) and other development requirements.

2. Non-Residential Land Uses

- Recology
 - Recology’s solid waste processing facility should be included in the description of General Plan land uses for the Beatty subarea without specifically addressing Recology’s proposed expansion. The General Plan should note that the facility should meet zero waste goals in a manner that is compatible with the surrounding community. Transportation and energy consumption issues related to Recology’s operations also need to be addressed.
- Renewable Energy Generation
 - Renewable energy generation should be included in the description of General Plan land uses for the Baylands, both as a freestanding use (e.g., solar farm) and in combination with other uses (e.g., roof-mounted solar panels on an office building or energy production at the Recology solid waste facility).
- High Speed Rail Maintenance yard
 - The potential for the California High Speed Rail Authority to select the Baylands as a site for a maintenance yard should be identified in the General Plan, along with discussion of the need for such a facility to be designed so as to avoid impacts and provide an overall benefit to the community if the Authority seeks to locate the maintenance yard within the Baylands.
- Light Industrial, Warehouse, Research & Development
 - While inclusion of these uses in the General Plan land use description can remain, the General Plan should state a preference for small-scale (rather than large-scale) light industrial and warehouse/distribution uses, such as “craft” uses.

- Retail
 - Retail use should remain in the General Plan land use discussion. The size and scale (e.g., neighborhood, community, or large scale) of retail development will be discussed in subsequent deliberations.
- Office
 - Office use should remain in the General Plan land use discussion. The location and development intensity of office development will be discussed in subsequent deliberations.
- Hotels and Conference Facilities
 - Hotel use should be included in the General Plan land use discussion. The location and development intensity of hotel development will be discussed in subsequent deliberations with a preference for locating hotel uses in proximity to the Bayshore Caltrain station, as discussed in the Sustainability Framework.
- Schools
 - While trade schools and educational institutions aimed at adults would be appropriate within the Baylands, the potential for locating K-12 schools within the Baylands is tied to the potential for housing. Schools should not be located within the Baylands in the absence of Baylands housing. Should housing be included in the range of uses for the Baylands, additional discussion of the potential for schools would be undertaken by the Commission.
- Arena/Concert Venue
 - While a large-scale sports arena or concert venue would not be appropriate within the Baylands, a small scale concert venue such as an outdoor space near the Roundhouse that could also be used for community events might be appropriate within the Baylands.
- Commercial Recreation
 - The potential for commercial recreation use should be included in the the General Plan's land use description for the Baylands.

Attachment 2 October 8, 2015 Staff Report Addressing Hazardous Materials

City of Brisbane Planning Commission

TO: Planning Commission For the Meeting of October 8, 2015
FROM: John Swiecki, ^{DAS} Community Development Director
SUBJECT: Brisbane Baylands Public Hearing #2 - Hazards and Hazardous Materials, Geology, Hydrology and Water Quality

Background:

Tonight's public hearing is the second scheduled public hearing for the Brisbane Baylands, and will focus on addressing issues related to hazards and hazardous materials, geology, and hydrology and water quality. Considerations that the Planning Commission might want to take into account when making their recommendations to the City Council pertaining to environmental considerations, land use, and future development of the Baylands will also be discussed. Future hearings will continue to focus on the environmental resource topics included in the Brisbane Baylands EIR

Although this evening's hearing focuses on hazards and hazardous materials, geology, and hydrology and water quality issues, it is important to understand that the EIR and pending planning applications are the subject of each public hearing, including tonight. This approach recognizes that planning and environmental issues are intertwined and that each of the issues being focused on in the public hearings is relevant to the EIR as well as the to the land use planning recommendations the Planning Commission is tasked with making.

Specifically, tonight's public hearing will focus on:

- Providing the public and Commission with a summary of the conclusions and mitigation measures set forth in the Brisbane Baylands Final EIR related to the topics under discussion;
- Identifying major issues that were raised in public and agency comments on the Draft EIR;
- Providing some context regarding the implications of these issues on the larger planning and land use considerations that are before the Planning Commission as it considers its future recommendations to the City Council; and
- Providing the public with the opportunity to provide input regarding the discussion of hazards and hazardous materials, geology, and hydrology and water quality issues in the EIR, and how these issues should be taken into consideration by the Planning Commission as part of its ultimate planning recommendation at the close of the public hearing process.

