

CITY OF BELVEDERE

FINANCE SUB-COMMITTEE: Taskforce on Levee Financing

AGENDA

August 10, 2021
Belvedere City Hall – Conference Room and via Zoom

Join Zoom Meeting

https://us02web.zoom.us/j/81973450216?pwd=Qmo3NWRrb0ZIS3BOZkZLYTd1aUZTQT09

Meeting ID: 819 7345 0216

Passcode: 502083

Dial by your location

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- 1. Appoint a Taskforce Chair
- 2. Welcome and Introductions/Comments from the Chair
- 3. Expectations and Timeline Discussion Chair
- 4. Briefings/Discussion of potential financing mechanisms available to fund levee improvement project
- 5. Adjourn

Attachments:

- 1. Levee Project Description
- 2. Presentation on Belvedere Levee Project Financing
- 3. Project Timeline
- 4. Levee Financing Table

Other reference:

CA property tax primer - https://lao.ca.gov/reports/2012/tax/property-tax-primer-112912.aspx

Date posted: August 6, 2021

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Date posted: August 6, 2021



CITY of BELVEDERE

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Belvedere Seawall and Levee Improvement Project

The City of Belvedere is undertaking a major infrastructure improvement project that will protect the City from a number of threats. The City is unusual in that it comprises two islands in the San Francisco Bay, the largest of these is connected to the mainland by two earthen levees, which are susceptible to significant displacement from an earthquake. All utility trunk lines to and from this island – supplying electricity, gas, water, sewer, and fire suppression – are embedded within the levees, making them equally vulnerable to failure during a sizable earthquake. Emergency access and evacuation also depend on the levee systems, as roads built atop the levees provide the only access to Belvedere Island.

Between the two levees is a community of homes referred to as the Belvedere Lagoon. The area includes public streets and undergrounded utilities. Any failure of the levee system would severely impact public infrastructure and properties in this area, which comprises about one third of the City.

Sea Level Rise predictions and the increasing frequency of severe storm events are major concerns for the Belvedere community, as it is bordered on three sides by the waters of San Francisco Bay. Extended and/or repeated exposure to sea water would degrade electrical utilities and connections. Flooding of homes and public infrastructure by increasingly high tides would devastate the City, making it unlivable.

The Project

The City has been working for several years to develop a project that would protect against the various threats outlined above. The project involves strengthening the City's levees against seismic activity; replacing rigid utility pipelines with flexible piping; increasing seawall/levee height to ensure protection against 2050 sea levels as predicted by the State of California; and ensuring continuing public access to the shoreline. Project engineers have taken extra effort to design these improvements to be adaptable so as to address higher sea levels anticipated in 2100.

- The Belvedere City Council approved conceptual designs in Fall 2020.
- The project is currently in the feasibility-level design phase, which is expected to conclude in early Fall 2021.
- CEQA analysis is currently underway, and funding strategies are being pursued.
- The current cost estimate for the projects is \$21 million.
- The project is well on the way to being "shovel ready." We are projecting final design to be complete in the first quarter of 2022.
- Funding will then emerge as the key remaining challenge to completing this important project.

Belvedere is unusual in its level of susceptibility to a number of threats. Limited access, adjacency to sea water, an antiquated system of levees and seawalls built without consideration for sizeable earthquakes, and inflexible utility trunk lines combine to create a situation that needs to be remedied in order to protect citizens and public infrastructure.

Attachments:

- A. Belvedere Storm History
- B. Belvedere's SLR Assumptions
- C. Belvedere Earthquake Risk
- D. Levee Project Visuals

Belvedere's Storm History and Storm Defenses

1982-1983 Storms

Although Belvedere has not suffered damaging storms in decades, it is not immune to them. During the early 1980s, Belvedere was hit by two catastrophic flooding events, one rain-driven and one coastal-flooding in origin.

- The rain-driven event happened on January 4-5, 1982, when residents reported 10.83 inches of rain falling in Belvedere over a 28-hour period. (NOAA's weather station in San Francisco recorded rainfall of 6.78 inches over the same 2-day period.) The storm caused major mudslides throughout Belvedere and Tiburon, cutting off parts of Belvedere Island and Corinthian Island. Runoff from the Tiburon hills overwhelmed the lagoon and 50 homes in the lagoon area flooded. Sewer and storm drains in Belvedere were damaged.
- The coastal flooding event happened on December 3, 1983. A strong low-pressure system associated with a coastal storm caused a storm surge, raising the expected tide by 2 feet to well over 8 feet NAVD88*. 75 mph gusts drove a wall of water into Richardson Bay, which built into 4-ft waves. Water came pouring over San Rafael Avenue. 35 San Rafael Avenue homes flooded, cars were destroyed, and sewage pump stations submerged. Belvedere residents were advised not to use water because of contamination.







1984 Improvements to San Rafael Avenue Seawall

In the aftermath of the 1983 storm, the City hired consultants to recommend how best to protect San Rafael Avenue from Richardson Bay waters. The consultants recommended replacing the existing riprap with larger-scale rocks set outboard to allow for plantings and a path. They proposed a minimum riprap wall height to insure against 1-in-100-year storms. The City Council ultimately moved forward with a lower rip-rap seawall, in a bid to balance the desire for better storm protection against the costs of construction and environmental impact. Note that riprap is semi-permeable and serves to slow down wave action, not prevent extreme tidal inflow. The non-permeable walking path was built at a lower elevation. The upgrade was completed by end-1984.

Action on the Lagoon

Since the 1980s, the Belvedere Lagoon Property Owners' Association (BLPOA) has implemented a proactive floodplain management program. It manages water levels in the lagoon through gravity outflow during low tides to ensure a minimum freeboard of 3 feet (distance between the waterline and maximum height of the lagoon). It has the capacity to drop the lagoon to allow 6 feet of freeboard in anticipation of major storm events. A high-capacity water pump has been installed, to rapidly pump water into the Bay. A second pump will be installed during 2019 for redundancy purposes. Both pumps are served by backup generators. The BLPOA's program is intended to prevent flooding associated with rain-driven events as well as modest coastal storm-related wave overtopping. However, it will not protect against "sheet-flow" i.e. the mass of the Bay overtopping the existing defenses on San Rafael Avenue or Beach Road, caused by sea-level rise and/or extreme tidal events exacerbated by wave action.

