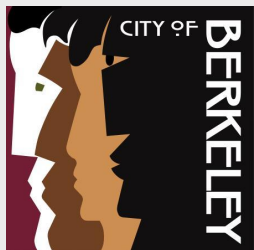


# César Chávez Park - Closed Landfill State Water Board Survey

September 10, 2024



- **WAHID AMIRI PE, DEPUTY PUBLIC WORKS DIRECTOR**
  - **RON NEVELS PE, MANAGER OF ENGINEERING**
  - **DANIEL AKAGI PE, SUPERVISING CIVIL ENGINEER**
- **MARY SKRAMSTAD, ENVIRONMENTAL COMPLIANCE SPECIALIST**



- ▶ **Introductions**
- ▶ **Ground Rules**
- ▶ **Background**
- ▶ **Purpose and Objectives**
- ▶ **Scope of Survey**
- ▶ **Timeline**
- ▶ **Impact to Park Users**
- ▶ **Closing**
- ▶ **Questions**

# AGENDA





# What and Where is the Former Berkeley Landfill?

- ▶ The former Landfill was closed in 1983 and sealed with a clay cap before it became a public park.
- ▶ Location Boundaries
  - **West, North, and East:** San Francisco Bay
  - **South:** Berkeley Marina

# Former Landfill (1961-1983)

- ▶ The former Landfill was designated as a Class II sanitary landfill.
- ▶ Permitted for disposal of non-hazardous **municipal** solid waste.
- ▶ It began receiving waste in 1961, continuing operations until 1983.



# Formal Closure

- ▶ Beginning in 1981 through 1990.
  - ▶ per the California Code of Regulations (CCR) Title 14 and 23 requirements **in effect at the time**.
- ▶ It took nearly a decade to import enough clean fill to contour the Park to how it exists today.
- ▶ The former landfill was sealed with a clay cap. The final cover system varies in thickness from 4 to over 30 feet.