Discussion:

Hazards and Hazardous Materials

Regulatory Authority

In addressing hazards and hazardous materials issues for the Baylands, it is important to remember that site remediation and Title 27 landfill closure actions are subject to the regulatory authority of the California Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), and the San Mateo County Health System. While the Brisbane Baylands EIR is required to address impacts associated with hazardous materials onsite, the City does not have the authority to approve or to impose requirements on DTSC or the RWQCB in relation to site remediation or Title 27 landfill closure requirements, activities, or monitoring. Such approvals rest with DTSC and the RWQCB, and will require subsequent CEQA review by those agencies prior to approval of remedial action plans or Title 27 landfill closure plans.

Introduction

The history of landfill and industrial/railyard use of the Baylands has resulted in two primary areas where past hazardous materials releases have occurred: the former landfill and the former railyard. Remediation of contamination within the former railyard and closure of the former landfill pursuant to California Code of Regulations Title 27 represent critical issues when considering development within the Baylands. While physical remediation within the former railyard and Title 27 landfill closure must be completed prior to site development activities, there is a substantial overlap between the process undertaken by DTSC and RWQCB for site remediation/Title 27 landfill closure and the planning and review process being undertaken by the City for development of new land uses within the Baylands.

Some of the key terms used in the management of hazardous materials include:

- A “hazardous material” is 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 if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or an administering agency has a reasonable basis for believing 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).
- A “hazardous waste” is a waste substance that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (*California Health and Safety Code*, Section 25117).
- “Remedial action” or “remediation” refers to actions required by federal; state; or local laws, ordinances, or regulations necessary to prevent, minimize, or mitigate damage that may result from the release or threatened release of a hazardous material. These actions include site cleanup, monitoring, testing, and analysis of site conditions, site operation and maintenance, and placing conditions or restrictions on the land use of a site upon completion of remedial actions.

- “Landfill closure” refers to the requirements contained in California Code of Regulations Title 27 for closure and post-closure maintenance plans to ensure that landfill closure and post-closure maintenance and the eventual reuse of disposal sites will conform to state performance standards and substantive requirements.
- “Constituent of concern” or “contaminant of concern” is a hazardous material that has the potential to cause damage to human health or the environment, and create a “risk” to human health and the environment.
- “Exposure pathway” is the course a chemical or pollutant takes from the source to the organism exposed. A “complete” exposure pathway consists of four elements: chemical sources, migration routes (i.e., transport in the environment), an exposure point for contact (i.e., soil, air, or, water); and exposure routes.
- “Exposure route” is the way a chemical or pollutant enters an organism after contact. Four exposure routes are recognized in risk evaluation methods: ingestion, inhalation, dermal (skin and eye), and injection.

There are three primary ways in which a person may come into contact with a hazardous substance: inhalation, ingestion, or direct contact. Some common exposure pathways by which people may be exposed to hazardous substances include the following:

- **Groundwater and Surface Water:** Exposure will occur if people drink contaminated groundwater or surface water, accidentally ingest it while swimming, or if it comes into contact with their skin.
- **Soil, Sediment, Dust:** People will be exposed to hazardous substances in soil, sediment, or dust if they accidentally ingest it (e.g., the contaminants such as lead dust or other heavy metals land on their food), if they breathe it in (especially dust), or if their skin comes into direct contact with the contaminated materials.
- **Air:** When a hazardous substance takes the form of vapors or is absorbed by particulate matter (e.g., benzene, volatile organic compounds, dust, etc.), breathing can expose people to contamination.
- **Food:** Eating food that has been contaminated is another common exposure route.

While a “hazard” includes any situation that has the potential to cause damage to human health or the environment, the “risk” to human health and the environment is determined by the probability of exposure to hazardous materials (which are also referred to as “constituents of concern” or “contaminants of concern” in many investigations of past releases of hazardous materials) and the severity of harm that such exposure would pose. The “risk” to human health and the environment is determined by (1) the probability of exposure to hazardous materials and (2) the severity of harm such exposure would pose.

