

Mitigation Monitoring and Reporting Program  
Supplemental Environmental Impact Report No. 2 for the  
Modifications to the Natomas Levee Improvement Program  
Landside Improvements Project



State Clearinghouse No. 2007062016

Prepared for:



October 2012



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Prepared for:

Sacramento Area Flood Control Agency  
1007 7<sup>th</sup> Street, 7<sup>th</sup> Floor  
Sacramento, CA 95814

Contact:

John Bassett, P.E.  
Director of Engineering  
(916) 874-7606

Prepared by:

AECOM2020 L Street, Suite 400  
Sacramento, CA 95811

Contact:

Francine Dunn  
Project Director  
(916) 414-5800

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## ACRONYMS AND ABBREVIATIONS

ARB	California Air Resources Board
BMPs	best management practices
CESA	California Endangered Species Act
CRHR	California Register of Historic Resources
dBA	A-weighted decibels
DFG	California Department of Fish and Game
DPF	diesel particulate filters
ESA	Federal Endangered Species Act
GGs	giant garter snake
HEPA	high-efficiency particulate air
HPTP	Historic Property Treatment Plan
LTMP	Long-Term Management Plan
MMP	Mitigation and Monitoring Plan
NBHCP	Natomas Basin Habitat Conservation Plan
NLIP	Natomas Levee Improvement Program
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PM <sub>10</sub>	respirable particulate matter less than 10 microns in diameter
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Area Flood Control Agency
SEIR	Supplemental Environmental Impact Report
SMAQMD	Sacramento Metropolitan Air Quality Management District
TNBC	The Natomas Basin Conservancy
TPY	tons per year
USACE	U.S. Army Corps of Engineers
USWFS	U.S. Fish and Wildlife Service



# MITIGATION MONITORING AND REPORTING PROGRAM FOR MODIFICATIONS TO THE NATOMAS LEVEE IMPROVEMENT PROGRAM, LANDSIDE IMPROVEMENTS PROJECT

The Sacramento Area Flood Control Agency (SAFCA) prepared a Final Supplemental Environmental Impact Report (Final SEIR) to provide the public and responsible and trustee agencies with information about the potential environmental effects associated with the construction and operation of modifications to the Natomas Levee Improvement Program (NLIP) Landside Improvements Project (hereafter referred to as the “proposed NLIP Landside Improvements Project modifications” or “proposed modifications”).

The Final SEIR concludes that implementation of the proposed modifications would generate significant and potentially significant adverse environmental impacts. For most potential impacts, the Final SEIR identifies feasible mitigation capable of reducing these impacts to less-than-significant levels.

Section 21081.6 of the California Public Resources Code requires a public agency to adopt a reporting or monitoring program for changes to the project that it has adopted and incorporated into the project, at the time of approval, to mitigate or avoid significant effects on the environment. These conditions are also referred to as mitigation measures.

This Mitigation Monitoring and Reporting Program is to be used by SAFCA to ensure that adopted mitigation measures identified in the SEIR are implemented and that their implementation is documented. The Mitigation Monitoring and Reporting Program is presented in tabular format.

The table columns contain the following information:

**Mitigation Number:** Lists the mitigation measures by number, as designated in the Draft SEIR.

**Mitigation Measure:** Provides the text of the mitigation measures, each of which has been adopted and incorporated into the project.

**Timing/Schedule:** Lists the time frame in which the mitigation is expected to take place.

**Implementation Responsibility:** Identifies the entity responsible for complying with the requirements of the mitigation measure.

**Completion of Implementation:** SAFCA is responsible for reporting on implementation of the mitigation measures. The “Action” column is to be used by SAFCA to describe the action(s) taken to complete implementation. The “Date Completed” column is to be used by SAFCA to indicate when implementation of the mitigation measure has been completed. SAFCA, at its discretion, may delegate implementation responsibility or portions thereof to qualified consultants or contractors.

