CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER

REISSUED WASTE DISCHARGE REQUIREMENTS and WATER QUALITY CERTIFICATION for:

MARTIN MARIETTA MARINE OPERATIONS
SAND MINING IN CENTRAL BAY, 2027 – 2036

I. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region, finds that:

A. Order Purpose

This Order constitutes Waste Discharge Requirements (WDRs) and provides the Clean Water Act (CWA) section 401 water quality certification (Certification) for Martin Marietta Marine Operations (Martin Marietta) for Sand Mining in Central Bay (Project). Martin Marietta previously implemented sand mining under WDRs and Water Quality Certification Order No. R2-2015-0008, issued for a 10-year period starting in 2015, and two additional 1-year water quality certifications, effective August 21, 2025, and June 1, 2026, covering sand mining activities through May 31, 2027. Martin Marietta submitted a Pre-Filing Meeting Request to the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), on July 30, 2025. A Pre-Filing Meeting was held on January 7, 2026. On April 24, 2026, Martin Marietta submitted a complete and valid request for certification that the Project will comply with state water quality standards.

Martin Marietta has applied for a new 10-year sand mining permit from the U.S. Army Corps of Engineers (Corps) for mining in navigable waters under ~~pursuant to~~ section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and for the discharge of dredged material under section 404 of the CWA. On March 11, 2026, the Corps issued a public notice to solicit comments on the proposed project pursuant to section 404 of the CWA (33 U.S.C. §1344) and section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403).

For the Certification, the Water Board is required to evaluate whether the Project, including its operation activities, will comply with applicable water quality requirements per 40 CFR part 121.3(a). The Water Board must include conditions, i.e., requirements, in a certification to assure that the activity will comply with applicable water quality requirements per 40 CFR part 121.3(b). For the WDRs, the Water Board must implement the San Francisco Bay Water Quality Control Plan (Basin Plan) and protect beneficial uses, among other requirements, per California Water Code (Water Code) section 13263.

B. Project Scope

Sand is mined in the San Francisco Bay Estuary (Estuary) from three lease areas in Suisun Bay and nine lease areas in the Central Bay (Figure 1) and is transported to upland facilities (offloading facilities) around the Estuary for processing and storage (Figure 2). Martin Marietta

conducts sand mining operations on State Lands Commission (SLC)-owned lands in western Central San Francisco Bay (Figure 3). Sand mining is the intentional dredging of sand and fine to medium gravel (hereinafter referred to collectively as sand) to be later used and sold for commercial purposes. The Project and its history are summarized below.

1. Project Overview

Martin Marietta currently uses one tugboat/barge pair for sand mining: the tug San Joaquin River with the trailing suction hopper barge the Sand Merchant, which is equipped with suction mining equipment. The Sand Merchant is 230 feet long by 55 feet wide, with an approximate cargo capacity of 2,400 cubic yards (cy). It is limited by draft and other operating constraints to mining in water with a minimum depth of -20 feet mean lower low water (MLLW) and can mine in water up to about -80 feet MLLW.

During mining operations, the drag head at the end of the 24-inch-diameter suction pipe is buried about 6 to 18 inches into the sand substrate. The drag head consists of a mining face measuring 36 by 36 inches that is equipped with a 6-inch steel square grid, referred to as a grizzly, to prevent entrainment of material 6 inches or larger in diameter. Water and sand are drawn into the drag head by the suction of a centrifugal pump. Water drawn into the drag head through the substrate creates a sand-water slurry that allows the sand to be suspended and pumped into the hopper barge. Martin Marietta's equipment has a maximum pumping capacity of 15,000 gallons per minute (gpm); sand to water proportions are typically about 17 percent sand and 83 percent water for finer fill sand and 12 percent sand and 88 percent water for coarser sand.

This Order uses suction pipe to refer to the point of sediment intake for Martin Marietta's drag head and suction pipe.

2. Discharge Description

During mining, while the sand-water slurry is filling the cargo hopper, accumulating sand displaces the water from the sand-water slurry in the hopper. On the Sand Merchant, the displaced water is discharged through overflow pipes on either side at the rear of the cargo hopper that extend down below the waterline on the outside of the barge. The bottom of the cargo hopper is also fitted with a dewatering system. A pipe along the centerline, at the bottom of the hopper, has fine-mesh-screened openings where water that has filtered through the sand is collected and pumped overboard.

The discharge, also known as return-flow, decant water, or overflow, contains material that does not settle out in the hopper, such as fine-grained sediment (silt and clay particles), aeration bubbles, dissolved substances, detritus, and plankton. It may also contain larger-size aggregates. Due to these characteristics, a visible plume (turbidity) may occur around the barge while the discharge is taking place. Based on the equipment and methods used for sand mining within the Estuary, commercial sand characteristically ranges in size from approximately 0.04 inch (1 mm) to 0.5 inch (12 mm), with larger and smaller particles discharged overboard. No chemicals or other materials are added to the overflow plume during sand mining. Martin Marietta has estimated that it discharges approximately 3,034,435 gallons (15,024 cy) of decant water containing about 1.2 cy of fine-grain suspended sediment per mining event.

Once mining is completed, the barge is taken to a site for offloading and processing. Figure 2 shows offloading facilities in the Bay Area. The Sand Merchant can either offload using a conveyor offloading system (dry offload) or hydraulically offload by re-slurrying the cargo and

pumping the sand ashore (wet offload). Sand used in concrete must be washed using fresh water before delivery to the customer. This is necessary to produce a sand product with a chloride content appropriate for concrete, generally 0.006 percent chloride or less by weight of cement. Martin Marietta conducts sand washing at its sand yards in Oakland and San Francisco. Offloading facilities in the Bay Area are relatively small (typically 4 to 5 acres) and have limited capability to stockpile or store sand for an extended period. Therefore, sand mining in the Estuary is conducted in response to short-term demand. The wastewater discharges from Bay Area offloading facilities are currently regulated under the Water Board's General Permit for Aggregate Mining and Sand Washing/Offloading Facilities, Order No. R2-2020-0028, as may may subsequently be reissued. Stormwater discharges from Bay Area sand yards, which are not otherwise commingled with wastewater, are regulated under the statewide NPDES Industrial Stormwater General Permit (NPDES Permit No. CAS000001), Order 2014-0057-DWQ, as amended, and as may subsequently be reissued. As such, they are not addressed in this Order.