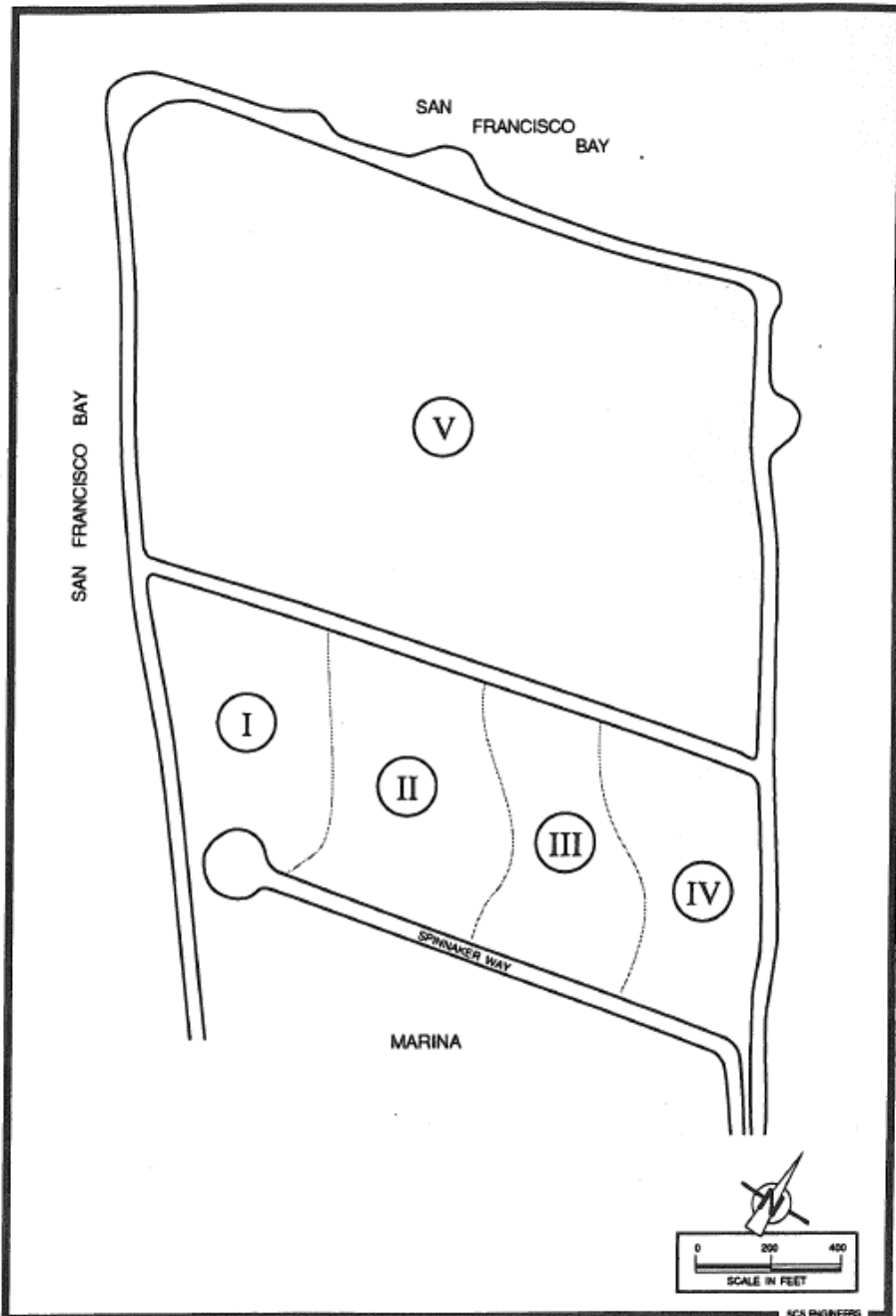
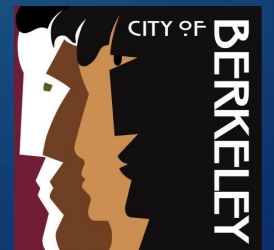


Figure 2. Approximate Limits of Designated Phases of Closure, Berkeley City Landfill.

# Post-Closure

## Landfill Maintenance Compliance

- ❑ In accordance with post-closure monitoring and maintenance requirements.
- ❑ Compliance is regulated by:
  - ❑ State Water Board (San Francisco RWQCB)
  - ❑ CalRecycle
  - ❑ Bay Area Air Quality Management District (BAAQMD)



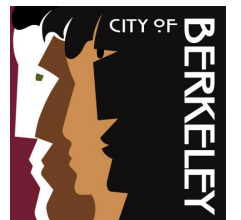


# Water Board

- ▶ The Water Board and California Department of Public Health ordered assessments from all 5 recipients: Albany, Benicia, Berkeley and two in Richmond.
- ▶ As this is a novel problem, the Water Board and City worked together to develop a testing plan.
- ▶ \*The City has followed all guidelines provided by the Water Board.

**Table 1. Wastes Generated at Zeneca Plant in Richmond**

<b>Locations of Alum Mud Disposal</b>	<b>Total Waste Disposal Timeframe</b>	<b>Total Waste Disposal Weight</b>
South End of Richmond Plant (Richmond, CA)	1900 to 1958	18,700 tons
Albany Landfill Co. (Albany, CA)	1960 to 1971	11,100 tons
Berkeley Landfill Co. (Berkeley, CA)	1960 to 1971	11,100 tons
Blair Southern Pacific Landfill (Richmond, CA)	1971	6,200 tons (all alum mud)
IT Environmental (Benicia, CA)	1975 to 1979	3,700 tons



# Objectives of the Survey

1. Identify areas above naturally occurring radioactive levels.
2. Assess potential impacts
3. Partnership with State regulators

