LAW OFFICE OF MARC CHYTILO

Environmental Law

September 24, 2024

Mayor Rowse and Members of the City Council c/o City Clerk P.O. Box 1990 Santa Barbara, CA 93102

By email to: clerk@santabarbara.ca.gov

RE: <u>Appellants Legal and Technical Submittal for October 1, 2024 Council Hearing</u>
Regarding the Garden Street Hotel Project, 101 Garden Street

Mayor Rowse and Honorable Members of the City Council:

This office represents Keep the Funk, Inc., a local community-based organization dedicated to protecting the character of the Funk Zone. This letter contains KTF's legal and technical objections to the Garden Street Hotel (the "Project") in support of our request that the Project either be denied or subjected to an environmental review process in accordance with CEQA.

1. Housing Over Hotels!

Like many parts of California, the City of Santa Barbara faces a crisis due to shortfalls in workforce and affordable housing to meet the needs of residents and employees. The problem is particularly acute for lower wage employees, such as those employed in the hospitality and service fields. While the Funk Zone is rich in jobs for service workers, there is very limited nearby housing. It is time to recognize that decisions concerning the development of projects that will add to the City's workforce housing shortfall have significant adverse environmental impacts when employers fail to provide sufficient housing for employees that will fill newly created lower wage jobs. Hotels are a prime example.

In fact, this is not a new problem, and the 1983 Specific Plan recognized that. The Specific Plan includes a requirement that development on the site minimize adverse impacts to the City's housing stock through a mandated analysis and mitigation program. The Applicant's compliance with these requirements has been completely ineffective and dissatisfactory. The Project must be denied until a more effective housing mitigation program is developed to accompany the Project.

A. The 1983 Specific Plan Requires Strategies and A Housing Program To Minimize Project Impacts to the City's Housing Stock

The 1983 Specific Plan imposes a specific mandate to minimize the Project's impacts to the City's housing stock. The Specific Plan requires that development proposals for Area A "shall be accompanied by an analysis of short term and long term impacts upon the City's housing stock as discussed in the EIR. The study, at a minimum, shall develop strategies and programs to

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minimize any potential adverse impacts consistent with City policy at the time of development plan review." Specific Plan, <u>Permitted Uses</u>, § VI.E.2.

With the adoption of the Housing Element, it is clear that **City policy favors the development of housing over virtually all other uses**. One stated theme of the adopted Housing Element is to "limit hotels" to advance affordable housing goals. Housing Element, Page xiv.

Despite the clarity of this requirement and the ubiquity of this problem throughout California, particularly coastal California, the applicant simply ignored their responsibility to develop and implement affordable housing strategies and programs; instead, they tried to simply bargain with staff to provide the minimum number of units and commissioned do-nothing studies in an attempt to justify what the developer offered. The first study drafted by Dudek was categorically rejected by the Council, and then a second report, drafted by Economic & Planning Services (EPS), was based on the Applicant's instructions, including a number of critical assumptions that rendered the output essentially worthless.

Guidance on what the Specific Plan expected regarding the housing impact analysis can be found in the environmental impact report (EIR) for the 1983 Specific Plan. While the City may not and is not relying on that EIR, the EIR identified a number of mitigation measures that were adopted as conditions or otherwise incorporated into the Project. To the extent the Project deviates from what was considered and evaluated in the 1983 Specific Plan, additional environmental review is required.

i. <u>Misleading Assumptions Relied on in the Applicant's 'Housing Needs</u> Assessment'

The applicant rejects the simple methodology of the Housing Demand Study referenced in the 1983 EIR for the Waterfront Hotel "every employee hired from outside the local area would correlate directly to a demand for one housing unit." And while it may be true that not all employees will come from outside the city, the existing hotels and other visitor-serving businesses in Santa Barbara continually express difficulty in hiring local employees.

1. <u>Applicant Understated the Number of Employees Needed to Staff a</u> 250 Room Hotel

The first critical metric in gauging a hotel's housing impact is calculating the number of employees needed to staff the hotel. The Applicant understated this number by as much as 50%, thus understating the amount of housing needed.

Without any justification or supporting evidence, the applicant asserted that the 250 room hotel would require the services of only 60 employees. That would be unprecedented.

The Specific Plan EIR calculated that the hotel would generate 187 positions, and the restaurant 45 positions. 25% of these were projected to be full time and 75% part time, resulting in 145 full time equivalent positions. 1983 Specific Plan EIR, pages 72-73.

Currently, it is estimated that operating a 250-room hotel with food service requires the following:

- 1. Management: 5-8 employees (General Manager, Assistant Managers, Front Office Manager, Operations Manager, etc.)
- 2. Front Desk: 10-15 employees (receptionists, concierges, night auditors)
- 3. Housekeeping: 30-50 employees (housekeepers, laundry staff, housekeeping supervisors)
- 4. Maintenance: 5-8 employees (engineers, maintenance workers)
- 5. Food and Beverage: 20-30 employees (chefs, cooks, servers, bartenders, dishwashers)
- 6. Sales and Marketing: 3-6 employees (sales managers, marketing coordinators)
- 7. Administrative and Support Staff: 3-6 employees (HR, accounting, IT)
- 8. Security: 4-6 employees (security officers, surveillance staff)
- 9. Guest Services and Activities: 5-10 employees (bellhops, bike fleet manager, activity coordinators)

In total, a 250-room hotel might typically employ around 85 to 140 staff members.

This accords with other moderate cost hotels in Santa Barbara, such as the Courtyard Marriott at 1600 State Street, where 45 employees are needed to staff 122 rooms, equating to approximately 91 employees for 250 rooms.

While the Applicant has characterized the hotel as aimed at lower cost clientele, no cost limits are proposed, nor can such limits be imposed, at least by the Coastal Commission. Instead, the developer suggests, in essence, that the hotel would be "affordable by design." The City has seen how improper that assumption is, as many "affordable by design" market rate residential developments (e.g., the Marc) have been anything but affordable. The room rates at the Garden Street Hotel will be as high as the market will bear.

Other factors will help to drive room rates substantially higher than advertised by the Applicant. Significantly, as noted elsewhere in these comments, the actions needed to clean up and remediate the site from its long history of toxic chemicals, unexploded ordinance and contaminated groundwater plumes that will be mobilized by Project disturbance (during construction and then maintaining the site in a safe condition into perpetuity), will be extensive. Simply excavating, transporting and disposing of the 15,000 cubic yards of contaminated soils, plus intercepting and treating contaminated groundwater, is expected to cost as much as tens of millions of dollars. Building and maintaining an underground garage will add substantial costs to construction and annual operational costs. Designing and constructing a 3 story structure in a federally-designated flood zone on a site vulnerable to sea level rise and tsunamis on loose soils that are prone to liquefaction will require extensive engineering and supplemental construction costs. The garage is expected to periodically fill with water from either uphill flooding, king tides or subsurface flows, mandating the periodic

evacuation of vehicles and the hotel's stored materials from the garage, or extraordinary insurance premiums, or both. Collectively these factors will drive a need for enhanced hotel amenities to justify higher room rates to pay the costs of the project.

Proposed Condition: Limit Project to 60 Employee Maximum:

To ensure the hotel will not experience this expansion of its staff and amenities, the project should be conditioned to allow not more than 60 FTE employees at any time, and to monitor and report quarterly employment figures. For such a condition to be effective, the hotel must not be allowed to use vendors for routing staff functions and must be required to monitor and report all vendor activity.

2. The Housing Study Assumed Existing Commuting Percentages Are Acceptable and Would Continue

A second untenable assumption in the Applicant's housing study is the projection that only 30.7% of the hotel's employees would live in Santa Barbara, and 69.3% would commute from Oxnard, Ventura, Lompoc or elsewhere. EPS at p. 8. In other words, the Project applicant instructed EPS to maintain the existing problem and ignore improving conditions for its workers. But even this number is wrong. EPS' Table 5 conflicts with its own footnote 3 on page 8, where 30.7% live outside Santa Barbara (footnote 3) while the inverse, 69.3% actually live and work in Santa Barbara and that number should be in Table 5, **resulting in 24 units needed, not 11**. The calculation of housing unit demand generated by the Project is a fraction of the amount actually needed due to this error. ¹

3. EPS Discounts Applicant's Housing Burden by 50% Based on Mythical, Developer-Friendly "Commercial Linkage Fee"

As a final nail in the coffin of reasonableness, EPS explains that while the City does not have a commercial linkage fee, if it did, like other cities, it would only charge a fraction of the full costs to mitigate the affordable housing demand created by commercial development. EPS at p. 1. Given that, of the eleven affordable housing units EPS actually calculated are required (using the misleading assumptions detailed above), the developer would ordinarily only be expected to mitigate its housing burden by 50%. EPS at p. 10.

Not only does this calculation fail to meet the Specific Plan's requirement to minimize any potential adverse housing effects, and clearly reflect an inadequacy in mitigating the Project's housing impact under CEQA, but it assigns to the City, or actually the workers, the burden of subsidizing or absorbing the balance of the impact. The Specific Plan does not require a commercial linkage fee,

¹This general ratio is corroborated by the 2011 General Plan, which found that 61% of City residents worked in the City, and 39% of jobs were filled by commuters. 2011 General Plan at page 32.

and the City Council may rely on whatever generalized housing policies it believes apply to require that more, or all, of the Project's employee housing demand be addressed through on-site, employer-provided housing.

The 2011 General Plan EIR also did not mitigate the impact of excessive and long distance commuting on peak-hour traffic congestion and the generation of greenhouse gases due to transportation fuel use and energy use in buildings. Resolution 11-079. As these impacts were not fully mitigated in the 2011 EIR, the City must specifically evaluate these potential project impacts in a subsequent Environmental Review Document. *Citizens for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 122-125 (when a first-tier EIR admits a significant impact, a second-tier EIR is required for later projects to ensure those unmitigated impacts are mitigated or avoided). The cumulative project effect of adding dozens of new employees that must commute to Oxnard or Lompoc is separately a basis for additional environmental review of the Project's unwillingness or inability to provide affordable housing for its low wage employees.

Council should reject the applicant's inadequate "Housing Impact Study" and require a study that assesses the housing demand associated with all phases of the project (construction and operational) and identifies the specific new housing that the applicant will be responsible for creating.

Proposed Housing Condition – Fully Mitigate Project Housing Impacts:

The applicant must fully-mitigate its housing impact, either by building housing to accommodate all projected employees and their families onsite or, less preferably, offsite. If a program exists such that the applicant's contribution to a fund will demonstrably and enforceably result in the construction of additional housing that the Project's employees can occupy at rates affordable to them and that is available at the time employment will start, such commitment should be made by enforceable contract and insured by a suitable bond.

ii. <u>EPS Housing Needs Report Lacks Strategies or Programs to Minimize</u> Impacts

The Housing Impact Study prepared at the applicant's direction does not identify substantive strategies or programs to minimize the Project's significant adverse impacts to housing stock as required by the Specific Plan. It fails to distinguish between the Project's short-term and long-term impacts to City housing stock as required by the Specific Plan. Instead, the EPS study sets out to justify why six new units is adequate new housing for the Project's sixty new employees.

This flaw is evident from the very first sentence of the Housing Impact report, which describes itself as a "housing needs assessment" for the Project. The applicant's Housing Impact Analysis is woefully incomplete and inadequate.

While the City labored to identify and rezone sufficient additional housing sites to meet the state's Regional Housing Needs Assessment requirements, including having to manage and respond to absurd and untenable Builders Remedy projects, the Applicant blithely offers to address only a tiny fraction of the housing its own low wage employees will require. The Specific Plan and common sense mandate complete mitigation of the Project's employees' housing demands. Otherwise, the Project will contribute to the City's failure to meet the next RHNA mandate (or fail more severely at achieving some interim HCD target) and the City, its residents, and its workers will all pay the price.

To minimize the Project's short- and long-term impacts to the City's housing stock, the report must:

- examine demand for affordable housing from both construction and operational phases of the Project, including refining the number of persons in each Project-specific job category for all of the employees the Project will employ and rely upon for construction.
- assess the available and potential new workforce and affordable housing opportunities within walking distance of the Project and the demand from other businesses in the Funk Zone.
- assess whether Project employees can reasonably access the Project by public transit during shift changes e.g., whether the available and proposed transit operations would provide a viable alternative for employee access to the site before and after each shift.²
- perform an assessment of the City's housing stock for workforce and service employees.
- develop a broad set of potentially available strategies to avoid or minimize the Project's short-term and long-term impacts on the City's affordable and workforce housing stock.³
- identify the specific Programs that will avoid, reduce or minimize the Project's impacts to the City's affordable and workforce housing stock.
- propose those specific programs that are appropriate to meet the Specific Plan's goals and requirements to minimize any potential adverse effect upon the City's housing stock.

The City Council should direct the applicant to address these Specific Plan requirements before considering the Project further.

B. EPS Was Misdirected to Produce the Wrong Report

As a further example of how EPS lacks objectivity, they opine that there may be a reservoir of local workers that are unemployed but have housing, and will exit from unemployment in order to staff the developer's \$20/hour jobs. This is completely out of touch with the basic economics EPS purports to be expert in. Unemployed workforce-suited individuals are not paying Santa Barbara's rents and remaining unemployed. They may have other income streams to survive, and if so, will not be attracted to the Project's low wage service positions.

² The Specific Plan mandates a number of mandatory transit elements for guests and employees that do not appear to be addressed in the Project description.

³ Providing employee housing on-site is only one such strategy, despite the numbers being inadequate to minimize Project impacts.

EPS' website indicates it has the capacity to assist the City in securing a robust analysis of a project's demands for affordable housing needs and "through **rigorous analysis** and **stakeholder engagement**, we **explore the needs and goals** and their implications on project feasibility . . . "

EPS helps prepare strategies and programs that promote affordable housing. For example, EPS evaluates and prepares inclusionary zoning and incentive zoning programs, affordable housing fees, and jobs-housing linkages studies. Through rigorous analysis and stakeholder engagement, we explore the needs and goals for such programs and their implications on project feasibility and overall housing production.

https://www.epsys.com/expertise/housing-policy

Unfortunately, the EPS analysis lacks rigor, and entirely ignored stakeholder engagement. The study uses a poorly-fitting characterization of Accommodation Occupations that fails to list clerks or daily room cleaning staff, and relies exclusively on the developer's allocation of percentages of workers by type.

One problem with the data EPS relied on is that the developer lacks experience in the low-cost, low service hotel project it is proposing – this is out of their wheelhouse. "Dauntless Capital Partners is a US-based private equity firm dedicated to investments in the hospitality space, focused on identifying, acquiring, and managing **primarily premium select-service and compact full-service hotel assets** in high barrier to entry markets throughout the United States." https://www.dauntlesscapital.com/ Indeed, as described above, Dauntless will not ultimately build low cost accommodations, and the character of the project will undoubtedly morph over time and due to claims of extenuating circumstances into one or more high-amenity hotels, as will be needed to meet their bottom line.

The Developer, working with EPS, steered the study to minimize the developer's provision of affordable housing and externalize these costs by imposing increased housing shortfalls on the community and its employees. The City must not give the applicant a 50% discount and provide only half of the housing EPS' flawed report identified as needed without a clear assessment of the infeasibility of the full 11 units identified by the flawed EPS study.

EPS clearly failed to "explore the needs and goals" of the community and explain how providing only six units of housing for employees would meet the housing demand of the Project. EPS and the developer each lack local sensibilities and are indifferent or ignorant of the magnitude of Santa Barbara's affordable and workforce housing shortfalls and needs.

C. Can We Have Housing Instead?

The City's Housing Element includes several "Themes," one of which is to "limit hotels" to advance affordable housing goals. The 1983 Specific Plan identified "Multiple Family residential" as one of two potential permissible uses on these lands.

As Council is aware, the City has an extreme shortfall in the housing currently needed by its workforce and affordable housing resources are plainly inadequate. While the Housing Element identifies a broad set of actions to reduce the shortfall in housing, the Project proposes to make the problem worse by attracting more unhoused, low wage employees.

The City does not need another hotel, it needs housing, especially multi-family housing that can house Funk Zone employees and nurture a working class resident population. The Specific Plan authorizes this outcome, and the Council should determine it cannot make the findings for the hotel project, and direct pursuit of a residential project. Dauntless Development, who favors premium hotels, is not the right developer for this property and the owners should pursue a more appropriate housing project on this site.

D. The Council Has Authority to Deny and/or Require More Housing

The City retains extensive authority under its police powers to condition and even deny projects that do not comport with community needs and for which the findings of approval cannot be made. Although the 1983 Specific Plan identified possible hotel or multi-family residential uses of the land in question, the developer did not secure a Development Agreement that would have narrowed the City's authority and discretion. Thus, the City has broad authority to impose additional conditions and requirements, including denying a hotel project that is not suited to the site and which will worsen the City's housing crisis. See Discovery Builders v City of Oakland (2023) 92 Cal.App.5th 799, and cases cited thereunder for the proposition that a City may not contract away its police power to impose additional conditions upon a land use approval in the future ("it is settled that the government may not contract away its right to exercise the police power [in land use matters] in the future." 92 Cal.App.5th at 811, citing Avco Community Developers, Inc., v. South Coast Regional Com. (1976) 17 Cal. 3d 785, 800). This only makes sense – the City must be able to respond to changed circumstances, like the discovery of widespread contaminated groundwater, sea level rise, and a housing crisis where low wage employers, like the proposed Project, will worsen the imbalance between jobs and housing.

Staff and the applicant are wrong that the City cannot require the Project to offset all if its significant impacts to the workforce housing shortage simply because the City lacks a pay to play "commercial linkage fee" allowing the out of town developers to buy their way out of providing housing.

The City's authority and discretion is broad, and the Council may deny or further condition the Project to avoid significant impacts and comport to the Specific Plan, Local Coastal Plan and General Plan.

2. CEQA Requires Project- and Site-Specific Review of Numerous Project Impacts

The City Council may not approve the Project as approved by the Council. It must either deny the Project outright due to Planning Commission's inability to make the findings for approval, or direct Staff and the Applicant to prepare an initial study and conduct Project- and site-specific environmental review before considering the Project again at a future date.

A. Overview of the CEQA Process

The California Environmental Quality Act ("CEQA") codifies California's policy of disclosing, avoiding and mitigating potentially adverse environmental impacts of agency decision-making. The purpose of CEQA is to:

"(1) inform the government and public about a proposed activity's potential environmental impacts; (2) identify ways to reduce, or avoid, environmental damage; (3) prevent environmental damage by requiring project changes via alternatives or mitigation measures when feasible; and (4) disclose to the public the rationale for governmental approval of a project that may significantly impact the environment."

CEQA Guidelines § 15002.

Under CEQA, the role of public agencies is to review proposed activities for environmental impacts by following a three-tiered process. First, public agencies are required to "conduct a preliminary review to determine if the proposed activity is subject to CEQA," otherwise known as a "project." See *Tomlinson v. County of Alameda* (2012) 54 Cal.4th 281, 286; Public Resources Code § 21065. To summarize, Public Resources Code § 21065 defines a "project" as an activity, directly undertaken by a public agency or requiring discretionary approval from a public agency, with the potential to either (1) cause a direct physical change in the environment or (2) cause a reasonably foreseeable indirect physical change in the environment. It is important to note that CEQA prohibits "piecemealing," which means dividing a project into two or more pieces and evaluating each piece in a separate environmental document. By "chopping a large project into many little ones," environmental effects of a project are minimized, which may "cumulatively have disastrous consequences." *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283-284; see also *Rural Landowners Assn. v. City Council* (1983) 143 Cal.App.3d 1013, 1024.

If the proposed activity qualifies as a "project" under CEQA, environmental review is required unless an exemption applies. *Tomlinson*, 54 Cal.4th at pg. 286, citing to Public Resources Code §§ 21080, 21084(a); CEQA Guidelines § 15300. Generally, exemptions apply in specific and narrow circumstances, as discussed below. If the project is not exempt from CEQA, the public agency moves

to the second tier, in which it must perform an initial study to determine whether the project carries a "significant effect." CEQA Guidelines §§ 15063(a); 15002(k)(2). If no significant effects are found, the public agency issues a negative declaration and the CEQA process ends. CEQA Guidelines § 15002(k)(2). If, however, the project has the potential for significant environmental impacts, the public agency must determine whether such impacts can be mitigated by making changes to the project. If not, the public agency is required to prepare an environmental impact report ("EIR"), which must be certified before proceeding with the project. CEQA Guidelines §§ 15063(b)(1); 15002(k)(3).

The EIR is the heart of the CEQA process as it provides both the public and public agencies with an in-depth analysis of a project's environmental effects. The Supreme Court in *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810 described EIRs as "alarm bell[s]," that alert both the public and public agencies to significant environmental issues before they reach the point of no return. Additionally, EIRs are a safeguard against public agencies sweeping difficult issues under the rug. "Because the EIR must be certified or rejected by public officials, it is a document of accountability. If CEQA is scrupulously followed, the public will know the basis on which its responsible officials either approve or reject environmentally significant action, and the public, being duly informed, can respond accordingly to action with which it disagrees." *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502, 512. The EIR "protects not only the environment but also informed self-government." *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564, citing to *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 392.

Different types of EIRs apply based on a project's specifications. The most common type of EIR is a Project EIR, which "examines the environmental impacts of a specific development project" and "all phases of the project including planning, construction, and operation." CEQA Guidelines § 15161. Another type of EIR is a Program EIR, which is an EIR that can be "prepared on a series of actions that can be characterized as one large project." CEQA Guidelines § 15168(a). Programs EIRs are intended to simplify the task of preparing environmental documents for future projects by providing (i) "the basis in an initial study for determining whether the later activity may have any significant effects" and (ii) "focusing a [subsequent] EIR on a later activity to permit discussion solely of new effects which had not be considered before." CEQA Guideline § 15168(d).

Generally, public agencies are still required to prepare a Project EIR for a project that is relying on a Program EIR for its CEQA review. Guidelines § 15168(c) states that "Later activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared...If a later activity would have effects that were not examined in the program EIR, a new initial study would need to be prepared leading to either an EIR or a negative declaration; the later analysis may tier from the program EIR as provided in Guidelines § 15152." If, there is no evidence that the later project exceeds the scope of the initial EIR, and that there are no changes in circumstances involving a new significant impact, a public agency may find that no subsequent review is required. However if the City is presented with substantial evidence that the later project exceeds the scope of the prior EIR or changed conditions (such as sea level rise) cause new or more severe impacts, a subsequent EIR is required. "A court reviewing an agency's decision not to

prepare an EIR in the first instance must set aside the decision if the administrative record contains substantial evidence that a proposed project might have a significant environmental impact; in such a case, the agency has not proceeded as required by law. [Citation.] Stated another way, the question is one of law, i.e., 'the sufficiency of the evidence to support a fair argument.' [Citation.] Under this standard, deference to the agency's determination is not appropriate and its decision not to require an EIR can be upheld only when there is no credible evidence to the contrary." (citation.) Therefore, we apply the fair argument test de novo and "we review the administrative record to determine whether it is free from legal error." Save Our Access v. City of San Diego (2023) 92 Cal. App. 5th 819, 859-860.

B. <u>The Planning Commission's CEQA Finding and Determination are Ambiguous,</u> Insubstantial and Fail to Meet the Requirements of CEQA

On February 29, 2024, the Planning Commission made the following CEQA finding and determination as it relates to the proposed Project:

"The project qualifies for an exemption from further environmental review under CEQA Guidelines Section 15183, based on the City staff analysis and the CEQA Certificate of Determination as described in the Staff Report dated February 22, 2024."

The Commission's findings are ambiguous and insubstantial, and fail the requirements of law to trace the analytical route from fact to conclusions. *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515. In lieu of providing a thorough analysis as to why a major project involving significant excavation of highly contaminated soils and the extraction and treatment of highly contaminated groundwater in the coastal zone is exempt under Guidelines § 15183, the Commission's findings broadly cite to "Staff analysis" and a Certificate of Determination. The Certificate of Determination lists the Project's findings as follows:

- 1. The project is consistent with the density established for the site in the City of Santa Barbara General Plan.
- 2. A Program Environmental Impact Report was certified for the 2011 General Plan, which identified environmental effects of future citywide development under the General Plan, including then-unmitigable and unavoidable significant effects, mitigated effects, and insignificant effects.
- 3. Pursuant to CEQA and CEQA Guidelines (Public Resources Code Section 21083.3 and California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15183), environmental review for this project shall be limited to examination of any significant project-specific environmental effects not analyzed in the prior Environmental Impact Report for the 2011 General Plan.
- 4. Potentially significant project-specific environmental effects will be substantially mitigated by uniformly applied development standards or policies and/or measures proposed as part of the project description, as identified in the

- *Preliminary Review* documentation. The project will not result in significant project-specific effects.
- 5. No mitigation measures from the General Plan Program EIR are relevant or have been made part of the project.
- 6. A mitigation monitoring and reporting plan was not adopted for this project.
- 7. A Statement of Overriding Considerations was adopted by City Council for the 2011 General Plan (Resolution 11-079), finding that the significant cumulative environmental effects of citywide development under the 2011 General Plan were outweighed by the benefits of the Plan and therefore deemed acceptable. The Statement of Overriding Considerations remains applicable for the current project.
- 8. Findings were made pursuant to the provisions of CEQA.

Unfortunately, the Certificate of Determination is as feeble as the Commission's findings. Specifically, the Certificate of Determination asserts that the Project may result in potentially significant project-specific environmental effects but that the impacts will be mitigated by uniformly applied development policies and standards. Staff refers the Council and the public to the Environmental Screening Checklist for more information. The Environmental Screening Checklist is routinely used by Staff to assess a project's environmental impacts and provide support for the findings listed on the Certificate of Determination. However, none of the environmental effects listed on the Checklist are identified as potentially significant, leaving both government officials and the public at a loss as to the Project's significant environmental impacts. Neither are any city-adopted specific uniformly applicable policies or standards identified to address any potentially significant Project impacts.

Significantly, the City's CEQA compliance is defective due to the absence of a complete project description that includes the actions and physical impacts to the environment associated with the assessment, cleanup and remediation of the toxic chemicals and materials that have accumulated on this site over the past 125 years. Similarly, the City has attempted to piecemeal the sewer line expansion project's impacts while they are properly a part of this project, or at the very least, a project whose significant adverse environmental impacts must be considered in a robust cumulative impact analysis.

On the whole, the Environmental Screening Checklist inadequately assesses the Project's environmental impacts and relies on incomplete technical reports that mischaracterize and minimize the Project's potentially harmful environmental effects, as follows:

i. Air Quality:

AQ-3 states that the "[c]onstruction and operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations," citing to "Table 1: Estimated Annual Construction Criteria Air Pollutant Emissions" and "Table 2: Estimated Maximum Daily Operational Criteria Air Pollutant Emissions" at AQ-2. In addition, the Checklist states that the "health impacts associated with stationary source air pollutants would be less than significant" based on a Health Risk Assessment

("HRA"), provided by Dudek in its Air Quality and Greenhouse Gas Emissions Technical Memorandum. The HRA assesses the impact of construction on sensitive receptors proximate to the Project site and finds that the risk of both cancerous and non-cancerous health impacts is below the Santa Barbara County Air Pollution Control District ("APCD") significance threshold.

The Checklist mischaracterizes the significance of the Project's impacts on air quality. Staff's analysis and conclusion is based on the HRA; however, the HRA only assesses air quality impacts associated with vehicle emissions and in particular, on-site and off-road equipment and diesel vehicles. It does not address other sources of emissions that carry significant health risks. While the locations and concentrations have yet to be fully characterized or delineated, and risk assessments have yet to be completed, contaminants including Benzene, Trichloroethylene (TCE), Tetracholroethylene (PCE), cis-1,2 Dicholoroethylene (cis-1,2-DCE), Methylene Chloride (MC), Vinyl Chloride (VC) and other hazardous volatile chemicals, exist in shallow groundwater and soil beneath the Project site at levels that exceed vapor intrusion risk screening levels ("VISLs") and regulatory agency health screening levels. Summary Report: Potential for Vapor Intrusion Exposures Associated with the Proposed 101 Garden Street Hotel Project, Mark Kram, Ph.D., CGWP #471, 9/24/24, attached hereto as Exhibit C to Exhibit 1, Lynker Corporation, Consolidated Technical Review of Toxics, Contaminated Soil, Groundwater and Soil Gas Impacts of the Proposed Garden Street Hotel Project, 101 Garden Street, Santa Barbara, California, September 20, 2024.

Additionally, the construction and permeance of the underground parking garage has the potential to mobilize contamination that is both deep in the soil and adjacent to the property, pulling toxins upwards and redistributing them into shallower sediments and groundwater. Lynker at 2. Even with dewatering operations, the contaminants will be provided with ample opportunity to interact with migrating groundwater and enter occupied breathing spaces. Multiple residential and commercial building exposure pathways exist within the neighborhood, including vapors entering buildings via the traditional vapor intrusion pathway and through contaminated groundwater entering the sewer system, laterals, foundation cracks and utility penetrations of residential and commercial buildings, eventually migrating as vapors into overlying structures. Kram at 5. Even minor levels of exposure to the contaminates pose significant risks to human health; therefore, air quality impacts associated with vapor intrusion of contaminants should have been addressed and characterized as a significant impact that requires additional environmental review.

The project description and air quality impact analysis, and the Project's emissions inventory all omit criteria and potentially hazardous air pollutant emissions associated with the complete assessment, cleanup and remediation of the site. These emissions include criteria and diesel/fine particulate matter emissions from the equipment that will be involved in site cleanup and remediation as well as emissions of contaminated particulate matter, hazardous air pollutants, toxic air contaminants, and volatile organic compounds known present in soils and groundwater beneath the site that are likely to migrate off the site during cleanup and remediation. Similarly, the greenhouse gas emissions associated with cleanup, remediation and perpetual management in the future must be added to the Project's GHG emissions inventory and cannot be swept under the rug through a continuing statement of overriding

considerations. Lynker at 5. Improperly truncating the project description has allowed the City to avoid disclosures and impact avoidance and mitigation strategies required by CEQA.

ii. <u>Biological Resources:</u>

B-1 states that the impact on wildlife would be "less than significant" but the Checklist neither accounts for the breadth of wildlife at the Project site nor does it take into consideration the possibility of wildlife exposure to contaminated groundwater stemming from construction of the underground parking garage.

The Checklist states that biological resources are "present only as non-native vegetation that has grown in the Garden Street drainage" and that the "Southwestern pond turtle (*Actinemys pallida*) is known to occur nearby" but has little opportunity to reach the Garden Street drainage. Otherwise, according to the Checklist, "...there are no other fish or wildlife species with established wildlife corridors identified on or near the project site."

According to a study completed by co-appellant SAFER, incorporated herein by reference, 33 species of vertebrate wildlife were identified at the Project site by wildlife biologist, Ms. Noriko Smallwood, are "...four of which were special-status species" and listed as Birds of Conservation Concern⁴, including the Allen's hummingbird (*Selasphorus sasin*), Western gull (*Larus occidentalis*), Bullock's oriole (*Icterus bulockii*), and yellow warbler (*Setophaga petechia*). Therefore, the Checklist grossly underestimates the amount of wildlife that may be impacted by the Project.

As part of the Project, the Applicant will implement a Habitat Restoration Plan that is intended to restore Garden Street drainage and add native vegetation to the drain. As described in SAFER's February 24, 2024 letter, Dr. Smallwood confirms that "...the proposed wetlands restoration plan would destroy existing on-site wildlife habitat... The City's intent to create a fifteen-foot buffer along the Garden Street frontage fails to take into account that doing so would destroy existing on-site habitat which supports at least 33 species of vertebrate wildlife, including at least four special-status species..." As Staff has grossly underestimated the amount of wildlife at the Project site, we agree with co-appellants SAFER that the City needs to withhold from implementing the Habitat Restoration Plans "...until it prepares an appropriate biological resources assessment to properly characterize the existing wildlife baseline at the site."

Additionally, as confirmed by the Checklist, the only confirmed population of Southwestern pond turtle within City limits lives in the Laguna Channel, which is approximately 500 feet east of the Project site. As described above and discussed in detail below, the construction of the underground parking garage has the potential to change groundwater flow causing contamination deeper in the soil to rise to shallow surfaces and migrate offshore into the Laguna Channel. Lynker at 26. It is likely that the toxins that have the potential to significantly harm human health will cause similar complications within the

⁴ Birds of Conservation Concern include "migratory nongame birds that without additional conservation action are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973."

Southwestern pond turtle population, possibly jeopardizing the health of the only existing population of the Southwestern pond turtle within City limits.