Current Status of Levees

Since the levees were built in the 1940s, they have settled by 3-4 feet in certain locations, with as much as a foot of settlement since the 1984 upgrade to San Rafael Avenue's seawall. The riprap on San Rafael Avenue now stands below 10 feet NAVD88 in certain locations. The minimum non-permeable height elevations of San Rafael Avenue and Beach Road (road or path, whichever is higher) undulate between about 8 and 11 feet NAVD88.

Storm Surge Projections

The table on the following page shows projected extreme tide elevations for San Rafael Avenue and Beach Road. The extreme tide elevations are worst case scenarios as they assume that the storm surge coincides with Mean High-High Water (MHHW), the highest tide of the day. The numbers reflect only the increase in ocean surface elevation caused by low atmospheric pressure and wind fetch i.e. storm surge. They do not account for wind-driven wave action. <u>And they do not account for the future effects of sea level rise.</u>

Since the lowest non-permeable height elevations on San Rafael Avenue and Beach Road are about 8 feet, extreme tide elevations (storm surge) of over 8 feet NAVD88 will result in "sheet flow" of water onto both streets. As indicated in the table, the current probability of a tide elevation over 8 feet is 2% (i.e. a 50-year extreme tide) at current sea levels. Based on California State Guidance, Belvedere's sea-level rise by 2050 is estimated to be an additional 1.1 feet. At this point, street flooding would happen during the highest tides of each year, and a 5-year extreme tide (20%) would leave low-lying areas completed inundated.

Extreme Tide Elevations

| | San Rafael Ave | Beach Road |
|--|----------------|------------|
| Extreme Tides (Feet - NAVD88) | | |
| 1 Year (100% chance in any given year) | 7.21 | 7.21 |
| 5 Year (20%) | 7.96 | 7.93 |
| 50 Year (2%) | 9.15 | 9.08 |
| 100 Year (1%) | 9.60 | 9.52 |

Source: San Francisco Bay Tidal Datums and Extreme Tides Study, February 2016, AECOM.

^{*}NAVD88: North American Vertical Datum 1988 is the official vertical datum for surveying and mapping activities in the United States. It serves as a reference for calculating other elevations.

Belvedere's Sea-Level Rise Assumptions

- Based on California State Guidance, the City has adopted a sea-level rise forecast of 1.1 feet by 2050 and 3.4 feet by 2100.
- The State suggests municipalities adopt forecasts compatible with their risk tolerance, in terms of people, natural resources and infrastructure assets at risk from water inundation.
- The City of Belvedere has concluded that a **low risk aversion strategy** is appropriate i.e. the consequences of greater-than-expected flooding are problematic but not catastrophic.
- For comparison purposes, the San Francisco Bay rose at a rate of 0.64 ft per century for the period from 1897 to 2018, but with the rate of increase accelerating since the 1990s.

Probabilistic Projections (in feet) of Sea Level Rise for San Francisco versus Year 2000

| | MEDIAN ¹ | • | ← LIKELY RANGE ² ← | | 1-IN-20 ¹ | 1-IN-200 ¹ | H++ EXTREME SCENARIO |
|---------------------|---------------------|-----|---|----------|----------------------|-----------------------|-------------------------|
| | | | | Low Risk | | Medium-High | Extreme Risk |
| | | | | Aversion | | Risk Aversion | Aversion |
| 2050 High Emissions | 0.9 | 0.6 | - | 1.1 | 1.4 | 1.9 | 2.7 |
| 2100 Low Emissions | 1.6 | 1.0 | - | 2.4 | 3.2 | 5.7 | N/A |
| 2100 High Emissions | 2.5 | 1.6 | - | 3.4 | 4.4 | 6.9 | 10.2 |

¹Probability that sea level rise meets or exceeds... ²66% probability that sea level rise is between...