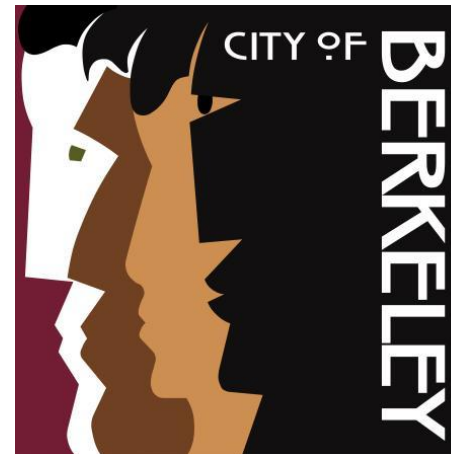
**The Radiologic Health Branch within California Department of Public Health (CDPH) has specialized expertise with radioactive materials in the environment.**



CALIFORNIA

# Water Boards

STATE WATER RESOURCES CONTROL BOARD  
REGIONAL WATER QUALITY CONTROL BOARDS



# Scope of the Survey

The Work Plan approved by the Water Board will survey the former landfill in the following sequence:

- ▶ Water Testing (in progress)
- ▶ **Surface Survey**
- ▶ Follow-up Soil Testing (TBD)





# Surface Survey

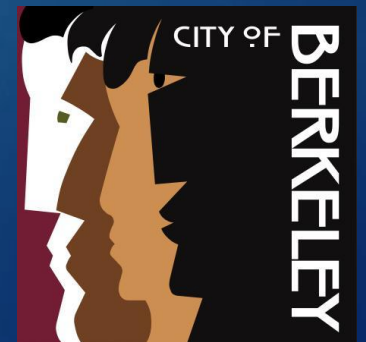
*The Gamma Drone Survey (GDS)*

Equipment:

The Theiss Validus Hex drone

- ▶ battery-operated
- ▶ able to carry up to 18 lbs

will carry the advanced radiation detection system.



# Surface Survey (continued)

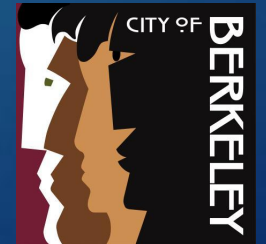
## *Instrumentation*

- ▶ The system features a 3 x 3 inch sodium iodide (NaI) spectrometer integrated with a GPS for sub-meter accuracy.
- ▶ Additionally, ground surface surveying with a SAM 945 Handheld Radiation Isotope Identifier (RIID) will be performed to validate drone data.



# Pilot Test Flight – June, 2024

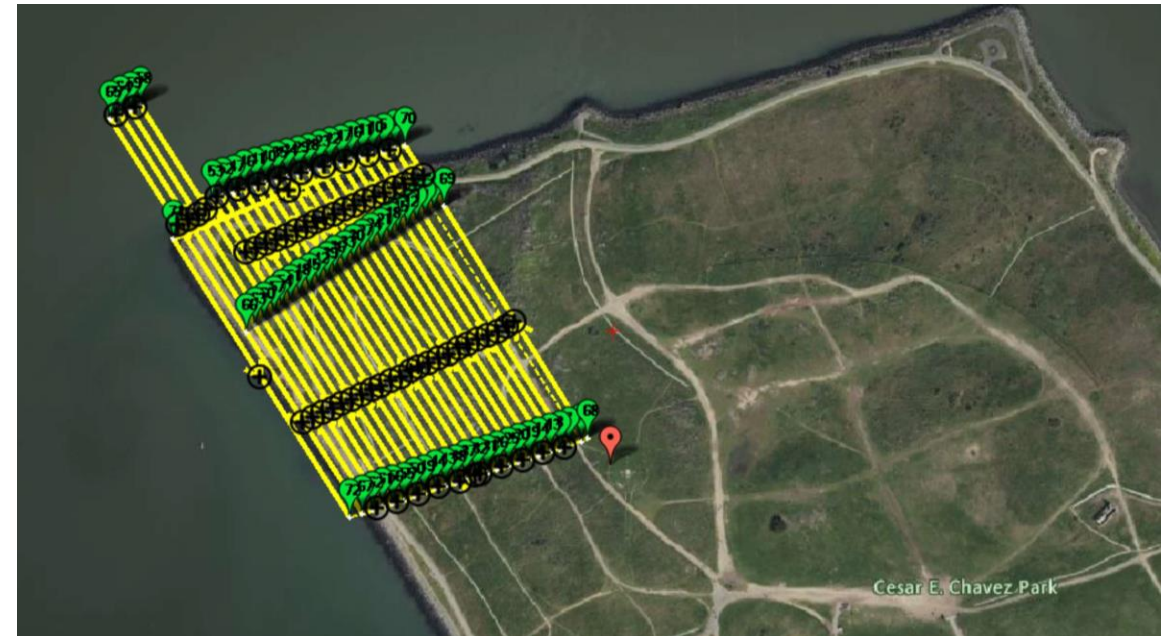
- ← Purpose:
  - ← Establish Background levels
  - ← To test equipment under site specific topography