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<b>Hydrology and Hydraulics</b>					
3.3-a(1)	<p><b>Implement Standard BMPs, Prepare and Implement a SWPPP, and Comply with NPDES Permit Conditions</b></p> <p>SAFCA shall file a Notice of Intent (NOI) to discharge stormwater with the Central Valley (Regional Water Quality Control Board (RWQCB). Final design and construction plans shall require the implementation of standard erosion, siltation, and good housekeeping best management practices (BMPs). SAFCA’s construction contractor shall be required to prepare a storm water pollution prevention plan (SWPPP) and comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) general stormwater permit for construction activity. The SWPPP, for work conducted under NPDES authorization, shall describe the construction activities to be conducted, BMPs that will be implemented to prevent discharges of contaminated stormwater into waterways, and inspection and monitoring activities that shall be conducted.</p> <p>BMPs shall include all of the following:</p> <ul style="list-style-type: none"> <li>▶ pollution prevention measures (erosion and sediment control measures and measures to control nonstormwater discharges and hazardous spills),</li> <li>▶ demonstration of compliance with all applicable Central Valley RWQCB standards and other applicable water quality standards,</li> <li>▶ demonstration of compliance with regional and local standards for erosion and sediment control,</li> <li>▶ identification of responsible parties,</li> <li>▶ detailed construction timelines, and</li> <li>▶ a BMP monitoring and maintenance schedule.</li> </ul> <p>BMPs shall be applied to meet the “maximum extent practicable” and “best conventional technology/best available technology” requirements and to address compliance with water quality standards. A monitoring program shall be implemented during and after construction to ensure that the project is in compliance with all applicable standards and that the BMPs are effective.</p>	<p>Prepare NOI and SWPPP before the start of project construction</p> <p>Implement SWPPP and BMPs throughout construction</p> <p>Monitor effectiveness of measures throughout and at completion of construction</p>	<p>SAFCA and its primary contractors for engineering design and construction</p>		



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3.3-a(2)	<p><b>Implement a Water Quality Monitoring Plan for the RM 0.5 Mitigation Site</b></p> <p>For the RM 0.5 Mitigation Site, SAFCA’s construction contractor shall conduct water quality testing during ground-disturbing activities to monitor turbidity and sedimentation levels. Water samples to establish background turbidity levels shall be collected daily from the American River within the general vicinity of the construction site associated with the RM 0.5 Mitigation Site when excavating within or immediately adjacent to the American River. The construction contractor shall monitor turbidity levels hourly when a turbidity plume is visible. If the increases in turbidity levels exceed 10 percent of the background levels, the construction contractor shall either slow the rate of earthwork or stop ground-disturbing activities until the turbidity plume has cleared and turbidity levels are less than 10 percent of the background levels.</p>	Prior to and after construction	SAFCA and its primary contractors for construction		
<b>Terrestrial Biological Resources</b>					
3.5-a	<p><b>Minimize Effects on Sensitive Habitats; Develop and Implement a Habitat Management Plan to Ensure Compensation for Unavoidable Adverse Effects and No Net Loss in Sensitive Habitat Functions and Values; Comply with Section 404, Section 401, and Section 1602 Permit Processes; and Implement all Permit Conditions</b></p> <p>SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented to avoid, minimize, and compensate for potential project effects on sensitive habitats.</p> <p>Areas of sensitive habitat shall be identified and the primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that staging areas and access routes are designed to minimize disturbance of canals and ditches, seasonal wetlands, and woodland patches. Trees within the Sacramento County portion of the project area that qualify as Native Oaks or Heritage Trees under Sacramento County’s tree preservation ordinance shall be identified. All sensitive habitats and protected trees that are located adjacent to construction areas, but can be avoided, shall be protected by temporary fencing during construction.</p>	During project design and construction	SAFCA and its primary contractors for engineering design and construction		