Source: State of California Sea Level Rise Guidance 2018

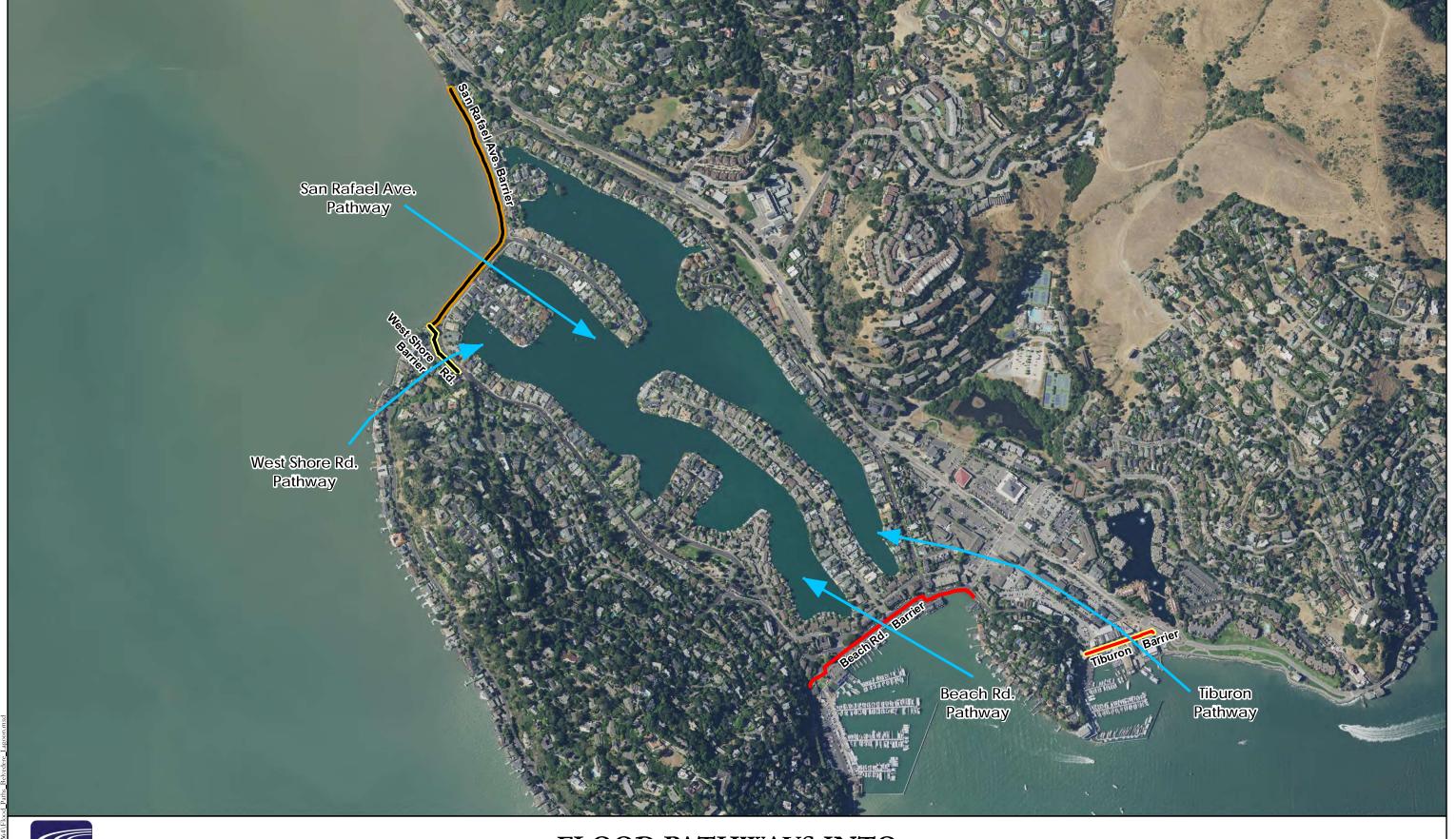
Belvedere's Earthquake Risk

- The Working Group on California Earthquake Probabilities (WGCEP) released its latest earthquake forecast model in 2015, known as UCERF3 (Uniform California Earthquake Rupture Forecast) based on fresh data, modeling innovations and lessoned learned from recent earthquakes.
- WGCEP previously released forecasts in 1988, 1990, 1995, 2003 and 2007.
- The forecasts for the San Francisco region are show in the table below.
- For reference, the 1906 San Francisco earthquake had a magnitude of 7.7-7.9 and the 1989 earthquake had a magnitude of 6.9.

San Francisco Region Earthquake Risk

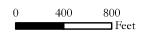
| Magnitude (greater than or equal to) | Average repeat time (years) | 30-year likelihood of one or more events |
|---|-----------------------------|--|
| 5 | 1.3 | 100% |
| 6 | 8.9 | 98% |
| 6.7 | 29 | 72% |
| 7 | 48 | 51% |
| 7.5 | 124 | 20% |
| 8 | 825 | 4% |

Source: UCERF3: A New Earthquake Forecast for California's Complex Fault System, USGS, March 2015