# Pilot Test Flight (continued)

## -June, 2024

- ▶ Why was this area selected?
  - ▶ Contains only documented and confirmed clean soil or fill, with no landfill refuse present.
- ▶ Why did the drone fly over the water?
  - ▶ To provide a control measure

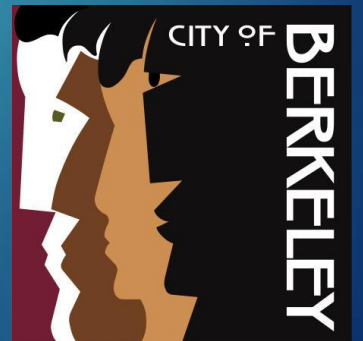


- ▶ **Stable Natural Radioactivity:**
  - ▶ Surveyed area showed gamma radiation matches natural radioactivity in soils.
- ▶ **Background Radiation Levels:**
  - ▶ Consistent with baseline readings of 200-285 cps.
- ▶ **Investigation Thresholds:**
  - ▶ Follow-up required if readings exceed 3.5 sigma above local background.
- ▶ **Thresholds set for further surveying:**
  - ▶ Above 345 cps in background areas.
  - ▶ Above 250 cps near shorelines.

cps = counts per second

# Pilot Test Flight (continued) - June 2024 *Results*

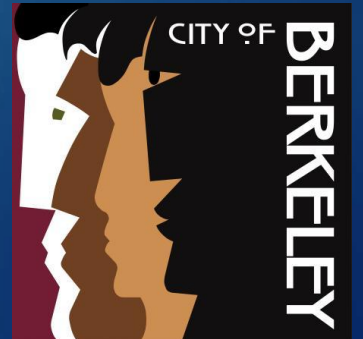
*(Information available in the Work plan)*





# Necessary Partial Closures for Public Safety

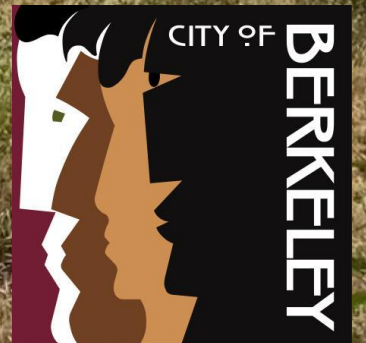
- ▶ The drone will be flying at low altitudes and therefore the area will be closed off to protect the public.
- ▶ Instrumentation will be suspended approximately 3 meters above the ground.