Finally, the designation of the same Project lands both as restored habitat and for recreational use creates an insurmountable conflict between CEQA and wildlife habitat restoration requirements and the Specific Plan's 2 area recreational lands requirement. The applicant and City cannot have it both ways without a careful explanation of how these two competing land uses are to be reconciled and managed into the future.

iii. Geophysical Conditions:

At G-3, the Checklist examines whether the Project site is subject to geological or soil-related hazards. According to the Geotechnical Engineering Report prepared by Earth Systems, dated April 19, 2022, and cited in the Checklist, groundwater was encountered during site exploration. However, there are discrepancies in the data cited by Staff, as described by Lynker Corporation below:

"Contrary to the results and interpretations presented in the 2022 Earth Systems Southern California, Update of Geotechnical Engineering Report, the June 2022 GESI Environmental Site Assessment (ESA) states, 'Shallow groundwater was encountered onsite during site assessment activities completed in March 2022 at depth of approximately 8.0 feet below grade.' Compared with the methods used to evaluate depth to water estimates as reported in the June GESI 2022 ESA Report, the depth to groundwater estimate presented in the 2022 Update of Geotechnical Engineering Report is considered more reliable; but still not suitable for risk assessment, feasibility study, and/or remedial design due to the site's potential hydraulic connection to the ocean, high groundwater levels, seasonal variation and exposure to both sea level rise and fluvial (freshwater) flooding."

Lynker at 6.

To summarize, current characterization of the hydrogeologic setting is limited to basic research, soil boring logs and geotechnical-based laboratory tests, which are not suitable methodologies for determining groundwater levels or groundwater flow. Lynker at 6. As a result, the available data provided by Earth Systems does not provide basic information required to assess the Project site for potential hydrogeological risks, feasibility studies, and remediation plans; therefore, further testing is required in order to confirm factual groundwater levels over the course of seasonal and situational fluctuation and the direction of groundwater flow. Lynker at 6-7. This information is imperative to the Project's construction and operational practices, including dewatering and the establishing of any remediation actions. In addition, it is important to understand the migration of groundwater both on and offsite in order to assess whether there are any significant impacts associated with the flow of contamination from onsite to surrounding properties.

In addition, the Earth Systems report confirms that the site is in a liquefaction hazard study zone. This is a potentially significant impact identified in Appendix G to the CEQA Guidelines, VII.a.3. The engineering practices suggested in the Checklist to remedy the liquefaction risk include grading, soil removal, re-compaction, importation of soil, and the introduction of structural slabs and/or post-tension slabs. In conjunction, a groundwater dewatering plan will be required for the treatment and disposal of groundwater. What the Checklist does not say is that each of the above activities has the potential to stimulate and mobilize contamination that currently sits below the surface aquifer, bringing contamination to shallower sediments and into surfacing groundwater.

According to the Lynker Report, the finished-floor elevation of the parking garage is at 3.5 feet below mean sea level, at which low-permeability, clayey soils are found. Such soils are considered geotechnically unsuitable for construction due to their liquefaction potential and settlement tolerances; therefore, the clayey soils will need to be removed in their entirety and engineered fill will need to be added to support the parking garage's foundation. Additionally, if piles, caissons, or wall barriers are required for construction of the parking garage, they will likely need to be installed through or below this clay layer. By removing the clayey soils and adding pilings, the aquitard will be pierced, and combined with dewatering operations will cause deeper and more concentrated contaminated groundwater to mobilize, be drawn upwards and to expand contamination of shallower sediments and shallow groundwater. The increased mobilization of groundwater that contains higher concentrations of toxic chemicals is itself a significant adverse environmental impact that can include migration along intervening utility corridors, such as the expanded sewer line that the Project requires. The Project's exposure to surface and below-ground tidal flows, as well as upstream fluvial flooding associated with location in a designated Flood zone, worsens risks and impacts from contaminated soils and groundwater at the site.

It is important to note that as stated above, the hydrogeology reports cited by Staff show that groundwater flow direction has not been definitely established. In fact, the 2016 GESI Phase II Environmental Site Assessment states that the flow of groundwater direction is east to southeast of the property, towards Mission Creek drainage. However, Mission Creek is to the west of the Project site. The absence of this information has significant repercussions for understanding and predicting impacts associated with the flow of contaminated groundwater from the Project site to surrounding areas. The Lynker at 7 provides that "[s]temming from the lack of site-specific groundwater pressure data, the groundwater flow direction at the Project site has not been triangulated, and gradient has not been established. Flow direction and gradient is essential to determining the likelihood of direction and rate of travel of offsite contamination to the Project site, or whether and where onsite contamination could migrate." However, based on a Conceptual Site Model ("CSM") developed by Lynker, the time-series simulation results show that the ambient groundwater flow tends to move more horizontally from the right to left (or west to east) until it reaches the Laguna Channel. Lynker at 22.

iv. <u>Hazards:</u>

HZ-1 seemingly confirms that the Project site has a history of contamination through referencing its inclusion on the State Water Board Geotracker website for removal of a Leaking Underground Storage Tank ("LUST") in 1994. However, no additional information is provided regarding the many other sources of contaminants on site. In lieu of providing an analysis of the contaminants found at the Project site, the Checklist merely includes a list of technical reports that include environmental site assessments. However, similar to the methodologies used to determine groundwater levels, the procedures used to assess contamination in the cited technical reports do not adequately capture the level of contamination present on the Project site, the potential for contamination to mobilize both on-and off-site, and the risk the contamination carries to public health and safety. Nor are the risks of human and environmental exposure associated with the necessary cleanup and remediation phases of the Project disclosed or addressed.

Like the hydrogeologic data and analysis available, the current understanding of the nature and extent of the groundwater contamination at the site is considered incomplete. Specifically, the presence has been established, but the extent (vertically and horizontally) and severity/concentrations of various toxics is unknown. Experts are confident only that "...1) organic and inorganic contamination in the form of chlorinated solvents, fuel, and metals exist at the site, and 2) that soil, soil gas, and groundwater are impacted above regulatory levels." Based on this preliminary assessment, Santa Barbara County Environmental Health Services ("EHS") has confirmed that the primary constituents of concern ("COCs") in the soil at the Project site are Total Petroleum Hydrocarbons as gasoline ("TPHg"), TPH as diesel ("TPHd"), and TPH as oil ("TPHo"), and metals including arsenic, cadmium, copper, lead, molybdenum, selenium, thallium, vanadium, and zinc. In soil vapor, COCs include benzene, ethylbenzene, and tetrachloroethene ("PCE"). Volatile Organic Compounds ("VOCs") including Methyl tert-Butyl Ehter ("MTBE"), trichloroethene ("TCE"), and cis-1,2- Dichloroethene ("cis-1,2-DCE") and metals arsenic, barium, beryllium, lead, and selenium are COCs in shallow groundwater. Testing and assessment of groundwater contamination below the aquitard, where Lynker believes much higher concentrations of contaminants is probable, has not been conducted in a manner necessary to answer this important question.

However, according to the Lynker at 6, "[s]ite investigations and studies performed at the site have fallen short of industry standards for establishing the necessary data and analysis to proceed with risk assessments, corrective action plans, remedial action plans, and corrective action." In reviewing the data provided by the technical reports cited in the Checklist, the previous investigations and studies conducted at the Project site constitute solely screening-level or preliminary assessments. As is, the results are insufficient to adequately characterize the potential impacts of the Project, support risk assessments (ecological and/or human health), feasibility studies, remedial design, or environmental impact analysis. Lynker at 6.

Despite limited information as to the extent of the contamination on-site, the Checklist confirms that the Santa Barbara County Public Health Department ("PHD") and EHS will be working with the

applicant to remediate any contamination onsite. According to the Checklist, EHS has reviewed the application materials and provided recommendations for data collections, a work plan and analysis. A work plan has been approved for the Project; however, it is a preliminary document and does not meet data quality objectives needed to design corrective actions and monitoring programs to safely advance the Project. Additional data collection, studies and analysis are required in order to assess and mandate proper remediation measures onsite.

In addition, EHS is requiring the completion of both a Final Remediation Action Plan ("RAP") and a Soil Management Plan ("SMP"). However, as the data used to develop EHS' recommendations is incomplete, inherently flawed and additional analysis of the hazards present at the Project site is required, it's unclear how EHS is able to issue recommendations for remediation when the actual extent of contamination onsite and its accompanying risks to public health and safety are unknown. If the contaminants have been improperly characterized, it follows that EHS' recommended remediation activities will likely be inadequate in mitigating the contamination present at the Project site.

Moreover, it's likely that the RAP itself will result in significant environmental impacts due to the amount of soil removal, engineered fill and dewatering required to mitigate the contaminated soils at the Project site. Nothing in the Checklist discusses the potentially significant environmental impacts that the RAP may have in "mitigating" the contamination on-site. Remediation activities at this site will likely require extensive dewatering and hauling of impacted soil for offsite disposal. It is anticipated that during a normal 8-hour workday, a truckload of hazardous waste will be exiting the site and travelling through the City every 15 minutes, 5 days per week, for a 6 month period, just to evacuate the 15,000 cubic yards needed to be removed for the subterranean parking garage. Lynker at 15. Additionally, an estimated 60,000 gallons per day of contaminated groundwater will require temporary onsite storage, treatment, confirmation and confirmation sampling prior to disposal. This process of continuously extracting large volumes of water will require careful design, operation, and monitoring to ensure contaminated groundwater is contained and treated prior to disposal. Lynker at 15-17. The method of groundwater treatment and its impacts disclosed. Otherwise, hazardous materials may be released into the environment in the form of improperly treated water, residual soils, dust and vapors.

Appendix G to the CEQA Guidelines, IX identifies potentially significant impacts from: 1) the transport and disposal of hazardous materials – and the project will require the excavation and off-sire disposal of at least 15,000 CY of soil, much or all of which will be contaminated; 2) from the reasonably foreseeable upset and accident conditions involving release of hazardous materials to the environment, such as during failure of water treatment systems or contaminated soils, groundwater or exposed excavations to inundation from flood, tide or tsunami; 3) is located on a Cortese-list site – which it is; and 4) may involve interference with a emergency response and/or evacuation plan, which is possible due to the site's low elevation and the vulnerability of all emergency egress routes to flooding and inundation.

As it is likely that the contamination found on-site carries significant impacts to public health and safety, the Project's potentially significant environmental impacts related to disbursing hazardous waste, along with the potential impacts stemming EHS' remediation recommendations, should be classified as possible significant environmental impacts and assessed as part of an EIR.

v. Hydrology and Water Quality:

Similar to Staff's review of the hazardous materials on-site, the Checklist briefly states that the Project is within a flood zone and refers its reader to a series of technical reports on the "hydrology, stormwater, and water quality" at the Project site. In lieu of providing a thorough analysis as to why the Project's hydrology and water quality do not carry significant impacts, Staff relies on the public and government decisionmakers to parse their way through hundreds of pages of technical memorandum in order to understand the basis for its conclusions.

Staff's analysis of the Project's hydrology and water quality risks is based on incomplete technical reports, including an analysis and adaptation plan from Moffatt and Nichol's Sea Level Rise Study ("Moffatt and Nichol's Study"). According to Revell Coastal, the Moffat and Nicol's Study minimizes the threat of flooding at the Project site, including both fluvial flooding and sea level rise. In particular, (i) it presents an incomplete consideration of site-specific infrastructure including a critical tide gate and pump at Laguna Channel; (ii) it fails to consider future changes in sediment budgets in the Santa Barbara littoral cell; (iii) it only focuses on risk to the Project site, without considering the effects of severe and repeated flooding upon necessary infrastructure and site access; and (iv) it does not discuss the effect of sea level rise on shallow groundwater nor the potential impact of these changes on contaminated sediments in the area. Memorandum, *Garden Street Hotel Development Project, Revell Coastal*, September 24, 2024, Exhibit B to the Lynker Report at Page 2.

Additionally, the Checklist mischaracterizes the threat of contamination to water quality as less than significant. The only mention of a relationship between pollution and flooding is at HWQ-1, which states that "[w]hile underground parking is proposed...at elevations subject to potential inundation during a flood hazard, pollutants would not be stored in the underground garage and the risk of release of pollutants from any vehicles parked there would not be greater than that of any vehicles parked along inundated streets." Staff does not provide any analysis of the threat of contamination both at the Project site and surrounding areas stemming from flooding events, including increased potential from flooding due to sea level rise.

The location of the Project makes it particularly susceptible to both fluvial flooding and flooding stemming from sea level rise, both of which pose a significant threat to human health and safety as is; however, when coupled with the contaminants on-site, the Project site's susceptibility to flooding will increase the risk of human exposure to contaminates via both groundwater sources and vapor intrusion. Revell at 2. Its proximity to sea level, in addition to increased chances of fluvial flooding, means that the Project site will likely experience an increase in flood events at more regular frequency as sea levels rise. This will provide the contaminated groundwater with ample opportunity to spread outward from

the property, into surrounding areas, including the Laguna Channel and ultimately, into the ocean. It is important to note that the subterranean parking garage itself will be subject to seepage and inflow due to continuing hydrostatic pressure from the contaminated groundwater, and is anticipated to flood regularly from freshwater flooding, king tides and sea level rise.

Additionally, HWQ-2 states that "...the project would remediate all contaminated soils." We assume that Staff is referring to the Remediation Action Plan described at HZ-1. However, as discussed above, the data used to develop EHS's recommendations is inherently flawed and additional analysis of the hazards present on the Project site is required; therefore, without knowing the true extent and characterization of the contamination onsite, it's unclear whether the Remediation Action Plan will remediate the contaminated soils. Further, there are potentially significant impacts from the cleanup and remediation activities that must be considered. In short, the City may not ignore the cleanup and remediation phase of the process to construct the Project, and these impacts must be included in the Project's CEQA analysis.

vi. Land Use:

At LU-1, the Checklist states that the Project is "...located in the Cabrillo Plaza Specific Plan (SP-2) area. The project is consistent with the Cabrillo Plaza Specific Plan, Coastal Land Use Plan land use designation, and Zoning Designation (HRC-2 zone)" but does not provide any explanation as to how the Project is consistent with each of the above.

The proposed Project is inconsistent with provisions in the Cabrillo Plaza Specific Plan and the Coastal Land Use Plan, which is potentially a significant impact under CEQA. For a detailed discussion of the Project's inconsistencies with the aforementioned land use policies, plans and ordinances, we refer the Council to Section 1 of the instant letter.

vii. Population and Housing:

The Checklist at PH-1 states that the Project is consistent with the 1983 Specific Plan, which is erroneous as the 1983 Specific Plan directs strategies and programs to be developed and utilized to minimize Project impacts to the City's housing stock. For a detailed discussion of the Project's inconsistencies with the 1983 Specific Plan, we refer the Council to Section 2 of the instant letter.

viii. Public Services and Facilities:

PSF-1 states that the Project will not create a substantial demand in public services. However, as described above, the Project site is at risk of significant flooding from both fluvial sources and sea level rise, the extent of which has been misrepresented in the technical studies referenced by Staff. As the risk of flooding on-site is inadequately characterized, it follows that the public services required to assist in an emergency associated with a flood are also underrepresented. Egress from the site will become nearly impossible during flood events, as each Highway 101 underpass fills with water and the

Bird Refuge floods Cabrillo Boulevard, making site access for emergency responders challenging. Revell Consulting agrees, stating "Access to the site will be disrupted before the Project site is impacted placing residents and visitors in harm's way," Revell at 2, which means that emergency services will be required to rescue stranded hotel occupants.

ix. Public Utilities:

U-1 addresses whether the Project carries any issues with waste, wastewater, storm drains or other utilities. The Checklist states that "[a] segment of the existing sewer line servicing the project site is insufficient for the proposed development and must be increased in size." However, the only information on the sewer upgrade is a technical memorandum entitled, "Technical Memorandum for Garden Street Sewer Capacity Upgrade," dated December 5, 2022. The technical memorandum provides options for upgrading the sewer system but the City has not confirmed which plan it will be implementing; regardless, the Checklist states that the Project will not result in "significant impacts to utilities and infrastructure." Similar to the Remediation Action Plan, without any confirmation as to the City's plan for the sewer infrastructure upgrades, Staff has improperly declared that the upgrades will not have any significant impacts.

By failing to properly describe, characterize, analyze and assess the Project's significant environmental impacts in its findings, the Commission did not fulfill its obligations as a public agency under CEQA, in which it was responsible for informing the government and public about the Project's potential environmental impacts; identifying ways to reduce, or avoid, environmental damage to the community of Santa Barbara; preventing environmental damage by requiring appropriate changes to the Project via alternatives or mitigation measures based on reliable technical studies; and disclosing to the public a valid basis for its approval of a Project that has the potential for several significant, adverse impacts to the environment.

C. The Planning Commission's Finding and Determination Do Not Support Exemption of the Project from CEQA Pursuant to Guidelines § 15183

Beyond mischaracterization of the Project's significant environmental impacts, the Certificate of Determination and the Environmental Screening Checklist do not support the Commission's findings that the Project is wholly exempt from CEQA pursuant to Guidelines § 15183.

Under Guidelines § 15183, a public agency is permitted to utilize a Program EIR, certified in connection with a general plan, to meet its obligations for environmental review if the Project is consistent with the development density established by existing zoning, community plan and general plan policies. The Certificate of Determination findings state that the Project is consistent with the density established for the site in the City of Santa Barbara General Plan, for which an EIR was certified in 2011, and as a result, the Commission made the decision not to prepare a new or supplement EIR for the Project. The Checklist confirms that "[t]he project site is located in the Cabrillo Plaza Specific Plan (SP-2) area. The project is consistent with the Cabrillo Plaza Specific Plan, Coastal Land Use Plan

land use designation, and Zoning Designation (HRC-2 zone)." We note that neither the Certificate of Determination nor the Checklist provide any additional information as to the Project site's development density or its consistency with applicable zoning laws and general plan policies.

Regardless of the Planning Commission's findings related to consistency, the Planning Commission made the decision to rely solely on the 2011 General Plan EIR for its environmental review of the Project. When a public agency makes the decision to not prepare a new or supplement EIR for a later project following the certification of an EIR, Courts will apply the "fair argument" standard of review. Save Our Access v. City of San Diego, 92 Cal. App. 5th, 860. According to the Court of Appeals in Save the Access v. County of San Diego, "...if there is substantial evidence in the record that the later project may arguably have a significant adverse effect on the environment which was not examined in the prior program EIR, doubts must be resolved in favor of environmental review and the agency must prepare a new tiered EIR, notwithstanding the existence of contrary evidence" (citing to Sierra Club v. County of Sonoma, 6 Cal. App. 4th 1307, 1319, 1320-1321). Id.

Next, the Certificate of Determination findings state that "[p]ursuant to CEQA and CEQA Guidelines (Public Resources Code Section 21083.3 and California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15183), environmental review for this project shall be limited to examination of any significant project-specific environmental effects not analyzed in the prior Environmental Impact Report for the 2011 General Plan." Specifically, Guidelines § 15183(a) mandates environmental review of peculiar, project- and/or site-specific environmental effects that were not addressed in the prior EIR, as follows:

"Projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, shall not require additional review, except as might be necessary to examine whether there are any project-specific significant effects which are peculiar to the project or its site."

It is clear from this language that the Guidelines § 15183 is a *narrow* exemption from CEQA, available only in special circumstances. While possibly characterized as a statutory exemption, § 15183 differs from others in that class in that it is akin to a "tiering" provision. See *Hilltop Group, Inc. v. County of San Diego* (2024) 99 Cal. App. 5th 890, 912. Tiering allows a public agency to incorporate analysis on general matters from a broad EIR, such as a Program EIR, into a narrow, project-specific EIR. CEQA Guidelines § 15152(a). Under tiering, the Project EIR concentrates only on "environmental effects which (a) are capable of being mitigated, or (b) were not analyzed as significant effects on the environment in the prior environmental impact report." Public Resources Code § 21068.5.

As a tiering provision, the intention of § 15183 is not to absolve a public agency from CEQA review altogether but to avoid duplicative efforts in administering CEQA. § 15183(a) explicitly states that the provision "...streamlines the review of such projects and reduces the need to prepare repetitive environmental studies." The Court of Appeals in *Hilltop* affirms, stating "[a]lthough section 21083.3

is not technically a tiering provision, but rather a CEQA 'exemption,' it functions as a streamlining procedure intended to 'reduce[] the need to prepare repetitive environmental studies..." *Hilltop v. San Diego*, 99 Cal. App. 5th at 912.

§ 15183(b) lists which project- and site-specific environmental effects a public agency must review when attempting to exempt a project under § 15183. "In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to any of those which the agency determines, in an initial study or other analysis:

- 1) Are peculiar to the project or the parcel on which the project would be located;
- 2) Were not analyzed as significant effects in a prior EIR on the zoning action, general plan or community plan with which the project is consistent;
- 3) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action; or
- 4) Are previously identified significant effects⁵ which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR."⁶

However, the Commission's findings do not provide any indication that the City has complied with this mandate. Throughout the Commission's findings, the Certificate of Determination and the Environmental Screening Checklist, there are no specific references to the Project's peculiar, offsite and cumulative impacts. In addition, there is minimal discussion of the 2011 General Plan's adequacy in addressing the Project's project- and site-specific environmental effects. Based on the absence of this information throughout the Commission's findings, it's clear that the City failed to provide substantial evidence demonstrating that each element of the Guidelines § 15183 exemption applies or identified the analytical route the City used to reach its conclusions. *Topanga v. Los Angeles*, 11 Cal.3d at 515.

While the City may make the argument that the list of technical reports and accompanying documents included at the end of the Certificate of Determination and Environmental Screening Checklist qualify as "substantial evidence" that the Commission properly addressed each element of the exemption, it is entirely unreasonable for the City to expect the public to parse through thousands of pages of technical documents in order to infer its own conclusions as to why the Project is exempt from CEQA review. The Court of Appeals in *Hilltop* affirms, citing to the court's prior decision in *Topanga*:

"The brevity of the Board of Supervisors' statement in support of their decision fails to set forth findings to bridge the analytic gap between the raw evidence and ultimate

⁵ This provision does not apply to the Project as the 2011 General Plan EIR does not address any of the Project's environmental impacts as significant effects.

⁶ § 15183(b).

decision or order.' (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515 [113 Cal. Rptr. 836, 522 P.2d 12].) ... the ambiguity of their findings in support of their ultimate decision makes meaningful judicial review challenging considering the record is over 48,000 pages. The nature of their decision requires us to 'grope through the record to determine whether some combination of credible evidentiary items which supported some line of factual and legal conclusions supported the ultimate order or decision of the agency.' (*Topanga Assn.*, supra, at p. 516.)"

Hilltop v. San Diego, 99 Cal. App. 5th at 918-919.

The Project carries peculiar, offsite and cumulative project- and site-specific environmental impacts that were not addressed in the 2011 General Plan EIR. As a result, City Council must direct Staff and the Applicant to prepare an initial study and conduct supplemental Project- and site-specific environmental review addressing each of the Project's significant environmental impacts, discussed below.

i. The Project has Peculiar, Project- and Site-Specific Environmental Impacts
That Were Not Analyzed or Assessed by the Planning Commission in its
Findings

Pursuant to § 15183(b)(1), the Commission was required to analyze the Project for **peculiar**, **project-and/or site-specific environmental effects**. The regulations do not define "peculiar." However, the Court of Appeals in *Wal-Mart Stores*, *Inc. v. City of Turlock*, 138 Cal. App. 4th 273, 294 relies on Webster's Third New International Dictionary (1986)'s definition, which states: "1a: belonging exclusively or esp. to a person or group ... 3: tending to be a characteristic of one only: distinctive." The Court of Appeals in *Hilltop* provides additional guidance on the meaning of peculiar, writing, "Under *Wal-Mart's* interpretation, the environmental effects of [this] Project—both during its construction and operational phases—are certainly 'peculiar' in the sense that they are unique to the project and the PEIR⁷ could not have possibly anticipated the project's specific impacts to the surrounding environment." *Hilltop v. San Diego*, 99 Cal. App. 5th at 917.

We note that pursuant to § 15183(f), an effect is not considered peculiar "...if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects, unless substantial new information shows that the policies and standards will not substantially mitigate the environmental effect." Examples of uniformly applied development policies or standards include, but are not limited to:

⁷ Program EIR.

⁸ § 15183(f).

"...(1) Parking ordinances, (2) Public access requirements, (3) Grading ordinances, (4) Hillside development ordinances, (5) Flood plain ordinances, (6) Habitat protection or conservation ordinances, (7) View protection ordinances, (8) Requirements for reducing greenhouse gas emissions, as set forth."

The Commission's proposed findings do not provide any evidence that it adequately analyzed and addressed the Project's peculiar environmental impacts. The only indication we have that the Commission is aware of this requirement is by the Certificate of Determination's reference to the language of § 15183(f), which states that the Project's potentially significant environmental effects will be "substantially mitigated by uniformly applied development standards or policies and/or measures proposed as part of the project description, as identified in the Preliminary Review documentation."

However, as the Commission's proposed findings are ambiguous as to what the Project's peculiar impacts are, it follows that its findings are also unclear as to which uniformly applied development standards or policies apply to mitigate the Project's potential impacts. The Commission's incomplete and ambiguous proposed findings have created a guessing game as to which environmental effects are peculiar and/or potentially significant, and what uniform development policies and standards apply to mitigate these issues, which is directly in opposition to the purpose of CEQA.

The proposed Project carries significant environmental impacts that readily meet the definition of "peculiar" as provided by *Hilltop*. Not only are the Project's potential environmental impacts unique to the Project itself but the 2011 General Plan EIR could not have possibly anticipated the Project's specific impacts to its surrounding environment; therefore, the City is required to address the Project's peculiar Project and site-specific peculiar impacts in a supplemental EIR.

As Council is aware, the Project site has a significant history of industrial and commercial uses. Multiple environmental studies have identified hazardous waste on the property, including the presence of petroleum hydrocarbons and volatile organic compounds (VOCs). In addition, the site is listed on the Department of Toxic Substances Control's Hazardous Waste and Substances Site List ("Cortese List") due to the former presence of a Leaking Underground Storage Tank ("LUST"). While the presence of hazardous waste is not necessarily peculiar to a project site in Santa Barbara, there are a confluence of additional factors that have the potential to create significant environmental impacts unique to the Project itself.

Specifically, the construction of a subterranean parking garage, requiring the excavation and disturbance of heavily contaminated soils, in a coastal area subject to extensive fluvial flooding and sea-level rise-affected tidal flooding, has the potential to create significant environmental impacts on human and ecological health and safety that are unique to the Project and require analysis under a supplemental EIR. According to the Lynker at Page 2, "...decisions to install subsurface infrastructure can result in unfavorable and unexpected redistribution of contamination,

⁹ § 15183(g).

increasing its exposure in unexpected ways. The GSH Project has the potential to significantly redistribute contamination, bringing it closer to ground level, introducing it into preferential pathways, and spreading it to areas previously unimpacted," which will be exacerbated by the Project's increased risk of flooding from both fluvial sources and sea level rise.

1. Soil-Gas Contamination:

As stated above, a witch's brew of hazardous contaminants has been found on the Project site. To reiterate, the primary constituents of concern (COCs) in its soil are Total Petroleum Hydrocarbons as gasoline ("TPHg"), TPH as diesel ("TPHd"), and TPH as oil ("TPHo"), and metals including arsenic, cadmium, copper, lead, molybdenum, selenium, thallium, vanadium, and zinc. In soil vapor, COCs present onsite include benzene, ethylbenzene, and tetrachloroethene ("PCE"). Volatile Organic Compounds ("VOCs") including Methyl tert-Butyl Ehter ("MTBE"), trichloroethene ("TCE"), and cis-1,2-Dichloroethene ("cis-1,2-DCE") and metals arsenic, barium, beryllium, lead. and selenium are the COCs found in shallow groundwater. It's important to note that chlorinated solvent contaminants, including TCE and PCE, if found in high enough concentrations may be classified as "dense non-aqueous phased liquids" ("DNAPLs") because they are heavier than fresh water. Kram at 5. As a result of their density, DNAPLs can migrate below the water table where they remain relatively stable under natural conditions and have slow degradation rates. However, once they encounter migrating groundwater, the dissolution process begins. Although DNAPLs tend to dissolve slowly in water, they are extremely toxic at low concentrations and their dissolution can render large volumes of groundwater contaminated above risk screening levels. Kram at 4.

As the applicant has not yet submitted plans for construction of the parking garage, it is assumed that it will be built using standard construction methods, which means that "...the advancement of the excavation will likely require bracing such as sheet piling to be installed around the perimeter of the...parking garage." Lynker at 17. The finished-floor elevation of the parking garage will be at 3.5 feet above mean sea level, at which point low-permeability, clayey soils are found. Such soils are considered geotechnically unsuitable for construction due to their liquefaction potential and settlement tolerances; therefore, in order to construct the parking garage, the clayey soils will need to be removed in their entirety and engineered fill will need to be added to support the foundation and slabs for the parking garage. Lynker at 8. In doing so, deeper contamination and contamination adjacent to the property will mobilize, forcing toxins upwards and redistributing them to shallower sediments and into groundwater, which will require interception by substantial dewatering operations. Lynker at 8. The excavation, construction of pilings, and the dewatering process will likely bring the low-lying DNAPLs upwards, providing them with ample opportunity to interact with migrating groundwater.

Even after completion, the resulting changes imposed by the engineered fill and construction of the parking garage will continue to alter the flow regime in the shallow aquifer. The parking garage itself is expected to create a barrier or dam to the shallow groundwater flow, generating a mound of water at its upgradient wall and drawing toxins towards shallow surfaces. Lynker at 17. Additionally, the removal of the low permeability, clayey soils below the footprint of the proposed subterranean parking

structure will create an increased and permanent upward flow of contaminated groundwater currently confined to deeper soils. It is possible that the resulting changes to groundwater flow patterns could intercept subsurface preferential pathways, contamination from other nearby sites, stormwater, or flood water not otherwise accessed without the Project. Moreover, the ambient groundwater flow from the property tends to flow more horizontally from left to right (or west to east), which could generate discharge of additional contaminated groundwater into the Laguna Channel and/or the coastal lagoon through combined discharges from the Laguna Channel and Mission Creek. Lynker at 22.

2. Air Quality:

In addition to contaminating groundwater, the toxins found on-site pose a significant risk to air quality. Currently, the contaminants exist in shallow groundwater and soil beneath the Project site at levels that exceed vapor intrusion risk screening levels ("VISLs"). Kram at 2. Exposure risks require a contaminant source, a transport pathway, and a receptor. For instance, toxic vapors migrating into occupied breathing spaces where they are inhaled represents a complete exposure pathway. The previously identified contaminants that currently exist in the shallow soil and groundwater pose a potential vapor intrusion exposure risk, including Benzene, Trichloroethylene (TCE), Tetrachloroethylene (PCE), cis-1,2-Dichloroethylene (cis-1,2-DCE), Methylene Chloride (MC), Vinyl Chloride (VC) and other hazardous volatile chemicals. While the locations and concentrations have yet to be fully characterized or delineated, and risks assessments have yet to be completed, regulatory agency health screening levels are exceeded for several of these toxins at the proposed Project site.

Given that the toxins have the potential to disperse throughout the neighborhood groundwater and soil, multiple residential and commercial building occupant exposure pathways exist within the neighborhood, including: (i) toxic volatile contaminants released into the soil and groundwater can enter residential and commercial buildings as vapors via the traditional vapor intrusion pathway; and (2) toxic volatile contaminants released into the soil and groundwater can enter the sewer system, laterals, foundation cracks and utility penetrations of residential and commercial buildings, and eventually migrate, as vapors, into overlying structures. In both cases, occupants of buildings risk exposure via inhalation. Kram at 5.

As noted above, the air quality impact analysis did not assess potentially significant impacts from emissions associated with the cleanup and remediation phases. These must be included in the project emissions inventory.

3. Flooding/Sea Level Rise:

The location of the Project makes it particularly susceptible to both fluvial flooding and sea level rise, which alone pose significant threats to human safety, but when coupled with the Project's potential for groundwater contamination, there is a substantial risk of human and ecological exposure to toxins via both groundwater and vapor intrusion; consequently, the site is ill-suited for the proposed use. According to the Revell Consulting, it is their "...professional opinion that this is not an appropriate

location to build any structure with a 75 to 100-year expected life due to the exposure of occupants and structures at this location to substantial risk from existing and increasingly severe future fluvial and coastal hazards." Integral Consulting, *Review of Garden Street Hotel Development Project – Sea Level Rise Hazard Analysis and Adaptation Plan*, 7/11/2023 at Page 1.