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	<p>SAFCA shall develop and implement a habitat management plan to address establishment and management of aquatic (i.e., giant garter snake [GGS]/Drainage Canal and marsh/seasonal wetland habitat) and woodland habitats that are created as part of the proposed project in order to ensure that the performance standard of no net loss of sensitive habitat is met. The plan shall, at a minimum, establish specific requirements for habitat creation (e.g., acreage of specific habitats to be created and number and species of trees to be planted), success criteria for habitat creation (e.g., tree survival requirements), specify remedial measures to be undertaken if success criteria are not met (e.g., supplementary plantings and additional monitoring), and describe short- and long-term maintenance and management of the features. Long-term protection of the created features, and funding for their management, shall be provided through appropriate mechanisms to be determined by SAFCA, in consultation with the regulatory agencies and other entities cooperating in implementation of the proposed project. The management plan for the habitat creation components of the proposed project shall be reviewed and approved by the appropriate resource agencies before project implementation.</p> <p>Applicable permits, including a Section 404 permit from the US Army Corps of Engineers (USACE), Section 401 certification from the Central Valley RWQCB, and a Section 1602 streambed alteration agreement from the California Department of Fish and Game (DFG), shall be obtained before any impact on the relevant resources occurs. All measures adopted through these permitting processes shall be implemented.</p>	<p>During project design and construction</p> <p>Obtain appropriate permits prior to start of construction</p>	<p>SAFCA and its primary contractors for engineering design and construction</p> <p>SAFCA</p>		
3.5-b	<p>To reduce impacts on valley elderberry longhorn beetle, SAFCA shall implement the measures described below:</p> <ul style="list-style-type: none"> <li>▶ A qualified biologist retained by SAFCA shall conduct focused surveys of elderberry shrubs within 100 feet of the project footprint, in accordance with USFWS guidelines. All elderberry shrubs with potential to be affected by project activities shall be mapped, the number of stems greater than 1 inch in diameter on each shrub that requires removal shall be counted, and these stems shall be searched for beetle exit holes.</li> </ul>	<p>During project design</p>	<p>SAFCA</p>		

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	<ul style="list-style-type: none"> <li>▶ The primary engineering and construction contractors shall ensure, through coordination with the biologist, that construction is implemented in a manner that minimizes disturbance of areas that support elderberry shrubs (e.g., temporary fencing shall be used during construction to protect all elderberry shrubs that are located adjacent to construction areas but can be avoided). Shrubs that require removal shall be transplanted to the woodland creation areas, if feasible, when the plants are dormant (November through the first 2 weeks of February) to increase the success of transplanting. If none of the areas of suitable habitat to be created as part of the project would be available before the impact would occur, alternative transplantation locations (e.g., other SAFCA mitigation areas or the Natomas Basin Conservancy [TNBC] preserves) shall be identified and shall be approved by the US Fish and Wildlife Service (USFWS).</li> <li>▶ The number of replacement elderberry plantings shall be determined based on USFWS guidelines, which require replacement ratios ranging from 1:1 to 8:1 for lost stems at least 1 inch in diameter, depending on the size of the affected stems and presence or absence of beetle exit holes. Associated native species shall be planted at ratios ranging from 1:1 to 2:1 for each elderberry planting.</li> <li>▶ SAFCA shall coordinate with USFWS, National Marine Fisheries Service (NMFS), and DFG to ensure that the NLIP’s woodland habitat improvements are created and managed as described in Section 2.3.4, “Habitat Improvement,” of the SEIR. SAFCA shall prepare a project-specific Mitigation Monitoring Plan (MMP) and programmatic Long-Term Management Plan (LTMP) to ensure the creation and long-term management of these components (see Section 2.3.4.5, “Long-Term Management of Habitat Components”) before construction commences. SAFCA shall enter into agreements with the appropriate local entity responsible for long-term management of these created woodland habitats and shall coordinate with USFWS, NMFS, and DFG to ensure that performance standards and long-term</li> </ul>	<p>During project design and construction</p> <p>During project design and construction</p> <p>Develop MMP and submit it to the appropriate resources agencies for their review and approval before the beginning of construction. Following approval, implement MMP as specified</p>	<p>SAFCA and its primary contractors for engineering design and construction</p> <p>SAFCA and its primary contractors for engineering design and construction</p> <p>SAFCA</p>		