3. Project Location

The specific location where Martin Marietta proposes to continue mining sand is the nine SLC lease areas in Central Bay near latitude 37.83961, -122.42821 (Figure 3). Sand mining does not occur uniformly within the lease areas, but is typically clustered within specific areas where sand deposits have a low percentage of fine material (silts, clay, and mud). Material with a low percentage of fines is more suitable for use in construction materials. In addition, mining locations are limited by equipment constraints and permit requirements. The actual locations where sand mining occurs in Central Bay are regulated and/or influenced by a number of factors, which include SLC-designated lease areas, navigation restrictions, areas having suitable water depths for mining, areas where sand is known to occur, and areas having moderately high water velocities resulting in frequent sand movement, replenishment, and scour of fines from sand deposits.

4. Project Purpose and History

The purpose of sand mining in the Estuary is to obtain aggregate for construction activities primarily within the greater San Francisco Bay Area, either as fill and base material or as an ingredient in ready-mix concrete and hot mix asphalt. Sand obtained from the Estuary is used in the construction and maintenance of highway and freeway systems, commercial and public buildings, and residential construction. Sand is also used for local climate resiliency projects, e.g., beach and habitat restoration, and for site remediation projects as backfill material after removal of contaminated sediment.

Sand has been mined commercially from the Estuary for more than seven decades, beginning in the 1930s. Hanson Marine Operations entered the construction sand mining business in 1999 when it acquired two companies, Olin Jones Sand Company and Tidewater Sand and Gravel Company (also known as Moe Sand Company). Hanson Marine Operations was acquired by Martin Marietta in 2021.

5. Sand Mining Volume

The amount and seasonal timing of mining volumes are largely dictated by demand for product and the weather (seasonality). Upland inventory space is limited at the offloading facilities, and sand is mined in response to demand. Mining volumes may also be indirectly limited by the maximum cubic yardage allowed under the respective leases and permits. The actual seasonal distribution of mining in any given year in the future may vary widely depending on demand.

Under SLC's Central Bay mining leases, Martin Marietta may extract a volume of 1,395,000 cy per year, which this Order includes as a peak year volume. This Order also includes the following average annual volume and 10-year maximum volume ~~over a 10-year period~~ from ~~a~~ the 2,601-acre lease area in central San Francisco Bay (Figure 3).

Total Average Annual Volume	1,141,000 cy
Total Peak Year Volume	1,395,000 cy
Total Ten-Year Maximum (Not-To-Exceed) Volume	11,141,000 cy

Table 1. Sand Mining Annual and Ten-Year Volume Restrictions ~~for all Leases~~.

The ten-year maximum (not-to-exceed) volume allows for multiple peak years when construction-related demand for sand is greater than the allowed average annual volume. Volumes are limited by Provision II.C.4 of this Order.

Under this Order ~~SLC's four Central Bay leases~~ for the nine lease areas, Martin Marietta may extract the following annual volume over a 10-year period from each individual lease.

Lease Number and Location	Average Volume	Peak Volume
PRC 709: Presidio, Alcatraz, and Point Knox Shoals	170,000	235,000
PRC 2036: Point Knox South	360,000	450,000
PRC 7779: Point Knox Shoal	484,000	550,000
PRC 7780: Alcatraz South Shoal	127,000	160,000

Table 2. Sand Mining Volume Restrictions for Individual Leases under this Order.

6. Sand Mining Methods

Martin Marietta uses two methods of hydraulic sand mining–stationary potholing and moving potholing:

- Stationary potholing involves an initial search for an appropriate sand source, followed by "stationary" mining by burying the suction pipe into the substrate and controlling the suction pipe from moving by either anchoring or engine thrust.
- Moving potholing may involve mining more than one specific location during a mining event and may involve some movement within a general site. Moving potholing is similar to stationary potholing, in that it involves mining in a "stationary" position when an appropriate sand source is found, but also involves moving in search of another appropriate stationary source. Martin Marietta uses this method in addition to stationary potholing when the sand at a particular location becomes unsuitable (i.e., too coarse or too fine) or is particularly challenging to remove (e.g., too consolidated or weather conditions make removal difficult). If the operator determines that the barge needs to move to a new location, they raise the suction pipe into the water column no higher than 3 feet off the bottom and clear the drag pipe by keeping the pump engaged for up to 30

seconds. The operator then turns off the pump while the barge is *en route* to the next potential mining location.

In both methods, the suction pipe is equipped with small external vent pipes that extend a few feet above it and pull in water to help create the sand-water slurry when the pipe is buried in the substrate too deeply to draw sufficient water through the sand substrate itself. This allows for sand to be mined without moving the suction pipe and for the suction pipe to be inserted farther under the substrate surface. As sand is pumped to the barge, adjacent sand is mobilized and falls into the pothole created by the suction. As the pothole is deepened, the suction pipe is lowered further to keep it in the substrate.

As mining commences, the dredge operators determine the suitability of the sand for mining. Tests include grab samples to determine the gradation of the sand (coarse or fine) and visual observations of the slurry (a dark color indicates high sand to water proportion, signifying either loose, unconsolidated sand and/or finer sand). Vacuum measurements on the suction pipe and density measurements of the slurry and pump revolutions per minute give indications of the slurry density as well. Once the operator has determined a suitable location and the barge has been placed in position, an anchor is dropped from the bow of the barge. The barge is allowed to pivot and shift into position by drifting on the current. Once the barge has drifted to a stable position, the hydraulic suction pipe assembly is lowered into the water using a cable winch system to the substrate surface. The pump is primed, and the pipe is filled with water when the suction end is less than 3 feet from the sand surface. The suction pipe is then slowly lowered about 5 to 8 feet into the sand, which further stabilizes the barge, and mining begins.

If the sand becomes unsuitable (too coarse or fine) or the substrate too consolidated to mine, the operator shuts down the pump, picks up the suction pipe, and proceeds to another location to resume mining.

7. Frequency, Duration, and Timing

The duration and timing of individual mining events reflect differences in equipment, weather, conditions of the substrate at the mining site, and type of sand (fill or coarse). Sand mining activity may occur at any time of day. The timing is influenced by tidal schedules, which dictate when loaded barges can navigate to the various offloading facilities. Martin Marietta sand mining events generally last from 3 to 5.5 hours and are relatively consistent from month to month. Yields from a Martin Marietta sand mining event average between 1,900 cy and 2,200 cy.

Once the barge is loaded, it travels to an upland offloading facility. Depending on the mining and offloading locations, a single event–including loading, unloading, and travel time–can take anywhere from 8 to 24 hours. Tidal conditions may further reduce the frequency of sand mining operations and disturbance of the sand shoals (e.g, the onset of low tide at the time a barge is available to return to a sand shoal or arrive at an offloading facility could delay the sand mining activity). Under these circumstances, from an operational perspective, the greatest frequency that the same mining vessel could disturb any single area is two times in any 24-hour period.