According to Revell Coastal, the Project site is vulnerable to fluvial flood hazards, future sea level rise, and existing vulnerabilities, including winter storms, tsunamis, and reliance on the Laguna Channel's tide gate and pump station for flood control. Revell at 1-2. It is anticipated that even under moderate scenarios, sea level will rise by at least 2.5 feet during the life of the Project. Revell at 4. As sea level rises, the Project site will be subject to a significant increase in flood events, including shallow groundwater flooding, fluvial flood events with increasing flood depths and duration, and an increased potential for wave flooding based on long-term shoreline retreat and dune erosion. The risk of shallow groundwater flooding is immense, as rising sea level can intrude into coastal aquifers and raise groundwater tables, which results in an increased flood risk. Shallow groundwater flood risk depends on soil permeability and where soil is less permeable, shallow groundwater is better able to accumulate and cause flooding. With current elevations at the Project site, groundwater is already emergent even without sea level rise and therefore, highly susceptible to groundwater flooding. Revell at 10. As construction of the parking garage is anticipated to mobilize contaminants initially through its construction and exacerbated by the subsurface infrastructure of the Project, an increased risk of flooding from sea level rise will likely result in increased exposure pathways and health risks that would not have otherwise developed. Revell at 13.

Additionally, sea level rise will affect both fluvial flood extents and inland extents of storm wave flooding, which will cause the Project to be in violation of the minimum freeboard requirements in the Floodplain Ordinance. Freeboard requirements in flood zones are intended to help protect structures from damage due to flooding. Currently, the Building and Safety Division of the City of Santa Barbara requires one foot of freeboard, which Revell Consulting considers to be a high-risk decision in the coastal zone. Specifically, Dr. Revell states that "[s]ea level rise will reduce the freeboard over time as compound flooding accelerates, causing the Project to be in violation of the minimum freeboard requirements in the Floodplain Ordinance." Revell at 8. Consequently, the purpose of the freeboard requirement, as it stands, will become moot as sea level rises. Additionally, access to the site will be disrupted before the Project site is even impacted by flooding, which will place residents and visitors in harm's way in terms of evacuation options.

Lastly, Revell Consulting at Page 5 demonstrates that there is an increased risk of the Laguna Channel flooding, which will heavily affect the Project site. As it stands, flows into the Laguna Channel are controlled by a tide gate and a pump station. During high tide, the gate must be kept close to prevent seawater from entering the channel. However, during storm events, the gate must be open to convey storm water into the ocean. As sea level rises, the beach berm will likely rise, increasing the chances of lagoon flooding and risk to the Project site when the lagoon is closed. When the lagoon is open, rising sea levels will either require the Laguna tide gate to be raised to maintain current downstream/freshwater flow regimes, or that the periods during which the tide gate can be kept open gradually become sorter, thus putting increased pressure on the Laguna Pump Station. If this

infrastructure fails, the region surrounding the Laguna Creek, including the Project site, would likely be flooded. Once flooded, the waters from the Laguna Creek will mix with the contaminated groundwater from the Project site, causing an increased risk of significant environmental impacts to human health and safety.

Taking into consideration the significant contamination and increased risk of flooding at the Project site, from both fluvial flood hazards and high tides exacerbated by sea-level rise, the Project is uniquely situated to cause extensive human and ecological health and safety risks through construction of the subterranean parking garage and subsequent contamination of the groundwater. Specifically, exposure to the chlorinated contaminants identified above pose long-term cancer risks to the general population. However, immune-compromised populations, including children and pregnant women, are particularly susceptible to the harmful effects of toxins. When women of child-bearing age are exposed to even minimal TCE concentrations during the first trimester of pregnancy, often before they are even aware that they are pregnant, the fetus can develop cardiac malformation and other challenging health impacts that affect the development and viability of the fetus. Kram at 2. According to the Environmental Protection Agency, even 2.1 micrograms per cubic meter of TCE inhalation exposure for as little as 24 hours during a 21-day window of susceptibility, is believed by health experts to result in an increased propensity for fetal cardiac malformation and developmental disorders. Kram at 2.

Regardless of the efficacy of the Commission's findings, the Project's peculiar environmental effects cannot be mitigated by City-adopted uniformly applied development policies or standards. As it stands, the Project has the potential to release significant concentrations of highly volatile toxins into groundwater and through vapor intrusion pathways by way of the subterranean parking garage. While this alone is clearly a significant environmental impact, the increased risk of flooding on the property, particularly through the effects of sea level rise, makes it such that the Project's environmental impacts associated with soil contamination cannot be mitigated by uniformly applied development policies or standards as no such standards are yet in place.

Specifically, the Moffatt and Nichol Study states that long-term fluvial hazard exposure of the Project will be influenced by "adaptation measures at the City or County scale to address the increased risk of widespread flooding along lower Mission Creek." However, Moffatt and Nichol are referring to future adaptation measures that do not yet exist. The City's largest investment in solving the problem of sea level rise is its 2021 "Sea Level Rise Adaptation Plan," which identifies "vulnerabilities to coastal hazards expected from sea-level rise in the City of Santa Barbara and possible actions to prepare for and adapt to sea-level rise." Speaking specifically to the area including the Project site, Page 8-21 of the Adaptation Plan states that "...the City could consider requiring building elevation and waterproofing higher than existing base flood elevations to account for the potential impacts of sea-level rise." In addition, the Adaptation Plan states that further studies will be required, including "[S]tudy of potential impacts of changing groundwater levels in spreading existing groundwater contamination to new areas." (8-22).

Continuing, the Adaptation Plan includes Figure 8-5 at Page 8-23, which is intended to show major vulnerabilities along the city's low-lying flood areas and provides "...three options for adaptation

approaches, and lead times to begin advance planning before the recommended adaptation measures could be in place to limit risk." Figure 8-5 includes the area encompassing the Project Site and confirms that flooding along Laguna, Mission, and Arroyo Burro Creeks by 2.5' of sea level rise is expected. At 6.6' of sea level rise, increased flooding is expected for areas north of Highway 101 as sea levels will back up into the creek channels. In addition, tidal inundation is expected to increase in extent and depth south of Highway 101.

The Adaptation Plan makes it clear that the City is aware that the Project site will be inundated with flooding as sea level rises. What it also makes clear is that the City does not currently have any uniformly applied policies or procedures in place that will mitigate the effects of the soil and groundwater contamination that will be exacerbated by sea level rise. The Adaptation Plan only mandates that the City begin to consider adaptation and mitigation policies as the reality of sea level rise nears. In other words, the City has no plan in place for dealing with the impacts of contaminated soils and groundwater that will be exacerbated by sea level rise. As stated by Revell Consulting, "[b]uilding a multi-story hotel and underground parking in a flood-prone location that is known to be vulnerable to fluvial and compound flooding, while relying on potential and undefined future adaptation measures is a high-risk decision." Integral Consulting at 12. Therefore, it is without a doubt that the Project's significant impacts on groundwater contamination must be examined by the City in a supplemental EIR in light of the Project site's potential for significant sea level rise.

ii. <u>The Project has Significant Environmental Impacts that Were Not Analyzed by the Planning Commission or the 2011 General Plan EIR</u>

Pursuant to § 15183(b)(2), the Commission was required to analyze the Project's significant effects not addressed in the 2011 General Plan EIR. It's clear that Staff understands this requirement as it is listed, in part, at Finding #3 ("...environmental review for this project shall be limited to examination of any significant project-specific environmental effects not analyzed in the prior Environmental Impact Report for the 2011 General Plan"). However, based on the Commission's findings, it is unclear as to what the Project's potentially significant project- and site-specific environmental impacts are; therefore, without this information, it is unclear as to which effects the City believes were or were not addressed by the 2011 General Plan EIR.

Regardless of the Commission's findings, the 2011 General Plan EIR is inadequate as it relates to addressing the Project's significant environmental impacts. First, the General Plan EIR is limited in scope as it relates to the specifics of the proposed Project or the Project-site. It is an extremely broad document that covers development throughout the *entire* City but only in general terms. Additionally, it is nearly 15 years old and with the intensity at which the climate is changing and the magnifying effects of increasing rainfall and higher tides, it is unreliable as it relates to the environmental impacts of development in the Santa Barbara community, particularly as it relates to sea level rise. Moreover, the 2011 General Plan EIR does not take the 2019 Local Coastal Plan ("LCP") into consideration. As Council is aware, the LCP is the leading land use document for the Coastal Zone. In fact, if any of its

policies conflict with the General Plan, it is the controlling document. As the City did not undertake environmental review for the LCP, there is no review from which the City could tier for this project.

As it stands, the City is relying on a generalized, outdated document that does not take into consideration fundamental land use policies in the Coastal Zone. More importantly, the 2011 General Plan EIR fails to include any project- or site-specific conditions. Specifically, the construction of the subterranean parking garage, including the removal of the clayey soils, the addition of engineered fill, and the placement of slabs that will penetrate a low-permeability soil layer with significant concentrations of highly toxic contaminants beneath qualifies as a significant impact not addressed in the 2011 General Plan EIR. The 2011 General Plan EIR discusses the environmental impacts of subterranean parking structures in the context of housing, archelogy, and construction-related noise. However, it does not include environmental analysis of the installation of a subterranean parking structure in heavily contaminated soil in which the construction of the parking garage itself, along with an increased risk of flooding at the Project site, will exacerbate the risk of the environmental impacts to human and ecological health and safety. Lynker at 1.

Another environmental impact associated with the removal of unsuitable bearing materials that is not anticipated, addressed or analyzed in the 2011 General Plan EIR is the change in flow patterns and rates of the contaminated groundwater at, under and near the Project site. Removal of the natural barrier of low-permeability materials underlying the site and replacing it with engineered fill will potentially change groundwater flow and rates, causing contaminates to flow upwards towards shallow surfaces and disburse offsite onto neighboring properties, into the Laguna Channel, onto the beaches and ultimately, into the ocean. Lynker at 26. The 2011 General Plan EIR does not provide any information on the significant impacts associated with the changes in groundwater flow and rates nor does it provide for any guidance on how its effects will be mitigated.

As discussed above, part of the peculiar impacts of the Project include the fact that the contamination on-site will be readily exacerbated and spread outward by increased flooding on-site due to sea level rise. The 2011 General EIR does not provide any mitigation measures for the environmental effects of sea level rise; instead, similar to the 2021 Sea Level Rise Adaptation Plan, it only creates prospective tasks focused on identifying policy options for addressing the consequences of sea level rise. Specifically, the 2011 General Plan EIR tasks the City with creating techniques to minimize wave energy and damage from storm surges, analyzing City public improvements and utilities for potential consequences and adaptation measures, and coordinating with private property owners along the waterfront on methods of adaptation. No where in the 2011 General Plan EIR does it analyze or address the potential for contamination to be exacerbated and spread by the construction of a subterranean parking garage in an area that is expected to be heavily impacted by flooding as a result of and sea level rise.

Lastly, we note that as previously stated throughout the letter, the data touted by the technical reports cited in the Checklist and which is intended to substantiate the reasoning behind the Planning Commission's findings, is considered preliminary and in many instances, based on

incorrect methodologies for testing. A more complete site assessment is needed to determine whether conditions have changed from those considered in the 2011 Environmental Review Document. By failing to adequately characterize the site and relying on vague and uncertain future assessment and then cleanup and remediation, the City has expanded the scope of inferences that can be drawn, including the scope of changed circumstances from the prior EIR. *Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d 296, 311. Similarly, as the extent of the contamination onsite has not yet been properly analyzed and assessed, it is likely that the mitigation measures provided by the 2011 General Plan EIR are wholly inadequate in addressing the environmental impacts associated with the Project.

iii. The Project Will Potentially Have Off-Site and Cumulative Environmental Impacts that Were Not Addressed or Analyzed by the Planning Commission or the 2011 General Plan EIR

Pursuant to § 15183(b)(3), the Commission was required to analyze the Project's potentially significant off-site and cumulative impacts not discussed in the 2011 General Plan EIR. The statutory basis for Guidelines § 15183(b)(3) is Public Resources Code §21083.3(c), which states that "[n]othing in this section affects any requirement to analyze potentially significant offsite impacts and cumulative impacts of the project not discussed in the prior environmental impact report with respect to the general plan"; therefore, regardless of whether or not the Project carries peculiar impacts, the City is still required to analyze the Project's offsite and cumulative impacts not addressed in the 2011 General Plan EIR. Again, neither the Certificate of Determination nor the Checklist provide any indication that the Planning Commission did so.

The offsite and cumulative environmental impacts of the Project are significant and could not have been contemplated by the prior EIR. As previously discussed, the construction of the subterranean parking garage, in conjunction with an increased risk of flooding and raised groundwater levels from sea level rise, has the ability to mobilize and channel contaminants located both on and off the Project site onto nearby properties and into the Laguna Channel, which will have significant human and ecological health and safety repercussions. Not only will neighboring properties, which include homes, businesses and other building, be inundated by contaminated groundwater, but it's possible that they may not have been designed to prevent or disperse vapor intrusion stemming from the VOCs. Similarly, ecosystems already struggling to survive in the Laguna Channel, including the Southwestern pond turtle, may be affected by the contamination to the point of localized extinction.

The Project has the potential for significant offsite impacts as a result of the remediation process, including the removal, treatment and trucking of heavily contaminated soils. Lynker Consulting addresses the enormity of the required operations in its report, as follows:

"Considering the 2-acre subterranean parking garage and GSH project foundations, an average excavation depth of 15-feet below existing grade and a water table between 6 and 8 feet bgs, the anticipated volume of impacted groundwater generated by

dewatering and the tonnage of impacted soil/sediment generated from excavation activities is expected to exceed 10,000,000 gallons and 73,000 tons, respectively. These activities, dewatering and excavation with offsite hauling, are expected to take approximately 6 months with 30 truckloads a workday hauling hazardous waste offsite, resulting in 3,650 20-ton truckloads of hazardous waste being hauled through Santa Barbara to a licensed disposal facility, which may vary depending on the constituents and concentrations of the impacted materials. During a normal 8-hour workday this equates to a truckload of hazardous waste exiting the site and travelling through the City and communities in the transportation corridor every 15 minutes for 6 months enroute to the undisclosed disposal location(s). A large area is typically needed for staging and sorting contaminated soils prior to transport, potentially necessitating use of a different nearby site for soils management."

Lynker at 15.

Additionally, it is anticipated that 60,000 gallons per day of contaminated groundwater will need to be dewatered during the construction process, which means that substantial operations will likely be required on-site to store, treat and perform confirmation sampling prior to disposal. Lynker at 15-17. As stated by Lynker Corporation, "[t]his process of continuously extracting large volumes of water will require careful design, operation, and monitoring to ensure contaminated groundwater is contained and treated prior to disposal." Lynker at 17. Moreover, the water treatment facilities will require a significant dedicated area and buffers to limit public exposure. Considering the volume of contaminated groundwater that will need to be stored, it's possible that the Project site will not be able to house the enormity of the facilities required.

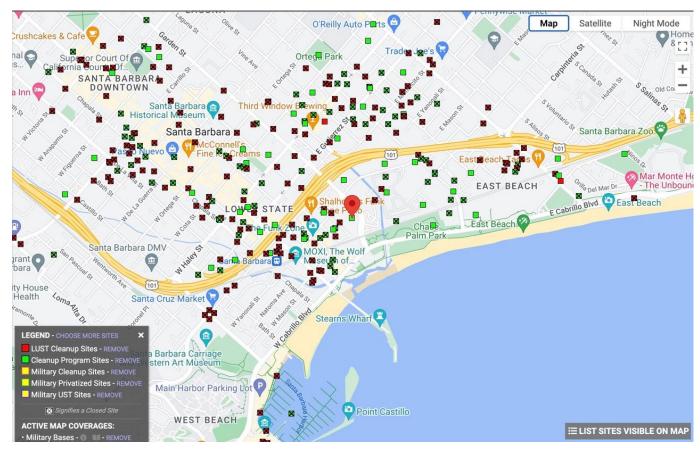
The entirety of the remediation process has the potential to result in significant environmental impacts, including the "release of hazardous materials into the environment in the form of improperly treated water, residual soils, dust and vapors." Lynker at 17. The magnitude of the remediation process required to properly treat and dispose of the contaminated soils at the Project site, was not anticipated, considered or discussed in the prior EIR nor was it include in the Project's proposed site plans.

Another offsite and cumulative impact of the Project that is not discussed in the 2011 General Plan EIR is the environmental effects of implementing the sewer main upgrade, the plan for which has not yet been determined by the City. Regardless of which option is chosen, it is anticipated that the sewer main upgrade has the potential to release toxins into recreational areas along the City's beaches through percolation in the fill of the deep-soil trench proposed, which will bisect the Laguna Channel. Lynker at 25. Additionally, the excavation of the new sewer line, will serve as a conduit for shallow groundwater contamination emanating from both the Project-site and surrounding contaminated sites, directly into the Laguna Channel and the Mission-Laguna Lagoon. Lynker at 25. In addition to the spread of contaminated groundwater, vulnerable populations, such as women of child-bearing age, will be subject to elevated vapor concentrations from construction of the sewer line, which can potentially harm unborn fetuses. Lynker and Kram at Exhibit C.

Lastly, the significant effects of sea level rise and an increased potential for flooding are not limited to increased contamination on- and off-site. If a flooding event occurs, the Bird Refuge will flood Cabrillo Boulevard and each Highway 101 underpass will be inundated with flood flows, making site access for emergency response challenging; therefore, extensive emergency access operations will be likely be required to allow for evacuation.

D. By Failing to Analyze the Remediation Action Plan, Soil Management Plan and Sewer Mainline Upgrade for Significant Environmental Impacts, the Planning Commission has Piecemealed the Project and Impermissibly Circumvented the CEQA Process

A fundamental challenge presented by this Project's impact assessment stems from the lack of an adequate characterization of the site's contamination, including boundary conditions that would characterize the likely transport of contaminants from other off-site contaminated sites. See Lynker, pp. 1-10.



Geotracker Map of Toxic Contaminated Sites in Project vicinity

i. The Remediation Action Plan

Prior to permit issuance, Staff is requiring that the Applicant submit a Remediation Action Plan ("RAP") and Soil Management Plan ("SMP") in order to mitigate soil contamination. According to the Staff Report from February 29th, the Santa Barbara County Environmental Health Services will approve and oversee the implementation of the RAP and SMP. However, as most of the data and analysis surrounding the Project was preliminary, including EHS' Work Plan, the extent of the contamination onsite or what will be required to remediate it is unknown. Additional studies are required in order to properly develop the RAP and SMP, including further sampling and site characterization; therefore, the City does not and cannot know what the RAP or SMP will entail, how each plan will operate to minimize the significant impacts of the proposed Project, and what the significant impacts of the remediation process itself will be.

In *Sundstrom v. County of Mendocino*, the Court of Appeals ruled that a public agency's issuance of a use permit with the condition that a subsequent hydrological study is required to assess the environmental impacts of the sewer system circumvented CEQA provisions governing the environmental review process, as follows:

"The requirement that the applicant adopt mitigation measures recommended in a future study is in direct conflict with the guidelines implementing CEQA. California Code of Regulations, title 14, section 15070, subdivision (b)(1) provides that if an applicant proposes measures that will mitigate environmental effects, the project plans must be revised to incorporate these mitigation measures... By deferring environmental assessment to a future date, the conditions run counter to that policy of CEQA which requires environmental review at the earliest feasible stage in the planning process... A study conducted after approval of a project will inevitably have a diminished influence on decisionmaking. Even if the study is subject to administrative approval, it is analogous to the sort of post hoc rationalization of agency actions that has been repeatedly condemned in decisions construing CEQA."

Sundstrom v. County of Mendocino, 202 Cal. App. 3d, 306-307.

It is clear that the additional studies and investigations required in order to develop the RMP and SMP, along with the RMP and SMP themselves, should have been subject to CEQA review at the same time as the rest of the proposed Project. If the City declines to conduct supplemental Project- and site-specific environmental review, the City is at risk of deferring full environmental assessment of the Project, which is in violation of CEQA.

Because the cleanup is a necessary step for developing the project, it must be considered a part of the Project and discretionary under CEQA. CEQA review must address:

- The potential release of hazardous materials during cleanup.
- The impacts of remediation activities on air and water quality.
- The effects on surrounding communities and ecosystems.

In this case, the processes of stabilizing the site for excavation and conducting the initial excavation will require much or all of the 4 acre site. Additional space is needed for sorting and characterizing soil by levels of contamination and stockpiling sorted soils for efficient transport. The site is adjacent to a City park and proximate to coastal recreation areas. Busy roads bound the site to the east and north, with railroad and Highway 101 on either side. In the event of a release, human exposure will be nearly inevitable. CEQA requires this impact be assessed.

Remediation activities will include soils sorting and stockpiling, with increased potential for windblown transport of contaminated particulate matter. Contaminated groundwater will likely be treated, using Granulated Activated Carbon filters and potentially air strippers, depending on the levels of contamination. Air strippers may discharge contaminants and Granulated Activated Carbon filters eventually lose their ability to adsorb pollutants, causing pass-through and release of contaminants. The details of treatment methods and equipment must be supplied and an environmental review process assess potential impacts.

Transport of contaminated soils and treatment media offsite can expose communities and neighborhoods to regular airborne pollution from both fuel combustion (typically carcinogenic diesel) and escape of any contaminated soils. Depending on the level of contamination, highly contaminated soils may need to be transported to Kettleman City or potentially out of California.

1. Sewer Main Upgrade

As addressed in the findings, Staff has stated that the segment of the existing sewer line servicing the Project site is insufficient for the proposed Project and must be increased in size; thus, the sewer is clearly and irrevocable part of the project. Without the sewer expansion, Project sewage could not be treated and the Hotel could not operate. CEQA requires that the Environmental Review Document evaluate the impacts of the "whole of the project" and prohibits piecemealing a Project into a series of smaller projects. CEQA Guidelines § 15165; Bozung v. Local Agency Formation Com., 13 Cal.3d at 283-284; see also Rural Landowners Assn. v. City Council, 143 Cal.App.3d at 1024. However, the only information on the sewer upgrade is a technical memorandum entitled, "Technical Memorandum for Garden Street Sewer Capacity Upgrade," dated December 5, 2022. The technical memorandum provides options for upgrading the sewer system but the City has not confirmed which plan it will be implementing. Moreover, the technical memorandum acknowledges that the Project site is listed as a "cleanup site" by the DTSC, which means that the handling, disposal and treatment of hazardous soil will be governed by federal law under the Resource Conservation and Recovery Act ("RCRA") and shallow groundwater will need to be dewatered to facilitate construction.

Similar to the Remediation Action Plan, the plan for and implementation of the sewer infrastructure upgrades potentially carry significant impacts. Regardless of which option is chosen, it is anticipated that the sewer main upgrade has the potential to release toxins into recreational areas along the City's beaches through percolation in the fill of the deep-soil trench proposed, which will bisect the Laguna Channel. Additionally, the excavation of the new sewer line will serve as a conduit for shallow groundwater contamination emanating from both the Project-site and surrounding contaminated sites, directly into the Laguna Channel and the Mission-Laguna Lagoon. In addition, to the spread of contaminated groundwater, vulnerable populations, such as women of child-bearing age, will be subject to elevated vapor concentrations from construction of the sewer line, which can potentially harm unborn fetuses.

By failing to provide a definitive plan for and subsequently address the environmental impacts associated with both the RAP and sewer main upgrade, the City is essentially dividing the Project into multiple pieces, which is prohibited under CEQA; yet, the City's actions are even worse in that piecemealing anticipates subsequent environmental review, whereas in the case of the RAP and sewer, the City will be choosing to ignore the evaluation and mitigation of environmental effects in their entirety.

E. CEQA Incorporation by Reference

By this letter, KTF repeats and incorporates by reference all public comments, objections, argument and evidence submitted to the City staff, Council and City Council concerning the Garden Street Hotel Project, including all such comment, objection, argument and evidence submitted and/or considered in the City's adoption of the 2011 General Plan, the environmental review process for the 2011 General Plan adoption, any and all uniformly applied development policies and/or standards previously adopted by the City or County that the City claims to relied upon to mitigate Project significant adverse environmental impacts, and the complete record of any other proceeding's environmental analysis and action that the City contends that they have or will tier from, rely upon, or consider in adopting the Project.

3. Hotels Should Not Be Sited in Flood Zones:

Locating hotels in flood zones can pose significant risks and challenges for both the business and its guests. These risks are heightened when the hotel requires an underground garage. FEMA does not allow subterranean garages to support hotel in designated flood zones, but apparently the City believes this project can be characterized as a mixed use project and as such, the FEMA prohibition does not apply. KTF understands anecdotally that the City has pioneered the argument that the Hotel may be characterized as a mixed use project and evade FEMA's prohibition. If true, the City may be held at least partially liable for the consequences of a catastrophic flood incident and bear the likely substantial financial responsibility.

The Project should not be approved due to its location in a flood zone for the following reasons:

1. Safety Risks:

- Ouest Safety: Flooding can pose immediate dangers to guests, including injury or even loss of life. Ensuring the safety of patrons is paramount, and being in a flood zone inherently increases these risks, especially when guests' primary means of evacuation is located at the lowest level of the structure.
- Staff Safety: Employees also face hazards during floods, which can disrupt operations and affect staff welfare.
- o First Responder Safety: Emergency responders expose themselves to risk in attempting to access, assess and perform rescues in flooded structures.

2. Financial Implications:

- o Property Damage: Floods can cause extensive damage to infrastructure, furniture, electronics, and other assets, leading to costly repairs or replacements.
- Revenue Loss: During and after flood events, hotels may need to close temporarily or suffer reduced occupancy rates, which would directly impact revenue streams, including the City's TOT revenues.
- o Increased Insurance Costs: Insurance premiums for properties in flood zones are typically higher due to the increased risk, elevating operational costs.

3. Reputational Damage:

- Negative Perception: Frequent flooding incidents can tarnish reputations of both the hotel and the City, making each less attractive to potential guests who prioritize safety and reliability.
- Guest Dissatisfaction: Guests who experience disruptions or damages may leave negative reviews, further harming the hotel's and the City's image and deterring future bookings.

4. Operational Challenges:

- o Infrastructure Strain: Floods can disrupt essential services such as electricity, water supply, and internet connectivity, hindering daily operations and guest services.
- o Supply Chain Disruptions: Access to the hotel for suppliers and service providers can be compromised during flood events, affecting inventory and maintenance.

5. Environmental Concerns:

- Ecological Impact: Hotels in flood zones may contribute to environmental degradation, such as increased runoff or habitat disruption, exacerbating flooding issues.
- Sustainability Goals: Achieving sustainability and resilience goals becomes more challenging when operating in vulnerable areas, potentially conflicting with municipal and corporate social responsibility initiatives.

6. Long-Term Viability:

 Climate Change: With the increasing frequency and severity of extreme weather events due to climate change, the long-term viability of hotels in flood zones is questionable.

o Investment Risks: Investors may view properties in high-risk areas as less attractive, affecting funding opportunities and financial stability.

While flood zones may sometimes be attractive due to their proximity to water-based attractions or scenic views, the multitude of risks and challenges associated with operating hotels in these areas often outweigh the benefits. Prioritizing guest safety, ensuring financial stability, maintaining a strong reputation, and adhering to regulatory standards are critical considerations that argue against locating hotels in flood-prone regions.

4. The Project Is Inconsistent with the California Coastal Act, Santa Barbara's Local Coastal Plan and the Specific Plan

All land use and development decisions must be consistent with the applicable General Plan (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 570), which in the Coastal Zone includes the City's Local Coastal Plan (LCP). The Coastal Land Use Plan (CLUP), part of the City's Coastal Council-certified LCP, sets forth the policies that protect coastal resources, public coastal access and recreation, and coastal-dependent industries and uses like commercial fishing and recreational boating, including (but not limited to) those policies enumerated below, and incorporates the standards in the California Coastal Act. The 101 Garden Street Hotel Project is inconsistent with numerous CLUP policies, and accordingly cannot be approved as proposed.

A. California Coastal Act Requires Minimization of Adverse Impacts

California Coastal Act § 30253 (Public Resource Code § 30253), entitled Minimization of Adverse Impacts, provides that new development shall:

(1) "Minimize risks to life and property in areas of high geological, flood and fire hazard." The California Coastal Act mandates that the City take steps to minimize the risks that new development sited in high flood hazard pose to life and property. The record contains no such analysis and the design of the new development fails to minimize risks to the lives of occupants, employees and guests from below-ground inundation and to the vehicles (property) parked there. Additionally, the high flood hazard also creates risk of spreading toxic contaminants present in the groundwater that have not been properly assessed (as a prerequisite to risk minimization) and which have direct pathways of exposure to the public in nearby, downstream recreational areas. Laguna Channel is a locus for a homeless population that uses the Channel's waters for daily washing and other needs, and who would also be subjected to health risks. This population is particularly sensitive to exposure to toxic chemicals due to the lack of access to regular medical care and the combination of other risks from living houseless.

As a matter of common sense, an underground parking garage in a flood zone is unacceptably risky. The garage will periodically be inundated by sea level rise-induced King Tides and flooding during intense rainfall events, along with infrequent but potentially catastrophic tsunami inundation. The

1825 earthquake that devastated much of Santa Barbara caused a tsunami that reached Canon Perdido Street. Unexpected flooding of the parking garage will prevent retrieval of vehicles needed to evacuate, and some may enter the garage to try to retrieve their vehicles and be exposed to life-threatening floods, and/or try to drive out under flooded conditions. The garage has the potential to become a death-trap. Risks to life and property from development on this site are exacerbated by the underground garage; only by eliminating the underground garage can these risks be minimized, as required by the California Coastal Act.

Lynker (Exhibit 1) has established the disfavorable geological conditions, including toxic contamination of soils and groundwater below the site. Whether the site can be sufficiently remediated on a permanent basis remains unresolved. Operational dewatering to prevent garage inundation from high groundwater appears likely, and the site's geological conditions present high levels of risk to further occupants and people nearby, including houseless individuals, from the extraction, treatment and disposal of contaminated groundwater. Construction excavation activities will disturb contaminated soils, potentially exposing both residents and the visiting public to airborne soil-gas and soil particles. Accidental releases during extraction or transport of contaminated soil or groundwater would pose further risks to the public. These elements of the project description have not been disclosed, so assessment is more difficult. Constructing and operating the subterranean garage will change the flows of contaminated groundwater from other nearby sites in unknown ways, and may draw contaminants from depths to the surface, potentially exposing visitors, residents, employees and sensitive habitat.

B. <u>California Coastal Act Requires Protection of Special Communities and Neighborhoods that are Popular Visitor Destination Points</u>

California Coastal Act § 30253 (Public Resource Code § 30253), entitled Minimization of Adverse Impacts, also provides that new development shall:

(5) "Where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational users."

The Santa Barbara Funk Zone is a special community and neighborhood that is a popular recreational visitor destination that will be degraded and irrevocably become less funky if the project proceeds. The Funk Zone is known for its unique blend of art, culture, and entertainment. Elements that distinguish the Funk Zone and make it a popular visitor destination for recreational users:

- 1. **Eclectic Art Scene**: The area is filled with murals, galleries, and studios showcasing local artists. The artistic vibe is palpable and constantly evolving.
- 2. **Wineries and Breweries**: The Funk Zone is home to numerous tasting rooms, breweries, and wine bars, offering a variety of local wines and craft beers.
- 3. **Boutique Shopping**: Unique shops and boutiques offer a range of products from vintage clothing to handmade jewelry, catering to diverse tastes.

- 4. **Dining Options**: A variety of trendy restaurants and food trucks serve an array of culinary delights, from gourmet cuisine to casual bites.
- 5. **Events and Activities**: Regular events such as art walks, live music performances, and popup markets keep the area lively and engaging.
- 6. **Historic and Industrial Vibe**: The mix of old industrial buildings and modern renovations creates a uniquely distinct character and charm in contrast to other areas of the South Coast that lack individuality or have become overly commercialized and gentrified.

The combination of these elements creates a vibrant, dynamic atmosphere that attracts both locals and tourists.

