

- This channel replaced a meandering slough through a marsh that originally extended from Yosemite Avenue to
- ▲2. John Hinkel Park. Blackberry Creek flows through this to Marin Creek. Downstream at Capistrano Avenue, Blackberry Creek is again diverted into Marin Creek, never

to reach its original destination, Middle Creek.

- ▲3. Codornices Park. Two branches of Codornices Creek meet in a culvert beneath the park. Walk up the south branch beside the picnic area or the north branch beside the playground to a magical world of trees, rushing water, and rocks. The name Codornices means quail in Spanish. This creek is mostly open on its journey to the bay; visit it ▲ 8. University of California Campus. Visit the central part tracks, and at the restoration at University Village.
- ▲ 4. Thousand Oaks Park. This previously culverted section of Blackberry Creek adjacent to an elementary school was **49. Strawberry Canyon Fire Trail.** A haven for runners, daylighted (removed from a stormdrain) and restored in this trail crosses Strawberry Creek and Hamilton Gulch, 1995. Now, in 2009, willows have matured to form a dense then works its way upward along the side of the canyon. thicket, alders with 10-inch diameter trunks tower overhead, Near the crest of the hill, as you look out over the canyon, and small birds flit through the shady branches. The creek you can appreciate the bowl shape of this part of the serves as an outdoor classroom for the school and an attractive feature of the park.
- Village. The creek carries less flow than it would have historically because Marin Creek's headwaters are captured in a large stormdrain that now bypasses Village Creek. In **A11. Strawberry Creek Park.** This small section of west of Jackson Street. Look for a meandering channel under the railroad track, Village Creek pops out again in a store parking lot near the freeway.
- ▲6. Lower Codornices Restoration Project. Projects in 2004 and 2006 restored the formerly straight channel of

- habitat for plants and animals, including pools, riffles, and a shading canopy of willows. Natural flows are further the bay. The marsh was once a Miwok summering place. sculpting the bed and banks, making them more natural. Today, water birds such as egrets and herons are frequent Look for gravel and sand deposited on the inside of the bends as point bars, and deeper pools on the outside of the bends. *Riffles* are the shallows between pools.
- are diverted into the Spruce Street storm drain, which drains then walk back toward the freeway and the bird-rich Albany mudflats. Codornices Creek flows through a salt marsh on your right, then under the road into the mudflats. The Marin Creek storm drain enters the mudflats from under the freeway. Viewing platforms and informational signs help you appreciate these wetland habitats. By foot or by bicycle, explore the park (built on landfill) and the Bay Trail, with beach, wildlife, outdoor art, and spectacular views of the Golden Gate Bridge.
- again at the Rose Garden, Live Oak Park, under the BART of campus to see a landscape design that integrates a natural creek. The cool shady banks of Strawberry Creek are perfect places to read, daydream, or study the creek.
- **▲ 10. University of California Botanical Garden.** Strawberry ▲ 5. Village Creek. Created from the historical downstream Creek is landscaped in different styles in different botanical reach of Marin Creek, Village Creek flows through University communities. Compare appearance of the creek in the
- 1998, a restoration project daylighted 800 feet of the creek Strawberry Creek on Allston Way west of Sacramento was daylighted in 1982. Big chunks of concrete forming the under a shady canopy of native riparian trees. After crossing northern bank were once part of the culvert that held the creek. This is a good example of a restored creek that has the advantages of creek daylighting has been a national inspiration for similar projects.

- Bay shore left in the area; behind you is the old wave-cut cliff. The freeway is built on earth fill and forms the west **A 18. Glen Echo Park.** This tiny, two-block park between through the culvert under the freeway. Some flows from the Potter/Derby stormdrain network also flow into the
- wooded park, but at a reduced flow because its headwaters A. Albany Waterfront Park. Park your car at the trailhead, A.13. Temescal Creek Park. Near the Department of Motor Vehicles on Claremont Avenue, the creek bed you see is ▲ 20. Lake Merritt, Lakeside Park. Lake Merritt is a tidal not really Temescal Creek. Most of the water of Temescal Creek runs in a large culvert beneath you. The water you see is pumped into this artificial creek bed during the summer months to create a park amenity. The system was built when this section of Temescal Creek was culverted in the 1970s. Walk along the pleasant pathway or bring your kids to the tot lot.
  - ▲ 14. Lake Temescal Regional Park. In the 1860s, Anthony Chabot dammed Temescal Creek creating Lake Temescal. Chabot's water company delivered water to Oakland and was purchased by EBMUD in 1928. The Hayward fault runs along the northeast side of the lake and continues southeast for about a mile running parallel to Temescal Creek and the Warren Freeway. To see a natural section the creek enters the lake.
  - ▲ 15. Emeryville Crescent. These wetlands are part of the Bay Area creek & watershed maps in the bookstore. new Eastshore State Park. Public access is restricted to for shore birds. Temescal Creek enters the Bay here, as does storm water from West Oakland (See #16).
  - Japanese garden with that in the California-native garden. ▲ 16. Ettie Street Pump Station. Flooding was a serious problem in West Oakland after these former lowlands and marshlands were developed in the late 1800s. In 1954, **24. Dimond Canyon Park.** Treat yourself to a beautiful construction of an extensive storm drain network and pump station improved stormwater drainage from West Oakland to the Emeryville Crescent.
  - become an asset to the community. This demonstration of **A 17. Mandela Parkway.** Engineering design which failed to account for the soft marsh sediments beneath this stretch of the former Nimitz freeway was partly responsible for the collapse of the double-decker freeway in the 1989 Loma