C. Sand Mining Impacts on Benthic and Aquatic Habitat

Sand mining affects multiple vertebrate and invertebrate communities inhabiting the Estuary, including benthic infauna and epifauna, mobile invertebrates, such as shrimp and crabs, demersal and pelagic fish, and the planktonic stages of both invertebrates and fish. The suction

current created to pump the sand slurry off the seafloor, up the dredge pipe, and onboard the barge could be too strong for some organisms and age classes to escape entrainment. Specifically:

- Sand mining can impact benthic infauna and epifauna directly via entrainment, and indirectly by changing the distribution and characteristics of benthic habitats. Martin Marietta submitted Biological Assessments for consultation with National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) regarding potential impacts to federally-listed special status species and essential fish habitat. The Biological Assessments concluded that the proposed sand mining is not expected to change the benthic habitat or community and will not substantially affect the availability or distribution of foraging habitat for protected fish species.
- Sand mining can impact larval, juvenile, and adult fish and invertebrates in the water column through entrainment during priming and clearing of the centrifugal pump when the suction pipe is positioned near the bottom of the water column, within 3 feet of the seafloor. In addition, larval fish can be entrained through the vent pipes above the suction pipe intake of the hopper dredges. Martin Marietta has installed positive barrier fish screens at the intake ends of the vent pipes. The screens are sized to exclude juvenile and adult fish, but it currently is not technologically possible to exclude larvae.

Provisions C.5 and C.6 of the 2015 order for the Project, Order No. R2-2015-0008, required Martin Marietta to organize a Benthic Habitat Technical Advisory Committee (BTAC), which included representatives from the Water Board, California Department of Fish and Wildlife (CDFW), Bay Conservation and Development Commission (BCDC), NMFS, and USFWS, among others. The BTAC's purpose was to develop a benthic habitat study work plan and complete investigations to verify the results of a Biological Assessment and 2009 Applied Marine Sciences study, which concluded that sand mining is not expected to change the benthic habitat or community and will not substantially affect the availability or distribution of foraging habitat for protected fish species. The BTAC reviewed proposals from multiple technical consultants and selected NewFields Sediment Management and Marine Sciences (NewFields) to develop and conduct a study of the potential effects of sand mining on the San Francisco Bay benthic ecology in 2016 through 2018. Based on the study's analysis of key benthic habitat parameters, such as the grain size major mode, depth of the apparent redox potential discontinuity, benthic habitat type, and infaunal successional stages, NewFields confirmed the 2009 results, that sand mining had no discernable long-term impacts to the benthic habitat or community at the Central Bay sand mining sites over the duration of the study. In 2020, NewFields conducted a supplemental data evaluation at the BTAC's request, which again confirmed the conclusions of the prior studies.

As required by BCDC in 2015, Martin Marietta and stakeholders created a Sand Studies Technical Advisory Committee and an Independent Science Panel (ISP) to develop and carry out studies to better understand sand mining impacts on the Estuary's sediment budget and transport. In 2024 the ISP concluded that even with localized erosion and bed lowering, the best available science is unable to determine sand mining's effect in the Estuary on bathymetric change trends or to the outer coast. The studies did not determine sand mining impacts to beaches. The ISP identified key information gaps limiting the ability to assess the effects of sand mining and recommended future studies. One recommendation is to continue bathymetric surveys of lease areas and collect mining data. Provision II.C.10 of this Order requires bathymetric surveys as recommended. Provisions II.C.8 and II.C.9 of this Order requires Martin Marietta to provide reports in accordance with the Self-Monitoring and Reporting Program.

D. Avoidance, Minimization, and Mitigation Measures

Provisions II.C.4, II.C.5, and II.C.6 of this Order require implementation of the following measures, which are intended to minimize adverse effects on special-status species and their habitats within the project area, to protect Estuarine Habitat, Fish Migration, Fish Spawning, Preservation of Rare and Endangered Species, and Wildlife Habitat Beneficial Uses.

- A positive barrier fish screen that meets CDFW, USFWS, and NMFS specifications has been installed on Martin Marietta mining equipment (vacuum-relief vent pipe on top of the suction pipe) to prevent entrainment take of adult and juvenile special-status fish species when water is drawn in through the vent pipe to thin the sand slurry at times when it becomes too dense.
- To minimize fish entrainment, when priming the pump or clearing the suction pipe, Martin Marietta holds the end of the pipe as close to the bottom as possible, no more than 3 feet off the bottom at its maximum height in the water column. Martin Marietta does not engage the suction pump until the suction pipe is on the substrate. The dredge operator then continuously monitors for production of “clear water” and disengages the pump if “clear water” is observed (i.e., when the suction pipe is off the bottom, limited to 6 minutes per mining event). If it becomes necessary to move the barge, the operator raises the suction pipeand clears the pipe for no more than 30 seconds. The operator then turns off the pump while the barge is en route to the next potential mining location. When the barge stops moving the operator lowers the suction pipe into the substrate and turns on the pump for sample collection and further mining if the substrate meets grade specifications.
- To avoid impacts to sensitive shallow water habitat, mining is not allowed within 200 feet of any shoreline or within 250 feet of areas with water depths less than or equal to -30 feet MLLW in the Central Bay lease areas.
- Martin Marietta will establish a 100-foot buffer zone around all hard bottom habitat within and adjacent to Central Bay lease areas, especially Harding, Shag, and Arch Rocks.
- To fully compensate for unavoidable entrainment that impacts habitat necessary for the preservation of rare and endangered species, fish spawning, fish migration, and estuarine habitat (see Findings section C), Martin Marietta will purchase mitigation credits from a CDFW- and USFWS-approved mitigation bank. The amount of mitigation credits will be calculated from a ratio (0.0026667 acres of mitigation credits/acre-ft of water diverted) that was developed by CDFW to provide permanent protection and perpetual management of compensatory habitat for protected fish species.

This Order does not allow for the take, or incidental take, of any special status species under the Endangered Species Act and the California Endangered Species Act. Martin Marietta is required, as prescribed in the federal and state endangered species acts, to consult with the appropriate agencies prior to commencement of the project. Mitigation required by this Order is solely for compensation of impacts to beneficial uses.