The Funk Zone is recognized and actively promoted as a unique and special place by the City and in visitor-promotional materials. https://santabarbaraca.com/like-a-local/the-funk-zone/ ("Located near lower State Street and Santa Barbara's famed waterfront, The Funk Zone is one of Santa Barbara's most vibrant and evolving neighborhoods. Once a manufacturing hub and industrial area where artists, surfboard shapers and pioneering urban winemakers originally set up shop, the walkable 13-block area is now home to some of the city's best restaurants, wine tasting rooms, breweries, boutiques, creative collectives, galleries, hotels and more. It's also a hot spot for delectable tacos created by our welcoming "Like a Local" Funk Zone insider, Monica Diaz, owner of Mony's Mexican Food.); https://www.funkzone.net/ ("The Funk Zone is a unique Santa Barbara arts, culture, business, and industrial district between State Street and Garden Street, and Montecito Street to Cabrillo Boulevard. This amalgamation of historical marine structures, industrial lots, and houses has a unique history in manufacturing, lumber, citrus, produce, and fishing. Over the years, many artists have found creative freedom by carving out studio spaces in this "funky" area of Santa Barbara, and so have wineries, restaurants, art galleries, and shops."); https://www.adventuresofacarryon.com/how-to-spend-day-santa-barbaras-funk-zone/ ("For years downtown Santa Barbara and State St. were the place to be. You could find anything from fine dining to grittier neighborhood bars to retail and a historic theater. Around 2016 a new destination took off... the Funk Zone. ... Located just two blocks from the Pacific Ocean, Santa Barbara Harbor and Stearns Wharf, the Funk Zone was a manufacturing and industrial area in the 19th century. But, as is often the case, the creatives began to take over these abandoned buildings, opening studios and galleries. Suddenly everyone wanted to be in the Funk Zone. In addition, art galleries, tasting rooms,

galleries. Suddenly everyone wanted to be in the Funk Zone. In addition, art galleries, tasting rooms, wine bars, farm-to-table restaurants, unique shops, a microbrewery, and Santa Barbara's first distillery, all opened in the Funk Zone. The Funk Zone definitely adds to Santa Barbara's fun factor."); https://carpe-travel.com/your-guide-to-exploring-the-santa-barbara-funk-zone/ ("What was originally an abandoned industrial area filled with warehouses a few blocks off the waterfront, has been transformed into a hip, artistic neighborhood with 20 wine tasting rooms, a dozen art galleries and studios, delicious restaurants and great boutiques. The Funk Zone is one of the coolest areas in Santa Barbara to hang out in...and the best for sipping through all six AVAs in Santa Barbara County while never having to leave the city."); https://10best.usatoday.com/destinations/california/santa-barbara/funk-zone/ ("Welcome to the Funk Zone, Santa Barbara's growing arts community that's also home to the Urban Wine Trail, tasty eats and small retailers. Bordered by State Street, Stearns Wharf

and East Beach, the Funk Zone comprises about 10 very walkable blocks adjacent to the train station, ocean and downtown Santa Barbara.").

Adding a massive "bland", "visually blocky", "run-of-the mill" hotel (https://www.farandwide.com/s/marriott-brands-hotels-ranking-df5e8f6fa0cc4467) to the Funk Zone will accelerate the area's gentrification and loss of diversity and character. The proposed project is second in size only to the Hilton, and will have a comparable domineering impact as a border to the Funk Zone. Although the Specific Plan mandates review by both the Architectural Review Board and the Landmarks Committee, (Specific Plan IV.B.4) the City has abrogated the Specific Plan's requirements and denied Architectural Review Board review of the Project. The undistinguished visual and aesthetic features of the proposed Project reflect the lack of Architectural Review Board review and the lack of effort to design the Project with the Funk Zone's character in mind.

Keep the Funk filed their appeal to preserve the unusual and unique character of the Funk Zone neighborhoods and community of artists and creatives. This has fostered a number of restaurants, tasing rooms, brewpubs and visitor-services that have thrived in the Funk Zone's unique setting. Siting one of the city's largest hotels in the Funk Zone would cause irretrievable changes to the fabric of the Funk Zone. Homogenizing the Funk Zone with an out-of-scale national hotel will contribute to the loss of one of the remaining truly unique and "special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational users." California Coastal Act § 30253 states that areas such as these should be "protected." While opinions may differ on the nature and scale of the impact, it is clear that the City has failed to even consider this factor and would defy the California Coastal Act in approving the project without assessing this impact and taking steps to protect the Funk Zone as a special community and neighborhood.

C. The City Coastal Land Use Plan Disfavors the Project

The Project site is easily accessible from the harbor and waterfront, and is currently used to support various coastal dependent uses including the commercial fishing and boating industries. The City's CLUP, and the California Coastal Act, set forth policies that protect these coastal dependent uses, including by prioritizing coastal dependent uses over coastal-related and visitor-serving uses. By displacing coastal dependent with non-coastal dependent uses, the Project is inconsistent with the following policies:

CLUP Policy 2.1-7. Priority of Coastal-Dependent Developments. As outlined in Coastal Act Section 30255, coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in the Coastal LUP, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

CLUP Policy 2.1-8. Promote Coastal-Dependent and Related Industrial Uses. Ensure any land use and/or zoning changes do not reduce land available to support coastal-dependent industrial and related facilities or coastal-oriented light manufacturing.

CLUP Policy 2.2-9. Protection of Harbor Commercial Fishing and Recreational Boating Facilities. As outlined in Coastal Act Section 30234, facilities serving the commercial fishing and recreational boating industries shall be protected, and where feasible, upgraded. Existing berths and mooring sites shall not be reduced unless the demand for those facilities no longer exists, or adequate substitute space has been provided. Recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Coastal Act § 30234: Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

CLUP Policy 2.2-11 Services for Berthed and Visiting Vessels. Protect, and where feasible, enhance facilities and services for berthed and visiting vessels, including public mooring and docking facilities, guest docks, boat haul-out facilities, and pump-out stations. Continue to allow brief tie-ups at the Accommodation Dock for loading, unloading, and rigging of visiting vessels.

Discussed in section 3 of this letter and supported by Dr. Revell's comments, the Project is not appropriate for this site due to its vulnerability to fluvial and coastal flooding, which will only increase with sea level rise. As proposed, the Project's extensive structural development, underground parking garage, and 75-100 expected life is fundamentally inconsistent with the below CLUP policies.

CLUP Policy 5.1-19 Adaptation in Development. New development and substantial redevelopment shall consider the expected life of proposed development in conjunction with the best available information on climate change effects, particularly sea level rise, and incorporate adaptation measures, as needed, in the location, siting, and design of structures in order to minimize hazards and protect coastal resources for the life of the development.

CLUP Policy 5.1-28 Minimize the Effects of High Flood Hazard. New development and substantial redevelopment shall meet the following requirements over the expected life of the development, factoring in the effects of sea level rise:

A. Avoid high flood hazards where feasible;

B. Where avoidance of high flood hazards cannot be feasibly achieved, minimize flood risk by increasing elevation of structures, restricting basements or habitable floor area below grade,

restricting grading, restricting fencing or yard enclosures that cause water to pond, and/or utilizing flood proof materials consistent with local building requirements; and C. Neither create nor contribute significantly to downstream flooding, erosion, geologic instability, or destruction of the site or surrounding area.

Consistent with the Coastal Act's mandate to protect and expand public access to the coast, the City's CLUP sets forth policies that protect coastal access from the impacts of new development like the 101 Garden Street Hotel Project. As proposed, the Project is inconsistent with CLUP Policy 3.1-29 because it does not include adequate off-street parking to avoid significant adverse impacts to public access to the shoreline and coastal recreation areas, particularly given the reliance on underground parking in a high flood hazard area. The Project is further inconsistent with CLUP Policies 3.2-10 and 3.2-11 because the Project has not been adequately evaluated for its impacts on nearby coastal park and recreation facilities, and providing "onsite recreational facilities for hotel guests" as proposed is fundamentally inadequate to mitigate impacts on public recreation.

CLUP Policy 3.1-29 Off-Street Parking for New Development and Substantial Redevelopment. A. Parking standards in the Zoning Ordinance are designed to ensure sufficient off-street parking is provided for new development and substantial redevelopment so as to avoid significant adverse impacts to public access to the shoreline and coastal recreation areas. Off-street parking for new development and substantial redevelopment, therefore, shall be consistent with the Zoning Ordinance.

B. Zoning modifications to allow reduced off-street parking in the West Beach, Lower State, and East Beach Component Areas shall only be approved if a project specific evaluation of parking demand shows that the reduced parking will provide for the anticipated parking demand generated by the development. In determining parking demand, the following may be considered: proximity to transit facilities; mix of uses in the immediate area; offsite parking agreements; and provisions of a transportation demand management plan where it is demonstrated that the plan's measures will sufficiently reduce the demand for parking.

CLUP Policy 3.2-10 Increased Recreational Demand Evaluation. New development and substantial redevelopment shall be evaluated for potential new user demand generated by the development and associated circulation impacts on nearby coastal park and recreation facilities.

CLUP Policy 3.2-11 Mitigation of Impacts on Coastal Park and Recreational Facilities. New development or substantial redevelopment that results in substantially increased user demand for coastal park and recreational facilities shall be required to provide on-site recreational open space for new users generated by the development.

The Project's height, bulk and scale is also inconsistent with CLUP and the Coastal Act policies that protect the visual character of the Coastal Zone and the unique characteristics of the Funk Zone and waterfront, as discussed in numerous written comments submitted by concerned residents.

Coastal Act § 30251: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

CLUP Policy 4.3-7 Compatible Development. Development shall be sited and designed to be visually compatible with the character of surrounding areas and where appropriate, protect the unique characteristics of areas that are popular visitor destination points for recreational uses.

The City's CLUP includes land use and development policies including the below, that pace development with infrastructure availability and encourage community benefit projects. As discussed in numerous public comments, the proposed 101 Garden Street Hotel is inconsistent with this fundamental guiding land use policy.

CLUP Policy 2.1-4 Sustainability through Nonresidential Growth Management. Implement nonresidential growth management measures in the Coastal Zone that pace land use development to: A. Match the availability of resources such as water, waste water treatment capacity, and other key infrastructure;

- B. Utilize transportation capacity efficiently through a traffic management strategy;
- C. Locate nonresidential development in areas best able to provide sustainable transportation, services, and recreation; and
- D. Encourage Community Benefit Projects including:
- i. Community priority projects that address a present or projected need directly related to public health, safety, or general welfare, and
- ii. Economic development projects that will enhance the standard of living for City and South Coast residents.

Due to these numerous inconsistencies, the Council cannot approve the Project as proposed.

D. Noncompliance with Specific Plan

As noted above, the Project fails to address housing impacts as required by the Specific Plan. The Project fails in numerous other respects to meet the minimum standards imposed by the Specific Plan. These incompatibilities prevent the Council from approving the Project without also revising the Specific Plan itself.

The applicant has ignored the Specific Plan's intent to preserve at least 2 acres of "equivalent recreation uses" that may be met "through a combination of active and/or passive on-site recreation,

dedication and improvement of equivalent park land and/or off-site recreation improvements" under Specific Plan IV.C. The proposed project outrageously assembles snippets of unbuildable areas on site, including protected Environmentally Sensitive Habitat Areas and wetlands, strips of grass along roads and boundaries and other disjointed lands and calls them the "equivalent recreational use" areas, despite the fact that most such areas have zero recreational value. As such, the project adds no equivalent recreational uses and fails to conform to the Specific Plan.

The Specific Plan mandates a rigorous traffic analysis utilizing a Deficiency Point System, but this analysis is absent from the applicant's and Staff's materials. Specific Plan VII.A.1. The 2011 General Plan EIR did not identify ways to mitigate the General Plan's Class 1 impacts to traffic, and the City may not, at this juncture, simple restate those statement of overriding considerations without first analyzing the Project's Traffic impact, using both current standards and the standards identified in the Specific Plan.

Not only does this inconsistency preclude Project approval, it underlies a CEQA defect. In the case of *Communities for a Better Environ. v. Calif. Resources Agency* (2002) 103 Cal.App.4th 98, 122-125, the court held that when a "first tier" EIR admits a significant, unavoidable environmental impact, then the agency must prepare second tier EIRs for later projects to ensure that those unmitigated impacts are "mitigated or avoided." (*Id.* [citing 14 CCR § 15152(f)].) The court reasoned that the unmitigated impacts were not "adequately addressed" in the first tier EIR since they were not "mitigated or avoided." (*Id.*) Thus, significant effects disclosed in first tier EIRs will trigger second tier EIRs unless such effects have been "adequately addressed," in a way that ensures the effects will be "mitigated or avoided." (*Id.*) Such a second tier EIR is required, even if the impact still cannot be fully mitigated and a statement of overriding considerations will be required. The court explained, "The requirement of a statement of overriding considerations is central to CEQA's role as a public accountability statute; it requires public officials, in approving environmentally detrimental projects, to justify their decisions based on counterbalancing social, economic or other benefits, and to point to substantial evidence in support." (*Id.* at 124-125.)

Thus, since the 2011 General Plan EIR admitted significant, unmitigated impacts to traffic and circulation (and greenhouse gases), a second tier EIR is now required to determine if mitigation measures will reduce or eliminate those impacts below their respective thresholds. If the impacts still remain significant and unavoidable, a statement of overriding considerations will then be appropriate. The City cannot prophylactically adopts a generic statement of overriding considerations to incorporate the 14 year old previous statement of overriding considerations without performing current, Project-specific review of both traffic and greenhouse gas emissions, identifying strategies to avoid or mitigate potentially significant impacts, and adopting all that are feasible.

The Specific Plan also mandates specific Alternative Transportation Incentives, including employee showers, bike storage for both hotel guests (1 bike parking space for every 7 car spaces) and for all residential development (1 enclosed, lockable storage space that can accommodate 2 bicycles per residential unit), shuttle services, a bike rental program and free bus passes for employees and guests.

Various design elements must be reviewed and approved by both the Architectural Review Board and Landmarks Committee (Specific Plan VII.B). These steps have not been followed and applied to this Project, rendering it incompatible with the Specific Plan. Gov. Code §§ 65455; 65867.5.

5. <u>Project Analysis of Flood Risks from Sea Level Rise and Fluvial (Creek) Flows Is</u> Inadequate and Avoids Disclosing Significant Site Impediments and Project Impacts

The Project is located in what is now recognized as a highly compromised location that is subject to frequent and severe flooding as sea level rises and other climatic changes increase both surface flows to the site and raise the groundwater levels at the site.\\^{10} The underground parking garage is extremely vulnerable to routine flooding, as it is located ten feet below the floor height considered minimum to protect from flooding events. The Applicant's sea level rise analysis fails to fully and adequately disclose these risks, as detailed in a peer review conducted by Dr. David Revell of Integral Consulting, an acknowledged expert in this field with extensive experience in Santa Barbara. See Exhibit A to LOMC submittal to Planning Commission, August 3, 2023. Until this issue is more completely analyzed and the Project modified to avoid these risks, it should not proceed.

The presence of perched groundwater from sea level rise and fluvial flows introduces the potential for toxics that are known present in the soils on and beneath the Project site to contaminate beaches and surrounding lands through "toxic tides."\\\^{11} These shallow groundwater conditions also increase the risks of liquefaction, undermining the stability of structures built in such conditions, such as the Project.\\\^{12} See also comments above and in the 2024 reports of Lynker, Revell and Kram. The Applicant has failed to provide the site assessment information sufficient for the EHS and other regulatory agencies to characterize the site, leading to an expanded scope of inferences that may be deduced, including the potential for expanded areas of contamination from toxics at and under the site into public areas as a result of the perturbations associated with the construction and operation of the underground garage.

6. Traffic and Circulation

The application contains no modern traffic study or circulation analysis to assess: 1) trip generation during construction and operational phases; 2) distribution of those new trips; and 3) assesses the adequacy of the existing infrastructure to accommodate that additional traffic. The omission from the project description and any impact analysis of the site cleanup stage, and sewer-line replacement construction elements of the project, either as direct projects or cumulative projects with the attendant significant adverse cumulative traffic impacts. Reliance upon forty year old trip generation and distribution data is completely inappropriate due to the radically changed circumstances in Santa Barbara, from the adoption of the Lane and a Train policy, widening of Highway 101 at the behest of

¹⁰ <u>https://www.usgs.gov/news/new-model-shows-sea-level-rise-can-cause-increases-groundwater-levels-along-californias-coasts</u>

¹¹ https://sites.google.com/berkeley.edu/toxictides/home

¹² https://www.sfei.org/projects/shallow-groundwater-response-sea-level-rise

North County jurisdictions but abdication of commuter rail to Ventura, emergence of both vehicular and pedestrian congestion in the Funk Zone, new bicycle infrastructure including rental e-bikes and class 1 and 2 facilities nearby, and increased frequency of roadway flooding due to sea level rise, surface flows and shallow groundwater. Emergency evacuation of and first responder access to the Project during flood and tsunami conditions are ignored but are critical to circulation planning.

The staff's analysis ignores the effect of increasing long distance commuting for Project employees (as validated by the applicant's inadequate Housing Impacts Study) and attendant impacts to circulation, air quality and GHG emissions from Project-related increased driving.

7. Air quality and GHG impacts and policy inconsistency is Not Addressed

The 2011 General Plan EIR found Class 1 unavoidable significant adverse environmental impacts to transportation. The City must specifically evaluate the project's significant adverse environmental impacts to transportation and greenhouse gases and cannot rely on the 2011 General Plan EIR without a finding that these potentially significant impacts have been identified and avoided or mitigated, and if determined to be infeasible, only then may the City rely on statement of overriding considerations to approve the project.

8. Garden Street Hotel, Risk of Upset/Train Safety Analysis

The Applicant's report, prepared by DUDEK is totally inadequate, and relies upon and applies the County's 1995 Environmental Thresholds and Guidelines Manual. There is no evidence that the City has adopted the County CEQA thresholds for application to the City.

According to the applicant's prepared study, the LOSSAN Rail Corridor Agency estimates 25 trains cross the Garden Street crossing per day; 12 passenger trains and 13 freight trains. The tracks through the city are rated for speeds of 60 mph and 40 mph for passenger and freight trains respectively (p.3 report). That data is dated and SBCAG has sought to expand the number and frequency of passenger trains to achieve the "Lane and Train" that was accepted, then ignored in the Highway 101 design and construction processes.

The study relies on a dated statistical analysis based on million miles traveled, not an analysis of actual on-the-ground, site specific analysis.

The study sites 2017-2018 data of 923 reported railroad related incidents in CA, up from 840 the previous fiscal year. Based on this the study, based on incidents "per one million miles of track," anticipates "a pedestrian being struck or killed by a train while illegally trespassing on the tracks was likely to occur once every 2,782 years (p4); or once every 1,872 years at the Garden Street crossing (p.5). As abstract and incomplete as this analysis is, this resulted in a potentially significant impact, requiring mitigation.

However, there is no locally based on-the-ground analysis. A simple search of recent news reports for 2023, will yield 6 pedestrian v. train or vehicle v. train incidents so far on the south coast of Santa Barbara alone.\\^{13} This requires further study, and additional mitigation.

Notwithstanding this empirical assessment, the Dudek report concludes: "This risk of upset/train safety analysis showed that impacts associated with the proposed project would be potentially significant with respect to pedestrian activity, vehicular train accidents, and train accidents." While the report proceeds to suggest that mitigation measures can reduce those risks, this is evidence both that the Project entails potentially significant impacts in the form of risk of upset from its location adjacent and near UPRR's tracks, and that an environmental review process is needed to address the errors and inadequacies in the analysis, consider alternatives that might avoid these impacts, and to develop and refine through public comment mitigation measures.

Project Condition 2.f. only partially accepts the mitigation measures identified in the Dudek report that involved fencing and signage. Dudek identified a project significant impact from the risks of train accidents and derailments (May 2022, pp 10-11) that was proposed to be mitigated through the adoption and maintenance of an evacuation plan which was proposed "to lead guests and employees safely away from the tracks" in the event of derailment. By failing to include this as a Project Condition, the specific, peculiar impact associated with the location of a massive 250 room hotel adjacent to busy uncontrolled rail lines is unmitigated and remains significant.

9. Findings

The Council should reject this project as it cannot make the following findings:

- A CEQA exemption is appropriate (see prior comments and letters submitted by other project opponents)
- The project is consistent with the California Coastal Act and Local Coastal Plan (see above, and prior LOMC letters dated August 2, 2023)
- The project is consistent with sound planning principles. The site is unsuited to the proposed project it is contaminated by hazardous materials and experiences high groundwater levels, and both construction and operation of the subterranean parking garage will require pumping and treating of intercepted contaminated groundwater that is omitted from the project description

13 https://www.noozhawk.com/man-dies-after-being-struck-by-amtrak-train-in-carpinteria/ (May 27, 2023) https://www.noozhawk.com/pedestrian-struck-killed-by-amtrak-train-near-santa-barbara/ (May 22, 2023) https://www.noozhawk.com/male-pedestrian-struck-killed-by-amtrak-train-in-montecito/ (May 3, 2023) https://www.noozhawk.com/man-struck-killed-by-amtrak-train-on-gaviota-coast/ (April 21, 2023) https://www.noozhawk.com/bicyclist-injured-when-struck-by-train-near-santa-barbara-zoo/ (March 4, 2023) https://www.noozhawk.com/amtrak-train-collides-with-wood-chipper-along-gaviota-coast/ (March 3, 2023) https://www.noozhawk.com/8-injured-when-amtrak-train-collides-with-truck-in-ventura-county/ (June 28, 2023)

• The Project is architecturally bland and monotonous and will have an adverse effect on the character of the Funk Zone

10. Other Issues

Keep the Funk repeats its prior comments contained in its letter of August 2, 2023 regarding CEQA, flood risks, soil and groundwater contamination, remedial action plan impacts, LCP and California Coastal Act inconsistencies and the need for consideration of alternative land uses, and incorporates by reference all other adverse comments submitted in this matter.

11. Summary

The most important action for the Council is to conclude that the exemption from CEQA is inapplicable, and that CEQA's environmental review process must be commenced. CEQA review will allow many of the questions concerning the scope of the project description to be clarified, and the substantive environmental issues addressed through an identification of impacts, consideration of project alternatives, and the development of meaningful mitigation measures. The decorum associated with the public review and comment process, and the lead agencies' responses to comments, advance the information and analysis to limit the potential for difficult environmental issues to be swept under the rug.

As noted, there are significant site constraints and factors that require reconsideration of the Project as proposed. KTF could potentially support an appropriate project at this site that included a substantially increased amount of affordable housing, public open space amenities, a scaled down hotel with lesser impacts and designed to provide actual and tangible community benefits, and enhanced visitor serving and community benefit features honoring the cultural, social and historical values of the site and neighborhood, including its importance to commercial and recreational fishing and the Waterfront. Development located on these parcels should include focus on developing and enhancing non-automotive transportation and integration with the character and businesses in the Funk Zone and Waterfront neighborhoods. The 1983 Specific Plan was never submitted to the Coastal Council for certification and all LCP designations and policies override the Specific Plan. Given the changed circumstances on the site, the narrowness of the 2011 General Plan and EIR's treatment of site-and project-specific impacts, and the dramatic change the Project would bring to the funkiness of the Funk Zone, it should be obvious to Council that a new environmental review process must be commenced, alternative projects identified, a thorough housing impacts study be completed, and the project designed to be compatible with both site constraints from toxics and frequent flooding and the character of the surrounding Funk Zone and Waterfront community.

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Respectfully submitted, Law Office of Marc Chytilo

Marc Chytilo

For Keep the Funk, Inc.

Exhibits

LOMC Exhibit 1: Consolidated Technical Review of Toxics, Contaminated Soil, Groundwater and Soil Gas Impacts of the Proposed Garden Street Hotel Project, 101 Garden Street, Santa Barbara, California, Peter Guerra, M.S.E.E., PMP, Lynker Technologies LLC, 24 September 2024

Lynker Exhibit A: CURRICULUM VITAE, PETER GUERRA, MSEE

Lynker Exhibit B: Memorandum, Garden Street Hotel Development Project, Revell

Coastal, September 24, 2024

Lynker Exhibit C: Summary Report: Potential for Vapor Intrusion Exposures Associated

with the Proposed 101 Garden Street Hotel Project, Mark Kram, Ph.D.,

CGWP #471, 9/24/24

LOMC- Exhibit 1

Submitted By: Lynker Technologies, LLC Peter Guerra, M.S., PMP 5485 Conestoga Court Boulder, Colorado 80301 +1-970.294.5474 office +1-505.818.0060 direct

Submitted To:

Law Office of Marc Chytilo, APC Post Office Box 92233 Santa Barbara, California 93190

Attention:

Marc Chytilo. Of Counsel



Consolidated Technical Review of Toxics, Contaminated Soil, Groundwater and Soil Gas Impacts of the Proposed Garden Street Hotel Project, 101 Garden Street, Santa Barbara, California

24 September 2024

ORIGINAL

Certifications

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24 September, 2024



Law Office of Marc Chytilo, APC Attn: Marc Chytilo P.O. Box 92233 Santa Barbara, California 93190

> RE: Consolidated Technical Review of Toxics, Contaminated Soil, Groundwater, and Soil Gas Impacts of the Proposed Garden Street Hotel Project, 101Garden Street, Santa Barbara, California

Dear Marc:

This office was retained by the Law Office of Marc Chytilo, APC to perform an independent review of the proposed Garden Street Hotel Project's potentially significant adverse environmental impacts. These impacts are peculiar to the project parcel and location, are likely to be observed offsite, are cumulative when considered with other past, present and reasonably foreseeable future projects, and were not analyzed in prior environmental review documents. We also address whether there are uniformly applied development policies or standards adopted by either the City of Santa Barbara ("City") or County of Santa Barbara ("County") that will effectively mitigate the Garden Street Hotel ("GSH") Project's potentially significant impacts from the presence of toxics, hazardous materials and contaminated soil, groundwater or soil gas.

This study was conducted by a multi-disciplinary team led by Peter Guerra, MSEE, PMP of the national environmental consulting firm Lynker to address assessment and remediation of contaminated soils and groundwater; Dr. David Revell of Revell Coastal to address sea level rise and fluvial flood risks, and Dr. Mark Kram of Groundswell Technologies to address vapor intrusion of contaminated soil gasses into structures.

A number of conclusions can be drawn from the data compilation and related analyses:

- Exemption from CEQA review is inappropriate
- The Garden Street Hotel Project, as designed, has the potential to permanently alter and redistribute below ground contaminants and increase the probability of exposure to the public of dangerous toxic substances.

We appreciate the opportunity to undertake this analysis and present this summary. I hope it meets your current needs. Please let me know if you have any follow-up questions or need additional information.

Sincerely,

Peter Guerra, M.S.E.E., PMP

Principal Environmental Engineer / Project Manager

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1. Introduction

Lynker Corporation (Lynker) has conducted a review of the City's Planning Commission Staff Reports of March 2023, August 2023, and February 2024 where the Project's CEOA categorical exemption was shifted from Section 15332 (Infill) to Section 15183 (for projects consistent with the 2011 General Plan update and its associated Environmental Impact Report [EIR]). Our review revealed inadequacies in the evaluations provided in the Staff Reports, which were used to justify the opinion that the GSH project qualifies for an exemption from further environmental review under the California Environmental Quality Act (CEQA). Justification for the exemption is based on the project's compliance with Section 15183 (Projects Consistent with a Community Plan, General Plan, or Zoning) of the CEQA Guidelines and the Staff Report's conclusion that none of the exceptions outlined in CEQA Guidelines Section 15300.2 are applicable. Our specific concerns are potentially significant environmental impacts associated with soil-gas and groundwater contamination such as human-health and ecological risks, air-quality impacts, flooding and the potential for increased exposure due to sea-level rise. Specifically, the planned subterranean parking structure and its surrounding and underlying fill that will penetrate a low-permeability layer, which covers the site and appears to be an aquitard¹, generates a peculiar condition not explicitly included in the General Plan EIR by reference to State and Federal standards enforced by the Regional Water Quality Control Board (RWQCB), Department of Toxic Substance Control (DTSC), County Fire Department, and the City. These impacts are peculiar to the GSH Project and not adequately addressed by the 2011 General Plan EIR. The General Plan EIR includes guidance for subterranean and/or underground parking structures as they relate to housing, archaeology, and construction related noise; however, there is no guidance in the plan that addresses the installation of a subterranean parking structure installed at a site contaminated with hazardous and volatile materials and/or breaching a potential aquitard.

Previous environmental studies conducted at the site are found to be incomplete, include sampling bias, and fall short of providing the basic data/analysis needed to make an informed decision to move forward with an exemption from CEQA. Deciding to move forward with an exemption from CEQA should only be made when confidence in the data and analysis are sufficient to formulate a clear picture of the likely risks. Recent correspondences between the City, site developers, and their engineers and consultants, including review of work plans and adjustments made to receptor classification, suggest that the City's project management understands that data, analysis, and design is not complete. Based on the state of the project data gaps and its quality, decision makers should not be considering an exemption, but instead should require substantially more project information, including the specific elements of and actions required by a remedial

¹ An aquitard is defined as a geologic layer less permeable to water within a stratigraphic sequence.

action plan to remediate the existing chemical contamination of soils and groundwater to better define the risks and potential that remediation and the construction and operation of the project will significantly expand and intensify the movements of contaminated groundwater on- and offsite. Otherwise, advancement of the project, which includes the removal and replacement of unsuitable bearing materials to a depth of up to 20 feet below ground level and installation of a subterranean parking structure into contaminated groundwater at a location that is highly susceptible to both fluvial flooding and flooding stemming from sea level rise, could generate a condition of short-term, acute exposures to hazardous materials as part of construction, and a long-term risk of exposure brought on by the interaction of the subsurface structures and their surrounding fill with contaminated groundwater and sediments. All phases of the project need to be delineated, including site remediation, and supplemental environmental review is required to fully flesh out all the GSH Project's potentially significant environmental impacts from all of the phases of implementation.

In our experience working in similar settings where shallow groundwater in the vicinity of the seashore and multiple sources of subsurface contamination are present at the site and surrounding areas (often referred to as Operable Units at analogous federal facilities), using uninformed decisions to install subsurface infrastructure can result in unfavorable and unexpected redistribution of contamination, increasing possible movement, discharge and exposure in unexpected ways. The GSH Project has the potential to significantly redistribute contamination, bringing it closer to ground level, introducing it into preferential pathways, and spreading it to areas previously unimpacted, particularly as sea level rises and the property because increasingly subject to flooding.

Based on the limited site assessment and characterization information currently available, public information about other contaminated sites that likely impact the project found on the SWRCB's Geotracker website, USGS and other data on groundwater movement and my extensive experience assessing similar sites and developing remedial action and cleanup plans, I believe it is reasonably probable that remediation of this site and construction of the project will have potentially significant offsite impacts to surrounding properties and public spaces, including the Mission Lagoon, beach and surf zone.

The remainder of this review includes five main sections: 2) Preliminary and Inadequate Analysis of Hazardous Materials Impacts, 3) Lynker's Conceptual Site Model, 4) Impacts of the GSH Project: Redistribution of Soil and Groundwater Contamination, 5) Evaluation of Conceptual Site Model and Sea Level Rise Impacts, and 6) Projected Hazards and Offsite and Cumulative Impacts of the GSH Project.

Section 2 provides a detailed explanation of the high-level of uncertainty associated with the current state of site characterization. In Section 3 of this report a Conceptual Site Model (CSM) is presented that presents a likely picture of the hydrogeology and site contamination. Although this scenario is possible and even likely, the range of possibilities is wide considering the lack of data. Section 4 uses this likely-scenario CSM to describe how the GSH project could spread contamination resulting in unexpected



discharges and human and ecological exposures to contaminated media. In Section 5, a numerical model is employed in furtherance of the CSM to simulate the fate and transport of subsurface contamination. This numerical model validates the CSM developed in Section 3 and utilized in Section 4. The simulations presented in Section 5 are also used to understand how sea level rise can further spread contamination initially brought on by the construction work and exacerbated by the Project's subsurface infrastructure. This likely spread of contamination will result in exposure pathways and health risks that would not have otherwise caused harm.

Section 6 surveys a larger area and takes into account the affiliated GSH Sewer Upgrade Project and close by contaminated sites within the shallow groundwater flow that contains the GSH Project. This section on cumulative impacts discusses the preferential groundwater flow path that will form in the fill placed around the GSH Sewer Upgrade pipeline. This preferential flow path will connect contaminated groundwater welling up at the GSH subterranean parking structure with the Laguna Channel, which is groundwater fed stream. Contaminated groundwater daylighting in the Laguna Channel streambed at the proposed crossing of the GSH Sewer Upgrade project pipeline will eventually arrive at the Mission-Laguna Lagoon generating discoloration and foul-smelling seeps and exposure of toxics to receptors.

Section 6 also summarize two additional and related reports prepared by Dr. David Revell and Dr. Mark Kram addressing the pathways for the migration of Project-implicated toxic contaminants to human and other receptors. These reports are appended.

Dr. Revell's report addresses related sea-level rise and fluvial flooding issues facing the GSH Project. Additionally, existing fluvial and future coastal hazards, flood risk from sea level rise and inconsistencies with the City's Floodplain ordinance and recently adopted Sea-Level Rise Adaptation Plan are evaluated and described in the report.