Existing Conditions

The Baylands contains two primary areas where past hazardous materials releases have occurred: the former landfill and the former railyard. For regulatory purposes, the former railyard was divided into two regulatory units: Operable Unit 1 (OU-1) north of Geneva Avenue and Operable Unit 2 (OU-2) south of Geneva Avenue (see Attachment 1). It was divided into two units under separate regulatory control in recognition of differences in the type of contamination present and the scope of regulatory authority of the agencies involved. DTSC has regulatory authority for remediation of OU-1, while RWQCB has regulatory authority for remediation of OU-2. Regulatory

authority for Title 27 landfill closure rests with RWQCB and the San Mateo County Health System in its role as the “local enforcement agency” for solid waste management.

In general, more is known regarding soils and groundwater contamination affecting OU-1 and OU-2 than is known about the waste materials placed within the former landfill. Because landfill operations ceased in the 1960s, detailed records (such as would now be required to be maintained) of the types of materials placed in the landfill are not available. Nevertheless, a number of waste characterization studies were undertaken over the years on behalf of the landowner. As a result, a general characterization of waste within the landfill is available.

The former railyard portion of the Baylands contains contaminants in the soil and groundwater that require remediation prior to future development. Both DTSC and the RWQCB provide regulatory oversight for this remediation. These agencies will oversee establishment of remediation goals based on the land uses determined by the City to be appropriate, along with development of remediation techniques and requirements in accordance with the Remedial Action Plans (RAPs) that need be prepared, approved by the regulatory agencies, and implemented prior to any development on the Project Site. Although the City’s regulatory authority is over the land uses to be permitted with OU-1, OU-2, and the former landfill, the Brisbane Baylands EIR provides a programmatic analysis of site contamination, remediation, and Title 27 landfill closure. Both DTSC and the RWQCB will be required to undertake further CEQA analysis as part of their review and approval of RAPs and Title 27 landfill closure plans.

Operable Unit 1 (OU-1)

DTSC oversees OU-1. A portion of OU-1 is located within San Francisco (Schlage Lock property) north of the Baylands Project Site, and consists of soil and groundwater impacted by VOCs that underlie a portion of OU-1. The San Francisco portion of OU-1 is undergoing remediation separate from the Brisbane (Baylands) portion. Groundwater contamination within the Brisbane portion of OU-1 largely originated from the San Francisco portion of OU-1 (Schlage Lock property).

Soil and groundwater constituents of concern associated with OU-1 contamination within the Baylands include volatile organic compounds (VOCs) (primarily trichloroethylene (TCE), tetrachloroethylene (PCE), cis-1,2-dichloroethylene [cis-DCE], and vinyl chloride [VC]); total petroleum hydrocarbons (TPH) as Bunker C (fuel oil); and metals in the soils including arsenic, lead, cadmium, and mercury and chromium in groundwater. A groundwater treatment system has been in place since 1995 to improve groundwater conditions. Groundwater continues to be monitored through quarterly reports to DTSC.

Operable Unit 2 (OU-2)

Various petroleum hydrocarbons, volatile organic compounds (VOCs), and metals have been released to soil and groundwater at OU-2. In response to known contamination, investigation and sampling activities were commenced as early as March 1984 as a precursor to site remediation. In addition to railyard operations, contamination of soil with petroleum hydrocarbons and heavy metals within OU-2 is thought to have originated from the oil tank farm operations.

The primary contaminants of concern within OU-2 are petroleum hydrocarbons (including Bunker C fuel oil) and heavy metals. A north-south ditch was constructed as a temporary measure to reduce Bunker C contamination of soils and surface water. Monitoring wells are also monitored for VOCs (primarily PCE) on a semi-annual basis.

As a result of past efforts by the landowner to address onsite contamination within OU-2 in relation to existing land uses, a proposed remediation plan was submitted to RWQCB, which provided a conditional Approval Letter dated May 9, 2002. This plan was not implemented. Because proposed development within the Baylands involves changes to existing land use within OU-2, preparation and implementation of a new RAP prior to any ground disturbing activities for proposed Baylands development within OU-2 is required.