E. Sediment Characterization and Overflow

Provision C.4 of the 2015 order for the Project, Order No. R2-2015-0008, required Martin Marietta to submit a Sampling and Analysis Plan (SAP) acceptable to the Executive Officer and conduct a special study to evaluate decant/overflow water ~~effluent~~ and receiving water quality during operations. The special study was required to characterize overflow water ~~effluent~~ toxicity

and composition, the spatial and temporal extent of the overflow plume in the receiving water and compare overflow plume suspended sediment concentrations to background conditions. NewFields developed and conducted water quality monitoring during sand mining operations over the span of two survey events and found that the monitoring results from both surveys demonstrated that discharges from sand mining operations do not adversely impact the water column with regards to chemical concentrations or toxicity, and that any physical effects related to plume turbidity are temporally and spatially limited. As a result, this Order does not include discharge ~~effluent~~ limitations for toxic chemicals or turbidity in decant/overflow water.

F. California Environmental Quality Act

On October 19, 2012, SLC, as lead agency, certified a Final Environmental Impact Report (EIR) (State Clearinghouse No. 2007072036) in accordance with CEQA for three sand mining projects (Figure 1), including the Project, titled the San Francisco Bay and Delta Sand Mining Project. The SLC also adopted a Statement of Findings and Statement of Overriding Considerations (SOC) (October 19, 2012). Furthermore, in accordance with CEQA, the SLC, as lead agency, prepared a Supplemental Environmental Impact Report (SEIR) in response to modifications to the Project—an additional 10 years of continued sand mining and the reduced total and annual permitted extraction volumes than analyzed in the 2012 EIR—and to consider new information on potential effects from sand mining. On February 9, 2026, the SLC certified the Final SEIR (State Clearinghouse No. 2007072036) for the San Francisco Bay and Delta Sand Mining Project as revised and adopted a Statement of Findings (2026 Findings).

SLC's CEQA review in the EIR analyzed the Project as proposed then to mine a maximum annual total volume of 2,040,000 cy for the three projects, and 1,540,000 cy from the Central Bay lease areas in Figure 3 during peak years. The SEIR analyzed the Project with extraction volumes reduced to 1,750,000 cy total for the three projects, and 1,395,000 cy from the Central Bay lease areas. After analyzing the potential effects of the revisions to the Project with the new information, the SLC determined that there were no significant effects that were not previously identified in the EIR.

As required by CEQA and the State CEQA Guidelines (Public Resources Code (PRC) sections 21002.1, subdivision (d), 21081; California Code of Regulations (CCR), title 15 section 15096, subdivisions (f) and (h)), the Water Board, as a responsible agency under CEQA, has considered the EIR and the SEIR and finds that the environmental documents address the water resource impacts of the Project and its modifications. The SLC adopted a mitigation monitoring and reporting program (MMRP) with the SEIR for all mitigation measures that have been adopted for the Project to reduce potential significant impacts (Pub. Resources Code, § 21081.6, subd. (a)(1); Cal. Code of Regs., tit. 14, § 15091, subd. (d).).

The EIR and SEIR describe the potentially significant environmental effects to water resources. The Project as revised has the following potentially significant environmental effects that are within the Water Board's purview and jurisdiction:

Bio-6: Sand mining could result in smothering or burial of, or mechanical damage to, infauna and epifauna, and reduced fish foraging.

Similar to the 2012 EIR, the SLC determined in the SEIR that impacts will be less than significant with mitigation. The Water Board concurs and hereby finds that changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR and SEIR for the

reasons described in the SLC's SOC on pages D-7 through D-9 and the 2026 Findings on pages B-5 through B-6 and incorporated herein.

Bio-8: Regular operation of sand mining activities will cause entrainment and mortality of delta and longfin smelt. The Project would result in a significant impact to delta smelt and longfin smelt as a result of entrainment and mortality during sand mining operations impacting delta smelt and longfin smelt thereby exceeding the established significance level criteria thresholds.

In the 2012 EIR, the SLC determined that impacts to delta and longfin smelt would remain significant and unavoidable even with implementation of the recommended mitigation measures. In analyzing this potential impact in the SEIR, the SLC determined that the impact will be reduced to less than significant with mitigation. The Water Board concurs with SLC's determination and their finding that the implementation of operational measures and the requirement to provide compensatory mitigation will have improved mitigative effects over those identified in the 2012 EIR. The Water Board hereby finds that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the SEIR and hereby incorporates the findings in the 2026 Findings on page B-6.

Bio-9: Green sturgeon, Chinook salmon, and steelhead trout will be impacted during sand mining. The Project will cause the entrainment and mortality of green sturgeon, Chinook salmon and steelhead trout during sand mining.

In the 2012 EIR, the SLC determined that implementation of mitigation measure MM BIO-8a will reduce effects of the Project due to entrainment of Chinook salmon, steelhead trout, and green sturgeon to less than significant. In the SEIR, the SLC found that the implementation of MM BIO-9a and MM BIO-9b would ensure that the revisions to the Project would not cause a new significant impact or increase the severity of an impact identified in the 2012 EIR. The Water Board concurs and hereby finds that changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR and SEIR for the reasons described in the SLC's SOC on pages D-14 through D-16 and the 2026 Findings on page B-7 and incorporated herein.

In addition to the original Approved Project, the Water Board has ordered Martin Marietta to abide by certain conditions in order to meet beneficial uses and water quality objectives. These conditions do not create any new significant impacts or increase the severity of impacts requiring any additional CEQA analysis as provided by PRC section 21166 and CEQA Guidelines sections 15162 and 15163.

G. San Francisco Bay Basin Water Quality Control Plan

Water Code section 13240 authorizes the Water Board to develop a Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), which is the Water Board's master water quality control planning document. The Basin Plan designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan was duly adopted by the Water Board and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required. The latest version can be found on the Water Board's website at

http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml. Requirements in this Order implement the Basin Plan.

The existing beneficial uses of San Francisco Bay in the vicinity of the sand mining areas are:

- Industrial service supply (IND)
- Industrial process supply (PROC)
- Commercial and sport fishing (COMM)
- Shellfish harvesting (SHELL)
- Estuarine Habitat (EST)
- Fish migration (MIGR)
- Preservation of rare and endangered species (RARE)
- Fish Spawning (SPWN)
- Wildlife habitat (WILD)
- Water contact recreation (REC-1)
- Noncontact water recreation (REC-2)
- Navigation (NAV)

H. Water Code Section 13263

Water Code section 13263 requires WDRs to implement the Basin Plan and take into consideration beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. This Order implements the Basin Plan and takes into consideration the above factors. For example, this Order continues to include receiving water limitations to prevent violations of water quality objectives and prohibits the creation of any nuisance from sand mining activities, among other requirements. For Water Code section 13241 factors, the Water Board finds:

1. **Past, present, and probable future beneficial uses of water**. Basin Plan Chapter 2 identifies designated beneficial uses for water bodies in the San Francisco Bay Region. Beneficial uses of water relevant to this Order are also identified above in Finding G. The Water Board has taken beneficial uses into account in establishing the requirements of this Order. The prohibitions, receiving water limitations, and provisions in this Order ensure that present and future beneficial uses of water will not be adversely affected.
2. **Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto**. The environmental characteristics of the San Francisco Bay watershed are described in Basin Plan Chapter 1 and in the application for this Order. This Order's prohibitions, receiving water limitations, and provisions ensure that the environmental characteristics of the hydrographic unit will not be adversely affected.
3. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area. By complying with the requirements established in this Order, Martin Marietta will ensure control over factors that could affect water quality. This Order's prohibitions, receiving water

limitations, and provisions will ensure that sand mining activities are properly implemented, and water quality is protected.