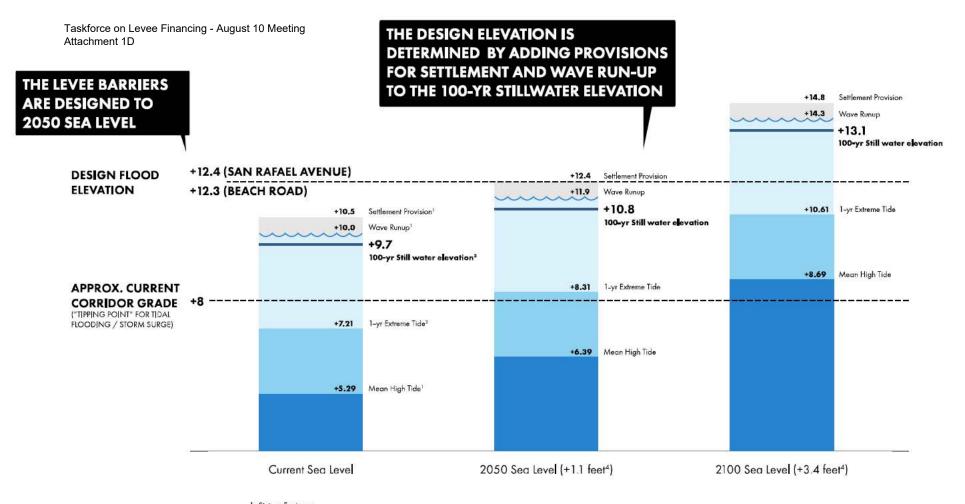




FLOOD PATHWAYS INTO BELVEDERE LAGOON







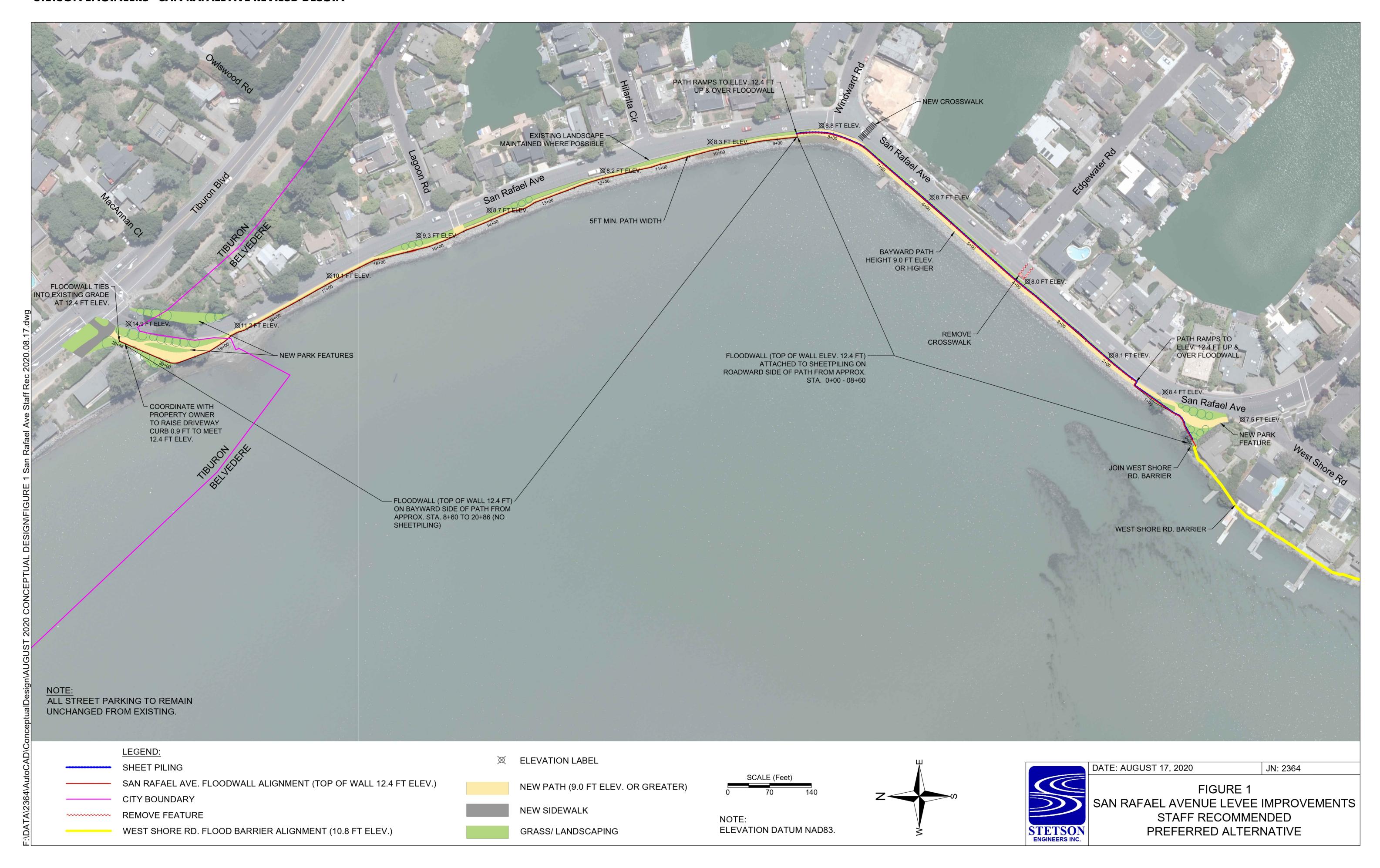
^{1.} Stetson Engineers

^{2.} AECOM, San Francisco Bay Tidal Datums and Extreme Tides Study, February 2016

^{3.} FEMA 1% Annual Chance Stillwater Elevation

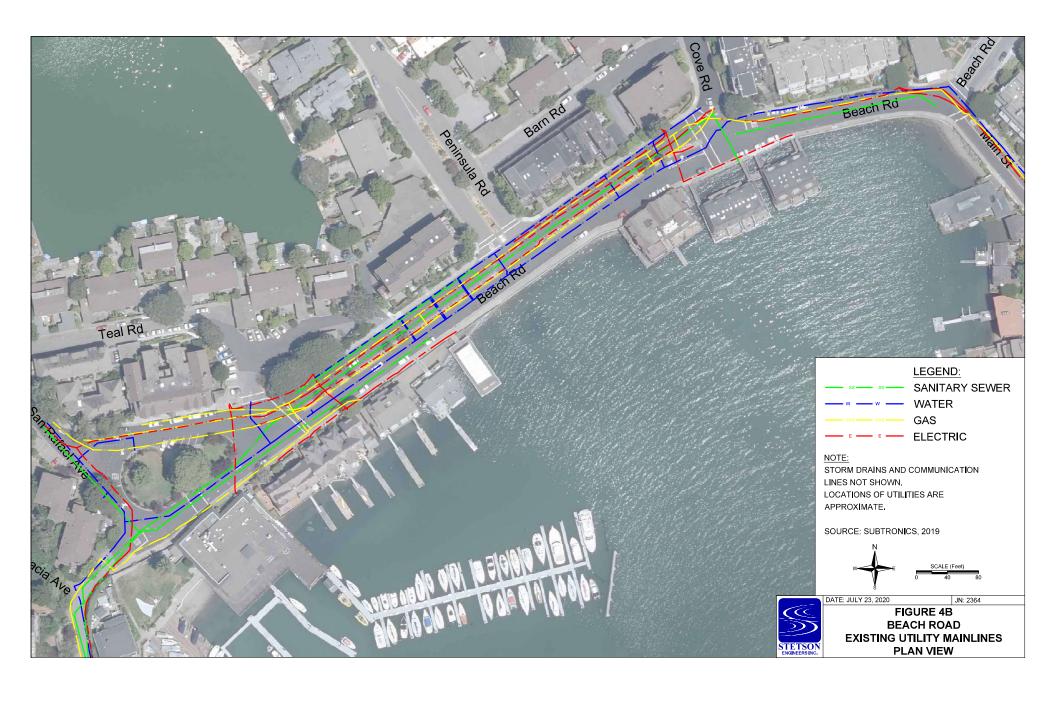
^{4.} State of California Sea Level Rise Guidance 2018, 2050 and 2100 High Emissions 66% Probability Sea Level Rise Projection