Former Landfill

The eastern half of the Baylands north of the lagoon served as a landfill from 1932 to 1967. The landfill operated and closed before modern waste disposal practices were developed and formal regulatory designs for closure were required. As a result, waste disposal design features such as liners, segregation of waste into disposal cells, and leachate collection systems were not provided. Waste containment was consistent with practices at that time providing for wastes to be placed directly on native soils

Following cessation of landfill operations, the landfill was buried with a soil cover approximately 20–30 feet deep to prevent future human contact with contamination. Some methane gas is still being generated by decomposing solid waste within the landfill. Currently, methane gas emissions are collected through wells and piping, and burned periodically in a flare.

Of the estimated 12.5 million cubic yards of solid waste within the landfill, an estimated 73 percent was produced by residential and commercial/industrial activities, with inert fill accounting for approximately 25 percent, and the remaining 2 percent assumed to be liquid waste. Waste tires were also placed in the landfill. The depth of the waste layer is estimated to range from 20 to 35 feet. The San Mateo County Health System oversees the landfill site, along with the RWQCB.

Groundwater/leachate and stormwater quality is being monitored by consultants for the landowner at well and outfall locations and reported to the RWQCB. The Regional Water Quality Control Board also approved a plan in 2007 providing for interim management of landfill leachate for the current (pre-development) site use. Preparation and implementation of closure and post-closure maintenance plans pursuant to California Code of Regulations Title 27 to ensure that landfill closure and post-closure maintenance and the eventual reuse of disposal sites will (1) conform to state performance standards and substantive requirements, (2) prevent exposure of wastes within the landfill to the public and the environment, and (3) manage generation of landfill gas and leachates within the landfill so as to protect public health and the environment.

Potential Impacts

Remediation and Title 27 landfill closure need to be completed prior to commencement of construction within that area. Remediation of OU-1 and OU-2 would be required prior to any future development of these portions of the Project Site. Title 27 landfill closure would require

containment of existing waste and leachates to prevent exposure of the public or the ecosystem, prevention of liquid percolating through to the underlying waste, and prevention/control of landfill gas emissions. While the remediation technologies that will ultimately be approved by DTSC and the RWQCB are required to be designed to (1) effectively remediate contaminated soils and groundwater, (2) protect the environment and health of workers during remediation, and (3) prevent creation of new exposure pathways for contaminated materials to enter the environment and endanger the health of workers and the public.

Hazardous materials such as asbestos-containing materials and lead-based paint are likely to be encountered during demolition of onsite structures. Such hazards would be addressed pursuant to existing regulations for abatement of asbestos-containing materials and lead-based paint hazards.

Following site remediation and landfill closure, construction activities would require the use and transportation of hazardous materials (e.g., fuels, cement products, lubricants, paints, adhesives, and solvents). Accidental releases of hazardous materials during demolition and construction activities could impact soil and/or groundwater quality, which could result in adverse health effects to construction workers, the public, and the environment. However, contractors' compliance with federal, state and local requirements related to use, storage, and disposal of hazardous materials during construction would reduce impacts related to inadvertent release of hazardous materials.

Nearly all proposed uses associated with Baylands development under each development scenario would involve the presence of hazardous materials (or products containing hazardous materials) at varying levels, and this would represent an increase in hazardous materials use compared to existing conditions. It would also increase the number of people who would potentially be exposed to potential health and safety risks associated with routine use.

Recommended Mitigation Measures

Mitigation Measure 4.G-2a sets forth requirements for preparation and implementation of site remediation and Title 27 landfill closure plans under DTSC and RWQCB regulatory authority in relation to the City's planning and CEQA review process. This measure ensures that site remediation and Title 27 landfill closure activities are completed prior to development occurring within areas subject to those activities. This process is described in greater detail below under "Review Process and Responsibilities for Site Remediation and Title 27 Landfill Closure."

Measures to protect workers and the public during construction activities are set forth in Mitigation Measures 4.G-2b (Soil and Groundwater Management Plan) and 4.G-2c (Master Deconstruction and Demolition Plan), which will supplement state and federal OSHA requirements.

Recognizing hazards associated with landfill gas production at the former landfill, Mitigation Measures 4.G-2f, 4.G-2g, and 4.G-2-2h set forth requirements for design of underground vaults and structures, such as those that would be constructed as part of site infrastructure development, to prevent buildup of potentially volatile landfill gas.