Dr. Kram's report addresses vapor intrusion and soil-gas exposure at the site. The types and levels of soil-gas contaminants and anticipated construction and indoor air exposures to soil-gas contamination are summarized and evaluated in the report.

Section 7 provides conclusions stemming from the reviews. Qualifications and additional references are provided in Sections 8 and 9.

2. Preliminary and Inadequate Analysis of Hazardous Materials Impacts

In addition to the review of the GSH Project Planning Commission Staff Reports, reviews of subsurface investigation activities carried out over the past two decades at the project site were evaluated. Six key documents listed in Figure 1 below were reviewed.



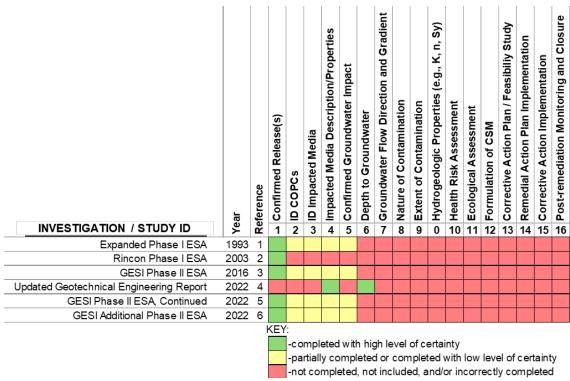


Figure 1: Evaluation of Previous Site Investigations and Studies

References:

- Fugro-McClelland (West), Inc. (1993). Environmental Site Assessment (ESA), 130 Garden Street Property, Santa Barbara, California, (Former Channel City Lumber Site, 211 Yanonali Street Portion of Property), prepared for County of Santa Barbara EHS Dept. July 1993.
- 2. Rincon Consultants, Inc. (2003). Phase I ESA Garden Street Complex CHP, Santa Barbara, California. August 22, 2003
- 3. GeoEnviro Services, Inc. (GESI) (2016). Phase II ESA 2016. Phase II Environmental Site Assessment for the property located at 101 Garden Street, Santa Barbara, California. 2016
- 4. Earth Systems Southern California. (2022). Update of Geotechnical Engineering Report, 101 Garden Street, Santa Barbara, California. April 19, 2022.
- GESI (2022a). Report of Additional Soil, Soil Vapor, and Groundwater Assessment for the property located at 101 Garden Street, Santa Barbara, California. June 2022.
- 6. GESI (2022b). Addendum to Report of Additional Soil, Soil Vapor, and Groundwater Assessment for the property located at 101 Garden Street, Santa Barbara, California. October 26, 2022

In addition to these six reports, a workplan and its addendum, which was in response to review by the County of Santa Barbara Environmental Health Services (EHS) and developed by GESI (Workplan for Additional ESA. Prepared for the property located at 101 Garden Street, Santa Barbara, CA. November 2022 and Addendum to Work Plan for



Additional Environmental Site Assessment, December 28, 2022), were reviewed. The combined scope of the November 2022 Workplan and December 2022 Addendum include additional site assessment activities commensurate with the quality of previous work except that they propose to include eight to ten permanent groundwater monitoring wells. Data from these future monitoring wells can be used to better define depth to groundwater, and for triangulation and determination of groundwater flow direction or gradient, information that should be developed and considered sooner to guide development of corrective action plans and/or remedial action plans and inform Project design and construction.

In short, the cumulative preliminary work has resulted in a high-level of confidence *only* that 1) organic and inorganic contamination in the form of chlorinated solvents, fuel, and metals exist at the site, and 2) that soil, soil gas, and groundwater are impacted above allowable regulatory levels. The extents, concentrations, and processes that transport, spread, and transform the detected contamination are largely unknown. As summarized in the December 2022 EHS letter in review of GESI's November 2022 work plan, the primary constituents of concern (COCs) in soil above the water table are gasoline and diesel fuels, motor oil, and toxic metals including arsenic, cadmium, copper, lead, molybdenum, selenium, thallium, vanadium, and zinc. In the soil gas, COCs include benzene, ethylbenzene, and tetrachloroethene (PCE). Volatile Organic Compounds (VOCs) including the unleaded gasoline additive Methyl tert-Butyl Ether (MTBE); chlorinated solvents trichloroethene (TCE) and cis-1,2- Dichloroethene (cis-1,2-DCE); and, toxic metals including arsenic, barium, beryllium, lead and selenium are COCs detected in shallow groundwater. Each of these contaminants can present unique challenges in site assessment and cleanup because their persistence, mobility, and reactivity in the subsurface greatly vary. For example, halogenated hydrocarbons like TCE sink in groundwater, pooling at the intersection of permeable and impermeable geologic layers; or even at the boundary of saline/freshwater layers within the same geologic layer.

As noted in Figure 1 above, many additional steps are needed to properly characterize the site to design an appropriate Project and determine safe and effective cleanup approaches needed to manage the contamination at the site during and following construction. In our professional opinion, current Project design and the remedial and corrective actions likely to be necessary at this site will themselves entail potentially significant impacts in the form of changed flow patterns and rates of contaminated groundwater flow, human exposure to contaminants, contamination of biologically environmentally sensitive areas, and potential contamination of coastal recreational areas. There will likely be significant energy and green-house gas (GHG) emissions associated with site remediation activities from dewatering, contaminated soil and groundwater removal and/or treatment, and the transport of contaminated materials for disposal that has not yet been accounted for in current studies performed to support the project. Many of these impacts will occur at and beyond the project parcel boundaries and be received offsite.



Site investigations and studies performed at the site have fallen short of industry standards for establishing the necessary data and analysis to proceed with risk assessments, corrective action plans or remedial action plans. Considering the data quality, the previous investigations and studies conducted at the property constitute solely screening-level or preliminary assessments. The results are insufficient to adequately support risk assessments (ecological and/or human health), feasibility studies, remedial design, or environmental impact analysis. The Project's approved November 2022 Workplan with the December 2022 Addendum also falls into this preliminary category and is not intended to meet data quality objectives needed to design the corrective actions and monitoring programs needed to safely advance the Project. The usability of the available data and analyses are discussed in more detail below.

- **2.1 Hydrogeologic Characterization**. Characterization of the hydrogeologic setting in the aforementioned documents is limited to basic research, soil boring logs and geotechnical-based laboratory tests, and do not provide the necessary information on site-specific hydrogeology that would be required for risk-assessment, feasibility studies, and/or remedial design. The fundamental data/information lacking includes:
- **2.1.1 Depth to Groundwater**. Direct measurements of the static groundwater pressure, such as a depth to water gauging in a groundwater monitoring well, were not available. The best available, site-specific data with respect to depth to static groundwater level was provided in the geotechnical study report². Using results from cone-penetrometer tests, soil borings, and laboratory tests (e.g., moisture content) it states, "Groundwater was encountered at a depth of about 6 feet below the ground surface. Based on experience with similar coastal sites, it may be assumed that the groundwater beneath the site is hydraulically connected to the ocean and the groundwater surface elevation is influenced by tide elevations. Soil moisture content above the groundwater, at the time the site was explored was above the optimum moisture content for compaction. Soil moisture may change with variations in weather patterns, the time of year, irrigation, and other factors."

Contrary to the results and interpretations presented in the geotechnical study report², the June 2022 GESI ESA states, "Shallow groundwater was encountered onsite during site assessment activities completed in March 2022 at depth of approximately 8.0 feet below grade." Comparing the methods used to estimate depth to water, the depth to groundwater estimate presented in the geotechnical study report² is considered more reliable; but still not suitable for risk assessment, feasibility study, and/or remedial design due to the site's potential hydraulic connection to the ocean, high groundwater levels, seasonal variation and exposure to both sea level rise and fluvial (freshwater) flooding.

Given the Project's subterranean parking garage, accurate analysis regarding depth to groundwater over the course of seasonal and situational fluctuation is a crucial

²Earth Systems Southern California. (2022). Update of Geotechnical Engineering Report, 101 Garden Street, Santa Barbara, California. April 19, 2022.



component in site assessment and remediation. The lack of this information precludes an accurate depiction of the Project's construction and operational practices, such as the need for dewatering as well as the scope of remedial action, and thus its impacts.

2.1.2. Groundwater Flow Direction and Gradient. Groundwater is not static. It flows underground, transporting contaminants to and from the GSH Project site. Stemming from the lack of site-specific groundwater pressure data, the groundwater flow direction at the Project site has not been triangulated, and gradient has not been established. Flow direction and gradient is essential to determining the transport of contamination to and from the Project site. Groundwater pressures and gradient are also crucial for the engineering of construction dewatering operations, for determining the rate of infiltration into the excavation for the below-grade structure, and potentially for dewatering during the operation of the GSH.

Confusion around the groundwater flow direction has been created during preliminary assessment in that the 2016 GESI ESA report states, "Groundwater flow in the site vicinity has generally been documented to be towards the east to southeast towards Mission Creek Drainage and from there to the Pacific Ocean." This statement represents a contradiction with respect to direction of flow in that Mission Creek is located west of the subject property, not east.

- **2.1.3. Hydrogeologic/Aquifer Properties.** Limited data with respect to key hydrogeologic properties is available. Direct measurement of parameters such as hydraulic conductivity and storage terms have not been studied and are not provided. Without an understanding of the hydrogeologic properties that define the rate and volume of groundwater flow the fate and transport of groundwater contamination cannot be suitably assessed, and construction dewatering and subterranean structures cannot be appropriately designed.
- **2.1.4.** Hydrostatigraphy. Some data and analysis, including a cross section of the shallow (upper 20 feet) subsurface, boring logs, cone penetrometer test logs, and geotechnical properties tests on aquifer materials (e.g., particle size analysis) provide means to infer the hydrostratigraphy at the site. However, the complex shallow hydrogeologic setting that likely contains an overlying leaky aquitard³ over the principal first-water-bearing aquifer lacks definition. Advancing an excavation to depths of up to 20-feet below ground surface (and 14 feet below the static groundwater level) in this contaminated hydrogeologic setting and without sufficient information regarding the hydrostratigraphy could result in vertical migration of contamination to horizons not previously impacted.
- **2.1.5. Tidal and Seasonal Influence.** Without permanent groundwater monitoring wells to record groundwater levels or other long-term groundwater pressure tracking, the influence from seasonal-recharge and tidal-pressure fluctuations on the variability in

³ Leaky Aquitard – a generalized geologic layer with a less restrictive hydraulic conductivity that allows a small fraction of groundwater to flow vertically..



groundwater velocity and flow direction is unknown. The Project's impacts as well as future, not-yet-designed remedial actions cannot be confirmed without an accurate assessment of the effect of high tides, which currently rise above the garage floor elevation, and will become more frequent and severe as sea level rises.

2.1.6. Liquefaction and Settlement. The finished-floor elevation of the parking garage will be at 3.5 feet North American Vertical Datum of 1988 (NAVD). According to the Project's Updated Geotechnical Engineering Report (Earth Systems Southern California, 2022), the low permeability, clayey soils encountered at this elevation are considered geotechnically unsuitable due to liquefaction potential and settlement tolerances. Since this low-permeability, clayey soil is unsuitable material for construction, the recommendation from the geotechnical engineers is to over-excavate and removed it in its entirety, and engineered fill be added to support foundations and slabs for the GSH Project. Further, if piles, caissons, or wall barriers are included in construction these would also need to be installed through or below this unsuitable clay layer. This breach will both enhance and enable the interchange of contamination from below and above this otherwise natural barrier. In other words, the Project will likely remove a natural barrier that may currently confine some mobilized toxic contaminants to deeper in the aquifer/formation, which will cause such contaminants to migrate vertically and be intercepted by construction dewatering operations.

In totality, the quality of the data and analysis around the hydrogeology give rise to significant uncertainty and the likelihood of overlooking considerable adverse environmental impacts associated with the Project with respect to the conveyance and flow of both offsite and onsite contamination sources under both construction dewatering and natural, ambient conditions. Implementing a brute force remedial approach of excavation for the removal of contamination within the footprint of the planned subterranean parking structure would breach an aquitard (either from the over excavation of the garage itself, or pilings or caissons to lower depths to support the overall structure), permitting the vertical flow of contaminated groundwater. This would create peculiar Project impacts and implicate contaminant management for other sources known or suspected to be contributing to site soil and/or groundwater contamination.

2.2 Nature and Extent of Groundwater Contamination. Like the hydrogeologic data and analysis available, the current understanding of the nature and extent of the groundwater contamination at the site is considered incomplete. Contaminant plumes are three-dimensional, and extent will vary based upon what chemical is being considered, the quantity and rate of its release, and the site's environmental influences. Improper equipment or techniques used in sampling can create unreliable data. The County of Santa Barbara's Environmental Health Services approved a work plan⁴ for further sampling to better address the extent of contamination, however, as is shown by

⁴ EHS Response to GESI Work Plan for Additional Environmental Site Assessment, Garden Palms, 101 Garden Street, Santa Barbara, CA, 93101. Santa Barbara County Public Health Department, Environmental Health Services, December 20, 2022



analyses presented in this report, the recommended work plan would similarly fall short in the areas listed below.

2.2.1. Inadequate Vertical Extent Assessment. Previous studies have largely focused on shallow investigations. Considering the hydrogeologic setting and nature of the solvent contaminants involved, it is possible that the source areas of these groundwater plumes reside at depths greater than the limit of previous and planned investigations. Aside from the groundwater samples collected during the 1993 ESA, which was focused on a small area around the petroleum contamination associated with the former leaking underground storage tank system, groundwater sampling at the site has been conducted in temporary wellpoints installed approximately 10 feet below the static groundwater level and in what appears to be the shallow aquifer underlying a leaky aquitard. Descriptions of sampling approaches acknowledge a shallow saturated zone with low permeability that was penetrated to access deeper, higher-yield sediments to facilitate rapid sampling. These grab samples are from a specific horizon within a higher permeability unit and could represent diffuse transport from the lower permeability unit above and/or contaminants that migrated from an offsite source. Conversely, or maybe concurrently, these groundwater sample results could reflect a halo of diffuse contamination emanating from a deeper source zone, as illustrated in Figure 2.

The current approved work plan⁵ with addendum for future sampling proposes eight to ten permanent groundwater monitoring wells, two at 30 feet below ground surface (bgs) and the rest to be installed at a total depth of 25 feet bgs. These proposed sampling depths would not be able to assess deeper contaminants with the potential to be drawn to the water table during the construction and operation of the Project as currently proposed.

- **2.2.2. Inadequate Horizontal Extent Assessment.** Prior groundwater sampling does not adequately define the horizontal extent of contamination. The horizontal limits of groundwater contamination from fuels and solvents appear to either extend offsite from onsite sources and/or vice versa. As discussed above, the inadequacy of the horizontal contamination extent delineation is due in part to the single depth interval sampled and the likely presence of offsite sources of contamination transported under and adject to the sampled interval.
- **2.2.3. Inadequate Temporal Data Collection.** Solitary sampling events from temporary wellpoints do not provide information on contamination distribution and concentrations affected by seasonal and/or tidal influences. Considering that these influences can affect groundwater flow direction and levels, on- and offsite groundwater contamination could vary with seasonal and tidal highs and lows, where contamination in upper horizons is not detected at seasonal/tidal lows. In addition, offsite contamination levels and sources will ebb and flow with changes in groundwater flow directions.

⁵ Work Plan for Additional Environmental Site Assessment, Garden Palms, 101 Garden Street, Santa Barbara, CA, 93101, Prepared for Dauntless Development. GeoEnviro Services, Inc., November, 2022.



2.2.4. Inappropriate Sampling Equipment. A negative pressure pump, such as a centrifugal or peristaltic pump which was used in collection of groundwater samples at the site and reported in the GESI ESAs, should not be used for sampling where volatile organic compounds (VOCs) are important parameters in the monitoring activity. The negative pressure will cause volatile constituents to be lost from the sample, lowering its apparent concentration.

According to the current, 2022 GESI work plan and addendum, proposed permanent groundwater monitoring wells are planned to be purged and sampled using a disposable bailer. Although better than using a peristaltic pump for collecting groundwater samples for VOC analysis, the preferred method for groundwater sampling is low-flow methodology. Considering the relatively long screen lengths of the proposed monitoring wells, the sampling methods, and the density of the COCs, the groundwater samples will be composites, and not representative of the contamination levels in the formation.

2.2.5. Contaminants Present Onsite And Their Potential Hazards. Previous investigations of the Project site indicate the soil, and groundwater is contaminated with chemicals known to be harmful to humans and the environment above allowable levels for residential and construction worker exposures. Harmful exposure to these chemicals can be from soil or groundwater contact or through inhalation of dust, soil gas and vapors. A summary of the site contaminants present was provided in the EHS Workplan Approval letter of December 20, 2022:

"The primary constituents of concern (COCs) in soil are Total Petroleum Hydrocarbons as gasoline (TPHg), TPH as diesel (TPHd), and TPH as oil (TPHo), and metals including arsenic, cadmium, copper, lead, molybdenum, selenium, thallium, vanadium, and zinc. In soil vapor, COCs include benzene, ethylbenzene, and tetrachloroethene (PCE). Volatile Organic Compounds (VOCs) including Methyl tert-Butyl Ether (MTBE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE), and metals arsenic, barium, beryllium, lead and selenium are COCs in shallow groundwater⁶."

The Project's reliance on an incomplete state of site assessment expands the scope of potentially significant impacts to human health and the environment from project construction and operation, as well as the prior site remediation and cleanup for its leaking underground storage tank. The table below provides a summary of the health effects associated with exposure to the COCs present at the GSH Project site.

⁶ EHS Response to GESI Work Plan for Additional Environmental Site Assessment, Garden Palms, 101 Garden Street, Santa Barbara, CA, 93101. Santa Barbara County Public Health Department, Environmental Health Services, December 20, 2022



Table 1: List of Site Contaminants and Associated Health Risks

Contaminant Of Concern	Health Effects
Gasoline	Skin irritation, Central Nervous System (CNS) depression, renal failure, carcinogenic potential, dizziness, headaches, and memory loss from chronic
	exposure.
Diesel	Respiratory issues, lung function changes, chronic cough, fatigue, and potential cancer risk from prolonged exposure.
Motor Oil	Skin irritation, potential chronic respiratory effects, and concerns of contamination through inhalation.
Benzene	Bone marrow suppression, anemia, leukemia, dizziness, headaches, and increased cancer risk.
Methyl tert-Butyl Ether	Headaches, dizziness, respiratory irritation, and kidney toxicity.
Tetrachloroethene	CNS effects, liver damage, possible carcinogenic effects, and risks to
(TCE)	pregnant women and unborn babies.
Trichloroethene	CNS depression, liver and kidney damage, and suspected carcinogen.
Arsenic	Skin lesions, cardiovascular disease, cancer (skin, lung, and bladder), and
	neurotoxicity.
Barium	Respiratory effects, elevated blood pressure, gastrointestinal distress, and potential cardiovascular issues.
Beryllium	Chronic beryllium disease (lung condition), increased lung cancer risk, skin sensitivity.
Cadmium	Kidney damage, bone demineralization, lung cancer risk, and respiratory issues.
Lead	Neurological damage, developmental issues in children, hypertension, renal problems, and reproductive effects.
Molybdenum	Respiratory irritation, joint pain, gout-like symptoms, liver toxicity.
Selenium	Nausea, vomiting, hair and nail loss, respiratory distress, and dermatitis.
Thallium	Peripheral neuropathy, gastrointestinal distress, hair loss, and organ toxicity.
Vanadium	Respiratory effects, bronchitis, irritation of the mucous membranes, and potential kidney effects.
Zinc	Metal fume fever (flu-like symptoms), respiratory irritation from inhalation, and gastrointestinal upset.

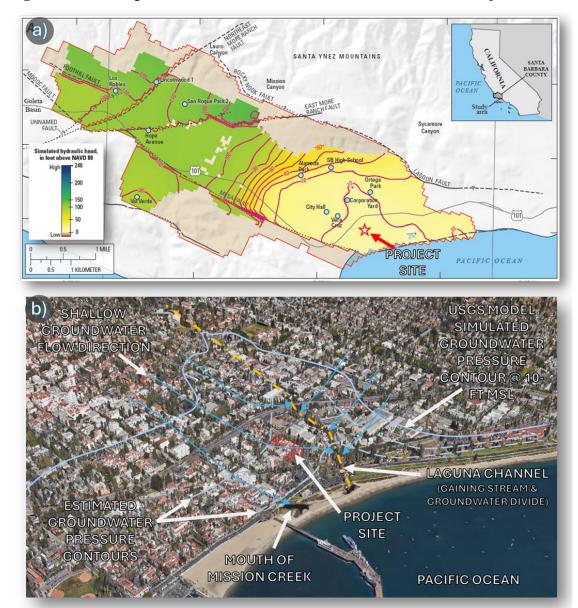
3. Lynker's Conceptual Site Model

Considering what is known, and applying a tool commonly used in the industry, a preliminary conceptual site model (CSM) was developed as shown in Figures 2-A, 2-B and 2-C. This CSM presents our best estimate of a probable scenario for the presence and fate of the site's chlorinated solvent contamination based on the technical information available. This approach of conceiving a model and testing it against real data is an industry-standard and a practical approach to characterization of hydrogeologic setting of sites like the 101 Garden Street Hotel Project. Employing a CSM at the GSH site demonstrates potential project impacts and likely unintended consequences of approving



the project before the site is adequately characterized and the methods and details of remediating the site have not been completed.

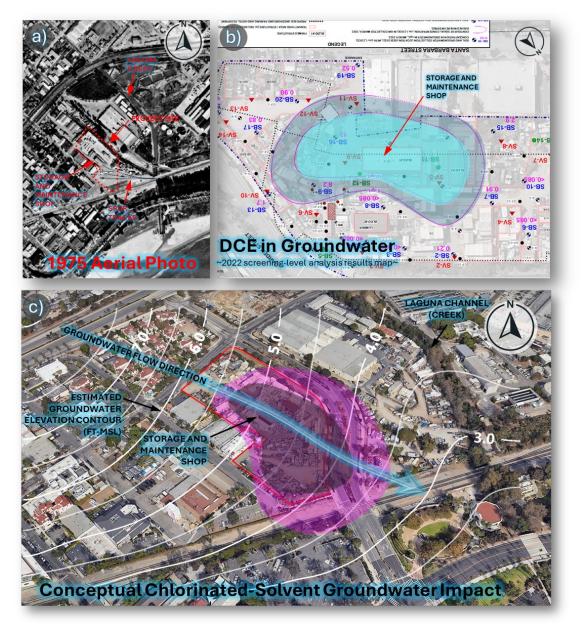
Figure 2-A: Conceptual Site Model of the 101 Garden Street Site – Project Location



- a) The location of the project site and simulated groundwater heads in the upper production zone from 2018 USGS model developed for the Santa Barbara and Foothill Groundwater Basins.
- b) Developed to focus on the project site. The blue lines in this figure show the likely shallow groundwater potentiometric surface and flow direction in the site vicinity. The groundwater divide formed by the Laguna Channel, which is a gaining stream located downgradient (east-southeast) of the project site is also shown in yellow.



Figure 2-B: Conceptual Site Model of the 101 Garden Street Site – Current Conditions

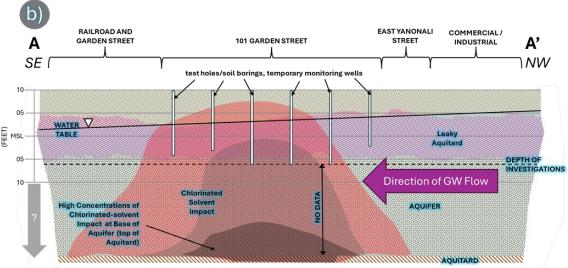


- a) 1975 Aerial Photo showing the former rail spurs and storage/maintenance shop which is the suspected on-site source of chlorinated solvent contamination
- b) Footprint of relative 1,2-dichloroethene (DCE) contamination in groundwater detected in temporary wells installed and sampled in 2022. DCE was used as a surrogate to the chlorinated solvent contamination because its extent was the most fully defined of the chlorinated-solvent constituents analyzed for in groundwater samples.
- c) Conceptualized groundwater contours (white), flow direction (blue) and chlorinated solvent plume (purple).



Figure 2-C: Conceptual Site Model of the 101 Garden Street Site Geologic Cross Section A-A'





- a) Southwest view of the site showing the location of Cross-Section Line A-A'
- b) Geologic Cross-Section A-A' showing the geologic layering taken from recent soil borings and geotechnical sample analysis. The depth of investigation is shown relative to the conceived vertical and horizontal extents of the chlorinated solvent contamination. Uncertainties and unknowns are illustrated.



4. Impacts of the GSH Project: Redistribution of Soil and Groundwater Contamination

The Updated Geotechnical Engineering Report (Earth Systems Southern California, 2022), which discusses the Project's geotechnical engineering concerns, states:

"The main geotechnical concerns at the site are the presence of uncertified fill material, shallow groundwater, potential large liquefaction induced settlement, and that the existing soils within the anticipated influence of the foundations are compressible and have less than 90% relative compaction and in their present condition are not suitable for the support of the buildings. In addition, some areas of the site appear to be underlain in the top 20 feet by some soft, normally consolidated clays that are compressible. Therefore, to help mitigate these conditions, the upper soils within the building areas require removal..."

The geotechnical analyses presented in the 2022 Updated Geotechnical Engineering Report do not consider the contamination or its potential redistribution when presenting this main geotechnical concern. As noted in earlier discussions, the removal of these clayey soils could potentially facilitate the upward movement of contaminated groundwater into shallower regions, illustrated by Figure 3.

Any remediation plans for the project must be reviewed under CEQA as part of the project to ensure that the remediation activities themselves would not result in significant impacts to the environment. Construction activities at this site will likely require extensive dewatering and hauling of impacted soil for offsite disposal and there is a considerable likelihood of significant offsite impacts from the remediation stage, as described below.

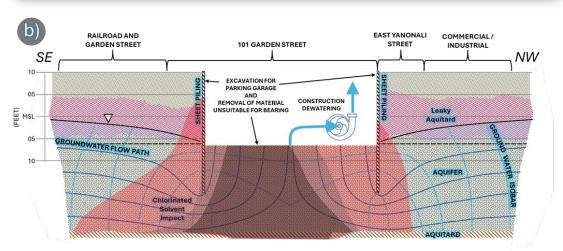
Considering the approximate 2-acre subterranean parking garage and GSH project foundations, an average excavation depth of 15-feet below existing grade and a water table between 6 and 8 feet bgs, the anticipated volume of impacted groundwater generated by dewatering and the tonnage of impacted soil/sediment generated from excavation activities is expected to exceed 10,000,000 gallons and 73,000 tons, respectively. These activities, dewatering and excavation with offsite hauling, are expected to take approximately 6 months with 30 truckloads a workday hauling hazardous waste offsite, resulting in 3,650 20-ton truckloads of hazardous waste being hauled through Santa Barbara to a licensed disposal facility, which may vary depending on the constituents and concentrations of the impacted materials. During a normal 8-hour workday this equates to a truckload of hazardous waste exiting the site and travelling through the City and communities in the transportation corridor every 15 minutes for 6 months enroute to the undisclosed disposal location(s). A large area is typically needed for staging and sorting contaminated soils prior to transport, potentially necessitating use of a different nearby site for soils management.

Considering the duration of subsurface construction and the total volume of dewatering anticipated, an estimated 60,000 gallons per day of contaminated groundwater resulting





Figure 3: Impacts of Construction Dewatering to the Subsurface Redistribution of Chlorinated Solvent Groundwater Contamination



- a) Figure showing the impacts of construction dewatering to the aquifer pressures and flows around the proposed GSH project.
- b) Geologic cross section showing the upward movement of deeper chlorinated solvent contamination into the dewatering zone generated by excavation and construction dewatering.



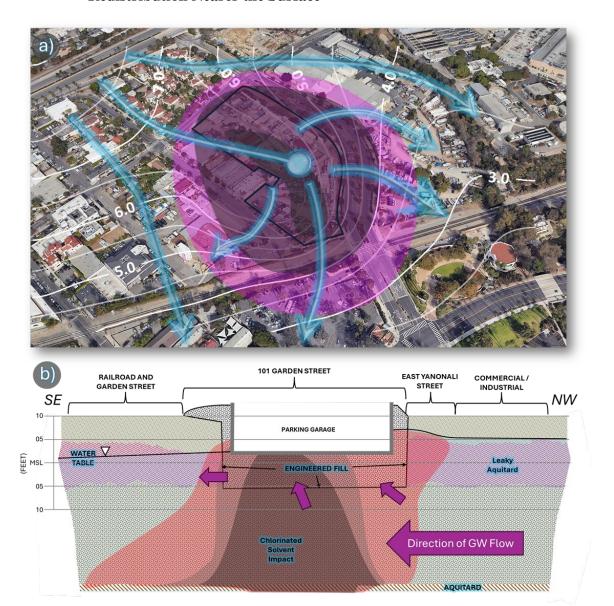
from construction is anticipated. This water will require temporary onsite storage, treatment, and confirmation sampling prior to disposal. This process of continuously extracting large volumes of water will require careful design, operation, and monitoring to ensure contaminated groundwater is contained and treated prior to disposal. The contaminated water treatment facilities require a significant dedicated area and may require buffers to limit public exposure. The design and location of these treatment facilities, and their impacts, were not considered or studied by the prior EIR nor included in the Project's proposed site plans. These activities can result in the release of hazardous materials into the environment in the form of improperly treated water, residual soils, dust and vapors. Some of the contaminants that are present at the project site include benzene and TCE, which are highly toxic air contaminants (TACs), and lead which is a state recognized carcinogen.

Even with careful operations, dewatering and soil excavation is anticipated to mobilize deeper and adjacent contamination and redistribute it to shallower sediments and groundwater (Figure 3-b). Considering the methods applied in standard construction practices, the advancement of the excavation will likely require bracing such as sheet piling installed around the perimeter of the planned subterranean parking garage. These piles will focus groundwater flow induced from dewatering to draw from deeper aquifer sediments, drawing contamination upward. Since chlorinated solvent contamination is denser than water, over the past several decades, the contaminants have likely migrated downward. It is anticipated that this dewatering process will bring the deeper and more concentrated solvent contamination upwards. Furthermore, removal of the clayey sediments that are not suitable for construction will increase the exchange between deeper, more permeable aquifer units to the shallow groundwater. Figure 3 provides a conceptual model of the excavation dewatering and resulting redistribution of contamination.

Once completed and ambient flow is restored (construction dewatering is ceased), the resulting changes imposed by the engineered fill and parking garage will permanently alter the flow regime in the shallow aquifer. The parking garage itself is expected to create a barrier or dam to the shallow groundwater horizontal flow, generating a mound of water at its upgradient wall which will stagnate flow and accumulate contamination. Additionally, the removal of the low permeability aquifer materials below the footprint of the proposed subterranean parking structure would likely result in an increased and permanent upward flow of deeper contaminated groundwater. Figure 4 provides illustrations of how the GSH project could permanently alter the flow of shallow groundwater and how groundwater contamination could redistribute to affect surrounding areas, creating significant on- and offsite environmental impacts that are peculiar to the Project.



Figure 4: Permanent Impacts of the GSH Project on Groundwater Contamination Redistribution Nearer the Surface



- a) Permanent changes anticipated in the shallow groundwater flow regime brought on by the GSH project. Groundwater flow is expected to stagnate at the upgradient (west/northwest) wall of the subterranean parking garage, and removal of the low permeability sediments in the shallow aquifer could induce upward gradients bringing deeper, higher-level chlorinated solvent contamination to the water table.
- b) Geologic cross section showing the redistribution of chlorinated-solvent groundwater contamination brought about by the changes in the groundwater flow regime around and under the subterranean parking garage and its surrounding engineered fill.



5. Comparison of Simulated Impacts Between "No Project" And "GSH Project" Scenarios

To illustrate the potential impacts of the redistribution of contamination brought about by the construction and installation of the GSH project, a two-dimensional numerical model was constructed of a representative subsurface slice through the center of the project site as Cross-Section A-A' (see Figures 2C, 3 and 4).