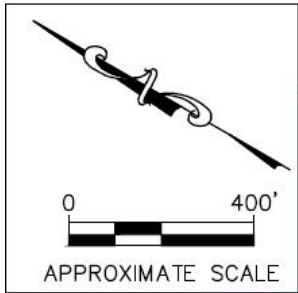


# Expected Park Closures

- ▶ *Duration:*
  - ▶ *Approximately 5 days*
  - ▶ *2-3 hour per day*
- ▶ *Time:*
  - ▶ *Start at first light*

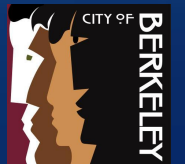
**SEPTEMBER 30 THROUGH OCTOBER 4**





# Park Closure Plan

THE DRONE WILL BE FLYING AT LOW ALTITUDES AND THEREFORE THE AREA WILL BE CLOSED OFF TO PROTECT THE PUBLIC.



# Monday – 9/30/24

- ▶ Detour signs will be posted at all entry points.
- ▶ Staff will be positioned at intervals to ensure the survey proceeds without interruption.



- **Reminder: Dogs must be under verbal control at all times**
- **Follow park signage to know where to leash and unleash**





# Tuesday – 10/01/2024

DOG PARK OFF LEASH AREA WILL BE CLOSED TUESDAY DURING THE 3 HOURS WINDOW, STARTING AT SUNRISE.

\*PLEASE PLAN ACCORDINGLY\*

## ALTERNATIVE OFF-LEASH LOCATIONS:

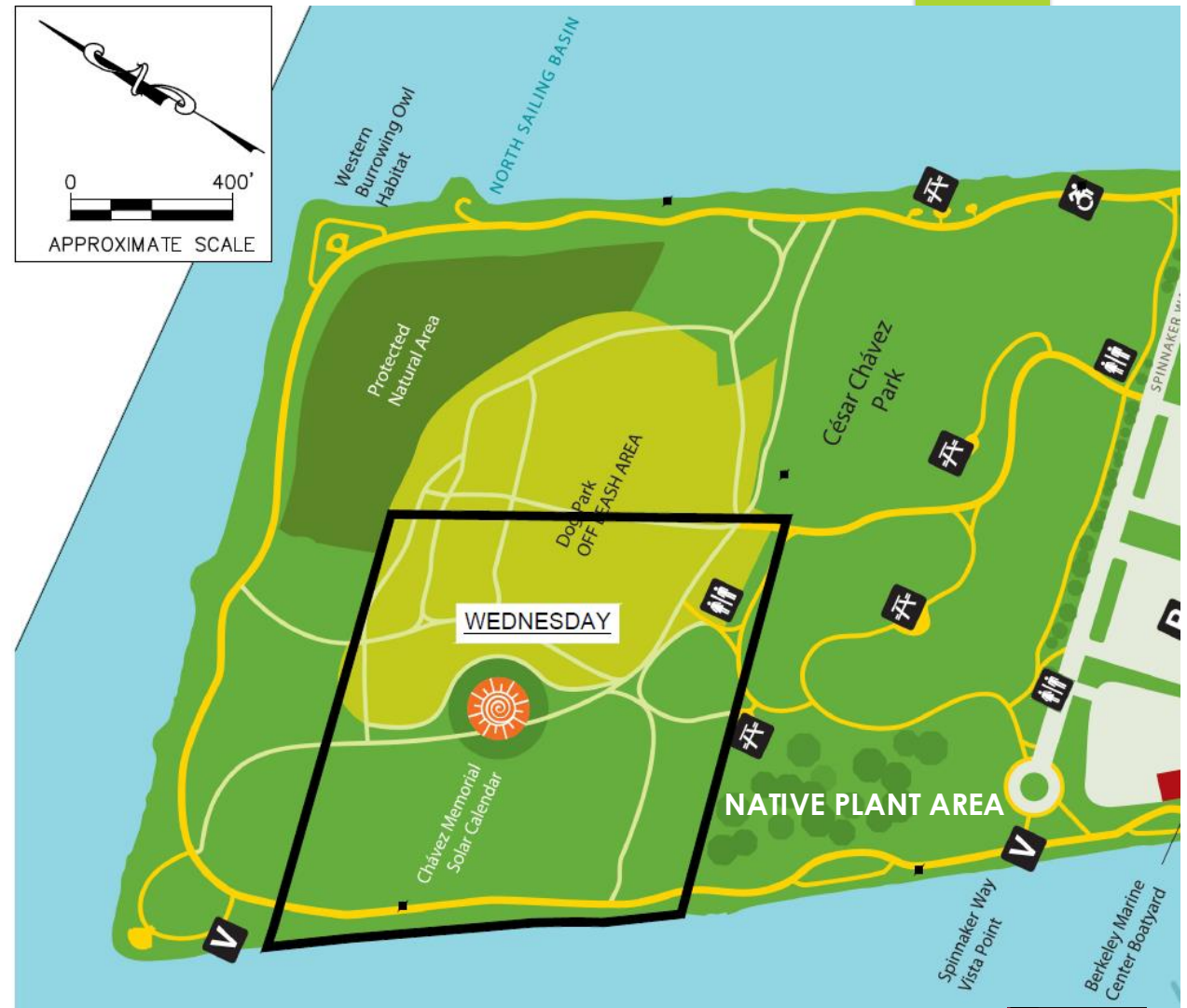
- ▶ OHLONE PARK
- ▶ CLAREMONT CANYON PRESERVE
- ▶ TILDEN REGIONAL PARK
- ▶ ALBANY BULB