Major Issues Addressed in the Final EIR

Adequacy of Waste Characterization in the EIR

A number of comments on the Draft EIR questioned whether the waste characterization of the former landfill discussed in the Draft EIR was adequate, and requested that additional studies be completed. Draft EIR comments also questioned whether characterization of contamination within the former railyard (OU-1, OU-2) was adequate.

The purpose of the studies conducted to characterize waste in the former landfill and used in the EIR, was to (1) address the potential for materials within the landfill to contaminate groundwater or migrate offsite, (2) identify potential pathways of exposure, and (3) ultimately provide a basis for designing the required landfill cap, along with a leachate control system to prevent any increases in leachate that would exceed any regulatory thresholds, and a landfill gas collection and control system. The purpose of the studies conducted to characterize the contaminants within OU-1 and OU-2 was to provide a basis for analysis of human health risks for any future land uses that may be approved by the City, along with preparation or remedial action plans to achieve risk-based remediation goals set by the regulatory agencies.

Based on (1) these recognized purposes, (2) the programmatic nature of the Baylands EIR, (3) CEQA's requirements for subsequent environmental review, and (4) the planning and the remediation review processes set forth in the EIR including the regulatory authority of DTSC and the RWQCB along with requirements for subsequent project-specific CEQA review, City staff and the EIR consultants determined that the existing landfill and site contamination studies prepared to date were adequate to characterize existing conditions for use in the Baylands EIR.

In 2005, CDM was retained by the City to review the adequacy of existing characterization studies of the former landfill and railyard. CDM concluded that these studies had been prepared in accordance with industry standards, and therefore were adequate for use in the Baylands EIR. CDM undertook additional review of these studies (and its 2005 report) in 2013, and again found that these past environmental studies were adequate for use in the Draft EIR.

Dr. G. Fred Lee's report¹, is cited in many comments on the Draft EIR as indicating the existing hazardous materials studies prepared for the Baylands are lacking. On page 22 of that report, Dr. Lee states that the "2005 CDM assessment of the degree of human health and ecological risk associated with the contamination at the Baylands area has been conducted in accord with normal hazardous chemical site investigations used today by consulting firms employed by site owners and regulatory agencies." Dr. Lee's primary criticisms are targeted at the limitations of existing environmental science and technology to identify hazardous chemicals, as well as at concerns with the adequacy of existing regulations.

¹ G. Fred Lee & Associates, Inc., "Draft Report on the Adequacy of the Investigation/Remediation of the Brisbane Baylands UPC Property Contamination Relative to Development of this Property," 19 October 2010.

In response to comments received on the Draft EIR, the City retained Susan Mearns, Ph.D., to once again review the characterization studies cited in the Draft EIR, and all Draft EIR comments critiquing those studies or critiquing the discussion of hazardous materials in the Draft EIR. Dr. Mearns concluded that each of the studies cited in the Draft EIR were prepared consistent with industry standards at the time they were prepared. While these studies were prepared at different times, for different areas of the site, for different purposes, and with different methodologies, she determined that together these studies paint an accurate overall picture of onsite contamination within the Baylands that is adequate for use in the Baylands EIR, recognizing that both the land use planning and site remediation processes are in their early stages.

Review Process and Responsibilities for Site Remediation and Title 27 Landfill Closure

A number of comments on the Draft EIR questioned the review process and responsibilities for site remediation and Title 27 landfill closure.

DTSC has the regulatory authority to oversee remediation of OU-1. The RWQCB has the regulatory authority to oversee remediation of OU-2. Regulatory authority for Title 27 closure of the former landfill rests with the RWQCB and the San Mateo County Health System in its role as the local enforcement agency (LEA) on behalf of CalRecycle (formerly the California Integrated Waste Management Board). Responsibilities of DTSC, RWQCB, and San Mateo County Health System for site remediation and Title 27 landfill closure include:

- Reviewing existing studies to determine whether any additional characterization studies are needed for site remediation or Title 27 landfill closure;
- Setting risk-based cleanup goals for the land uses approved by the City of Brisbane;
- Reviewing and approving plans for site remediation and Title 27 landfill closure;
- Undertaking project-level CEQA review for the remediation of OU-1 and OU-2, as well as the Title 27 closure of the former landfill;
- Overseeing the physical remediation of OU-1 and OU-2, as well as the Title 27 closure of the former landfill;
- Certifying completion of site remediation and Title 27 landfill closure; and
- Undertaking such post-remediation and Title 27 landfill closure activities as are necessary to ensure public health.