- shore of this artificial lagoon. Tidal flow comes in and out Monte Vista and Montell Streets is a shady place for a stroll along Glen Echo Creek.
  - in this lovely strip park along Richmond Boulevard.
  - estuary, a mixing zone for saltwater and freshwater. It originally connected to San Francisco Bay via San Antonio Creek, a quarter-mile wide waterway. Now it connects to the Oakland Inner Harbor via a narrow channel and tide gate, so tidal flushing is greatly reduced.
  - ▲ 21. Lake Merritt Tide Gate. This gate, accessible by taking the walkway under 7th Street, controls the flow of the tides in and out of Lake Merritt. The water level is usually kept high for recreational use, but is pumped down in the winter to accommodate storm runoff. Note how much the tide cycles naturally. Plans are in place for a major reconfiguration of this waterway.
- of Temescal Creek, walk south along the shore to where **\( \Delta 22. Oakland Museum of California.** Stop in and explore the fascinating exhibits about our East Bay streams and marshes. You can also pick up a copy of this and other
- preserve the area as nesting habitat and foraging grounds **A 23. Piedmont Park.** Visit this small park near Piedmont High School to see tiny Bushy Dell Creek. The Parks Department has been restoring native vegetation here. Earlier restorations were overgrown by invasive, alien English Ivy. New replantings were underway in 2008.
  - hike along Sausal Creek through a wooded canyon. Notice the concrete walls, check dams, and other erosion control 70 years, the check dams are full of sediment, and the masonry structures are washing-out. Community organizations working with state and local government transformed the lower canyon with extensive native restoration. New projects are underway in the upper canyon.

- west side for the trail down Dimond Canyon, or better yet, use the walkway under the freeway for access to both trails! These trails follow two of the most significant sections **A 31. Leona Quarry.** Located in the headwaters of Chimes of natural creek remaining in the Oakland area. Enjoy!
- ▲ 19. Oak Glen Park. Glen Echo Creek is the main attraction ▲ 26. Joaquin Miller Park. Palo Seco Creek runs through the canyon west of the park headquarters. The canyon was part of San Antonio Forest, a stand of huge redwoods stretching from Dimond Canyon over the hills to Moraga, which was completely logged in the 1850s. Today's redwoods are the oldest second growth redwoods anywhere. Look for "fairy rings" of redwood trees outlining the circumference of some of their giant ancestors.
  - **27. Peralta Hacienda Park.** This is another example of on Canyon Oaks Drive, hike through one of the most natural an artificial creek created by diverting a portion of the water from the main creek culverted below. To see the real Peralta Creek, also known as Adams Creek, walk across Davis Street and look down.
- more lush the marsh vegetation is on the south side where **\(\tilde{\Delta}\) 28. Cesar Chavez Park.** A short segment of Peralta Creek is open through this park. A 2003 restoration project removed an old culvert, regraded the creek, installed a new pedestrian bridge, and planted the banks with native trees and shrubs. local residents.
  - ▲ 29. Mouth of Sausal Creek. Historical records and the name Sausal, meaning willow grove, suggest that this creek may have ended in a large, flooded willow grove, impounded by a large sand dune, near the present-day Fruitvale BART station. Today the creek pours forth from a culvert into the dredged tidal canal between Oakland and Alameda. The best view of the culvert outlet is from the fishing pier on the Oakland side of the Fruitvale Bridge. The culvert is big enough to paddle a canoe into!
- structures built by the Works Progress Administration. After **\( \Delta\) 30. Mills College.** Ask for a campus map and directions to Lake Aliso at the MacArthur Boulevard entrance booth. Lake Aliso is a flood control pond, which, when full, is habitat for water birds. Walk downstream from the lake along one of the two remaining long reaches of Lion Creek (previously *Arroyo del Leon*). The creek is open all through