4. **Economic considerations.** Martin Marietta has reliably conducted sand mining as required by the Water Board. Therefore, the prohibitions, receiving water limitations, and provisions are unlikely to impose additional economic burden on Martin Marietta. In the unlikely event that Martin Marietta incurs additional costs to remain in compliance with this Order, those costs would be justified and necessary to properly conduct the Project and protect public health and the environment. If Martin Marietta were not in compliance with this Order, it could have a negative economic impact on commercial fishing, rare and endangered species habitat, and estuarine habitat. Because Martin Marietta provides commercial aggregate for construction projects throughout the San Francisco Bay Area, if Martin Marietta did not conduct the Project it could have negative impacts on construction costs affecting the local economy and residents of the region.
5. **The need for developing housing within the region.** This Order will have no impact on the development of housing within the region.
6. **The need to develop and use recycled water.** This Order will have no impact on the development and use of recycled water.

I. Dredge or Fill Procedures

The State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Dredge or Fill Procedures) include a wetland definition and procedures for submitting, reviewing, and approving applications for water quality certifications and waste discharge requirements for dredge or fill activities. The Dredge or Fill Procedures only allow authorization of dredge or fill activities after it has been demonstrated that a sequence of actions has been taken to first avoid, then to minimize, and lastly compensate for adverse impacts that cannot be practicably avoided or minimized to waters of the state. The avoidance, minimization, and compensatory mitigation measures included in the Project and required by this Order comply with the Dredge or Fill Procedures.

J. Anti-~~D~~degradation Policy

Federal regulations at 40 C.F.R. part 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Resources Control Board established California's antidegradation policy through Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). It incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality must be maintained. Resolution No. 68-16 only allows change in the existing high quality if it has been demonstrated to the Water Board that the change is consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses of such water, and will not result in water quality less than that prescribed in the policies. Resolution No. 68-16 further requires that discharges meet WDRs that will result in the best practicable treatment or control of the discharge necessary to assure that (a) pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained. Permitted discharges must comply with both the federal and state antidegradation policies.

This Order complies with the antidegradation provisions of 40 C.F.R. part 131.12 and State Water Board Resolution No. 68-16. It is not expected to result in water quality less than that prescribed in the policies. No pollution or nuisance is expected to occur, and the highest water quality consistent with the maximum benefit of the people of the State will be maintained. This Order reduces the annual average volume, the peak year volume, and the ten-year maximum volume of sand that ~~Suisun Associates~~ Martin Marietta is authorized to mine as compared with the volumes authorized under the previous order. The Project will increase turbidity during sand mining activities from overflow discharge described in Findings section E, thereby temporarily degrading water quality. The increased turbidity, however, will be short-lived and localized to the areas in the immediate vicinity of the sand mining. Accordingly, the reduction in water quality will be minor, short-term, and localized, and as a result, will not cause long-term effects. Leaking or overflow of scows are not permitted during transport, preventing turbidity from increasing in route to the offloading facilities. In short, sand mining is temporary, and turbidity quickly dissipates once sand mining is complete. The discharges resulting from the Project will not impair beneficial uses listed in Section I.G of this Order.

The temporary degradation from the permitted discharge is also consistent with the maximum benefit to the people of the State. The Project provides sand for public and commercial construction projects, including public infrastructure and residential projects as described in Section I.B.4 of this Order. Construction-related demand for sand will not cease; therefore, if sand mining in the Estuary as described in this Order were not authorized, demand for sand would be fulfilled by other sources. These other sources include local quarries, aggregate materials recycling facilities, or imported sand from British Columbia or Mexico as described in Section 3.3.1 of the 2012 EIR and Section 4.4.1 of the 2026 SEIR. The increase in other local sources would have significant and unavoidable air quality impacts under CEQA. Because sand mining as described in this Order takes place in open water, there are no impacts to population and housing, public services, or utilities and service systems. Sand quarries in the Region would likely result in additional impacts in these categories. Sand imported from British Columbia or Mexico would result in additional greenhouse gas emissions from consumption of fossil fuels used to transport the material.

In addition, an economic analysis was performed for the Corps in 2014. In this analysis, the cost of sand mined from the San Francisco Bay was estimated at $18.28 per ton, and the cost of sand from other sources was estimated at $23.48 per ton. Therefore, the cost of sand from other sources was about 28 percent greater than the cost of sand from the San Francisco Bay. When using a conversion factor of 1.4 tons per cubic yard and the 1,141,000 cy annual average volume, not authorizing the Project would prevent 1,597,400 tons of sand per year from being extracted from the San Francisco Bay at an economic cost of about $8,310,000 primarily to the transportation sector with some minor additional costs to the housing sector. Over 10 years, the cost to the San Francisco Bay Area would be about $83,100,000 in 2014 dollars. If temporary degradation were not authorized there would be potentially significant environmental and economic costs to the people of the State and particularly to those in the Region.

The permitted discharge will also not result in water quality less than that prescribed in policies and this Order requires the best practicable control through avoidance and minimization measures with receiving water limitations and prohibitions as backstops to assure no pollution or nuisance and the highest water quality consistent with the maximum benefit of the people.

K. Water Code Section 13267

Water Code section 13267 authorizes the Water Board to require Martin Marietta to submit technical or monitoring program reports regarding its discharges and suspected discharges of waste. Technical and monitoring reports required by this Order are pursuant to Water Code section 13267 and are necessary to ensure that the threat to water quality created by the threatened discharges of the overflow water and suspended material in the overflow water described above are properly assessed, abated, and controlled. Due to the importance of protecting waters of the State and their applicable beneficial uses, the burden, including costs, of the reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

Failure to submit reports in accordance with schedules established by this Order, or failure to submit a report of sufficient technical quality acceptable to the Executive Officer, may subject Martin Marietta to enforcement action pursuant to Water Code section 13268.

