SIERRA CLUB
LOMA PRIETA CHAPTER

San Mateo, Santa Clara & San Benito Counties

August 2, 2022

Mr. Ryan Kuchenig, Principal Planner
Planning and Community Development
City of Redwood City
Via email: planning@redwoodcity.org; rkuchenig@redwoodcity.org

Redwood Life Bridge Parkway Pre-Application Submission

Dear Mr. Kuchenig,

On behalf of the Sierra Club, the Sustainable Land Use Committee of the Sierra Club Loma Prieta Chapter (SLU) advocates on land use issues in San Mateo, Santa Clara and San Benito Counties. We have been following this proposed development, have met with the development team and have the following comments on the adequacy of the preliminary submission.

Jobs/Housing: Since Redwood City is facing a housing crisis as well as an affordability crisis, each commercial development should be required to include information on how it plans to address the housing demand that it will create. We assume this will be raised as an issue during the project review period.

Our concerns about incompleteness of the submission fall into the following general categories:

1. Landfill information: The site is on an existing undifferentiated landfill that is monitored and that is projected to be pierced by piling, infiltrated by ground water and potentially submerged with sea level rise in the coming decades
2. Wetlands protection: The site is along a very rich wetland with existing wildlife including endangered species. Therefore, water quality issues and shading of wetlands by tall buildings are both of great concern. Information about the protection of the existing landfill and shadow studies from taller buildings should be included.
3. Bio-Safety Levels: The proposed development is titled as Life Sciences, with 50% of the sq ft devoted to Office / R&D and 50% is devoted to Labs. Bio-Safety levels for the labs need to be included in the submission. Biological and Biotech labs have four distinct safety levels. However, the submittal does not make clear what biosafety levels the labs in this development will be restricted to. This is critical information for the safety of the adjoining sensitive ecology of the slough as well as for adjoining residential developments since the soils in this area are subject to liquefaction.

4. Setback for a Levee Overlay Zone along the water edge: Given sea level rise, it is important for the City to ensure that there is sufficient setback along the water's edge - a Levee Overlay Zone - for all new construction, from the slough edges to allow the levees to grow higher, to account for sea level rise through this century, as well as to move the levees away from the water's edge to allow for a gentle sloping levee face facing towards the water to allow refuge for wildlife, and ecosystem migration space as sea levels rise.

1. Landfill

The site is a closed municipal landfill, with potential hazardous materials, which requires regular monitoring and multi-jurisdictional regulatory compliance to ensure the safety of the workers on the site, the neighboring communities, and the sensitive Bay ecosystem of Belmont Slough which supports several endangered species.

An existing topography survey needs to be included. The Site Plans need to include precise information on the edge and extent of the landfill in plan view and the Section drawings need to include the topography and profile of the landfill cap and containment wall in all sections. Older topographic maps may not be current due to settling of landfill. Sections through the site should clarify the profile of the landfill and its cap, the existing grade and the amount of additional fill being imported as surcharge over the existing grade.

The landfill does not have a base and is directly on Bay mud. As sea levels rise, ground waters will rise through the Bay mud into the landfill. Low permeability "young bay mud" still allows water to permeate through it.

The sections should include the sea level rise based on the most recent California Ocean Protection Council's projections[1] (updated 2022) for sea level rise.

2. Wetlands Protection

Penetration of the Landfill Cap: Drawings indicate that hundreds of piles will be required to support the structures. These penetrations will cause some release of materials within the landfill. Since this is an undifferentiated landfill, with unknown hazardous materials[2], piles driven through the landfill raise concerns that waste will be pulled through the clay layer or leaked to outside by piling and will potentially contaminate groundwater and waters of Belmont Slough and the Bay.

Drawings should indicate the number of piles and the sections should clarify depth of penetration through the landfill as well as how release of landfill materials will be contained to prevent them from polluting the groundwater.

Settlement of soils: Sections indicate a significant surcharge of new soil over existing grades.

Drawings need to indicate existing topography and proposed final grades to determine accurately the surcharge on the existing grade and anticipated additional settlement of the landfill over time.

[1] State of California Sea Level Rise Guidance, 2018 Update, page 25. Ocean Protection Council website: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

[2] Refrigerators, air conditioners, paints, pesticides, tires, chemical drums, batteries, household and industrial cleaners, used motor oil, discarded pharmaceutical drugs,etc.

Stormwater system: The Regional Water Quality Control Board has included the Westport Landfill in its recent list of landfills that are now required to upgrade their reporting system to include sea level rise information in their protocols. Storm water systems are already flooded at king tides indicating the storm systems are completely inadequate

Storm water collection systems need to include the information on anticipated settlement and containment of pollution from ground water rising through the landfill with sea level rise as well as a result of piles driven through the containment system.

Leachate and Methane: The leachate and methane capture system is not well represented. The current leachate and methane capture systems should be represented as well as plans for sea level rise.

Phasing, Noise and Disruption: It is our understanding that this is to be a market driven speculative development and the developer is seeking a 25-year long development agreement for phased construction allowing market demand to control construction periods. Construction, including periods with pile driving, phased over a 25-year period, will be disruptive to wildlife in Belmont Shough as well as to the adjoining residential neighborhoods. Wildlife takes time to adjust to environmental changes.

The phasing drawings should clarify the duration of time frames during which there will be construction disruptions during the anticipated 25-year period.

3. Biosafety Levels (BSL) & Industrial Zoning

Typically, biochemical and pharmaceutical labs are located only within Industrial zoning. Biotechnology labs have 4 levels of bio-safety. While bio-safety Level 1 has no major separation concerns and can sometimes be located in commercial office zoning, Bio-safety Levels 2 thru 4 require definite separation requirements especially from residential areas and from ecologically sensitive areas such as the Bay and wetlands.