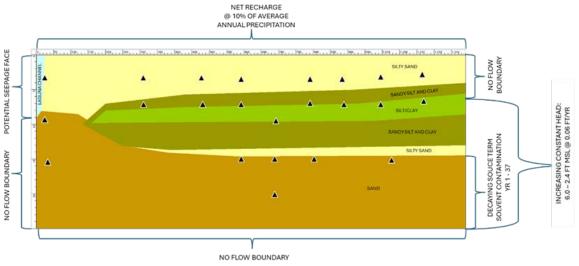
The model was used to simulate 37 years into the future from 2024 to 2061. For these future scenario models, sea level rise impacts on the groundwater pressure were considered by increasing the constant head boundary at the upgradient edge of the model by a rate of 0.06 feet per year from 2025 to 2061, adapted from the 2016 Final Technical Report titled County of Santa Barbara Sea Level Rise Coastal Resiliency Project Phase 2 by Revell Coastal.

Two simulations were conducted as follows:

- 1. As-is, assuming the GSH project was not constructed (No Project)
- 2. With the GSH project including construction dewatering and a watertight GSH Parking Garage

Based on review of geologic and stratigraphic information (cross-section, boring logs, cone penetrometer logs, and excavations) in the documents reviewed, the upper 25 feet of the subsurface along Cross-Section A-A' was reconstructed using the USGS software, VS2DTI. The vertical exaggeration of the section shown in Figure 5 is 20:1.

Figure 5: "No Project" Scenario VS2DTI Model Cross-Section A-A'. Material Textures, Monitoring Points, and Boundary Conditions Are Shown.

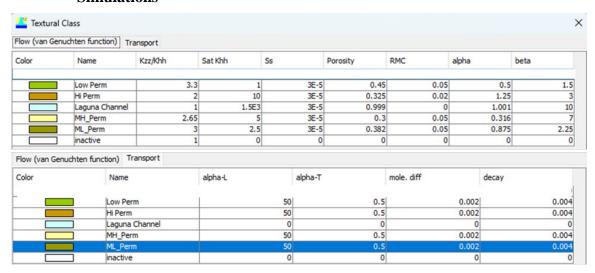


The model domain is 1,250 feet in the horizontal direction by 25 feet deep (vertical). The model grid (not shown) divides the domain into 12,500 cells with each cell 5-ft wide x 0.5-feet deep. Twenty-three monitoring points were simulated in the model to track moisture content, water pressure, flow velocity, and contamination (triangles in Figure 5).



The properties of the soil textures and solute transport parameters used in the model are shown in Figure 6.

Figure 6: Soil Texture and Transport Properties Assumptions Used in VS2DTI Simulations



The soil texture properties shown in Figure 6 were selected from values available in the model which best matched the information available in the documents reviewed.

Figure 7: "GSH Project" VS2DTI Model Cross-Section A-A'

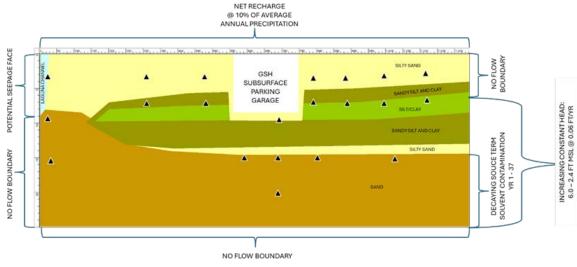
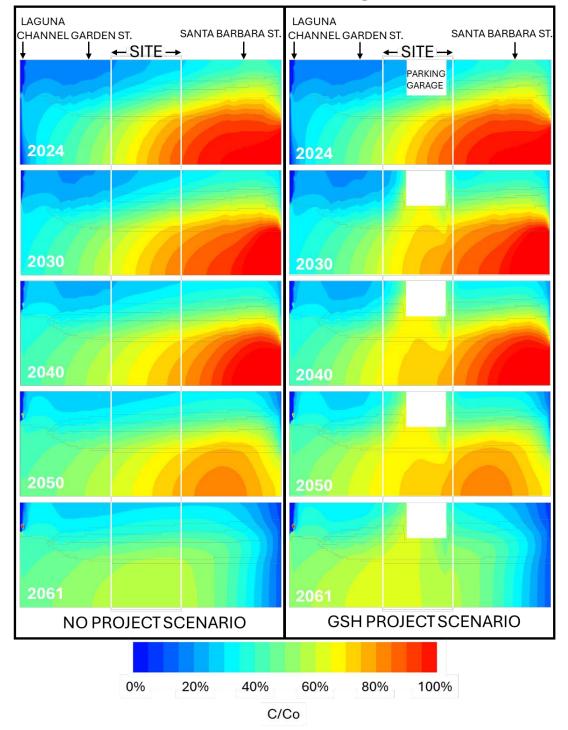


Figure 8 shows the simulation results as a time series of contaminant concentration at years 2024, 2030, 2040, 2050 and 2061. Chlorinated-solvent groundwater contamination concentration is represented as a ratio of the initial or source area concentration (Co) and the predicted concentration (C). Comparing the CSMs presented in Figures 2-C, 3, and 4 to the VS2DTI simulations shows that adverse redistribution of contamination could



occur as a result of the Project. The simulations provide some level of quantification of the increased soil-gas and groundwater contamination resulting from the Project.

Figure 8: Comparison of Simulation Results in Time Series of Chlorinated-Solvent Contamination Transport

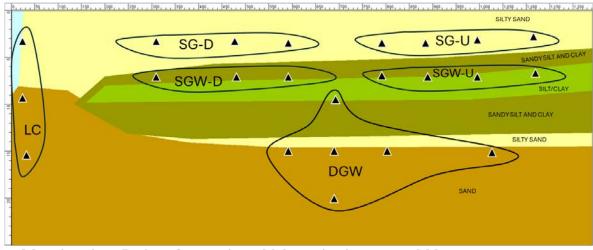




The time-series simulation results shown in Figure 8 illustrate how the ambient groundwater flow in the No Project Scenario tends to flow horizontally from the right to left (or west to east) until it reaches the Laguna Channel, whereas in the GSH Project Scenario the breach in the leaky aquitard by the excavation of low-permeability materials that are unsuitable for the Project and the subterranean parking structure generate a localized upward gradient spreading deeper contamination to the shallower horizons.

Figure 9 shows the map of monitoring point groupings. These monitoring points were added to the model to facilitate post-processing of results as they relate to media and regions of the site. For example, the three points located on the left side of the model are positioned to track the movement of groundwater and solute into Laguna Channel. These simulated monitoring points are not existing or proposed and only intended to track model results for comparison between simulations. Figure 10 shows the relative change over time in the average concentration at monitoring point groupings for the "No Project" simulation, 2024 - 2061.

Figure 9: Grouping of Monitoring Points



Monitoring Point Grouping Abbreviations and Name

LC: Laguna Channel

SG-D: Soil Gas Downgradient of GSH Proposed Project

SG-U: Soil Gas Upgradient of GSH Proposed Project

SGW-D: Shallow Groundwater Downgradient of GSH Proposed Project **SGW-U**: Shallow Groundwater Upgradient of GSH Proposed Project

DGW: Deeper Groundwater Beneath GSH Proposed Project



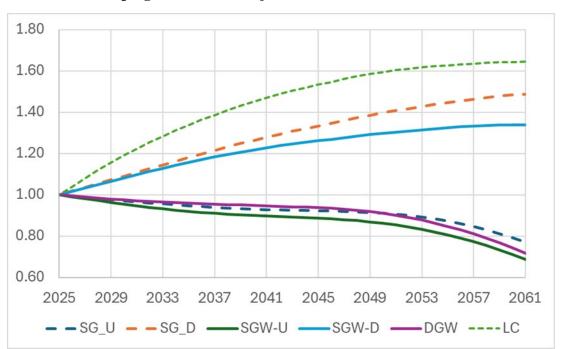


Figure 10: Relative Change in Concentration at Simulated Monitoring Point Groupings of the "No Project" Scenario

Shown in Figure 10, the No Project simulation predicts that the concentrations in the shallow soil gas and shallow groundwater will increase with proximity to the Laguna Channel over time. Additionally, the concentrations at Laguna Channel are predicted to increase (1.65X from 2024 levels) over time. On the other hand, the concentrations of soil gas, shallow groundwater and deeper groundwater are predicted, by the No Project simulation, to drop between 20% and 30% from 2025 – 2060. The contamination transport and changes in contamination levels over time are controlled by two dominating factors, 1) source-term decay and natural attenuation; and 2) increased advection and dilution induced by sea-level rise.





Figure 11: Relative Change in Concentration at Simulated Monitoring Point Groupings for the GSH Project Scenario

Evaluation of the comparison reveals that the CSM presented and the anticipated redistribution of contamination because of the GSH project will likely cause long-term increases in soil gas and groundwater contamination in the vicinity of the GSH project. These increases are caused by two factors: 1) the upwelling of contaminated groundwater through the breach in the clay layers generated by engineered fill around and under the parking garage, and 2) the longer, slower groundwater flow paths created by the impermeable subterranean parking garage walls.

6. Projected Hazards, Offsite and Cumulative Impacts of the GSH Project

6.1 Fluvial and Sea-Level Rise Risks. Attached to this report is a memorandum from Revell Coastal of Santa Cruz, California that evaluates the potential environmental impacts of the proposed GSH Project. See Attachment 2. In summary, the memo states that the site faces significant flood risks from both fluvial hazards and future sea level rise, with existing vulnerabilities identified from winter storms, tsunamis, and reliance on the Laguna Channel's tide gate and pump station for flood control. Projected sea level rise of 2.5 feet during the life of the project will exacerbate flooding risks and may result in shallow groundwater flooding, wave inundation, and contaminated groundwater migration. The project's design, which includes excavating for a subterranean garage, fails to adequately address these hazards or conform to the City's 2021 Sea-Level Rise Adaptation Plan. Concerns also include sediment budget changes, infrastructure vulnerability, and access disruption due to flooding. Dr. Revell previously reviewed the Project's sea level rise study (Moffatt & Nichol) for the Project and critiqued it for incompleteness, arguing that it overlooks critical factors like infrastructure



risks and shallow groundwater impacts. Overall, it suggests that the development is unlikely to survive its intended 75-100-year lifespan due to underestimating future flood and sea level risks.⁷

6.2 Vapor Intrusion and Soil-Gas Exposure Review. The attached summary report by Mark Kram, Ph.D., addresses the potential vapor intrusion (VI) risks at the GSH Project. The report states that the site and surrounding areas contain contaminants including benzene, TCE, PCE, and others, posing risks through vapor intrusion into buildings. These chemicals exceed regulatory health screening levels and pose long-term cancer risks, along with acute risks to pregnant women due to TCE exposure. The source areas for some contaminants, including TCE, are unknown and could take decades to attenuate. Groundwater dewatering activities could mobilize contaminants, increasing risks for neighboring properties, but these effects have not yet been fully characterized or mitigated. Regulatory agencies have yet to require a complete three-dimensional characterization of contamination, leaving risks unmitigated. The summary report emphasizes that without further site characterization and remediation, vapor intrusion risks will persist for years, affecting both the development and neighboring buildings. Additionally, the lack of adequate vapor mitigation plans, particularly in light of ongoing contamination, presents unaddressed and significant risks to human health. See Attachment 3.

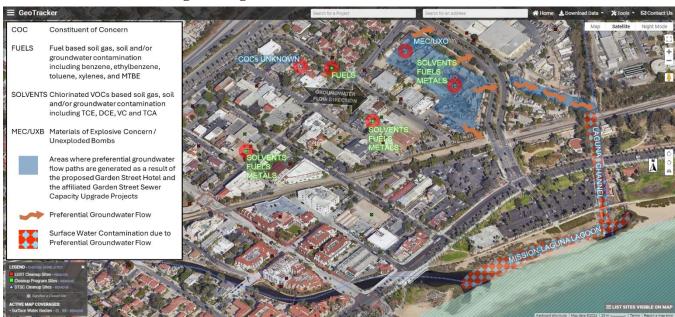
6.3 Offsite and Cumulative Impacts. The upwelling and redistribution of contaminated groundwater is projected to increase long-term concentration of contaminants in shallower regions (Figs 3, 4, 10, 11). This has the potential for higher concentrations of soil-gas vapor intrusion into nearby homes, businesses and buildings which have not been designed to prevent or disperse these dangerous toxins. The GSH Project has the additional potential to release these toxins to beach recreational areas through percolation in the fill of the deep-soil trench proposed for the 48" sewer main upgrade that will bisect the Laguna Channel. The GSH Project will add immeasurably to the near-surface accumulation and distribution of contaminated groundwater and soil vapor in an area of the City already challenged by toxic contamination.

Figure 12 provides a conceptual model of the preferential groundwater flow path that will form in the fill placed around the GSH Sewer Upgrade pipeline. This preferential flow path will connect contaminated groundwater welling up at the GSH subterranean parking structure with the Laguna Channel, which is groundwater fed stream. Contaminated groundwater daylighting in the Laguna Channel streambed at the proposed crossing of the GSH Sewer Upgrade project pipeline will eventually arrive at the Mission-Laguna Lagoon generating discoloration and foul-smelling seeps and exposure of toxics to receptors. Figure 12 also shows active site investigations and their related COCs that are within the flow regime of the shallow groundwater near the GSH Project site.

⁷ Integral Consulting, Review of Garden Street Hotel Development Project – Sea Level Rise Hazard Analysis and Adaptation Plan, July 11, 2023, submitted to the City of Santa Barbara Planning Commission for hearing of August 3, 2023, attached as Attachment 4.



Figure 12: Map Showing GSH Site, Surrounding Active ESAs, Preferential Groundwater Flow Pathways Formed by the Project, and Impacts to Laguna Channel and the Mission-Laguna Lagoon.



7. Conclusions

Based on review of available documents, analyses, data and studies, and the results of the forward and predictive simulations of the No Project alternative compared to conditions that would be engendered by the proposed GSH Project, and applying our professional judgment and experience, Lynker makes the following conclusions:

Project Is Inconsistent With City Policy And Uses An Inappropriate Application of 15183. Considering the likelihood for the increased exposures arising from the redistribution of contamination generated by construction activities and the permanent subsurface structures and fill placed as part of the GSH, in addition to an increased risk of flooding stemming from both sea level rise and fluvial sources, the Project presents peculiar conditions that were not analyzed as significant effects in the 2011 General Plan EIR, or other community plans. Specifically, the geotechnical requirement for the removal of unsuitable bearing materials, which are also a natural barrier of low-permeability materials underlying the site and replacement of this material with engineered fill, will change the flow patterns and transport of contaminated groundwater at, under and near the project site. The resulting changes in groundwater flow patterns and their impact on existing groundwater contamination are not part of uniformly applied development standards and policies and therefore are not mitigated by uniformly applied standards.



• <u>Inadequate Assessment of Impacts To Human Health</u>. The review and analyses presented in Sections 3, 4, 5 and 6 of this report provide one probable outcome from the Project. However, without further study and assessment risks to receptors, human and ecological, could be more harmful. The resulting changes to ambient groundwater flow patterns could intercept subsurface preferential pathways (e.g., buried utility backfill), contamination from other nearby sites, stormwater, or flood water not otherwise accessed without the Project. This could generate discharge of additional contaminated groundwater to Laguna Channel and/or the coastal lagoon at the combined discharges of Laguna Channel and Mission Creek.

The Project will likely cause unique and peculiar adverse impacts. Further CEQA review must be performed for the project to ensure that the contaminants on and under the site, and on adjacent sites, will be managed and remediated without endangering humans or the environment.

- <u>Current Level of Site Investigation Inadequate for Project Approval</u>. Soil, soil gas
 and groundwater analyses do not provide sufficient horizontal or vertical coverage
 to define the limits of the contamination in these media and within the influence
 of the proposed activities, resulting in the potential exposure of humans and
 sensitive environmental resources to harm.
- <u>Sampling Bias Skews Results</u>. The groundwater samples were collected from temporary monitoring wells using a peristaltic pump. VOC analysis results from these samples collected from temporary wells using a peristaltic pump are considered in the industry to record lower contaminant concentrations than in samples collected using a permanent well and appropriate collection method (e.g., low-flow sampling using a bladder pump). These results thus likely understate the extent of contamination and should not be used to inform decision making with respect to project impacts, remediation approach or risk.
- Offsite Impacts Unaddressed. The GSH Project, if advanced, will likely cause a long-term increase in soil gas and shallow groundwater levels around the project site. The increase in these levels is driven by two factors as follows:
 - The breach of the low permeability unit (leaky aquitard) at the water table that would be created as a consequence of installing the subterranean parking garage. This breach likely results in upwelling of deeper groundwater from a higher permeability unit.
 - o The damming up of water at the upgradient (western) side of the GSH project. Where shallow groundwater is intercepted by the GSH underground parking garage, eastern wall flow is slowed, and contamination will accumulate in this stagnated eastern zone.
 - Redistribution of contaminant plumes may increase contaminant concentrations underneath nearby businesses, homes, and recreational areas.



• <u>Sea Level Rise Increases Project Impacts and Severity</u>. Pacific Ocean sea level rise impacts shallow groundwater pressure, raising groundwater levels across the study area. This results in lower gradients and increased contact of saline waters with the proposed GSH subterranean structures. This slowing and the rerouting of shallow groundwater flow exacerbate the increases in soil gas and shallow groundwater contamination levels already impacted by sea level rise. As sea level rise continues, these impacts will be exacerbated.

8. Qualifications

Lynker Corporation is a multi-discipline water resources and environmental services firm that specializes in the planning, implementation, and management of resource and climate-related programs and projects. Lynker's significant earth observation, modeling, and scientific support service solutions address societal, mining, commercial, and governmental needs in diverse areas such as global- and project-scale climate, water resources conjunctive management, contaminated site assessment and cleanup, and mine water management. Our staff specializes in climate research and scientific programs including surface and groundwater resource management design, evaluation, and monitoring. Lynker supports our clients in scientific tool development, visualization, and data management. Our in-house modeling, scientific software development, IT services, and integration expertise helps facilitate the implementation of AI and Machine Learning into science research and data processing operations.

Our expert hydrologists, geohydrologists, environmental engineers, molecular biologists, programmers and coders can engage in a study at most any stage and provide review, support, or additional services that will optimize and enhance the final product. We are team players that can provide turnkey services for an entire project or niche support. Our ability to focus on a project and provide insight and clarity is unparalleled and gives rise to a unique differentiator for your team.

Mr. Peter Guerra led the review and analyses presented herein supported by his staff and reviewers. Peter's CV is attached.

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Attachment A

CURRICULUM VITAE
PETER GUERRA, MSEE





Peter Guerra, M.S., PMP

Principal Environmental Engineer | Project Manager



Contact 505.818.0060 paguerra@lynker.com Lynker, Albuguergue, NM USA

Education

MS Environmental Engineering, New Mexico Institute of Mining and Technology, 2001

Memberships/Affiliations

Joint Genome Institute – Development of standards for environmental metagenomics and proteomics

ITRC LNAPL 3 Committee – Reviewer -ITRC LNAPL 3 Guidance

Consulting Employment History

Lynker Technologies Inc., Principal Environmental Engineer | October 2022 present

Wood Environment & Infrastructure Solutions, Inc., Senior Associate Environmental Engineer | 2002 - 2022

Researcher and Principal Investigator, New Mexico Institute of Mining and Technology | 1998 – 2017

Owner, Rio Grande Environmental Consulting, Inc | 1997 – 2002

Project Manager, Intera, Inc., Albuquerque, NM | 1993 – 1997

Staff Engineer, GZA Geoenvironmental, Inc. | 1990 – 1992

Geotechnical and Environmental Field Technician, Haley & Aldrich, Inc. | 1988 – 1990

Professional Profile

Mr. Guerra holds master's degree in environmental engineering and 35 years of experience in the design, implementation, and management of soil and groundwater remediation projects. Much of his experience is in real-world application of technologies and processes, including experience and knowledge of means and methods for construction as well as sampling and analysis of environmental media. Peter excels at presenting/visualizing data in four dimensions and technical writing of planning, completion, and monitoring documents. Over the last three decades, Peter has managed, sampled, analyzed, designed, developed, and enhanced large, complex environmental and next-generation sequencing data. Stemming from his graduate schoolwork he continues to engage in the development and application of molecular biology tools, specifically shotgun metagenomics, for the identification and tracking of soil and groundwater bioremediation projects. He also has significant experience in geotechnical engineering, specifically where it applies to environmental projects, such as landfill liner and cover and excavation designs.

Core Skills

- Soil and groundwater contamination investigation design, implementation, and analysis
- Hydrogeology
- Groundwater and vadose zone reactive transport numerical modeling
- Bioremediation design, implementation, and optimization
- Development and application of molecular biology tools for bioremediation
- Environmental and genetic database programming and management
- Waste containment design and implementation
- Mine water management

Selected Work Experience

Project Engineer and Construction Manager Soil Time Critical Removal Action, Installation Restoration (IR) Site 9, Naval Air Station North Island, Coronado, California, \$5.7 Million

Project engineer responsible for the development of the planning documents for the implementation of a Time Critical Removal Action (TCRA) at a CERCLA site located at the Naval Air Station North Island (NASNI) in Coronado, California. The project consisted of the review of reports, data and analyses presented in numerous remedial investigations, interim remedial actions, risk assessment and risk management option studies to support the development of planning documents including work, sampling and analysis, construction quality control, health and safety, and traffic control plans, and an action memorandum decision document. Managed and supported the review and revisions of the planning and decision documents for regulatory and public approvals. Responsible for the implementation of all facets of the site work including direction of personnel, subcontractors, and vendors to safely remove, characterize, and dispose of approximately 30,000 tons of soil and debris impacted with organic and inorganic contaminants including fuels, solvents, paints, burn residues, PFAS, and metals.



The wastes were excavated from 12 locations across 10 areas of concern requiring the removal and replacement of infrastructure including a 300-foot section of 2-lane paved road. The work was completed between February and November 2020, during the coronavirus pandemic and within an active and secure weapons area. Work was managed closely with Facility Engineering and the Gun Boss so that activities could be scheduled around the movement (loading/unloading) of ordnance at the nearby weapons pier and bunkers. Interfaced with the Naval Installation Restoration Information Solution (NIRIS) database to mine queried data germane to project and TCRA as well as formatting and updating the NIRIS database with additional sample results including update to human health and ecological risk assessments to demonstrate that exposure point concentration TCRA goals were met. the Currently managing the development of the Removal Action Completion Report (RACR) which in draft final stage and includes updated risk assessments that allow for unrestricted activities at and up to 6 feet below the site surface and the development of a wildlife refuge in an approximate 30-acre portion of the 50-acre site.

Project Manager / Lead Feasibility Study Engineer Feasibility Study, Bureau of Indian Affairs - Tuba City Dump Site, Tuba City, Hopi Tribe and Navajo Nation, \$1.1 Million

Project Manager for development of the feasibility study (FS) for the Tuba City Dump (TCD) site, a CERCLA project located on both the Hopi Tribe and Navajo Nation. The FS included development of remedial action objectives (RAO); potential applicable and relevant or appropriate regulations; and the screening, development, and detailed analysis of landfill contents and groundwater remedial alternatives. The principal contaminants of concern at TCD site are burned wastes in the landfill and uranium detected in groundwater at levels exceeding the regulatory threshold by 10-fold. As a part of groundwater RAO development, statistical analysis of data was employed to calculate a background threshold value (BTV) for dissolved uranium. The BTV for uranium was established at approximately twice the promulgated level and was used as a preliminary remediation goal (RG) for the detailed analysis of groundwater remedial alternatives, which included a 3D reactive transport (RT) model. The flow component of the RT model included surface water flow and infiltration at nearby gullies and Pasture Canyon, a large wash downgradient of the site. Evapotranspiration zones and unsaturated flow parameters were used in the simulation of water and radioactive contamination migration between the vadose and saturates zones; and, to simulate the advective and dispersive transport of uranium in the alluvium and shallow and deep bedrock hydrostratigraphic units underlying the study area. The RT model was used to simulate, compare, and evaluate natural flushing, passive remedial technologies (e.g., permeable reactive barriers), hydraulic containment, and active extraction/recirculation remediation systems with and without enhancement (e.g., five-spot pattern with lixiviant).

Project Manager / Lead Hydrogeologic Engineer

Pregnant Leachate Solution Impacted Groundwater Remedial Design and Remedial Action Planning, Oak Grove Wash Site, Tyrone Mine, Freeport-McMoRan Inc., Tyrone, NM, United States, \$1.2 Million

Led characterization and design for the implementation of a previously approved Stage 2 Groundwater Abatement Plan Proposal (APP) for the perched groundwater in the alluvium bottom sediments of Oak Grove Wash / Brick Kiln Gulch (OGW/BKG), natural surface water channels adjacent to the Tyrone copper mine reclaimed leach piles and tailings pond. The approach for the recovery of the ephemeral perched groundwater impacted with pregnant leachate solution (PLS) consisted of refinement of an oversimplified conceptual site model (CSM) that did not consider unsaturated flow. Pre-design work was implemented in a two-step field characterization program to augment existing data and to build a comprehensive surface to subsurface water budget model in refinement of the CSM and establish design engineering and performance criteria. The resulting CSM and water-budget model were used as basis for the design of the perched-groundwater interceptor trench well and recovered groundwater conveyance system. The 370-feet long, 220-feet wide, and 70-feet deep trench well was successfully installed through the canyon-bottom alluvium containing the perched groundwater. The automated pumping system that extracted PLS -impacted meteoric groundwater was tied into the active mine water circuit for reuse.

Team Lead

Aboveground Injection System for In-situ Bioremediation Treatability Study, Technical Area V, Sandia National Laboratories, Kirtland Air Force Base, Albuquerque, NM, United States, \$2.2 Million,

Responsible for implementation of the design and development of the planning documents for the in-situ bioremediation pilot- and full-scale treatability studies for the chlorinated solvents and nitrate plumes at Technical Area



V (TA-V) located at Sandia Nation Laboratories. The project involved the injection of amendment and bioaugmented solutions into the regional aquifer, which is just over 500-feet below ground surface. During development of the planning documents and design of the pilot-scale treatability study optimizations were added including a mobile steel tank platform for the 5,000-gallon amendment-solution tanks; improved chemical formulations and field quality control steps; and, the additional of taxonomic and functional shotgun metagenomics for the classification and monitoring of microbial changes during bioremediation. As part of the analysis of the pilot-scale test, optimizations were continued with the full-scale test, including improved chemical formulation and delivery protocols and respirometry testing and microbial kinetics analysis to support sustainable remediation. Worked daily onsite for seven months to successfully mix and inject over 530,000 gallons of bioremediation amendment solution to the impacted aquifer. Continued involvement with the project includes support of full-scale treatability test analysis and interpretations, as well as optimization and design of future injections.

Project Manager and Lead Bioremediation Engineer/Principal Investigator

Remedial Design and Remedial Action, North Railroad Avenue Plume Superfund Site, Enhanced Reductive Dechlorination Bioremediation Project, New Mexico Environment Dept., Española, NM, USA, \$3.7 Million

Project Manager and bioremediation engineer for remedial action at the North Railroad Avenue Plume (NRAP) USEPA

Superfund site located in Española, New Mexico. Designed and implemented a bioremediation system for treatment of a chlorinated solvent plume affecting groundwater used for drinking supply. Design steps included hydrogeologic studies and bench/pilot tests to assess subsurface physical, biological and chemical properties for optimum treatment approach. This included development of bioamendment dosing methods and formulations; groundwater pumping regimes; and performance monitoring for optimum in-situ bioremediation by enhanced reductive dechlorination (ERD). During ERD RA a soil vapor extraction (SVE) system was added for remediation of vadose zone contamination.

Collected and analyzed environmental DNA samples using shotgun whole genome sequencing (WGS). Samples collected prior to RA (baseline) as well as subsequent to RA have been analyzed using WGS tracking the numerous changes in the microbial community undergoing ERD. Currently advancing research with Joint Genome Institute and other co-investigators to investigate and improve WGS for identifying and understanding the environmental microbiome and virome using treated groundwater from the NRAP site.

Soil Remedy Task Manager

Focused Feasibility Study, Record of Decision Amendment, Remedial Design, & Remedial Action, IR Site 1, Former U.S. Navy Facility, Alameda, CA, U.S. Navy - NAVFAC Southwest, Alameda, CA, United States, \$28.8 Million

Task Manager and lead designer for the clean-up of an approximate 35-acre portion of the former U.S. Navy Air Station located at Alameda Point in the San Francisco Bay, California. Completed a focused feasibility study (FFS), Amended Proposed Plan, and ROD Amendment for remediation of the burn area; a legacy dump site within IR Site 1 that contains a mixture of dioxins, fuels, pesticides, PCBs, solvents, cadmium and zinc metal plating solutions, unexploded and spent ordnance, and radionuclides including depleted uranium, radium-226, and strontium-90, which were bulldozed into the San Francisco Bay during the 1950s. The FFS relied on a detailed 3D reactive transport model (MODFLOW-SURFACT) that demonstrated that the submarine discharge of groundwater from the burn area, through the shoreline slope, and into the bay did not result in unacceptable risks to ecological or human receptors living in or using bay water. During the development of the FFS (especially the MODFLOW_SURFACT RT model), updated decision documents, and remedial design - environmental, ecotoxicological, human-health risk-related, and observational (e.g., field reports, newspaper and other public print, and military management / construction documentation) data from a range of sources including NIRIS, the national archives, and web-based searches and services, were mined and integrated. Based on the results from the FFS and RODA the mixed waste is being contained and isolated in place, using a steel sheet pile bulkhead and soil cover, opposed to the former selected remedy that required complete excavation and offsite disposal of the burn wastes. The resulting savings to the Navy was approximately \$27 million. The Remedial Design package included remedies for an Open-cell steel sheet pile waste isolation bulkhead and soil cover that will be stable in the project area prone to intense earthquakes; and, shoreline and seasonal wetlands restoration and revitalization. This project incorporates many facets of regulations and policy from the U.S., California, and local governments, as well as public input. Upon completion, the project was awarded a 2015 Chief of Naval Award for Installation Restoration.

Lead Remedial Design Engineer



Remedial Treatability Testing and Remedial Action Optimization, LNAPL Volume/Mobility/Recoverability and Natural Source Zone Depletion Modeling, CSX Transportation, Inc., University of Louisville, KY, USA, \$700K

Task manager for development of models to estimate the total, mobile, and recoverable volumes and the natural source zone depletion of plumes of LNAPL cover over 20 acres. The models used were based on the widely accepted American Petroleum Institute (API) LNAPL Calculation Tools commonly referred to as the LNAPL Distribution and Recovery Model (LDRM) and the LNAPL Dissolution and Transport Screening Tool (LNAST) with a significant enhancement developed by Wood modelers. The API LDRM and LNAST models were aerially integrated into GIS framework which greatly enhanced their resolution and reliability as well as confidence in the results. With this approach the RD team developed remedial strategies to pinpoint locations of the project site amenable to recovery; as well as to define the areas of the site where recovery is technically impractical. Furthermore, the model was used to support decisions on ending active mechanical recovery of LNAPL for more innovative enhanced bioremediation with NSZD approaches to effective management of the LNAPL plume.

Equipment Fabricator, Logistics and Field Manager/Trainer, and Hydrogeologic Analyst Aquifer Tracer Test Design and Implementation, ZamZam Well Wellhead Protection Project, Saudi Geological Service, Mecca, Kingdom of Saudi Arabia, \$500K

Designed and implemented aguifer tracer tests in the Wadi Ibrahim aguifer in Mecca, KSA. Tasks included design and construction of test equipment and materials; logistics for transport to Mecca, KSA; training and management of multinational field crew; setup and operation of tests; and collection and assemblage of data. Two types of tracer tests were conducted: a multi-well and push-pull test. The multi-well tracer test was conducted on the grounds of Masjidil Haram and consisted of installing and operating a 400 gallon per minute extraction well with associated flow, pressure, and tracer-sensors; real-time monitoring and datalogging; pulsed injection of conservative tracers (sodium bromide and potassium iodide) into monitoring wells within the capture zone of the extraction well and screened in the alluvium and weathered bedrock aquifers; and, management and direction of the field crew and assets within the highly-sensitive religious and cultural setting. The push-pull test was conducted near the headwaters of the dry Wadi Ibriham river at an existing monitoring well location. The push-pull test consisted of mobilization to the test location, assemblage and integration of the test equipment within the confines of the local culture and available resources, and operation of the test. Push-pull test operations consisted of injection of conservative tracer (sodium bromide), tracer shut-in, and groundwater/tracer extraction. During push-pull tracer test operations pressure response, flow rates, and tracer concentrations were monitored and logged using a customized, field-laptop based data acquisition system. During each tracer test confirmatory laboratory samples were collected using an auto-sampler system to assure reliable and repeatable sample collection methods and frequency.

Reports & Publications

Refereed Journal Articles

Guerra, P.A., A. Bauer, R.A. Reiss, and J.T. McCord, 2021. In Situ Bioremediation of a Chlorinated Hydrocarbon Plume: A Superfund Site Field Pilot Test, Appl. Sci. 2021, 11(21), 10005; https://doi.org/10.3390/app112110005.