While the City of Brisbane maintains land use authority over the Baylands, it does not set remediation standards, nor does it determine specific technologies to be employed or to approve Remedial Action Plans (RAPs) or plans for Title 27 landfill closure. Mitigation Measure 4.G-2a sets forth the relationship between the City's planning review of land use within the Baylands and the regulatory agencies' review process for site remediation and Title 27 landfill closure.

The key determination made in the Draft EIR regarding the relationship between the City's planning review and the regulatory agencies' remediation review processes is that, while sufficient information is available for the City to make a General Plan/Concept Plan land use decision, there is *not* sufficient information to support adoption of a specific plan at this time. Thus, EIR Mitigation

Measure 4.G-2a sets forth the following relationship between the City's planning review and the regulatory agencies' remediation review processes.

- **Identify appropriate lands uses within the Baylands (General Plan/Concept Plan).** Following certification of the Final EIR for proposed Baylands development, the City would determine the appropriate types, intensities, and location of lands uses within the Baylands at the General Plan/Concept Plan level.
- **Complete plans for Title 27 landfill closure and Remedial Action Plans for OU-1 and OU-2.** Based on the land uses determined by the City to be appropriate for the Baylands, Remedial Action Plans and Title 27 landfill closure plans would be prepared and submitted to the RWQCB and DTSC. Review by those regulatory agencies would then be undertaken and the plans revised as needed to the satisfaction of the RWQCB and DTSC, leading to their approval.
- **Prepare and adopt development regulations for the Baylands (Specific Plan).** Only after completion of Title 27 landfill closure and remedial action plans for OU-1 and OU-2, would the City consider adoption of a specific plan for the Baylands. Subsequent environmental documentation under CEQA would be required for adoption of a specific plan by the City.
- **Undertake Title 27 landfill closure and remediation of OU-1 and OU-2.** Following approval of landfill closure and remedial action plans, Title 27 landfill closure and physical remediation of the Baylands would be undertaken. Issuance of grading permits by the City as required for such landfill closure and remediation will likely be needed.
- **Site-specific development plans and development within the Baylands.** Remedial actions required for the former Brisbane Landfill, OU-1 and OU-2 must be completed prior to site development within those areas.

Risk-Based Remediation Standards

A number of Draft EIR comments indicated a misunderstanding of risk-based remediation standards and the use of human health risk assessments by the RWQCB and DTSC to set those standards for OU-1 and OU-2.

Rather than applying a single standard for each potential contaminant to all sites regardless of their intended use, risk-based cleanup goals are site-specific cleanup standards based on site-specific information including the types and concentrations of the contamination present, the future intended use of the property (and resulting human health risks based on this use), the expected receptor populations that may be exposed to the impacted media during project construction and operation, and the anticipated potential ingestion pathways. For example, if the intended future use of a property is an office, risk based cleanup goals would be calculated for construction workers, office workers, and landscape/maintenance workers. If the intended future use of a property is residential (as would occur in the DSP/DSP-V scenarios), risk based cleanup goals would be calculated for construction workers and residents. Because the range of potential ingestion pathways and the time over which exposure to contaminants is greater for residential uses than for commercial/industrial uses, human health risks for residential uses are greater and remediation standards are more stringent than for commercial industrial uses.

Determinations as to the human health risks associated with any particular contaminated site are analyzed in a “human health risk assessment,” which evaluates the potential adverse health impacts receptor populations may experience. Human health risk assessments are prepared as part of the remedial action plan preparation process, and are intended to ensure that sufficient analyses have been completed to properly evaluate human health risks based on a property’s future intended use, and to develop risk-based cleanup goals to protect the health of future site users. Human health risk assessments are prepared following federal (USEPA) and State (DTSC) guidance, and would be reviewed and approved by the regulatory agency or agencies responsible for remediation (e.g., DTSC, RWQCB).