L. Water Code Section 13383

Water Code section 13383 authorizes the Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements for Martin Marietta because its mining operations discharge to navigable waters.

Failure to submit reports in accordance with schedules established by this Order, or failure to submit a report of sufficient technical quality acceptable to the Executive Officer, may subject Martin Marietta to enforcement action pursuant to Water Code section 13385.

M. Notification

Martin Marietta and interested persons have been notified of the Water Board's consideration of WDRs and a certification for the Project and have been provided with the opportunity to submit their written comments from August 4 ~~DATE~~ through September 3 ~~DATE~~, 2026.

N. Public Hearing

The Water Board, in a public meeting, heard and considered all comments pertaining to the WDRs and Certification for the Project.

II. DISCHARGE PROHIBITIONS, RECEIVING WATER LIMITATIONS, AND PROVISIONS

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the Water Code and regulations adopted thereunder and other State regulations, as applicable, and to the provisions of the federal C~~lean~~ W~~ater~~ A~~ct~~, as amended, and regulations and guidelines adopted thereunder, that Martin Marietta shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of water, material, or wastes that is not otherwise authorized by the Order is prohibited.

2. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) at any point in San Francisco Bay and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any non-tidal water, dead end slough, similar confined water, or any immediate tributary thereof." All shoals presently mined for sand, as listed under Table 1, are expected to have a dilution ratio of at least 10:1. The determination was made based on the depth of the receiving water bodies where sand mining typically occurs (-30 to -90 feet MLLW in Central Bay) and a potential maximum overflow or decant discharge rate of 15,000 gpm.
3. Dredging and disposal activities that create a condition of pollution or nuisance as defined in Water Code section 13050(l) and (m) are prohibited.
4. Overflow, leakage, or spilling of dredged sediment from barges, bins or dump scows during transportation from the mining site to the sand yard is prohibited.
5. The discharge of decant/overflow water or sediment ~~effluent~~ which meets the definition of a hazardous or designated waste as defined in Title 23, Division 3, Chapter 15 of the California Administrative Code is prohibited. Only dredged material that has been demonstrated to be non-hazardous may be mined.

B. RECEIVING WATER LIMITATIONS

The discharge of decant/overflow water ~~effluent~~ from Martin Marietta' hopper barges shall not cause the following conditions to exist in waters of the State:

1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
2. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
3. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.
5. Temperature alteration of more than 5 degrees fahrenheit above natural receiving water temperature.
6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units.
7. Coloration that causes nuisance or adversely affects beneficial uses.
8. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

9. Dissolved oxygen concentrations below 5.0 milligrams/Liter in Central Bay (if natural factors cause lower concentrations, then this discharge shall not cause further reductions).
10. Dissolved sulfide concentrations above natural background level.
11. Changes greater than 0.5 pH units in ambient pH levels and pH measurements below 6.5 or above 8.5.

C. PROVISIONS

General

1. Sand mining shall be implemented in conformance with the Project as described in Findings sections B through F above, and all documents submitted with the application for this Order.
2. Martin Marietta shall maintain a copy of this Order on all vessels at a location where it is available to all vessel personnel at all times.
3. **Lease Area Boundaries.** Martin Marietta shall limit sand mining and decant/overflow water ~~effluent (overflow)~~ discharges to area designated under SLC Lease No. as described in Finding B.3 and shown in Figure 3. Mining is not permitted outside of the lease area. This limitation reduces and avoids the risk of mining in sensitive subtidal habitat that is located outside the designated lease areas.
4. **Annual Volume Limits.** Martin Marietta shall limit the total volume of sand mined annually in accordance with the limitations set forth in Table 1 under all Central Bay leases, and limit the volume of sand mined annually in each individual lease to the amounts listed in Table 2.
5. **Location and Depth Restrictions.** Martin Marietta shall comply with the following mining location and depth restrictions:
    a. No mining within 200 feet of any shoreline.
    b. No mining within 250 feet of depths less than -30 feet MLLW.
6. Martin Marietta shall implement the following measures to minimize and compensate for adverse effects on special-status species habitat within the project area:
    a. Maintain a positive barrier fish screen that meets CDFW, USFWS, and NMFS specifications on Martin Marietta mining equipment.
    b. When priming the pump or clearing the suction pipe, hold the end of the pipe as close to the bottom as possible, no more than 3 feet off the bottom at its maximum height in the water column.
    c. Do not engage the suction pump until the suction pipe is on the substrate and disengage the pump if “clear water” is observed (i.e., when the suction pipe is off the bottom, limited to 6 minutes per mining event).
    d. If it becomes necessary to move the barge, raise the suction pipe and clear the pipe for no more than 30 seconds. Then turn off the pump while the barge is en route.
    e. Establish a buffer zone at a minimum of 100 feet from the outward edge of any hard bottom feature within and adjacent to Central Bay lease areas such

that mining equipment does not come into physical contact with these sensitive areas, including Harding, Shag, and Arch Rocks. Martin Marietta shall notify Water Board staff via email if any physical contact occurs between mining equipment and hard bottom areas, to establish a new minimum buffer zone distance sufficient to avoid subsequent contacts.

f. Purchase mitigation credits from a CDFW- and USFWS-approved mitigation bank to provide permanent protection and perpetual management of compensatory habitat before expiration of this Order. The amount of mitigation credits will be calculated from a ratio (0.0026667 acres of mitigation credits/acre-ft of water diverted) that was developed by CDFW

Reporting and Monitoring

7. Before expiration of this Order, Martin Marietta shall provide documentation of purchase, acceptable to the Executive Officer, of the appropriate number of mitigation credits calculated per Provision II.C.6.f ~~e~~.
8. Martin Marietta shall comply with the Self-Monitoring and Reporting Program (SMP) attached to this Order and as may be amended by the Executive Officer. The Executive Officer may amend the SMP in response to a written request by Martin Marietta or as necessary to assure collection of information to demonstrate compliance with this Order.
9. Martin Marietta shall measure and record dredging locations and areal extent of benthic disturbance per lease area, water depth at time of dredging, volumes dredged, and off-loading locations for dredging on a daily basis during operations. Monitoring and reporting shall be conducted in accordance with the SMP.
10. Martin Marietta shall monitor the changes to Estuary bathymetry through bathymetric change analysis, utilizing multibeam surveys of the lease area and adjoining control areas. A minimum of three multibeam surveys of the lease areas shall be completed at least three years apart, the first between January 1 and June 1, 2027. The bathymetric change analysis shall be conducted by surveying the lease area and control areas using the same location and methodology of the original multibeam survey conducted in January 2014. By October 1, 2027 and at a minimum two additional times during the permit period, Martin Marietta shall submit to Water Board staff a written report and analysis including:
    a. the multibeam survey of the lease and control areas;
    b. an analysis of the changes in bathymetry, areas of depletion, accretion or other trends;
    c. a discussion of the findings; and
    d. a quality control analysis completed by an independent third party.
11. Martin Marietta shall file with the Water Board a report of any material change or proposed change in the character, location, or quantity of the ~~effluent~~ discharge.