Reiss, R, P.A. Guerra, O. Makhnin, 2016. Metagenome phylogenetic profiling of microbial community evolution in a tetrachloroethene-contaminated aquifer responding to enhanced reductive dechlorination protocols, Standards in Genomic Sciences, 11: 88, December 2016.

Huang, F.Y.C., Brady, P.V., Lindgren, E.R., and Guerra, P.A., 1998. Biodegradation of Uranium-Citrate Complexes: Implications for Extraction from Soils, Environmental Science and Technology 32:3, February 1998.

Conference and Symposia Proceedings

Reiss, R. and P.A. Guerra, 2022. Comparison of 16S Amplicon and Whole Metagenome Sequencing to Monitor



Tetrachloroethene Remediation Efforts, Battelle 12th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs, California.

Guerra, P.A., M. Dowd, S. Panday, R. Dwivedi, P. Kurzanski, 2014. GIS-based Method for High-resolution Mapping of LNAPL Plume Transmissivity, Recoverability, and Longevity: Case Study at CSXT Stadium Project, RailTEC, 16th Railroad Environmental Conference, Champaign, Illinois.

Reiss, R. and P.A. Guerra, 2014. Whole Metagenomic Analysis of Microbial Community Evolution in a Tetrachloroethene-contaminated EPA Superfund Site Undergoing Enhanced Reductive Dechlorination, Battelle 9th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Guerra, P.A., D. Priestly, M. Fredlund, 2012. 3D Groundwater Seepage Analysis of a Levee Intersection, Canadian Dam Association Annual Conference, Saskatoon, SK, Canada.

Guerra, P.A. and R. Reiss, 2012. High-Throughput Sequencing as a Tool to Monitor Microbial Community Evolution in a Tetrachloroethene-contaminated EPA Superfund Site, Battelle 8th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Guerra, P.A., Jetter, S., Sanchez, P., Sheldon, J., Reiss, R., Joseph, J., 2008. Assessment of Vegetable Oil, Whey, Ethyl Lactate and Vegetable Oil with Hydrogen as Bioamendments in a Tetrachloroethene Contaminated Aquifer, Battelle 6th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Sieczkowski, M.R., Guerra, P.A., Sheldon, J., 2008. Side-By-Side Comparison of Whey and Ethyl Lactate Substrates for Reductive Dechlorination, Battelle 6th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Begley, J., Guerra, P.A., Sheldon, J., Fogel, S., 2008. Results of Field Testing Hydrogen Gas Infusion for PCE Bioremediation, Battelle 6th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Lyman, I., Reiss, R., Guerra, P.A., 2008. Detection of Dehalogenase Activity in Crude Protein Extracts from 1,2-Diochloroethene-Contaminated Groundwater, Battelle 6th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Reiss, R., Guerra, P.A., 2008. Metagenomic and Proteomic Approaches to Site Characterization and Monitoring of Chlorinated Solvent-Contaminated Aquifers, Battelle 6th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California.

Guerra, P.A., Kretz, K., Gabaldón, M., 2003. Responding to HAZMAT Emergencies on Our Highways, 49th Annual Engineering Conference, New Mexico State Highway and Transportation Department. Las Cruces, New Mexico.

Guerra, P.A., 2003. Enzyme Assays for Estimating Biodegradation Rate of 1,2-dichloroethane in Groundwater, Battelle 7th Annual International Symposium on In-situ and On-site Bioremediation, Orlando, Florida.

Guerra, P.A., 2003. Bioscreen@Risk: Probabilistic Forecasting for Natural Attenuation of Hydrocarbon-Contaminated Plumes, Upcoming Battelle 7th Annual International Symposium on In-situ and On-site Bioremediation, Orlando, Florida.



Attachment B

Revell Coastal

Memorandum, Garden Street Hotel Development Project
September 24, 2024



Email: <u>revellcoastal@gmail.com</u>
Website: <u>www.revellcoastal.com</u>

MEMORANDUM

Date: September 24, 2024

To: Law Office of Marc Chytilo

From: David Revell, PhD

Subject: Garden Street Hotel Development Project

Purpose

The purpose of this memorandum is to substantiate the significant potential adverse environmental impacts of the proposed Garden Street Hotel Development located at 101 Garden Street in Santa Barbara, CA, from existing fluvial and future coastal hazards flood risk from sea level rise, complications of contamination onsite from changes in groundwater, and inconsistencies with the City's Floodplain ordinance and recently adopted 2021 Adaptation Plan.

Summary of Key Findings

Revell Coastal reviewed the applicable project reports and publicly available coastal hazard models for the site and have identified that the site is currently vulnerable to fluvial flood hazards, particularly during winter rain storms with high tides when the Laguna Channel Tide gates are open to convey storm water.

The FEMA Flood Map identifies a Base Flood elevation of 12 feet NAVD¹; the project design is for a base floor elevation of 13 feet. Sea level rise is expected to rise by at least 2.5 feet during the life of the proposed project and will likely cause significant impacts to both the project and surrounding neighborhood.

Under existing conditions the site is subject to:

- Fluvial flooding from a 1% annual chance storm affecting Laguna Channel (FEMA)
- Tsunami hazard zone
- This special hazard zone requires consistency with the City's Floodplain Ordinance

As sea level rises, the site will be subject to:

Increased risk of shallow groundwater flooding.

¹ North American Vertical Datum, last updated in 1988



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- Increased risk of fluvial and compound flooding due to storms, sea level rise, and fluvial flood events with increasing flood depths and duration.
- Increased potential for wave flooding based on long term shoreline retreat and dune erosion.
- Access to the site will be disrupted before the Project site is impacted placing residents and visitors in harm's way.

The project is inconsistent with the City's 2021 Adaptation Plan which calls for elevating any new development in this low-lying City area. Instead, the project includes the removal and replacement of unsuitable bearing sediments to a depth of up to 20 feet below ground level and installation of a subterranean parking structure into contaminated groundwater at a location that is highly susceptible to both fluvial flooding and flooding stemming from sea level rise.

The project construction itself may also displace contaminated groundwater toward the Laguna Channel and Lagoon threatening human health, beach recreation and endangered species.

The Moffatt and Nichol Sea Level Rise Study submitted for the project is incomplete in the following respects:

- It presents an incomplete consideration of site-specific infrastructure including a critical tide gate and pump at Laguna Channel.
- It does not consider future changes in sediment budgets in the Santa Barbara littoral cell.
- It only focuses on risk to the Project site, without considering the effects of severe and repeated flooding upon necessary infrastructure and site access.
- It does not discuss the effect of sea level rise on shallow groundwater nor the potential impact of these changes on contaminated sediments in the area.

In our professional opinion, this project and the uncertainties around it pose significant adverse environmental impacts from flooding and sea level rise that when compounded with known contamination pose risks to human health, recreation, and coastal habitats while placing an additional burden on the City to adapt to future coastal hazards.

Project Description

Proposed Project

The project consists of the merger of six lots, removal of all existing structures, and construction of a new 178,919-square-foot hotel containing 250 rooms (130 extended stay rooms; 120 "select service" rooms) and six affordable housing units (5 low-income studios and 1 moderate -income two-bedroom unit) under State Density Bonus Law, and an 85,298-square-foot subterranean parking garage on a 4.53-acre site at the southwest corner of Garden and E. Yanonali Streets.



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History

The Project site is located in the Funk Zone neighborhood of Santa Barbara. Prior to the development of the Santa Barbara waterfront, this area was called El Estero (Figure 1), and was an extensive system of estuarine and freshwater marsh habitats. A portion of this proposed property was identified as having vegetated wetlands and open water habitats. While El Estero was filled for development in the early 1900s, partially with debris from the 1925 earthquake, the remnant soils and flow pathways likely drain from the proposed site into the Laguna Channel. Subsequently, this neighborhood became home to marine and industrial manufacturing in Santa Barbara with multiple discharges of hazardous materials on and around the site contributing to soil and groundwater contamination in the area. The Funk Zone has since transitioned to some remaining maritime uses mixed with a food and art hotspot.

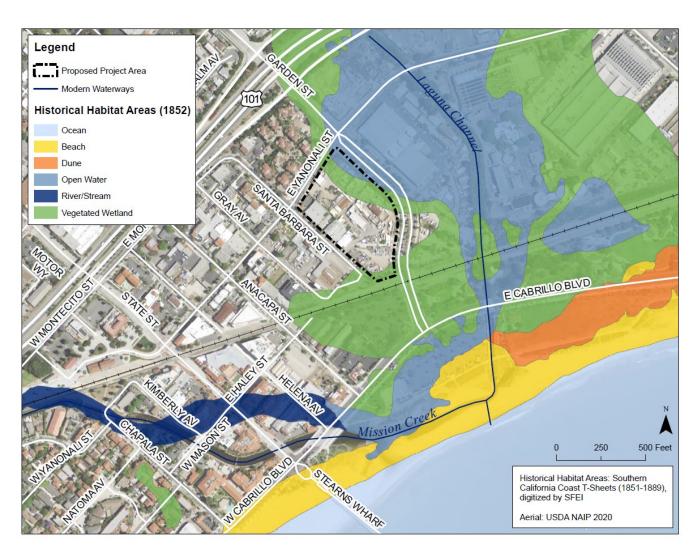


Figure 1. Map of historical habitats (1852) around the Project site.



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Site Conditions and Elevations

The elevations of the Project site (Figure 2) are listed in Table 1. The surface elevation of the Project site is presently between 8 and 14 feet NAVD88. The FEMA Flood Insurance Rate Map (FIRM) Base Flood Elevation (BFE) in Zone AE (ponded flooding) is 12 feet (Figure 2). The wave velocity VE zone at the coast is mapped at 11 feet.

The Moffatt and Nichol sea level rise report uses the FEMA FIRM to show that the Project site should be at a base flood elevation of 12 feet and states that the Building and Safety Division of the City of Santa Barbara due to the Floodplain Ordinance requires one foot of freeboard so the project design is for a 13 foot BFE with an underground garage.

Under even the intermediate scenarios², sea level rise is projected to rise by at least 2.5 feet during the life of the project and will affect both fluvial flood extents and inland extents of storm wave flooding, causing the Project to be in violation of the minimum freeboard requirements in the Floodplain Ordinance and significant impacts to both the project and surrounding neighborhood.

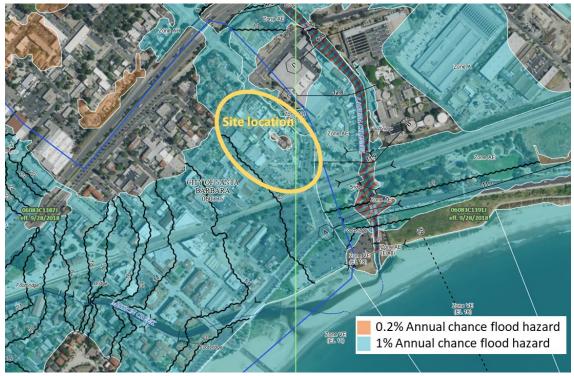


Figure 2. FEMA's Flood Insurance Rate Map (FIRM) for the Project site which is shown in yellow. The Project site is in zone AE (ponded flooding) and has a Base Flood Elevation (BFE) of 12 feet. The wave velocity VE zone is mapped at 11 feet.

² California Sea Level Rise Guidance: 2024 Science and Policy Update. 2024. California Sea Level Rise Science Task Force, California Ocean Protection Council, California Ocean Science Trust.



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Laguna Channel

The Laguna Creek watershed drains a substantial portion of downtown Santa Barbara, and the mouth of this 2,020-acre urban watershed is the Laguna Channel. Flows in the Laguna Channel (Figure 4) are controlled by a tide gate, which is kept closed during high tide preventing seawater from entering the channel, and by a pump station, which pumps water from the channel out to the lagoon during periods when the tide gate is closed and there is flow into the channel. The tide gate and pump house presently provide critical flood-risk reduction from ocean tides and waves to a large swath of Santa Barbara south of Highway 101, where the historic wetlands used to be including the Project site.

However, during large rain events, the stormwater which causes the FEMA mapped flooding at the site is dependent on the Laguna Tide gate to be open to allow the water to discharge into the Pacific Ocean. During high tides and storm waves, this fluvial stormwater conveyance is already reduced.

As sea levels rise the beach berm will likely rise, increasing the chance of lagoon flooding and risk to the Project site when the lagoon is closed. When the lagoon is open, rising sea levels will either require either the Laguna Tide Gate to be raised to maintain current flow regimes, or that the periods during which the tide gate can be kept open become gradually shorter, thus putting increased pressure on the Laguna Pump Station. If this infrastructure fails, the region surrounding Laguna Creek, including the Project site, would likely be flooded. The hazard maps presented in CoSMoS and the Moffatt and Nichol report do not account for the rising risk of critical infrastructure failure with sea level rise.

Indeed, the Moffatt and Nichol report recommends that "management to lower lagoon breach elevation, Laguna Channel widening, implementation of detention basin, and increasing pumping capacity" are done to reduce risk at the Project site. None of these adaptation or management measures would be something that the applicant could do to reduce risk at the project site. Language from the 2006 Coastal Commission Coastal Development Permit for repairs to Laguna Channel states:

The tide gate system was built in the 1950's to prevent flooding of the portions of the general area east of Helena Avenue, south of Highway 101, and west of Salispuedes Street from high tides and heavy stream flows from Laguna Creek. The system consists of a tide gate house with three tide gates that can prevent inflow from high tides into Laguna Creek and surrounding areas. A pump station is located between Cabrillo Boulevard and the tide gate house that removes stream flows in the creek when the tide gates are closed and discharges them to a concrete side channel, which empties onto the beach near the tide gate house. During low flows and times of high tides, the tide gates are kept closed and the pump bypasses any creek flows. During high flows and medium to low tides, the tide gates are opened to allow flows to directly reach the ocean. If the pump fails or has insufficient capacity to pump the inflow, and the tide gates cannot be opened due to high tides, there is a potential for the Laguna Channel to overtop, flooding the area downstream of Cabrillo Boulevard. If the tide gates are left open during high tides and heavy rainfall events, areas surrounding Laguna Creek south of Highway 101, including several existing residences, commercial structures, parking lots, and parks, can be flooded.



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The objective of the proposed project is to repair and replace various elements of the Tide Gate House to ensure reliable operations. According to City staff, the only feasible alternatives to prevent flooding of existing structures aside from upgrading the existing tide gate system are to buy the land in the flood zone and remove the existing structures or to raise the elevation of all structures in this area. Both of these alternatives are infeasible at this time.



Figure 4. Depiction of the Laguna Channel Pump Station, Bypass Channel, Tide Gates, and Lagoon. Adapted from CA Coastal Commission (https://documents.coastal.ca.gov/reports/2006/6/T23b-6-2006.pdf),

Significant Issues

This section outlines several substantive issues related to the proposed project and does not consider all the potential hazards that the Project site will face over its expected 75 year life. These issues highlight a lack of consideration of future conditions in the planning of the project and will likely result in significant impacts to the visitors of the proposed project and surrounding environment.

These impacts include:

- Compound flooding
- Emergent and Shallow Groundwater
- Dune Erosion and Subsequent Storm Wave Inundation

While the project sea level rise report by Moffat and Nichol primarily used the USGS CoSMoS data, our analyses considered all available data, models and site-specific information. It is important to consider



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all available data because any model has inherent uncertainty. For example, CoSMoS model uncertainty is estimated to be within 50 cm and elevation data accuracy is estimated to be 18 cm. This uncertainty is captured on the online flood mapper (https://ourcoastourfuture.org/hazard-map/), which shows maximum and minimum flood extents for each scenario. The Project site is potentially flooded in the 100-year flood scenario with as little as 2.5 feet or 75 cm of SLR which is 1.6 feet less than the Moffatt and Nichol reports states (Figure 5). Planning for 2.5 feet of SLR represents medium-high risk aversion for 2060, considering a high emission scenario, which is well within the lifespan of the Project.

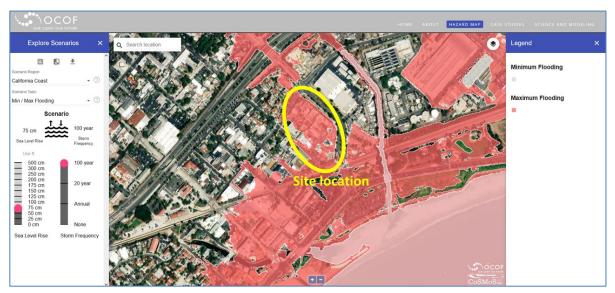


Figure 5. Maximum and minimum storm wave flood extents in the area surrounding the Project site with 2.5 feet or 75 cm of sea level rise and a 100-year storm.

Our analyses and conclusions are based on the following sources that include:

- FEMA FIRM data (https://hazards-fema.maps.arcgis.com/apps/mapviewer/index.html)
- The USGS Coastal Storm Modeling System (Barnard et al., 2014; Befus et al., 2020; Erikson et al., 2018; O'Neill et al., 2018)
- The CoSMoS Shallow Groundwater Hazard Maps (https://ourcoastourfuture.org/hazard-map/)
- The Nature Conservancy's Coastal Resilience Model (ESA 2015, Revell Coastal 2016) https://maps.coastalresilience.org/california/#)
- The 2020 City of Santa Barbara's Coastal Vulnerability Assessment (https://santabarbaraca.gov/sea-level-rise-adaptation-plan-and-vulnerability-assessment)
- The 2021 City of Santa Barbara's adopted Sea Level Rise Adaptation Plan
- The California Coastal Commission's recommendations for the Laguna Channel Tide Gate System (https://documents.coastal.ca.gov/reports/2006/6/T23b-6-2006.pdf)



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Compound Flooding

Compound flooding refers to flooding caused by more than one driver, often the combination of storm surge, wave run-up and high creek flows from extreme precipitation. As sea levels rise, this back up of fluvial stormwater will increase and previous research shows that the increases in offshore water levels in these types of watersheds can cause reduce stormwater conveyance and cause creek flow reversal and increase the flooded area and depth (O'Neill et al., 2020). Discharges and associated flood risk from Mission Creek are included in the CoSMoS analysis and the Moffatt and Nichol report, but discharges and associated flood risk from Laguna Creek are not (O'Neill et al., 2018). Thus, the flood risk outlined in the Moffatt and Nichol report are likely under-estimates along the banks of Laguna Creek, which is less than 500 feet from the Project site.

South of Hwy 101: CoSMoS 100-year storm flooding at 6.6 feet of sea-level rise is 2 to 3 feet higher than the FEMA existing Base Flood Elevation. It should be noted that this point was selected in a location that is sheltered from wave action just west of Laguna Channel.

- City of Santa Barbara Vulnerability Assessment Update 2020

The stormwater which FEMA has mapped that causes flooding at the site is dependent on the Laguna Tide gate to be open to allow the water to discharge into the Pacific Ocean. The Laguna Tide gate was constructed to reduce ocean water inflows during high tides into the low-lying areas near the proposed project site where the historic wetlands used to be. However, during storm events the tide gates must be open and during high tides this stormwater conveyance is already reduced. In other words, freshwater flows are likely to flood the Project site while high tides and storm surge will also cause flooding from the ocean side. With an additional 2.5 feet of sea level freshwater conveyance will be further reduced while tidal and ocean influences heightened.

Because of the compound flood interactions between fluvial discharge events and increasing sea levels, planning for one foot of freeboard in the coastal zone is a high-risk decision. Sea level rise will reduce the freeboard over time as compound flooding accelerates, causing the Project to be in violation of the minimum freeboard requirements in the Floodplain Ordinance. Building a multi-story hotel and underground parking in a flood-prone location that is known to be vulnerable to fluvial and compound flooding, while ignoring the 2021 adopted City Adaptation plan calling for additional elevation and pumping can cause significant impacts to human health and safety.

Laguna Channel and Mission Creek Lagoon

When the lagoon is closed, the beach berm crest elevation controls the water level in the lagoon. The beach berm crest elevation is typically higher than ocean tides and is normally within a few feet of the flood stage upstream of 101 (+8-9 ft NAVD). Water cannot drain through Laguna Creek from upstream areas until the lagoon water level falls below the water level in the channel, allowing the tide gates to open. Hence, conveyance of flood flows through Laguna Creek relies on the scour of a channel through the beach berm to the ocean (ESA 2014). Therefore, lagoon hydrology and in particular the lagoon



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water level that induces breaching are important factors that can contribute to flooding, during closed conditions, these elevated lagoon water levels also affect groundwater elevations and flow directions. As sea level rises, there are large uncertainties around the effect on shallow groundwater which will likely cause adverse impacts to the contaminated soils and groundwater on the proposed site.

Shallow Groundwater

Rising sea level can intrude into coastal aquifers and raise groundwater tables, resulting in increased flood risk (Befus et al., 2020; Hoover et al., 2017). This hazard is illustrated in the CoSMoS flood map viewer, but not discussed in the report by Moffatt & Nichol. Shallow groundwater flood risk depends on soil permeability, which must be measured and is approximated to three end-members in the CoSMoS flood map viewer (0.1 m/day, 1 m/day and 10 m/day, Figure 6). Where soil is less permeable, shallow groundwater is more prone to accumulate and cause flooding. The notable lack of sound hydrogeologic parameters for the site (such as hydraulic connectivity and permeability), demand further investigation prior to project approval, especially with the history of contamination on the site and in the surrounding neighborhood.

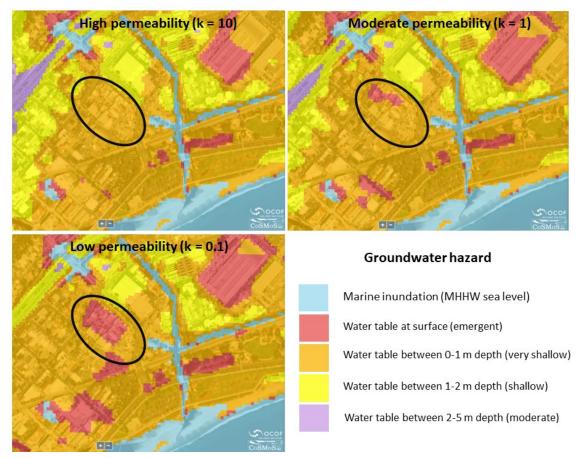


Figure 6. Groundwater hazard with 1.25 m of SLR across three soil permeability scenarios. Red regions indicate emergent groundwater which can cause flooding.



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With current elevations at the Project site (i.e. not with proposed changes to grade), groundwater is already emergent at the Project site in the CoSMoS groundwater hazard maps, under the less permeable assumption and with no sea level rise. With the moderate permeability assumption, groundwater emerges at 1.25 m (4.1 ft) of SLR and with the more permeable assumptions groundwater emerges at 1.5m (4.9 ft) of SLR. With a history of onsite and nearby groundwater contamination groundwater flood risk is an important consideration at this site (Figure 7). As shallow groundwater levels rise the risk of spreading contamination (including to ESHA, Laguna Channel, and Mission Creek Lagoon as well as to the beach recreational areas) and increasing potential for liquefaction associated with seismic events increases. This factor must be considered in geotechnical analysis for the project and was not presented or mentioned in any of the available reports reviewed here.



Figure 7. A photograph of shallow groundwater flooding 50 feet south of the Project site taken on 1/28/2023, ten days after the rain stopped.



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Dune Erosion

FEMA maps the current high velocity wave zone at 11 feet, however FEMA does not include consideration of either associated dune erosion or sea level rise to their BFE calculations.

Moffat and Nichol reported on the wave runup from CoSMoS which also does not include dune erosion in its evaluation of coastal hazards. In addition, modeling and mapping of existing and future coastal hazards assumes that sediment supply to the beaches remains constant and thus the beach elevations and beach widths have a similar capacity to rise in elevation into the future with sea level rise, closing off the barrier beach creek mouths and buffering wave run up. Given the documented trapping of sand behind dams on the Santa Maria and Santa Ynez Rivers (Patsch & Griggs, 2006; Willis & Griggs, 2003) as well as the debris basins throughout the small coastal drainages, this assumption may be flawed. History also attests to the downcoast erosion caused when sand was not bypassed from Santa Barbara Harbor (Revell et al., 2008). The impact of this assumption is that the mapped projections of coastal hazards may be underpredicting the erosion and coastal flood hazard extents.

The TNC Coastal Resilience modeling did provide an assessment of future dune erosion risk, but also assumes constant future sediment supply (Figure 8). While the site is not directly affected by dune erosion even with 4.6 feet of sea level rise, the dune erosion coupled with coastal wave flooding would increase the potential for wave run-up flooding to impact the site (Figure 9).



Figure 8. End of century dune erosion from TNC Coastal Resilience under 4.6 feet of sea level rise.



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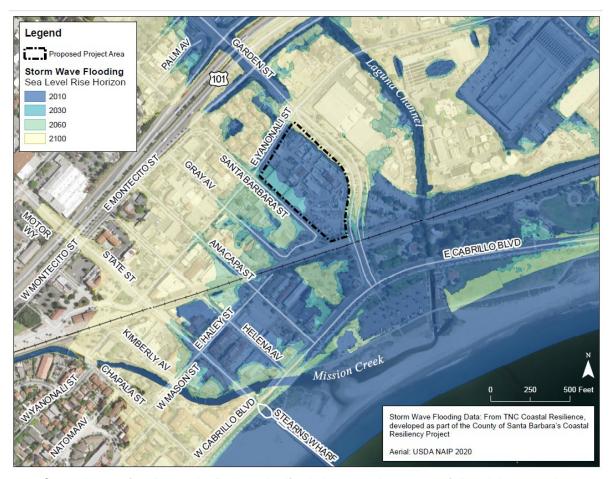


Figure 9. Coastal storm flooding at the Project site if existing armoring were to fail and dune erosion occurs.

Access and Utilities

The CoSMoS and TNC Coastal Resilience modeling efforts show that high tide flooding could begin to impact Garden St and Cabrillo Blvd in a mid-term sea level rise horizon. CoSMoS Coast shows impacts between 75 cm and 125 cm (2.5 – 4.1 ft) of SLR (Figure 10), and TNC Coastal Resilience shows impacts between 2030 and 2060, with expansive impacts by 2100 (Figure 11). As many of the utilities follow the road alignment, water supply, and wastewater could be impacted as well. Within the lifetime of the Project, Cabrillo Boulevard, Yanonali Street, Garden Street, and Santa Barbara Street are all expected to experience high tide flooding, resulting in routine daily loss of access to the Project site.

City's 2021 Adaptation Plan for the Low-Lying Flood Areas

In 2021, using Local Assistance Grant funds from the CCC, the City prepared and adopted an Adaptation Plan to provide a framework for the City to plan for sea-level rise in phases, and guide future City adaptation actions. This particular site falls within the area designated as the *Low-Lying Flood Area*, immediately adjacent to the *Low-Lying Waterfront and Beach area*. The specific actions identified in the adaptation plan chart a phased approach to adaptation and provide guidance when



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considering development in flood-prone areas. The mid-term adaptation planning horizon accounts for up to 2.5 feet of sea level rise. The City Council adopted the Adaptation Plan on February 2, 2021.

Of particular relevance to this proposed project was the adopted adaptation strategy approaches in the near term for the *Low-Lying Flood Area*.

- Monitor rising groundwater levels and flood events
- Redesign and reconstruct the tide gates and pumps on Laguna Channel
- Modify floodplain ordinances to elevate and waterproof new development south of Highway 1.

Mid-term adaptation strategies by 2.5 feet for the *Low-Lying Flood Area* include:

- Dewatering wells to lower groundwater table
- Pumps to remove stormwater
- Remove or relocate structures and infrastructure in low lying areas

Given this adopted adaptation plan direction, the proposed development goes almost entirely against the plan, with a proposed excavation rather than an elevating of the structure. And if within the project life, there is already an adaptation plan direction to remove or relocate the structures, clearly there are adverse impacts to the City's future.

The Adaptation Plan also raises important site constraints in the adjacent *Low Lying Waterfront and Beach area strategies*. In the adaptation options for near term planning and permitting of critical infrastructure necessary to service this proposed development included relocate, floodproofing, or protecting sewer lines and other public infrastructure along the beaches. Mid-term adaptation priorities included raising Cabrillo Blvd and other public infrastructure. Any major changes to these critical services and roadways would further elevate the risk of access and evacuation at this proposed site.

Summary Conclusions

The proposed project identifies that with a base flood elevation of 12 feet, this site is presently exposed to fluvial hazards and recommends a design floor elevation of 13 feet based on existing FEMA regulatory maps. This project includes an excavation of up to 20 feet in an area with shallow groundwater and known contamination. With sea level rise of only 2.5 feet, these surface and shallow groundwater hazards will expand creating substantial adverse impacts on the City and surrounding neighborhood and coastal resources.

The proposed project does not fully consider the range of publicly available coastal hazard data, and overlooks important considerations such as shallow groundwater flooding, compound flood risk into the future, reduced sediment availability resulting in increased erosion, and infrastructure failure. The inadequacies in the design lead to an underestimate of the existing and future impacts, and consequences to occupants of the Project site, nearby utilities and infrastructure, other nearby residents, visitors and businesses, EHSA in nearby creeks and the Mission Creek Lagoon, and the City's beaches.



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Furthermore, the proposed project makes the assumption that future local climate adaptation measures will reduce rising risk at the Project site, effectively relying on the City and the taxpayer to reduce risk at the Project site. Given these facts it is doubtful that the proposed development will survive through its design life of 75-100 years, as it is inconsistent with City's Floodplain Ordinance, and the City's adopted 2021 Adaptation Plan.

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Attachment C

Mark Kram, Ph.D, CGWP #471.

Summary Report: Potential for Vapor Intrusion Exposures Associated with the Proposed 101 Garden Street Hotel Project

September 24, 2024

Summary Report:

Potential for Vapor Intrusion Exposures Associated with the Proposed 101 Garden Street Hotel Project

Mark Kram, Ph.D., CGWP #471

9/24/24

Mark Kram

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Introduction and Methodology:

I have been retained by the Law Office of Marc Chytilo to provide scientific review, analysis, and opinions concerning groundwater and soil contamination in and around the proposed hotel development ("the Project") to be located at 101 Garden Street, Santa Barbara, California. More specifically, I have been tasked to focus on current and future vapor intrusion toxic exposure risks and impacts resulting from chemical discharge activities that occurred on and surrounding the Project as well as proposed dewatering efforts that will be required to support the subterranean parking project component.

I have reviewed numerous documents from the public record that include reports generated by the Applicant's consultants, regulatory agencies, and those posted to the California Geotracker platform (https://geotracker.waterboards.ca.gov), and have analyzed multiple lines of evidence to reach several opinions related to the Project. I am offering these opinions to a reasonable degree of scientific certainty based on my review of these documents as well as my education, training, and experience that spans over four decades in the fields of hydrogeology, environmental assessment, geochemistry and, specifically, my extensive vapor intrusion assessment experience. I have presented these opinions in sections below to address Key Points, Supporting Information, Risk Screening Levels, Vapor Intrusion Evaluation Status, Conclusions, and References. I have also provided an abbreviated description of my qualifications.