If Biosafety Labs Level 2 are to be permitted in this speculative development, these buildings need to be as far away as possible from both the Belmont Slough and residential properties.

Drawings need to specify whether BSL Level 2 labs or higher are anticipated to be allowed in this development whether in new buildings or in existing buildings

Indicate minimum distance of lab buildings from Bay edge wetland habitat and from residential zoning. Biosafety labs levels 2 (highly infectious diseases and recombinant - DNA research) should be located in industrial zoning or, if allowed at this site, be a Conditional Use with separation requirements and Health and Safety procedures in place. Biosafety Levels 3 and 4 should not be permitted in an ecologically sensitive environment and in proximity to residential areas.

Indicate whether buildings will be designated for biotechnology research or bio-pharmaceutical production or both.

Indicate if animal research labs will be present and what biocontainment methods will be implemented.

Delivery routes to buildings that may include BSL Level 2 and higher need to be included in drawings for safety and containment of hazards.

Noise levels of required HVAC systems should be included in the pre-submittal drawings as noise levels are generally much higher than for normal office buildings given the need for special systems, positive pressure requirements and also for needed backup generator systems to ensure uninterrupted power for safety protocols.

The Sierra Club has released a "Planning Review and Entitlements of Biotech Developments," as a reference for public agencies for Bio Safety levels: https://www.sierraclub.org//sites/www.sierraclub.org/files/sce/loma-prieta-chapter/conserveletters/Sierra%20Club%20Biosafety%20Level%20Laboratories%20Guidelines%203-30-22.pdf

4. Buildings: Setbacks, Shadows and Proximity to Bird Habitat

Setback for Flood Protection and Habitat Overlay Zone: A building setback from the Belmont Slough edge, for all new buildings, should ensure sufficient land area is available for flood protection levee designs that can be expanded over time as needed for sea level rise, without wetlands encroachment[3]. In addition to sufficient space for a flood protection "horizontal" levee, the building setback should create a terrestrial buffer to maintain the quality and function of the wetland, support existing wildlife, and support higher levels of wetland biodiversity. For these purposes, we recommend a flood protection and habitat overlay zone that includes a substantial building set back of minimum 100 feet and preferred 330 feet. [4] [5]

We recommend requiring that the drawings clearly include a Levee Overlay Zone (LOZ) along the waters' edge establishing a minimum 100' setback to provide sufficient distance from the wetland edge for future increases to levee height. [6]

[3] State of California Sea Level Rise Guidance, 2018 Update, page 25. Ocean Protection Council website: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

[4] Wetland Basics, CalTrans: A typical wetland setback standard is 100 feet, but setbacks may be larger based on the resource of concern, such as presence of special-status species habitats or other considerations.The Coastal Act restricts development within wetland resources, and requires protection against significant disruption of habitat values. It also requires that areas adjacent to wetland resources be sited and designed to prevent degradation of those resources and to be compatible with the continuance of that habitat.

[5] The Environmental Law Institute (2003) recommends a 100 m (~330 foot) width based on the synthesis of 156 studies of riparian and wetland terrestrial buffers. Urban Ecology Technical study, Moffett Park Specific Plan 2020

[6] Burlingame's sea level rise ordinance, approved in 2021, establishes a 100-foot setback with the levee located at the farthest distance from the bay edge, in order to allow space for a gentle sloped face towards the bay, and allowing for the levee to be raised over time.

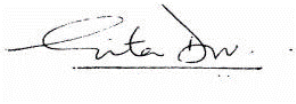
Shadows -Habitat Protection and Building Heights**:** Building heights are **more than 100', to about 150' tall**, Tall buildings should be located to minimize shadows on the wetlands[7] in the Bay and on residential units. Sunlight (in terms of both quantity and quality of solar radiation) is needed for plant species to conduct photosynthesis, propagate and survive. Shadowing can affect photosynthesis, aquatic insect production and fish productivity.

To minimize shading of Bay habitat, the first 100 feet of building, beyond the LOZ boundary, should be no taller than 4 stories.

Bird Safety: Given the bayfront location that borders the Belmont Slough which includes wetlands providing resident, migratory as well as endangered bird habitat, standards for Bird Safe Buildings and Dark Skies Lighting Design should be employed in this submittal, similar to other cities in our region with environmental resource conservation objectives.

For building elevations, the Cities of Cupertino and San Francisco could be used as local resources to guide bird friendly building facade design and for interior as well as exterior lighting design for new buildings, remodeling of existing buildings and the site design, especially in proximity to the Slough.
https://www.cupertino.org/home/showpublisheddocument/29511/637601410052430000#:~:text=Bird%2Dsafe%20Solutions,and%20insect%20and%20rodent%20control.
https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-18643

Respectfully submitted,



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[7] Studies have shown the importance of sunlight to estuarine ecosystems and that shadowing from bridges (Broome et al. 2005 Effects of Shading from Bridges on Estuarine Ecosystems. CTE/NCDOT Joint Environmental Research Program Final Report https://connect.ncdot.gov/projects/research/RNAProjDocs/2001-12FinalReport.pdf) and docks (Logan et al. 2017 Effects of Docks on Salt Marsh Vegetation: An Evaluation of Ecological Impacts and the Efficacy of Current Design Standards https://www.mass.gov/doc/effects-of-docks-on-salt-marsh-vegetation-an-evaluation-of-ecological-impacts-and-the-efficacy/download) can negatively affect plant growth and invertebrate density in estuarine ecosystems. By extension, tall buildings along East Palo Alto's treeless marsh plain that thrives in open sunlight are likely to introduce even broader shadow impacts.