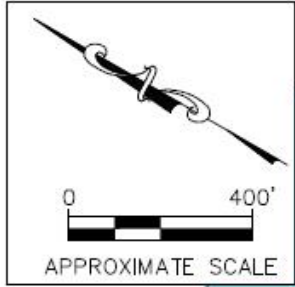
# Wednesday – 10/02/-2024

DOG PARK OFF LEASH AREA WILL BE CLOSED ON WEDNESDAY DURING THE 3 HOURS WINDOW, STARTING AT SUNRISE.

- ▶ BATHROOM WILL BE CLOSED DURING THE SURVEY
- ▶ PLAN TO USE THE OTHER RESTROOMS ON SPINNAKER WAY.

\*PLEASE PLAN ACCORDINGLY\*





# Thursday – 10/03/2024

- ▶ **ENTRANCE CLOSURE:**  
SOUTHEAST  
ENTRANCE CLOSED  
DURING THE SURVEY.
- ▶ **RESTROOM CLOSURE:**  
SPINNAKER  
RESTROOM CLOSED  
DURING THE SURVEY.

**REMINDER: DOGS MUST BE UNDER  
VERBAL CONTROL AT ALL TIMES**



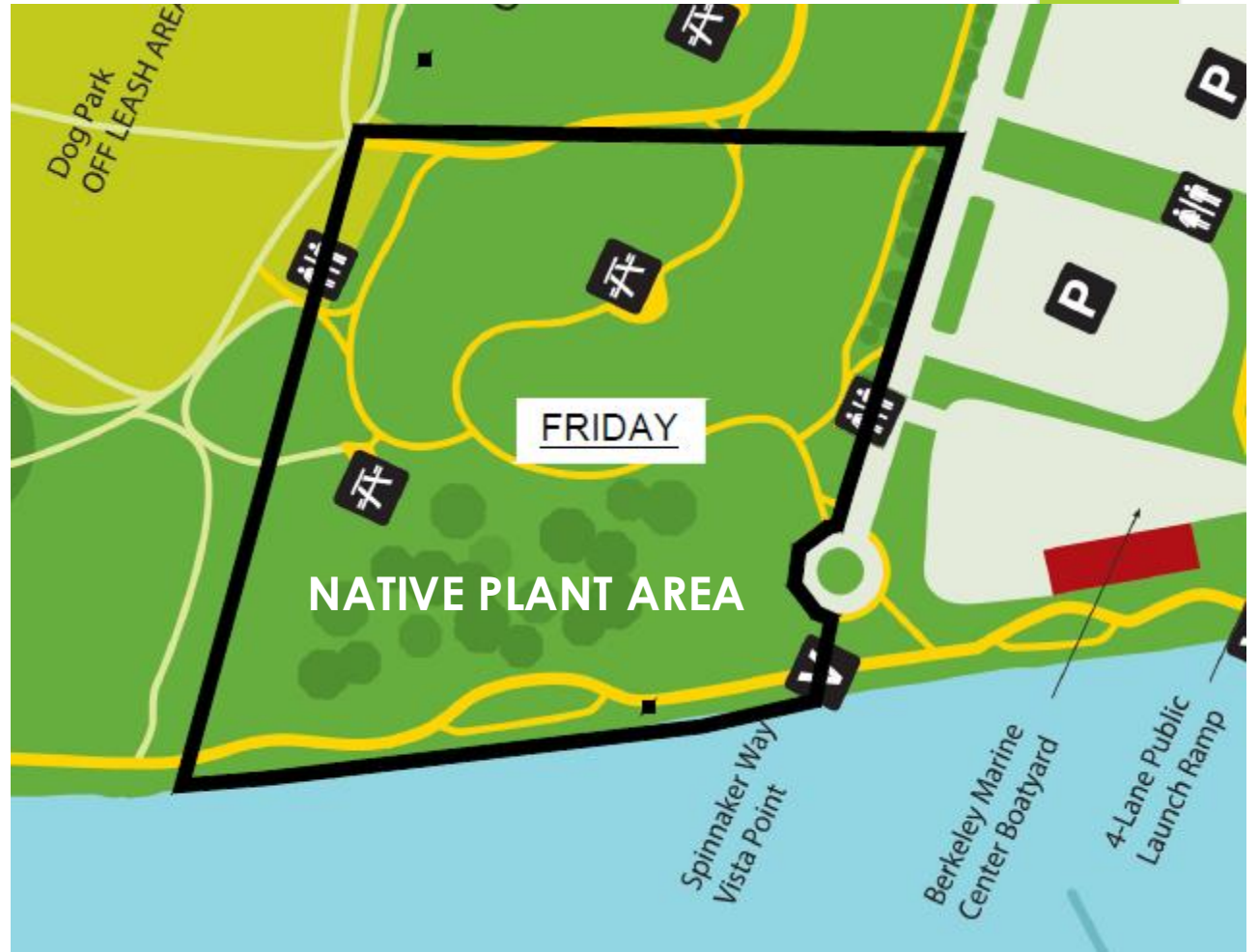
# Friday – 10/04/2024

## ▶ **ENTRANCE CLOSURE:**

SPINNAKER CIRCLE ENTRANCE WILL BE CLOSED DURING THE SURVEY.

## ▶ **NATIVE PLANT AREA:**

THE AREA WILL BE CLOSED FOR THE SURVEY, WITH STAFF DIRECTED TO PROCEED CAREFULLY TO AVOID ANY DAMAGE.

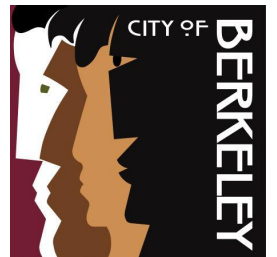


# Conclusion

## ▶ Summary of Key Points

- ▶ Importance of the Survey
  - ▶ To assess potential impacts from industrial waste delivered more than a half-century ago.
- ▶ Commitment to Public Safety
  - ▶ Following regulatory guidelines and partnering with agencies.
- ▶ Next Steps and Follow-Up
  - ▶ Report due to the Water Board within 90 days of survey
  - ▶ Follow up testing (i.e. soil testing) will depend on results and regulatory guidance

\*At this time, the Water Board has determined that although these wastes need to be addressed, current information indicates they do not pose an immediate risk to public health.



# Q&A

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Additional Resources:

▶ Capital Improvement  
Webpage

▶ <https://bit.ly/StateWaterBoardSurvey>



Photo Credit: Michael Layefsky