Key Points:

- Exposure risks require a contaminant source, a transport pathway, and a receptor. For instance, toxic vapors migrating into occupied breathing spaces where they are inhaled represents a complete exposure pathway. The proposed development project has the potential to create a particularly severe situation that can result in toxic vapor exposures at the 101 Garden Street property as well as in neighboring properties.
- Contaminants currently exist in the shallow soil and groundwater that pose a potential vapor intrusion exposure risk. These include Benzene, Trichloroethylene (TCE), Tetrachloroethylene (PCE), cis-1,2-Dichloroethylene (cis-1,2-DCE), Methylene Chloride (MC), Vinyl Chloride (VC) and possibly Methane and other hazardous volatile chemicals. These compounds are toxic and exposure at even low levels can pose human health threats. While the locations and concentrations have yet to be completely characterized or delineated, and risks assessments have yet to be completed, regulatory agency health screening levels are exceeded for several of these toxins at the proposed 101 Garden St. development (GeoEnviro Services, Inc. 2019, 2022a, 2022b; Santa Barbara County Environmental Health Services [EHS], 2019, 2023).
- While the chlorinated contaminants listed above pose long term cancer risks, TCE exposures
 also poses an acute (short-term) risk to women of child-bearing age. More specifically, when
 exposed to very low TCE concentrations during the first trimester of pregnancy (often before
 women know they are pregnant), the unborn child can develop "cardiac malformation" (e.g., a
 deformed heart) and other challenging health impacts (USEPA, 2011).
- Contaminants currently exist in shallow groundwater and soil beneath the proposed development at levels that exceed vapor intrusion risk screening levels (VISLs).
- Reported concentrations in groundwater most likely represent underestimates, as the well screens extend through approximately 17 to 22 feet of saturated material (e.g., 8'-25' of depth and 8'-30' of depth). Long screened wells tend to dilute the sample concentrations, as most of the mass of contaminants is transported through small vertical sections of the saturated soil and

- is mixed with less contaminated and uncontaminated water from different soil horizons that long screen wells also draw from during sampling.
- For some of these contaminants (e.g., TCE and cis-1,2-DCE), the source areas are acknowledged to be unknown and appear to be off-site. At least 8 candidate source areas have been identified as unresolved open sites in the California Geotracker system (e.g., 101 E. Mason St., 220 W. Gutierrez St., 402 W. Gutierrez St., 314 State St., 321-327 State St., 429 State St., 201 E. Haley St., and 526 Laguna St.).
- TCE, PCE, cis-1,2-DCE source areas and groundwater concentration distributions have yet to be characterized in three dimensions, which is essential for remediation design and implementation.
- TCE and PCE source area remediation could require decades given the complexities associated with these types of contaminant discharges (e.g., Dense Non-Aqueous Phase Liquids, also known as "DNAPLs").
- Dewatering activities will mobilize TCE and other contaminants and potentially pose a risk to occupants of neighboring buildings. These impacts have yet to be considered, characterized or mitigated. Until the site is more fully characterized, VI risks from contaminant mobilization cannot be properly assessed. Given the contaminated areas known to exist and the lack of defined sources, the potential for transient vapor intrusion episodes impacting the proposed development and neighboring structures could persist for years or longer. This could result in toxic exposures to the public even if remediation eventually begins at the 101 Garden Street property. More specifically, drawing off-site contaminated groundwater of unknown concentrations toward the site will increase contaminant transport pathway uncertainties, could render earlier assessment efforts at other sites no longer valid, could disrupt ongoing containment and remediation efforts for offsite plumes, and could redirect toxic volatile contaminant migration pathways toward and under buildings that are not currently in harms' way.
- Santa Barbara County EHS has yet to require complete three-dimensional distribution characterizations for each of the potential vapor intrusion contaminants of concern (e.g., TCE, PCE, Benzene, Methane, MeCl, VC, DCE, etc.). In my informed, professional opinion, these plumes must be characterized to predict the effect of the Project's dewatering activities upon the movement and concentration dynamics, and thus the changes to the human exposure profile that these Project activities will cause. As such, given the remaining uncertainties, impacts posed by the vapor intrusion exposure pathway are unmitigated. While the City's HZ-1 CEQA assessment states that EHS oversight will ensure appropriate risk mitigation, given that off-site source areas have yet to be identified and delineated, that TCE discharges to soil and groundwater often pose complex long-term challenges, and that active groundwater remediation has yet to be initiated, uncertainties exist that could potentially render these significant vapor intrusion impacts unmitigated on the 101 Garden Street property for decades into the future.
- A comprehensive assessment of potential releases to the soil and groundwater due to
 discharges to the sewer network and associated breaches has yet to be pursued. This type of
 effort could require years of assessment and extensive financial and manpower resources. If
 these types of releases (which are very common in urban areas; California EPA, 2023) are
 occurring, they could potentially render significant vapor intrusion impacts on the 101 Garden
 property unmitigated for decades into the future.
- There are no uniform policies or standards adopted by the City or County that will comprehensively mitigate these impacts. The site's unique and peculiar conditions and

circumstances, including on-site contamination, off-site contaminant plumes, shallow groundwater, leaky aquitard, location between two fluvial sources of surface and groundwater, and exposure to sea water intrusion from sea level rise each demand customized discretionary approaches to the assessment, remediation and long-term management of the site to avoid human and ecological risks from toxic discharges caused and exacerbated by the Project.

Supporting Information:

Vapor Intrusion Potential:

The U.S. Environmental Protection Agency (USEPA, 2015) describes vapor intrusion (VI) as:

"the general term given to migration of hazardous vapors from any subsurface vapor source, such as contaminated soil or groundwater, through the soil and into an overlying building or structure."

Chemicals of concern that can migrate via the VI pathway include volatile organic compounds (including Trichloroethylene (TCE), Tetrachloroethylene (PCE), and Benzene), select semi-volatile organic compounds, select inorganic compounds such as elemental mercury and hydrogen sulfide, and methane. Release and transport of these compounds through the VI pathway can result in exposures and related health risks. Some of the health impacts include cancer, while others include acute risks such as adverse birth defects when mothers are exposed during the first trimester of pregnancy. More specifically, 2.1 micrograms per cubic meter (μ g/m³) of TCE inhalation exposures for as little as 24 hours during a 21-day window of susceptibility is believed by health experts working for the EPA to result in an increased propensity for fetal cardiac malformation and developmental disorders (USEPA, 2011).

To have an environmental exposure risk, a source, pathway and receptor are each required. Following contaminant discharges directly or indirectly to the soil and groundwater, toxic liquid contaminants migrated from the discharging facility (or facilities) and under the subject property via multiple transport pathways.

Several of the toxic chemical liquids released at or near the subject property, such as the solvents TCE and PCE, are classified as dense non-aqueous phased liquids (DNAPLs) because they are more dense (heavier) than water. DNAPLs released to the soil and groundwater can migrate to depths below the water table. Once compounds such as TCE and PCE migrate below the water table as DNAPLs, they remain relatively stable under natural conditions, as degradation rates are slow. Meanwhile, as migrating groundwater encounters these contaminated regions containing toxic non-aqueous liquids (e.g., undissolved solvent compounds) in the soil pore spaces (referred to as "source zones"), they slowly dissolve into the moving groundwater. While DNAPLs tend to dissolve only very slowly in water, since these chemicals are toxic at low concentrations, this dissolution process can render large volumes of groundwater contaminated above risk screening levels and pose potential risk of human and ecological exposure out to distances very far (e.g., thousands of feet) from the initial release. These dissolved plumes can exist at levels that present a risk for decades following the initial release.

In most cases (including at the proposed development site), these chemicals are discovered and documented by measuring dissolved phased concentrations in groundwater contaminant plumes. However, the source zones where they reside as NAPLs that resulted in solute groundwater plumes via dissolution are difficult to locate due to their complex migration patterns that are often dictated by very

subtle changes in soil permeability and their propensity to exist as small "globules", threadlike "ganglia" and disconnected "pools" below the water table (Kram, et al., 2001). To detect DNAPL source zones, the characterization device (e.g., typically probes advanced into the soil that are equipped with specialized detectors) must come in direct contact with the DNAPL followed by analysis of confirmation samples. DNAPLs are notorious for representing long-term risks because these residual source zones are challenging to locate, appropriately characterize and remediate. This appears to be the case with the Santa Barbara neighborhood of concern, as the Applicants' consultants have documented soil and groundwater contaminants on their site for several years but have yet to completely delineate or remediate the full extent of contamination, including the residual DNAPL source zones. For instance, given the distribution of the TCE groundwater plume represented by the applicant's consultants, it appears likely that at least some of the toxins identified migrated from another site where DNAPLs were released. As such, given the challenges associated with remediating the off-site source zone and the size of the groundwater plume, it is expected that exposure risks could persist for decades.

If the DNAPL source zone is not adequately delineated, effective remediation becomes elusive, if not impossible. This is one reason why most Superfund sites consist of DNAPL releases that require many decades (or even centuries) to resolve. For instance, the United States Department of Defense (which has allocated millions of dollars of research to improve the remediation industry's ability to delineate DNAPL source zones) states the following to justify their research efforts (Stroo et al., 2003):

"Chlorinated aliphatic hydrocarbons (CAHs), such as trichloroethylene and perchloroethylene, are found at approximately 80% of all Superfund sites with groundwater contamination...CAHs are also among the most difficult contaminants to clean up, particularly when their dense nonaqueous-phase liquid (DNAPL) sources remain in the subsurface. Both the U.S. EPA and the National Academy of Sciences have concluded that DNAPL sources may be contained, but remediation to typical cleanup levels for most DNAPL sites is often "technically impracticable"."

Given that the toxins dispersed throughout the neighborhood groundwater and soil are volatile (e.g., can exist as vapor phased contaminants), multiple residential and commercial building occupant exposure pathways exist within the neighborhood, including:

- Toxic volatile contaminants released to the soil and groundwater that migrated near and under residential and commercial properties can enter buildings as vapors via the traditional vapor intrusion pathway during vapor intrusion "on" conditions (e.g., vapor transport is driven by pressure and directed upwards from the soil into the building). Occupant inhalation represents an exposure.
- Toxic volatile contaminants released to the soil and groundwater that migrated near and under residential and commercial properties can enter the sewer system, laterals, foundation cracks and utility penetrations, and then migrate as vapors into overlying structures. Occupant inhalation represents an exposure.

Additional evidence supporting the contention that DNAPL source areas can represent long-term risks to occupants of buildings proposed for 101 Garden Street include the fact that several release sites are located hydraulically upgradient of the proposed development, and many of these have been studied for decades. For instance, at 201 E. Haley St. (approximately one-half mile hydraulically upgradient from 101 Garden St.), the environmental administrative record in Geotracker goes back to 1981 – more than 40 years – and contamination has yet to be resolved.

Documentation of Vapor Intrusion Risks at 101 Garden Street:

Reference: GeoEnviro Services, Inc. Work Plan for Additional Soil, Soil Vapor, and Groundwater Assessment, June 11, 2019.

Quote from Rincon, 2012:

TCE was detected in 2 of the 11 groundwater samples slightly above the MCL of 5 ug/L with sample B9-W containing the highest concentration of 14.7 μ g/L. No source of the VOCs identified in the groundwater has been identified at the Site. The detected groundwater concentrations are below the RWQCB-SFR ESLs for shallow groundwater vapor intrusion to indoor air for commercial/industrial sites of 11,000 μ g/L for MTBE, 420 μ g/L for methyl chloride, and 49 μ g/L for TCE."

Comments:

- 1. Since the work was performed by Rincon in 2012, agency risk screening criteria has become more stringent for TCE vapor intrusion. More specifically, TCE detection in B9-W was more than double the current risk screening level for commercial/industrial buildings and more than seven times the risk screening level for residential buildings.
- 2. In the November 2016 GeoEnviro Services, Inc. effort, the consultants mention volatile organic contaminants (VOCs), but do not specify TCE in additional soil testing results. They also recorded exceedances for petroleum oil and lubricants (POLs) that includes other vapor intrusion risks.

Reference: EHS Response to Work Plan for Additional Soil, Soil Vapor, and Groundwater Assessment, July 24, 2019.

Quotes from EHS:

- "EHS notes that based on the 2019 San Francisco Regional Water Board ESLs, TCE exceeds the Groundwater Vapor Intrusion Human Health Risk Levels for a residential and commercial/industrial scenario in sample B9."
- "Based on the results of the soil vapor survey, vapor intrusion mitigation measures may be required as part of site re-development if the source of the vapors cannot be remediated to prevent vapor intrusion."

Comments:

- 1. EHS acknowledges that TCE exceeds the groundwater VI risk screening level at the site.
- 2. EHS acknowledges that the limited site screening efforts completed to-date demonstrate that VI risks exist and will have to be addressed via remediation.

Reference: GeoEnviro Services, Inc. Report for Additional Soil, Soil Vapor, and Groundwater Assessment, June, 2022.

Quotes from Applicants' Consultant:

- "A sewer smell was observed in soil boring SB-7 at a depth of 5 feet. A petroleum odor was observed in soil boring SB-15 between 4.5 feet and 15 feet. A slight petroleum odor and black soil was observed in soil boring SB-19 at a depth of 6 feet."
- "Soil vapor samples SV-5, SV-7, SV-8, SV-8 DUP, and SV-9 located in the central and western portions of the Site contained benzene concentrations ranging from 0.019 micrograms per liter (μg/L) to 0.474μg/L, above the Commercial ESL of 0.014μg/L. Soil Vapor sample SV-6 contained benzene (0.013μg/L) below the commercial ESL, but above the Tier 1 ESL of 0.016μg/L. A contour map of detectable benzene concentrations in soil vapor is shown on Figure 3."

- "Soil vapor samples SV-8 and SV-8 DUP contained ethylbenzene concentrations of 1.604μg/L and 1.611μg/L, respectively, above the Tier 1 ESL of 0.037μg/L and the Commercial ESL of 0.16μg/L."
- "Soil vapor samples SV-5 and SV-9 located in the central portion of the Site contained tetrachloroethene (PCE) concentrations of 0.066 and 0.017μg/L, above the Tier 1 ESL of 0.015 μg/L, but below the Commercial ESL of 0.067μg/L."
- "Groundwater samples SB9-W, SB15-W, and SB16-W located in the west-central portions of the Site contained trichloroethene (TCE) concentrations of 9.5μg/L, 14μg/L, and 6.2μg/L, above the Tier 1 ESL of 5.0μg/L. A contour map of detectable TCE concentrations in groundwater is shown on Figure 5."
- "Groundwater samples SB9-W and SB16-W located on the south-central portion of the Site contained cis-1,2-Dichloroethene (cis 1,2-DCE) of 8.2µg/L and 13µg/L, respectively and above the Tier 1 ESL of 6.0µg/L. A contour map of detectable cis 1,2-DCE concentrations in groundwater is shown on Figure 6."
- p.18: "dissolved phase concentrations of TCE (Figure 5) and cis 1,2-DCE (Figure 6) detected in groundwater samples collected from SB9-W, SB15-W, and SB16-W. The source has not been identified but may be related to historical property use." [underlined for emphasis]
- p.19: "However, site mitigation is likely to be necessary such as the installation of a vapor barrier beneath the proposed building foundation."
- P.20: "However, if groundwater dewatering is required for property re-development, water treatment or transportation and proper disposal of extracted groundwater would likely be necessary."

Comments:

- 1) These results from site screening efforts (e.g., which does not constitute a comprehensive VI assessment) confirm that a VI risk exists at the site in both the soil vapor as well as in groundwater media. Exceedances of regulatory risk screening levels are documented.
- 2) Consultant used incorrect units for soil vapor results. More specifically, $1\mu g/L = 1000\mu g/m^3$; therefore, the PCE VISL of $15.3\mu g/m^3$ is exceeded. In a follow-up response, EHS required the use of proper units (e.g., $\mu g/m^3$).
- 3) In Table 3, SV-14 $0.013\mu g/L$ TCE was detected, which is $13\mu g/m^3$ (and very close to the risk screening level of $16\mu g/m^3$). It is unlikely that this represents the highest concentration of TCE in the soil vapor at the site.
- 4) Figure 6 depicts a plume shape suggesting an offsite TCE source.
- 5) Wells 1 through 6 are screened in shallow groundwater with long screens (~8-25'), which will dilute samples. As such, all the groundwater results are most likely biased low and result in underestimates of potential VI risk.
- 6) There does not appear to be any assessment of the potential VI risks that will be caused by dewatering activities or sea level rise. This proposed activity could result in risk exceedances beneath adjacent and upgradient buildings. The key is that through limited screening efforts, the consultants identified VI areas of concern that will require at least mitigation for the development. These findings also warrant further evaluation to determine the source area locations, requirements for remediating all volatile contaminants of concern, and the long-term impacts if left alone versus when groundwater is pumped for dewatering. Until a more comprehensive assessment is completed to address these uncertainties, VI risks will not be sufficiently understood or properly addressed. Given the potential for public exposures, vapor intrusion impacts remain significant. To put this into proper perspective, given the impacts of sea level rise, shallow soil vapor concentrations are predicted to be dynamic. As such, the results

to-date represent a "snapshot in time". According to Mr. Peter Guerra (Lynker Technologies, LLC; Guerra, 2024), models generated suggest that soil vapor concentrations at the properties adjacent to and west of the site are predicted to increase by approximately 1.65 times the current values even without the parking garage installation. With the subterranean parking garage in place, these values are predicted to increase approximately 2.5 times the current values. As such, vapor intrusion risks are expected to increase due to the parking garage installation.

Reference: Updated Voluntary Remediation Agreement, February 2022.

In Section II.D, there is an acknowledgement that the TCE source zone is unknown. The Applicants' consultant then incorrectly claims that TCE is below the environmental screening level (ESL), which they state is $49\mu g/L$ for TCE in groundwater. Given the revised agency policies (e.g., using the California default attenuation factor as described below), the current ESL is $1.14\mu g/L$.

Comments:

- These findings warrant further evaluation to determine the contaminant source locations, requirements for remediating all volatile contaminants of concern, and the long-term impacts if left alone versus when groundwater is pumped for dewatering. Until a more comprehensive assessment is completed to address these uncertainties, VI risks will not be sufficiently understood or properly addressed.
- 2) Applicants' consultant uses incorrect risk screening criteria for TCE in groundwater. Earlier, they used $5\mu g/L$, which is a drinking water standard. In Section II.D above, they use $49\mu g/L$, which is not current. The current vapor intrusion risk screening level for TCE in groundwater is $1.14\mu g/L$ (see Risk Screening Levels section below).
- 3) Until a more comprehensive assessment is completed to address these uncertainties, VI risks will not be sufficiently understood or properly addressed. Given the potential for public exposures, vapor intrusion impacts remain significant.

References: GeoEnviro Services, Inc Addendum to Work Plan for Additional Soil, Soil Vapor, and Groundwater Assessment, December 28, 2022; EHS Work Plan Approval, January 20, 2023. The Applicant proposed to add two additional on-site groundwater monitoring wells (MW-7 and MW-8) and an offsite well (MW-9).

Comments:

- 1) These have yet to be implemented.
- 2) Implementation of these efforts would not be sufficient to answer key remaining questions that include:
 - a. What steps will be required to remediate all the VI risks currently existing at 101 Garden Street?
 - b. Where is the groundwater source area (or areas) for the offsite plumes?
 - c. What remediation steps would be required to reduce vapor intrusion risks from groundwater migrating under natural forces?
 - d. What remediation steps would be required to reduce vapor intrusion risks from groundwater migrating due to dewatering activities?
 - e. What remediation steps would be required to reduce vapor intrusion risks from flooding due to sea level rise?
 - f. Would the dewatering efforts create a vapor intrusion risk for other buildings not currently overlying the TCE and additional offsite groundwater plumes?

g. What impact will utilities (including sewer and backfill) have on toxic vapor transport and public exposures?

Risk Screening Levels:

Regulatory agencies establish risk criteria used to evaluate whether long-term or short-term ("acute") toxic vapor exposure risks are occurring at specific properties. Samples are collected, results are compared to established risk screening levels, and agencies determine whether additional monitoring, mitigation, or remediation is warranted and, if so, the required response timing. For instance, for TCE, EPA Region 9 and the State of California employ a residential long-term cancer risk screening level of $0.48~\mu g/m^3$, a commercial long-term cancer risk screening level of $3.0~\mu g/m^3$, a residential acute (short-term) noncancer risk screening level of $2.1~\mu g/m^3$, and a commercial acute noncancer risk screening level of $8.8~\mu g/m^3$ (California Department of Toxic Substances Control [DTSC], 2014; San Francisco Bay Regional Water Board, 2014; USEPA, 2013, 2014a, 2014b). Appropriate response actions and timeframes for implementation depend upon the magnitude of the potential human health risk. For projects that exceed the previously mentioned acute risk levels, regulators may recommend accelerated response actions (e.g., mitigate within weeks).

Given the complexities associated with transient vapor transport and exposure routes, exposures are typically dynamic. Proper characterization therefore requires sampling at appropriate times and locations to capture exposure concentrations during VI "on" conditions (e.g., as vapors are transported from the contaminated medium to indoor spaces). EPA refers to this as the "reasonable maximum exposure" (or "RME"; USEPA, 2015; Kram et al., 2020).

In simplest terms, the attenuation factor (AF) is the ratio between the indoor air concentration due to vapor intrusion and the associated concentration observed in the contaminated media (e.g., soil, groundwater, crawl space, sewer). The AF is used to establish the screening level concentration in each medium based on the acceptable risk. A <u>default</u> AF represents a ratio between the <u>predicted</u> indoor concentration under VI "on" conditions and the <u>observed</u> concentration in the contaminated media (e.g., soil vapor or groundwater sample results). The default AF is used to determine whether indoor samples should be collected in overlying or adjacent buildings. For instance, if the default AF is applied to an observed soil vapor or measured (or estimated extent of) groundwater concentration and the predicted indoor concentration exceeds an exposure concentration of concern, an assessment of the indoor air for every building overlying or adjacent to the sampled medium would be required.

The specific soil vapor-to-indoor air default attenuation value of 0.03 (meaning that 3 percent of the soil vapor concentration would be potentially anticipated in indoor air) and the groundwater-to-indoor air default attenuation value of 0.001 were each derived as part of a comprehensive USEPA investigation (USEPA, 2012). More specifically, default attenuation factor values were established by comparing 2,929 paired measurements from 913 buildings at 41 sites in 15 states. These values represent the upper bound (e.g., the 95% upper confidence level) of the distribution of observed attenuation factors for each medium evaluated. This statistical criterion was selected to avoid the potential for false negative results given that spatial and temporal variability is well documented, and to prevent risks under VI "on" conditions. California has adopted these default attenuation factors (California RWQCB, 2022).

The table below lists California (2020) default screening AFs for various media:

Medium	Attenuation Factor
Crawl Space Gas	1
Subslab Soil Gas	0.03
Soil Gas	0.03
Groundwater	0.001

The residential groundwater risk screening level for TCE is approximately $1.2\mu g/L$. This is based on the USEPA and the State of California recommended groundwater VI screening AF of 0.001 and the residential TCE indoor risk screening level of $0.48\mu g/m^3$. This value of $1.2\mu g/L$ is also listed as the Groundwater Vapor Intrusion Residential Cancer Risk Level in the San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs) released in 2019 (California RWQCB, 2019). The commercial groundwater risk screening level for TCE is approximately $7.1\mu g/L$. Calculations are presented below.

$$GW_{SL} = ((IA_{SL})/(AF_{gw} * H' * 1000L/m^3)) = Groundwater Risk Screening Level (in µg/L)$$

Where:

$$IA_{SL}$$
 = 0.48μg/m³ - TCE Indoor Air Risk Screening Level (Residential) IA_{SL} = 3.0μg/m³ - TCE Indoor Air Risk Screening Level (Commercial) AF_{gw} = 0.001 (USEPA and California) H' = 0.42_{TCF} = Henry's Constant

Calculated Residential Groundwater Screening Levels:

$$TCE_{GWSL} = (0.48)/(0.001 * 0.42 * 1000) = 1.14 \mu g/L$$

Calculated Commercial Groundwater Screening Levels:

$$TCE_{GWSL} = (3.0)/(0.001 * 0.42 * 1000) = 7.14 \mu g/L$$

Given that the proposed development groundwater screening levels are exceeded for TCE and other compounds at the 101 Garden St. property, and the fact that source areas for several of these toxic compound releases are unknown and may actually be from off-site discharges (GeoEnviro Services, Inc. 2019, 2022a, 2022b; Santa Barbara County Environmental Health Services [EHS], 2019, 2023), VI risks exist for future building occupants and potentially for current occupants of buildings overlying these groundwater plumes. Until the site is more fully characterized, and the source areas are remediated (which could require decades to complete), volatile groundwater constituents will continue to pose a VI exposure risk. The EIR and proposed efforts fail to adequately address this key concern. As such, as of this date, this impact has not been mitigated. Furthermore, groundwater extractions associated with proposed dewatering efforts have the propensity to create additional VI risks to occupants in nearby buildings by moving groundwater contaminants to locations under these properties. This has yet to be adequately assessed and therefore represents an additional significant unmitigated risk.

Vapor Intrusion Evaluation Status:

- There does not appear to be plans to test indoors for any of the buildings overlying the toxic groundwater plume(s) associated with this proposed project prior to or after initiation of groundwater extractions for dewatering purposes.
- To establish baseline conditions, all occupied structures within the area of concern that could be
 impacted by vapor intrusion associated with the dewatering efforts should be tested for VI and
 have immediate inspections of their indoor plumbing (including smoke testing) to determine if
 there are cracks, leaks, or adequate seals. Plumbing, toilet rings and seals, traps and other vapor
 conduits should be regularly inspected, repaired and each building should be entered into a
 long-term (e.g., until groundwater and soil contamination is completely removed) inspection,
 maintenance, and repair program.
- Following comprehensive vapor intrusion assessment, a well-defined long-term monitoring effort will be required to assess exposure risk dynamics caused by anticipated sea level rise and anthropogenic dewatering activities.
- All occupied structures within the areas of concern should have their sewer laterals tested for
 vapor leaks and additional testing performed. Additional testing would include inspection on at
 least an annual basis and following documented foundation settling or detections of site-related
 soil or indoor vapor contaminants attributed to documented hazardous discharges (e.g., PCE,
 TCE, Vinyl Chloride, cis-1,2-DCE, etc.) with ventilation on and off conditions evaluated.
- Until a more comprehensive assessment is completed to address these uncertainties, VI risks will not be sufficiently understood or properly addressed. Given the potential for public exposures, vapor intrusion impacts remain significant.

Conclusions:

- 1) Based on the facts I reviewed, it is my professional opinion that there are potentially significant vapor intrusion related exposure risks associated with the proposed development.
- 2) Based on the facts I reviewed, it is my professional opinion that comprehensive assessment of vapor intrusion exposure risk pathways must be completed before any project approvals are granted. Toxic contaminants currently exist in the shallow soil and groundwater that pose a potential vapor intrusion exposure risk. These include Benzene, Trichloroethylene (TCE), Tetrachloroethylene (PCE), cis-1,2-Dichloroethylene (cis-1,2-DCE), Methylene Chloride (MC), Vinyl Chloride (VC) and possibly Methane and other hazardous volatile chemicals. Inhalation of these toxins at even low levels can pose human health risks. While the locations and concentrations have yet to be completely characterized or delineated, and risks assessments have yet to be completed, regulatory agency health screening levels are exceeded for several of these toxins at the proposed 101 Garden St. development. The EIR and proposed efforts fail to adequately address this key concern. As such, as of this date, this impact has not been mitigated.
- 3) Based on the facts I reviewed, it is my professional opinion that past investigations of contaminated groundwater are biased low due to the methods employed (e.g., long screened wells and sampling with a peristaltic pump). The net effect is to underestimate the potential for vapor intrusion exposure risk that could occur during and after construction, and during the proposed continuous groundwater extractions for dewatering purposes.
- 4) Based on the facts I reviewed, it is my professional opinion that since contaminated groundwater from sites located hydraulically upgradient continues to migrate beneath the 101 Garden Street property, the long-term vapor intrusion risk impacts of off-site contaminant transport, proposed dewatering activities, and projected sea level rise have yet to be sufficiently evaluated or addressed. At least 8 candidate source areas have been identified as unresolved open sites in the California Geotracker system. This unequivocal fact represents significant challenges that include public toxic vapor exposures during construction, post-construction public vapor intrusion exposures, toxic volatile compound migration changes that can impact sites currently addressing off-site plumes, and additional public exposures that can impact occupants in adjacent properties located over modified contaminant transport pathways resulting from dewatering activities and projected sea level rise. These key factors have yet to be adequately assessed and therefore represent additional significant unmitigated risks.
- 5) Based on the facts I reviewed, given the lack of vapor intrusion data collected to-date and the fact that critical uniform policies and standards related to the Project have yet to be adopted by the City or County, it is my professional opinion that key public and ecological impacts will remain unmitigated until a comprehensive assessment is completed. More specifically, the site's unique and peculiar conditions and circumstances, including on-site contamination, off-site contaminant plumes migrating toward the property, shallow groundwater, leaky aquitard, location between two fluvial sources of surface and groundwater, and the potential for sea water intrusion from sea level rise each demand customized discretionary approaches to the assessment, remediation and long-term management of the site to avoid human and ecological risks from toxic discharges caused and exacerbated by the Project.

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Dr. Mark Kram's Qualifications:

I am a professional Hydrogeochemist and a Certified Ground Water Professional (#471, issued by the National Ground Water Association). While I perform expert consulting services, I am also the Founder and current Chief Scientist for Groundswell Technologies, LLC. I earned a Ph.D. in Environmental Science and Management from the University of California at Santa Barbara (UCSB), a master's degree in Geology from San Diego State University, and a bachelor's degree in Chemistry from UCSB. I have over 40 years of experience deploying and developing innovative environmental assessment techniques, have authored peer-reviewed articles, national standards and book chapters on the subject, and have taught graduate level courses on related topics. I worked for the US Navy as a Senior Hydrogeologist for close to two decades, where I managed dozens of soil and groundwater site assessment and restoration projects, invented new technologies for expedited environmental assessment and groundwater monitoring well design, prepared related national guidance, collaborated with other experts from various government and private entities, managed federally funded grant projects for demonstrating and validating technologies for cost-effective expedited site assessment, and operated and helped commercialize innovative site characterization technologies. I served as an Adjunct Professor at UCSB, where I taught graduate level courses in Fate and Transport of Pollutants, Field Environmental Soil and Water Quality, and Geographical Information Systems (GIS). I've completed more than 250 private sector vapor intrusion investigations. I hold multiple domestic and international patents for commercialized inventions, am an internationally recognized expert in site characterization and remediation technologies and approaches, have worked on high-profile international and domestic projects, and my products and services have been instrumental in the areas of sensor development and implementation, innovative GIS applications, non-aqueous phase liquid (NAPL) site characterization, cone penetrometer based chemical and hydraulic assessment, vapor intrusion, chemical field screening, well design, mass flux and discharge based remediation performance, groundwater basin yield and storage change assessment, and optimized water resources sustainability. One key example is represented by my DoD-sponsored efforts to demonstrate that properly designed direct push wells perform as well as traditional drilled wells, which have had profound financial, technical and logistical impacts on the environmental assessment, remediation and long-term monitoring industry components. Domestic and international regulatory acceptance for these cost-effective options was based on my demonstration/validation efforts, presentations and written products. Regarding highprofile domestic and international projects, I served as key investigator and Senior Hydrogeologist on dozens of military and Department of Energy assessment and remediation efforts that included assessment of petroleum hydrocarbons, halogenated solvents, metals and radionuclide contaminants, and served as a consultant to a consortia of stakeholders where I developed plans aimed at remediating nitrate contaminated groundwater resources in the critical Central Valley and Central Coast agricultural regions of California. I've managed multiple projects on Navy and Marine Corps facilities, the Hanford Nuclear Facility, and for hundreds of private sector sites. I have worked on overseas projects that included several phases of investigation performed within neighborhoods adjacent to the Kuwaiti Oil Field (where several homes exploded and my services were sought to determine causes), as well as recent projects in Australia, Brazil and Europe. I have given multiple national workshops on site characterization techniques sponsored by the EPA and helped prepare EPA and state regulatory guidance documents for cost-effective expedited site characterization techniques. I have given keynote presentations (by invitation) at overseas conferences and workshops in Chile, New Zealand and Germany, and have collaborated with engineers from Thailand, Kuwait, Belgium, Sweden, Australia and Brazil to apply innovative solutions to resolve key environmental challenges. In 2013 I was selected by the US Trade and Development Agency to present to and meet with the Chinese Environmental Ministry leaders, who expressed interest in applying technologies I've developed to help restore contaminated sites in their nation. I have patented inventions for automated Cloud based sensor interpolation and multivariate analyses, for real-time detection of contaminants, for in-situ measurement of groundwater contaminant flow rates and directions, and for water supply sustainability technologies. I am an active member of the National Ground Water Association (NGWA) and the American Society of Testing and Materials (ASTM Subcommittees D18.21 and E50.02) and am currently preparing national guidance through the Interstate Technology Regulatory Council (ITRC) for chemical vapor intrusion risk characterization and mitigation. I have been credited as being one of the first industry practitioners to document shallow subsurface vapor geospatial and temporal dynamics using continuous monitoring techniques. As such, I was invited to co-Chair an ASTM International symposium on continuous soil vapor chemical measurements held in January of 2013, served as co-Editor for the ASTM International book entitled "Continuous Soil Gas Measurement: Worst Case Risk Parameters" (https://www.astm.org/stp1570-eb.html), am the recipient of the NGWA's prestigious Technology Award (https://www.wateronline.com/doc/ngwa-announces-annualhttps://www.ngwa.org/members/awards/technology-award-recipients), groundwater-industry-0001; and received the 2014 ASTM Committee D18 Technical Editors Award. I was recently selected to become the incoming Chair of ASTM Subcommittee D18.21, which focuses on development of international standards for Groundwater and Vadose Zone Investigations. Additional qualifications and a publication list can be made available upon request.