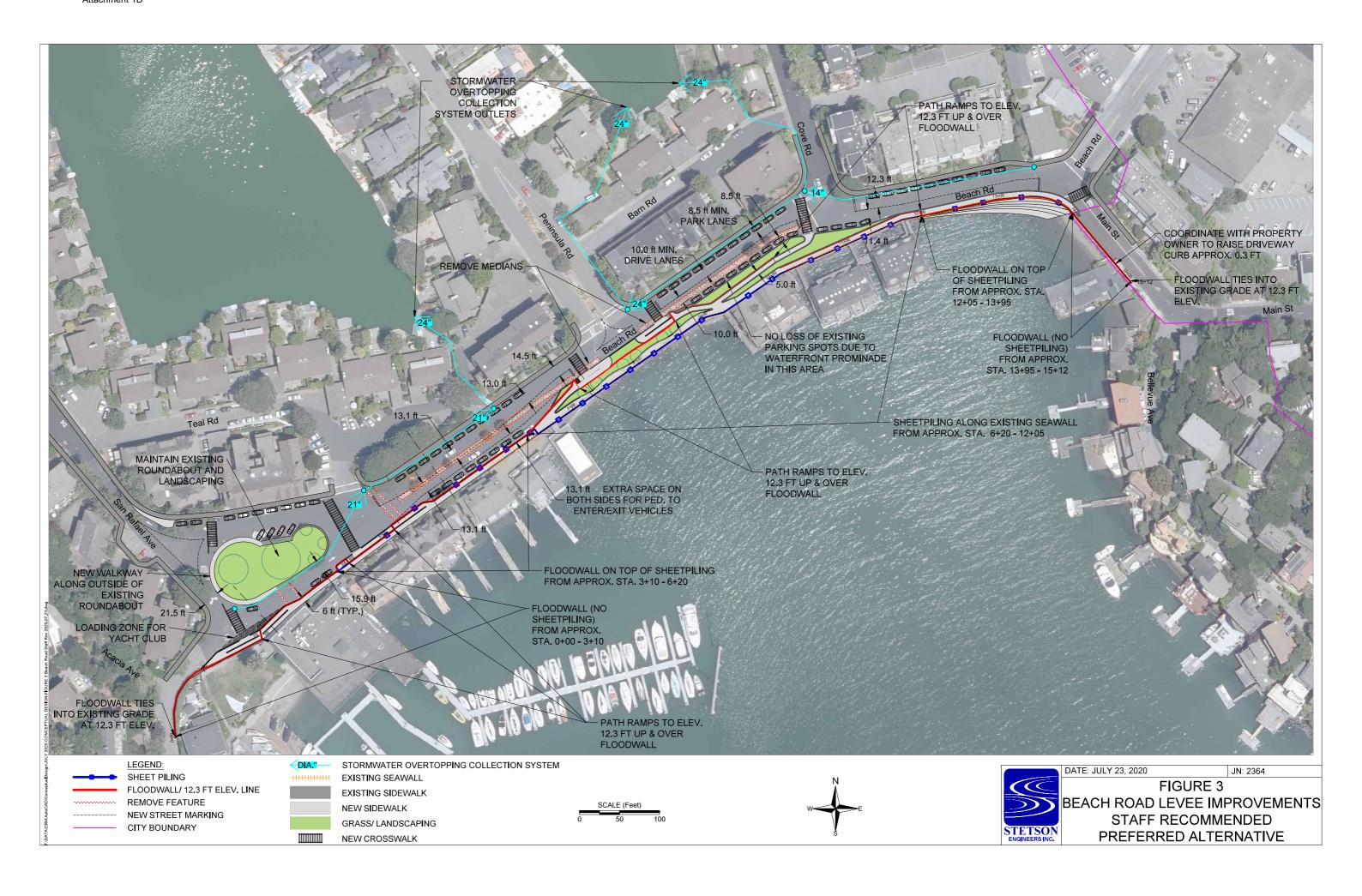
Attachment TSON ENGINEERS - SAN RAFAEL AVE REVIESD DESGIN

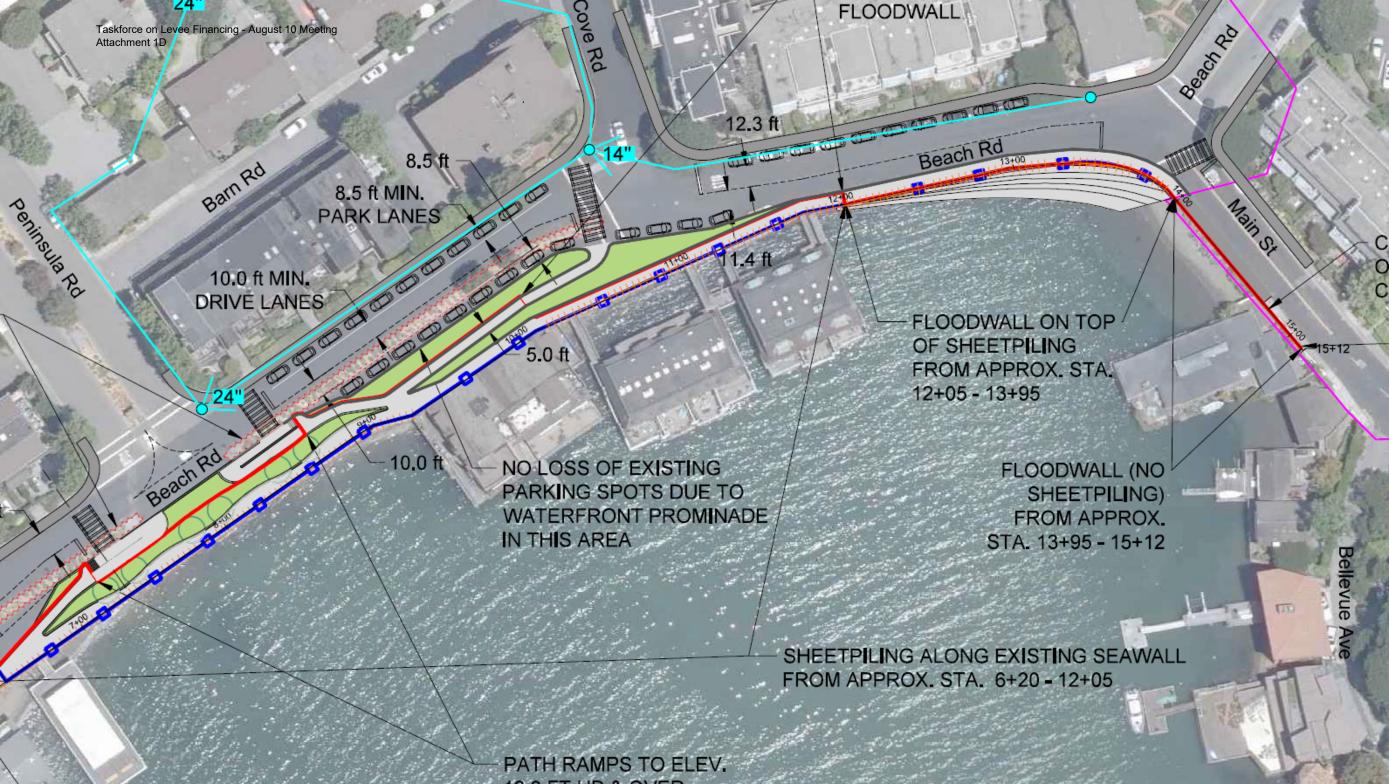


STETSON ENGINEERS — WEST SHORE BARRIER











Funding Need

- The City of Belvedere has an urgent need to reinforce and raise its two levees to protect against seismic and storm risk.
- The cost of the project is estimated to be \$21-25 million and will be "shovel ready" by 2023. Construction is expected to take two years.
- The City's \$8.6 million annual budget is fully assigned. Its \$3.5 million operating reserve is intended to cushion against catastrophic loss, not finance capital improvements.
- In the absence of significant grant funding, the City will need to debt finance the project and create new revenue streams to pay back that debt.