- many birds and beautiful glades to enjoy.
- Creek, this old quarry site has recently been converted to housing. Rainwater runs off the terraced slope via a complex network of concrete V-ditches and pipes. The network converges at a long detention basin beside the freeway, where the water passes through a filter to remove sediment before flowing under the freeway in a pipe, flowing eventually into Chimes Creek. In addition to slowing the release of heavy winter rains, the detention basin provides a small wetland habitat for plants and animals throughout the year.
- ▲ 32. Leona Canyon Regional Preserve. From the trailhead watersheds in the East Bay. The retention pond at the trailhead collects creek water, helping to prevent flooding in the urban areas downstream. Most days the pond is a marsh, full of cattails and birds, but during wet winters the pond fills with water and spills into the storm drain inlets on the slope. The trail follows the Rifle Range Branch of Arroyo Viejo Creek, eventually mounting the ridge and ending at Merritt College.
- A storm drain bypass visible downstream from the bridge **A 33. Arroyo Viejo Recreation Center.** Arroyo Viejo Creek, helps prevent flooding. The park attracts wildlife as well as through this large city park, underwent a major restoration in 2002, creating an attractive space for recreation and education, and a more natural creek environment. Concrete retaining walls were removed and the channel reshaped with wide, gently sloping banks, allowing for safer access and more flood capacity. A new amphitheater, native vegetation, picnic areas, and a pedestrian bridge complete the project. Regular visitors can watch for natural changes as vegetation matures, and the creek settles into its new
  - ▲ 34. Martin Luther King, Jr. Shoreline Park. Visit Damon Marsh by the Curt Flood Sports Complex off Oakport Road, hike the asphalt trail south to its end, then continue a little further to Damon Slough. Water from both Arroyo Viejo and Lion Creeks enter the Bay here. Look for pickleweed and shorebirds, or stay and watch the tides.

## **CREEK & WATERSHED MAP Oakland and Berkeley**

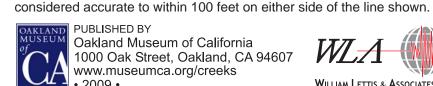
By Janet M. Sowers, William Lettis & Associates, Inc. Christopher M. Richard, Oakland Museum of California Historical wetlands research by the San Francisco Estuary Institute

**This map shows** the current waterways of the Oakland & Berkeley area, including the creek and storm drain network and present-day watershed boundaries. Also shown are the historical creeks, tidal marshes, and lagoons. Google Earth aerial photography accessed in 2008, and field inspection. The Many of these historical water features no longer exist. Development resulted historical locations of creeks were interpreted from 1939 aerial photography, in the construction of underground storm drains and engineered channels, the and 1850-1910 historical maps. Historical tidal marshes and willow groves filling of tidal marshes and the bay, and construction of reservoirs.

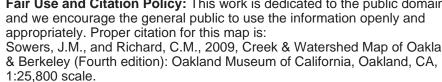
at least 24 inches in diameter.

Engineered channels include both natural creeks significantly reinforced by concrete or rock, and artificial channels, ditches, and canals not coincident with a historical creek. Some newer engineered channels are designed to mimic natural channels.

**Accuracy:** All lines should be considered approximate. There is error in the historical maps, in the transfer of historical information to modern maps, and **Technical assistance** was provided by the cities of Oakland, Berkeley, Albany, in the modern maps themselves. In addition, natural shifting of creeks and and El Cerrito, Balance Hydrologics, Friends of Five Creeks, and the Watershed fluctuations in the extent of marshes and lagoons can be expected both before Project. Editorial assistance was provided by Trish Mulvey. The map was and after the historical maps or photos were made. Historical marsh and lagoon drafted by Jason Holmberg. boundaries are considered accurate to within 1000 feet on either side of the line shown. Historical creek locations are accurate to within 200 feet, ephemeral Fair Use and Citation Policy: This work is dedicated to the public domain, channels to within 500 feet. Present-day creek and storm drain locations are and we encourage the general public to use the information openly and



WILLIAM LETTIS & ASSOCIATES, INC.



How this map was made: Storm drains, engineered channels, flood-control channels, and present-day creeks were compiled from city and county data, were researched by the San Francisco Estuary Institute using a variety of sources including the 1853, 1856, and 1857 U. S. Coast Surveys (www.sfei.org). Notes: Only larger features are shown. Creeks and engineered channels have Complete documentation can be obtained from Janet Sowers at William Lettis a minimum of 0.2 square kilometers of watershed, and storm drains measure & Associates, Inc. in Walnut Creek, or www.museumca.org/creeks. The base map showing present geographic features consists of portions of the following U. S. Geological Survey 7.5-minute topographic quadrangles: Richmond (1980), Oakland West (1980), and Oakland East (1980). We added major new roads and highways.

> Financial support was provided by the Alameda Countywide Clean Water Program and the Oakland Museum of California.

appropriately. Proper citation for this map is: Sowers, J.M., and Richard, C.M., 2009, Creek & Watershed Map of Oakland