Liability in Relation to Potential Hazards

Several comments expressed concern that the City would incur liability for approving development within the former landfill or within OU-1 and OU-2.

The property owner holds the environmental liability under the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C.A. § 9601 *et seq.* (CERCLA). In addition, the Baylands is subject to the regulatory oversight of DTSC and the RWQCB pursuant to Corrective Action Orders enforceable by State law, and non-compliance is punishable by substantive monetary fines. The City has no liability in relation to hazardous materials remediation and Title 27 landfill closure.

Potential for Cross-Contamination and Cumulative Effects of Multiple Toxins

Several Draft EIR comments requested discussion of “cross-contamination.” It appears that these comments were expressing concern that site remediation or pile driving for building foundation piers within the former landfill could result in the spread of contamination. Additional comments requested discussion regarding the cumulative effects of multiple toxins within the Project site.

Any drilling of piers for building foundations within the landfill will be required to comply with the requirements of the RWQCB, and to be conducted within non-permeable casings to avoid permitting the movement of leachates or other contaminants into the groundwater basin. The human health risk assessments that will be prepared for the project site will address risks associated with each of the toxins present within the site, and will account for potential interactions between toxins.

Planning Considerations

As described above, the City’s primary role in the remediation of onsite contamination and Title 27 landfill closure is to define the land uses upon for which DTSC and the RWQCB will set risk-based cleanup standards and requirements for Title 27 landfill closure. The residential uses proposed in the DSP/DSP-V scenarios would result in greater potential exposure of people to onsite contaminants than would office or commercial uses where people spend less time on the site and have minimal contact with ground surfaces and result in more stringent cleanup requirements being imposed by regulatory agencies. Similarly, active recreational areas, such as parks and ball

fields would result in greater potential exposure of people to onsite contaminants than would open space areas not designed for human activities.

In the event it was determined through the regulatory process that it would be infeasible to remediate the site to accommodate a particular land use or land uses approved by the City, the land use implications would need to be re-evaluated by the City.

Geology and Seismicity

The majority of the Project Site has been heavily modified over the last 100 years, and the native soils have been covered with rubble, solid waste, and imported fill. Originally part of San Francisco Bay, the area that now makes up the Brisbane Baylands was transformed into its present-day condition through progressive filling of tidal marshlands and the resulting eastern advancement of the shoreline to its present location east of US Highway 101. In general, Bayshore Boulevard traces the early Bay shoreline. In the early 1900s, the Southern Pacific Railroad constructed railroad tracks across the Bay. Following the 1906 San Francisco earthquake, the area west of this rail corridor was filled in, primarily with demolition rubble. Icehouse Hill is the only portion of the Project Site with native soils that overlie bedrock.

Geologic and Seismic Setting

Soils

The soil types range from sandy clay to gravel with sand and range in thickness from 6 to 40 feet. The majority of fill was composed of silty clayey sand and concrete matrix, along with rubble and solid waste within the former landfill. Underlying these fill materials is a layer of very soft to soft, compressible marine clay, known as Bay Mud. The thickness of the Bay Mud layer ranges from zero to about 50 feet, and generally increases in thickness toward the southern portion of the site.

Seismicity

The Project Site, along with the entire San Francisco Bay Area, is dominated seismically by the active San Andreas fault system. Seismic movement is distributed across a complex system of faults, which include the San Andreas, San Gregorio, Hayward, Rogers Creek, and Calaveras faults, which are all considered active or potentially active and capable of producing significant intensities and durations of groundshaking at the site. Historically, the area has been subject to intense seismic activity, and it will likely be subjected to a high degree of groundshaking in the future from earthquakes generated on active faults in the Bay Area.

Scientists have concluded that there is a 66-percent probability of at least one magnitude 6.7 or greater earthquake striking the San Francisco Bay Area before 2036. The intensity of groundshaking at a particular location can vary depending on the overall magnitude of the earthquake, distance from a site to the fault, and type of geologic materials present at the site. The Baylands is underlain by soils that could cause substantial amplification of groundshaking.

Potential for Slope Failure