California Debt Limits

- The California Constitution bans cities, counties and school districts from issuing debt without voter approval (typically by a two-thirds margin). This is known as the "debt limit" and serves as a check on tax increases without public consent.
- There are various exceptions, namely:
 - Current Fiscal Year Exception: Debt can be issued provided it will be repaid with funds received during the current fiscal year.
 - Lease Exception: Certain lease financing arrangements are viewed as an expense not a debt.
 - **Special Fund Exception:** Debts that are not legally enforceable against a city's general fund e.g., water rate payments to fund a water facility, do not need voter approval.
 - Obligation Imposed by Law Exception: Agencies may issue debt to fund legally-imposed obligations
 e.g., tort damages or state/federal mandates. POBs fall under this category.

Debt Service Costs

• The table below shows annual debt service costs assuming a 30-year payback and even repayments over time, using different construction cost and interest rate assumptions.

| Construction Cost | Bond Financing Rate | Annual Debt Service |
|-------------------|---------------------|------------------------|
| \$21 million | 2.0% | \$934,267 |
| | 2.5% | \$999,177 |
| | 3.0% | \$1,066,524 |
| | 3.5% | \$1,136,241 |
| \$25 million | 2.0% | \$1,112,222 |
| | 2.5% | \$1,189,497 |
| φ23 million | 3.0% | \$1,269,671 |
| | 3.5% | \$1,352,668 |

Revenue Generation

- The City will need to generate new revenue streams to pay back the debt it issues.
- There are three credible options:
 - Ad Valorem Property Tax An annual tax charged in proportion to a parcel's assessed value.
 - Parcel Tax An annual flat tax charged on all taxable parcels.
 - Real Property Transfer Tax A one-off tax on sales of properties in Belvedere, levied as a % of the transaction price.
- The scope for significant revenue generation from add-on sales taxes, business license taxes or transient occupancy taxes is very limited given the City's minimal commercial activity. The yield from utility user taxes would also be insignificant.

Option 1: Ad Valorem Property Tax

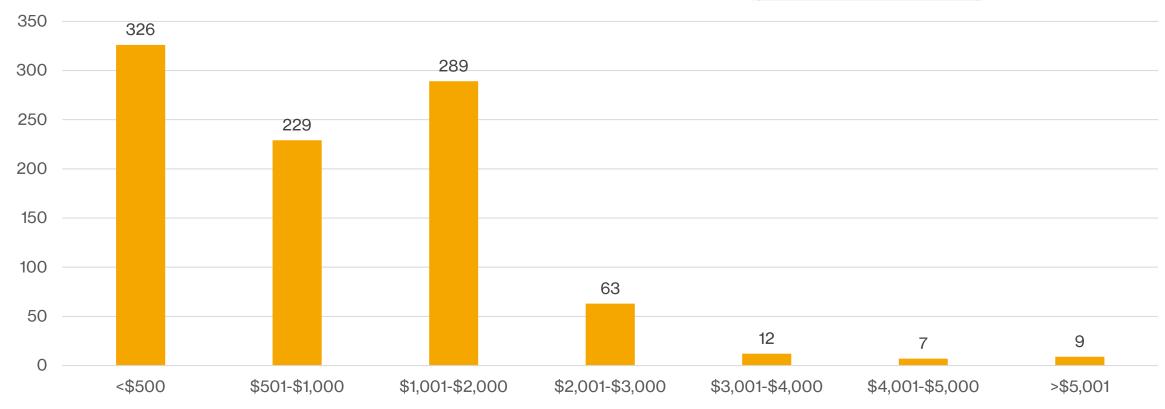
- The California Constitution allows local governments to levy voter-approved debt rates – ad valorem rates above the 1 percent rate – for two purposes: to pay for indebtedness approved by voters prior to 1978, and to pay the annual cost of General Obligation (GO) bonds approved by voters for local infrastructure projects.
- Bond proceeds can only used to fund construction of the voter-approved project, not its upkeep. The tax sunsets once the debt is paid off.
- Two-thirds local voter approval is required in order to issue GO bonds repaid with debt rates.
- The tax is expressed as an amount per \$1,000 of assessed value.

Belvedere Assessed Values

- The 2020 aggregate assessed value of Belvedere's 935 taxable parcels is \$2.530 billion.
- Individual parcel assessed values net of deductions vary from \$0 to \$51.4 million.
- The most expensive parcel is worth the same as the least expensive 189 parcels combined.
- Assuming a build cost of \$21 million financed at 2.0%, the initial tax rate per \$1,000 of assessed value would \$0.37.
- Assuming a build cost of \$25 million financed at 3.5%, the initial tax rate would be \$0.53 per \$1,000 of assessed value.
- The tax cost would decline over time for most parcels, as sold or remodeled parcels are remarked and carry a higher share.

Ad Valorem Tax – Distributional Impact

Annual Ad Valorem Tax: Number of Households (\$21 million at 2.0%)



Ad Valorem Tax – Distributional Impact

Annual Ad Valorem Tax: Number of Households (\$25 million at 3.5%)