Administrative and General Compliance

12. **Spill Prevention Plan.** Martin Marietta shall maintain and implement a plan demonstrating that adequate measures are in place to prevent and respond to accidental releases of hydraulic fluids, solvents, oils, and other hazardous materials. To the extent such a plan or plans are already maintained and fully implemented by Martin Marietta for the equipment operated, the plans do not need to be prepared separately for the purposes of this Order. Martin Marietta shall submit a Spill Prevention Plan acceptable to the Executive Officer. This plan shall describe the best management practices that shall be implemented to protect water quality at the Project site and downgradient of the Project site during sand mining activities.
13. Martin Marietta shall notify the Water Board immediately by telephone and e-mail whenever an adverse condition occurs due to the Project's activities. An adverse condition includes, but is not limited to, a violation or threatened violation of prohibitions or provisions of this Order, or a release of petroleum products or hazardous substances to waters of the state. A written notification of an adverse condition shall be submitted to the Water Board within 30 days of occurrence, except that for discharges of petroleum products and/or hazardous substances, notification shall be to the California Office of Emergency Services as soon as there is knowledge of the discharge and notification is possible without impeding cleanup or emergency measures consistent with Water Code sections 13271 and 13272. The written notification shall identify the adverse condition, describe the action necessary to remedy the condition, and specify a timetable, subject to the modifications of the Water Board, for remedial actions.
14. In response to a suspected violation of any provision of this Order, the Water Board may require Martin Marietta to furnish, under penalty of perjury, any technical or monitoring reports the Water Board deems appropriate, under Water Code sections 13267 and 13383.

Standard Provisions

15. The discharge of dredged sediments and overflow water to the waters of the State shall cease immediately whenever violations of this Order are detected by Martin Marietta or by Water Board staff, and the discharge shall not resume until compliance can be assured to the Executive Officer's satisfaction.
16. Martin Marietta shall provide the Water Board or its authorized representative, in accordance with Water Code section 13267(c), with the following:
    a. Entry upon premises in which any required records are kept.
    b. Access to copy any records required to be kept under terms and conditions of this Order.
    c. Access to inspect monitoring equipment required by this Order.
    d. Access to sample any discharge.
    e. Small craft transport to offshore locations or vessels for the purpose of inspection, provided that it is within normal business hours.

D. CERTIFICATION

1. The Water Board independently reviewed the Project to analyze impacts to water quality and beneficial uses within the Project's area. CWA section 401 authorizes the agency responsible for certification to prescribe provisions, effluent and other limitations, and monitoring requirements necessary to ensure compliance with applicable water quality requirements and with any other appropriate requirement of state law. Section 401 further provides that state certification provisions shall become provisions of any federal license or permit for the Project. The requirements of this Order must be met to ensure that the Project will comply with water quality standards, any applicable effluent limitations, standard of performance, prohibition, effluent standard, or pretreatment standard requirement pursuant to the CWA above and to ensure that the Project will comply with any other appropriate requirements of state law.
2. The Water Board hereby certifies that any discharge from the Project will comply with the applicable provisions of ~~Clean Water Act~~CWA sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards), and with other applicable requirements of state law.
3. This Order applies to the Project as proposed in the application materials and conditioned and approved in this Order. Failure to implement the Project as proposed, conditioned, and approved is a violation of this Order. Violation or threatened violation of the conditions of this Order is subject to remedies, including, but not limited to, penalties or injunctive relief as provided under applicable state or federal law.
4. This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC section 13330 and 23 CCR section 3867. The Water Board may add to or modify the conditions of this Order, as appropriate, to implement any new or revised water quality standards and implementation plans adopted and approved pursuant to the Porter-Cologne Water Quality Control Act or CWA section 303 or in response to new information concerning the conditions of the Project.
5. This Order is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
6. This Order is conditioned upon total payment of the full fee required in state regulations (23 CCR section 3833). The application fee of $4,212 for the Project was paid in full on April 24, 2026.
7. Annual fees are required and will be invoiced in the fall/winter for the previous fiscal year (July 1 – June 30) until the Project is complete or when this Order expires on January 30, 2037. Fees are updated by the State Water Resource Control Board on an annual basis each fall before invoicing. The fee website (https://www.waterboards.ca.gov/resources/fees/) lists the current annual fees. Note that there is an annual fee even if no mining occurred.

8. Water Board Order No. R2-2015-0008 is hereby terminated except for purposes of enforcement.
9. Mining activities under this Order must be completed no later than December 31, 2036. This Order expires on January 30, 2037.

I, Eileen M. White, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 14 ~~DATE~~, 2026.

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Eileen M. White, P.E.
Executive Officer

ATTACHMENTS:
Figure 1. Regional Sand Mining Locations
Figure 2. Offloading Facilities Locations
Figure 3. Sand Mining Footprint

APPENDIX:

Appendix A. Self-Monitoring and Reporting Program

Figure 1. Regional Sand Mining Locations

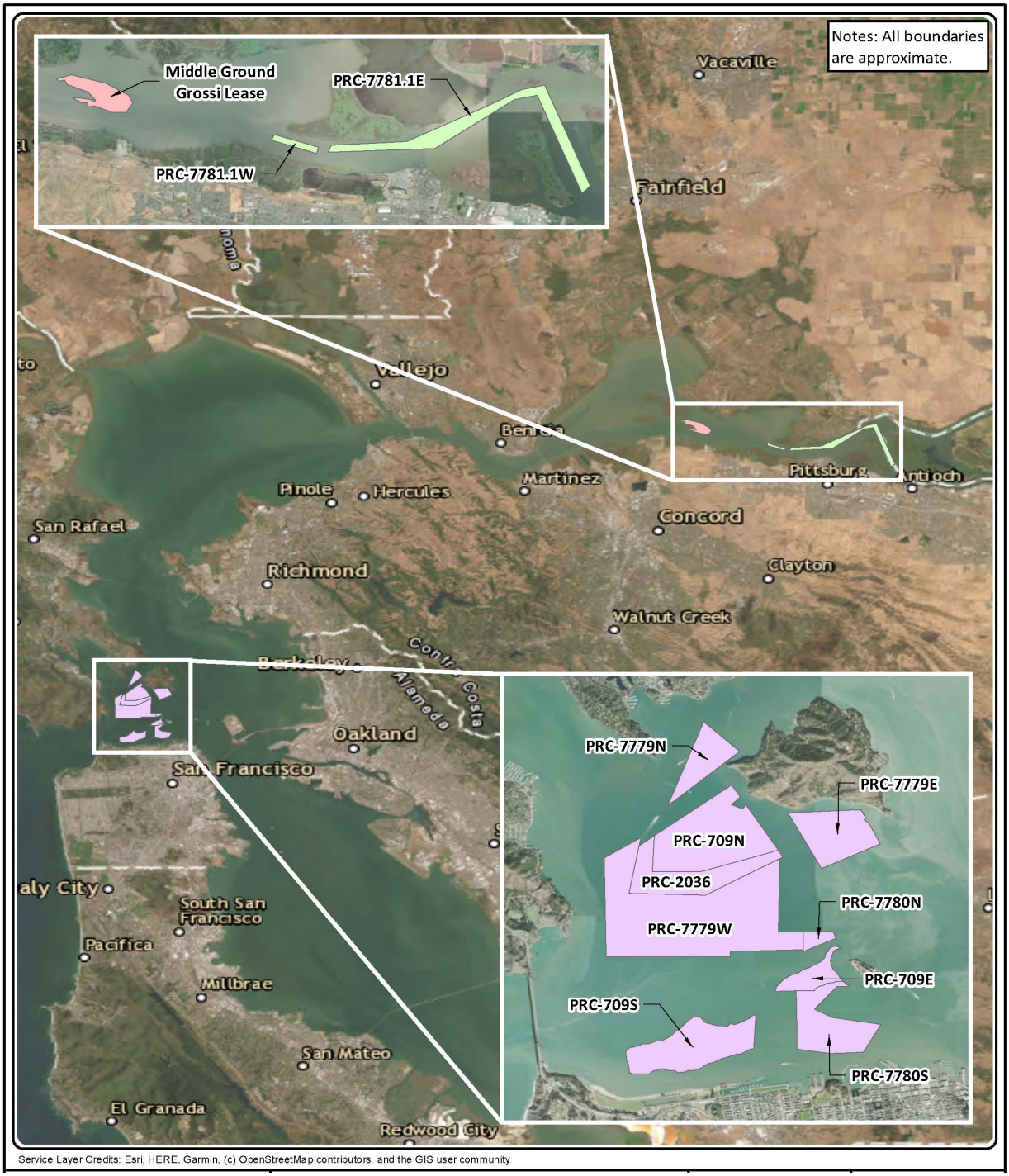


Figure 2. Offloading Facilities Locations

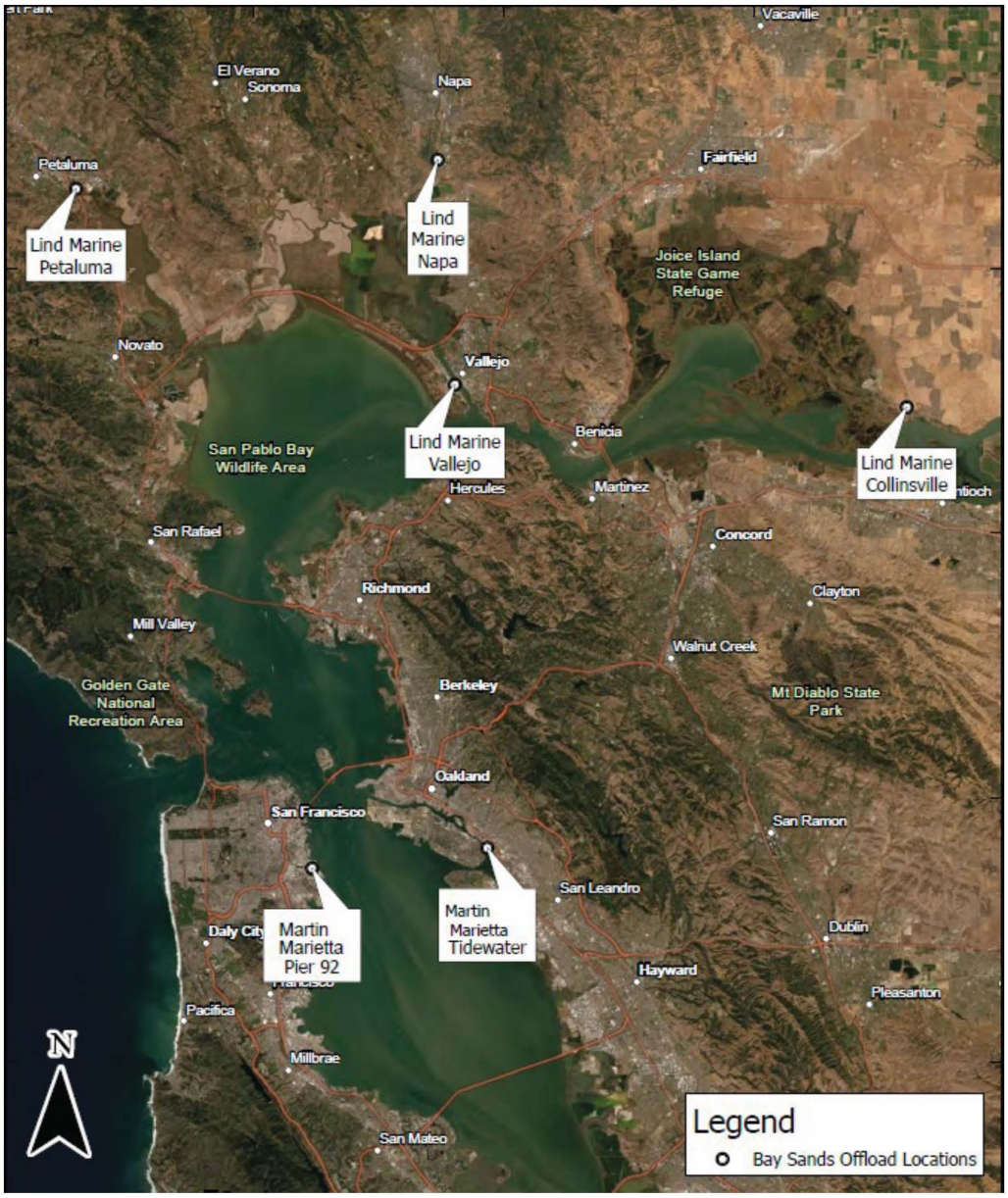


Figure 3. Sand Mining Footprint