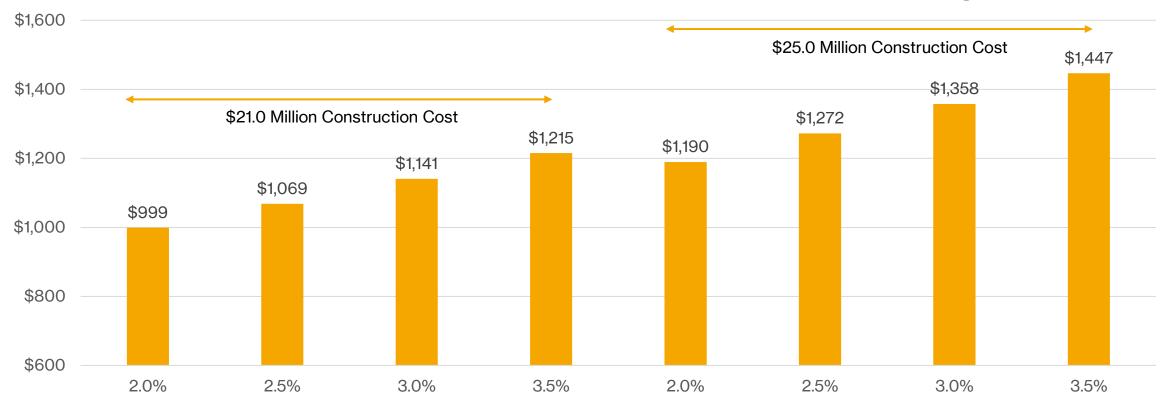


Option 2: Parcel Tax

- With the approval of two-thirds of voters, local governments may impose a tax on all parcels in their jurisdiction (or a subset of parcels in their jurisdiction).
- Parcel taxes are levied at a fixed amount per parcel (or fixed amounts per room or per square foot of the parcel).
- Parcel taxes may be used for a variety of local government services. However, the revenue is restricted to the program, service or project that voters approved when enacting the parcel tax.
- Revenues can therefore be used to finance construction and upkeep of an infrastructure project.
- Most parcel taxes sunset, but voters may approve an open-ended tax.
- Parcel taxes can be used as the funding source for a Revenue Bond.

Parcel Tax – Cost Per Parcel

Annual Parcel Tax Per Parcel at Different Construction Costs and Financing Rates



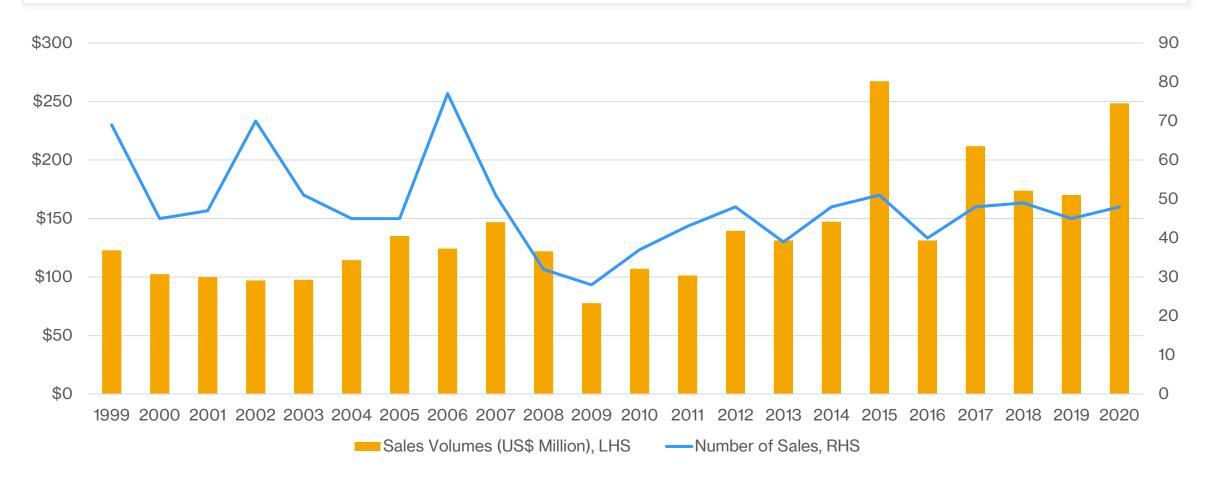
Option 3: Real Property Transfer Tax

- All cities in California currently levy a Documentary Transfer Tax on real estate transactions of \$1.10 per \$1,000 (0.11%), with 0.055% going to the county.
- Various cities also levy a Real Property Transfer Tax (RPTT) on real estate transactions. Most levy a flat percentage, but some have banded systems. Rates go as high as 3.0% in San Francisco's banded system.
- In Marin County, only San Rafael levies a RPTT, equal to 0.2% of the sales value.
- Only Charter Cities can levy RPTTs. The City of Belvedere is a General Law City.
 Charter City conversion requires a simple majority vote by local voters.
- A simple majority vote is also required to introduce a RPTT and set the rate, or rates.
- The two votes can be introduced as a single measure.

RPPT in Belvedere

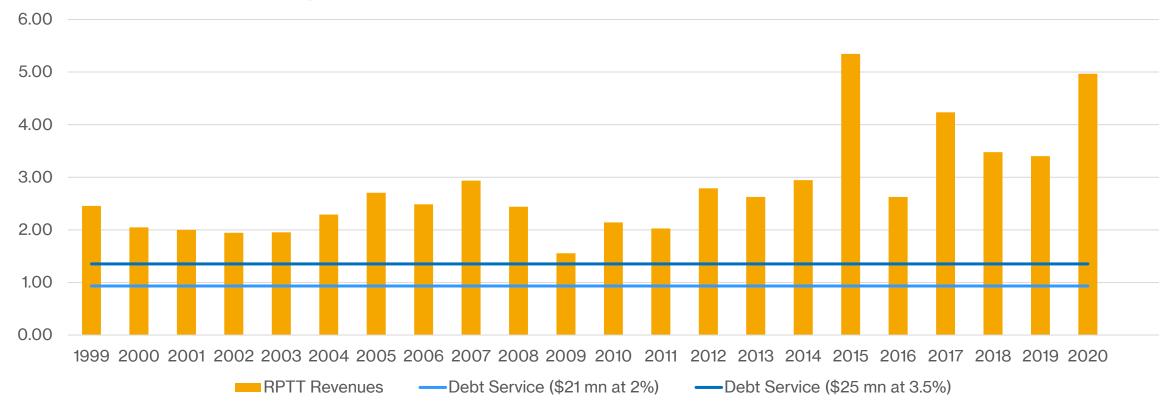
- Belvedere has a small, but <u>very</u> valuable housing stock. There are approximately 1,000 units, including apartments.
- Since H2-1998, 1,124 properties have sold, with a combined sales value of over \$3.2 billion, yielding an average sales price of \$2.9 million.
- The low point in sales values and volumes was 2009, but even then, a 2% RPTT would have yielded more than \$1.5 million, comfortably meeting annual debt service requirements on a \$25 million bond issue.

Annual Property Sales – City of Belvedere

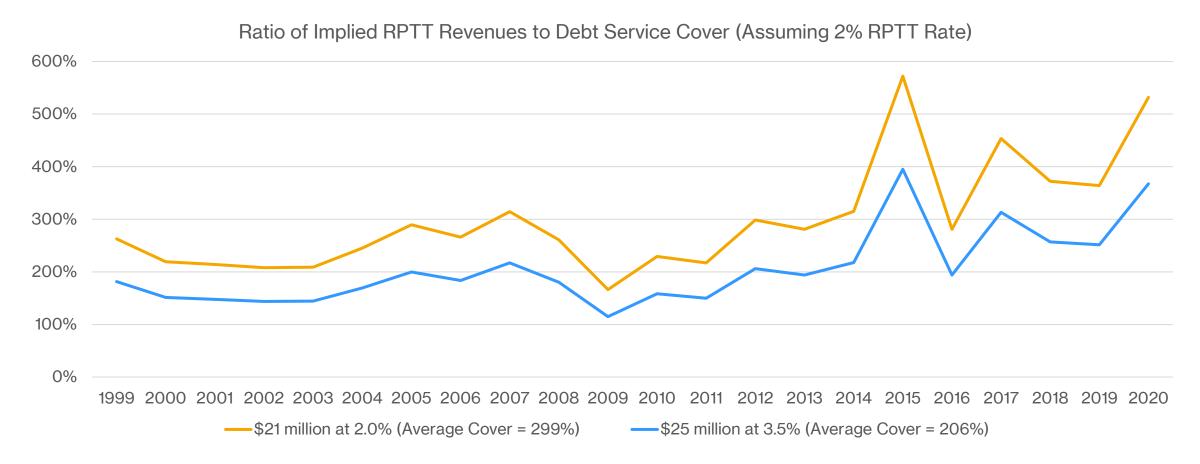


RPTT Revenues – 2% Tax Rate





Debt Service Cover



Bonding a RPTT

- A RPTT <u>cannot</u> be treated as a Special Tax and bonded (revenue bond).
- A RPTT is a General Tax. RPTT revenues can only be used for General Fund purposes and cannot be directly bonded.
- Solutions include a lease financing structure, leveraging certain City assets (e.g., City Hall or the levees themselves) to finance the levee improvements project, and making lease payments from the General Fund (buoyed by RPTT revenues).
- Lease financing arrangements do not require voter consent.
- Financing costs would be higher than for a GO bond, given the volatility of the RPTT income stream.
- General Taxes typically do no sunset, but there is no legal impediment to sunsetting a RPTT.

Considerations

- Taxpayer equity
- Complexity
- Timing
- Voter appeal
- Financing costs

LEVEE/SHORELINE ENHANCEMENT PROJECT -- MILESTONES

2021

JULY/AUGUST

Staff: Hire Landscape Architectural Firm

Staff: Hire CEQA Attorney (Remy firm)

Staff/Stetson/Architect: Design Development

Staff: Hire Legal Advisor (financing options)

Staff/Stetson/Architect: Stakeholder meetings- West Shore, SFYC and Land Co.

Finance Subcommittee to review Funding Options (Assuming various levels of net project cost to voters)

Staff/Councilmember: Pursue outside funding options - State, etc.

SEPTEMBER

Refine Designs, Costs, Phasing Strategy, Funding Options

Finance Committee to review Funding Options (Assuming various levels of cost to voters); Develop recommendations (for CC consideration)

Finalize conditional agreements/ROW easements with Affected Property Owners

Staff: Hire Polling Firm (Godbe)

Staff: Hire Communications Firm (Hester)

Staff: Hire Financial Advisor

OCTOBER

City Council: Review of Feasibility-Level Designs, Renderings, and Revised Cost Estimates

City Council: Review of Finance Committee recommendations on Financing Options

Staff/Stetson: Tiburon Town Council: Presentation of Design, Renderings and Preferred Approach (TBD)

NOVEMBER

Conduct 1st poll (to inform financing approach)

Staff: Develop draft Charter (if warranted by Finance Committee recommendation)

DECEMBER

City Council: Decision on Project Design and Preferred Funding Strategy (final design decisions subject to CEQA analysis)

2022

JANUARY

City Council: First public hearing on proposed City Charter (if warranted by funding strategy)

Town Meeting: Public Update - Seawall

2022 (continued)

MARCH

Stetson: Final cost estimate (includes any unanticipated CEQA mitigations and design requirements)

City Council: 2nd hearing on new City Charter (if warranted by funding strategy)

MAY

CEQA and Permitting Wrap-up. Permits good for 12 months with 24-month extensions.

CC Authorizes Construction-Level Design Drawings

City Council: Authorize Ballot Measure(s) --(City Charter & RPTT); (GO Bond w/ad valorem); (Mello-Roos)

JUNE

Form Campaign Committee

AUGUST

Submit Ballot Measure to County (if Nov ballot)

Commence Advocacy Campaign for Ballot Measure

NOVEMBER 2022: General Election

Post election -- Proceed with voter-approved financing

City of Belvedere Summary of Financing Options – Levee Improvements

| Type | Description | Vote timing | Voter | General or | Other |
|--|---|--|------------------|--|--|
| | - | J | Approval | Special Purpose | Considerations |
| Revenue stream | Real Property Transfer Tax – City initiated | Regularly scheduled general election for members of the City Council | Majority vote | Must be general purpose | Must be Charter City |
| Revenue stream | Real Property Transfer Tax – Voter initiated | Can be at general or special election | Majority vote | Could be either general or special purpose | - Must be Charter City - City may not participate with funds or staff time; no City control over process |
| Borrowing structure | Lease Revenue Bonds (supported by RPTT or other) | Does not require voter approval | | N/A | The City must have assets to lease with a fair rental value in excess of the annual lease payments |
| Revenue stream with borrowing structure | General Obligation Bonds supported by Ad Valorem tax | Flexible: Must be held on one of 4 designative election dates | 2/3 vote | Special Purpose | Lowest cost of financing |
| Other | Charter City | Statewide General Election | Majority vote | N/A | |