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	<p>management goals that are required by regulatory agencies with jurisdiction over these resources will be specifically detailed and outlined in the LTMP and MMP. All performance standards and long-term management goals will be in full compliance with the federal Endangered Species Act (ESA) and California Endangered Species Act (CESA). SAFCA shall implement all terms and conditions of the management agreements USACE shall initiate consultation activities with USFWS under Section 7 of the ESA, and authorization for take of valley elderberry longhorn beetle under the ESA shall be obtained if it is determined, in consultation with USFWS, that shrub removal is likely to result in such take. All measures subsequently developed through the Section 7 consultation process shall be implemented by SAFCA.</p>				
3.5-c	<p><b>Minimize Potential Impacts on Swainson’s Hawk, Monitor Active Nests during Construction, Develop and Implement a Management Plan in Consultation with DFG, and Obtain Incidental Take Authorization</b></p> <p>SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented to avoid, minimize, and compensate for potential project effects on Swainson’s hawks.</p> <p>The primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that staging areas and access routes are designed to minimize disturbance of known Swainson’s hawk nesting territories. The biologist shall conduct preconstruction surveys to identify active nests within 0.25 mile of construction areas, in accordance with DFG guidelines. Surveys shall be conducted in accordance with Natomas Basin Habitat Conservation Program (NBHCP) requirements and <i>Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley</i> (Swainson’s Hawk Technical Advisory Committee 2000). If an active nest is found, an appropriate buffer that minimizes the potential for disturbance of the nest shall be determined by the biologist, in coordination with DFG. No project activities shall commence within the buffer area</p>	During project design and construction	SAFCA and its primary contractors for engineering design and construction		

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	<p>until a qualified biologist confirms that the nest is no longer active or the birds are not dependent on it. Monitoring shall be conducted by a qualified biologist to determine whether project activity results in detectable adverse effects on the nesting pair or their young. The size of the buffer may vary, depending on the nest location, nest stage, construction activity, and monitoring results. If implementation of the buffer becomes infeasible or construction activities result in an unanticipated nest disturbance, DFG shall be consulted to determine the appropriate course of action.</p> <p>SAFCA shall develop and implement a plan to address management of grassland habitats that are created as part of the proposed project in order to ensure that the performance standard of no net loss of sensitive habitat is met. The management plan shall, at a minimum, establish specific success criteria for habitat creation, specify remedial measures to be undertaken if success criteria are not met (e.g., supplementary plantings and additional monitoring), and describe short- and long-term maintenance and management of the features. Long-term protection of the created features and funding for their management shall be provided through appropriate mechanisms to be determined by SAFCA, DFG, and other entities cooperating in implementation of the proposed project.</p> <p>The management plan for the grassland habitat creation components of the project shall be reviewed and approved by USFWS and DFG before project implementation. Authorization for take of Swainson's hawk under CESA shall be obtained. All measures subsequently adopted through the permitting process shall be implemented.</p>	<p>Develop plan and submit it to the appropriate resources agencies for their review and approval before the beginning of construction</p> <p>Develop plan and submit it to the appropriate resources agencies for their review and approval before the beginning of construction</p>	<p>SAFCA</p> <p>SAFCA</p>		
<b>Cultural Resources</b>					
3.6-a	<p><b>Avoid Ground Disturbance near Known Prehistoric Archaeological Site CA-Sac-26 to the Extent Feasible</b></p> <p>SAFCA shall implement the following measures required by the Programmatic Agreement (PA) to address potentially significant impacts on CA-Sac-26:</p>				

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	<ul style="list-style-type: none"> <li>▶ SAFCA and its engineers shall consult with a qualified professional archaeologist during project design to delineate the extent of potentially significant deposits west of the mapped location of CA-Sac-26 and shall design ground-disturbing work to avoid the deposits as feasible and practicable.</li> <li>▶ The archaeologist shall determine an appropriate radius around the site for monitoring adjacent construction work, and SAFCA shall retain an archaeological monitor and Native American monitor to be present during this work.</li> </ul>	<p>During project design</p> <p>During project design and construction</p>	<p>SAFCA</p> <p>SAFCA</p>		
3.6-b	<p><b>Train Workers Before Construction, Monitor Construction, Halt Potentially Damaging Activities, Investigate and Avoid Resources to the Extent Feasible, and Prepare and Implement a Historic Properties Treatment Plan as Needed</b></p> <p>SAFCA and its primary construction contractors shall ensure that the following measures are implemented to reduce the potential for previously undiscovered cultural resources to be encountered and damaged during project construction activities at the RM 0.5 Mitigation Site:</p> <ul style="list-style-type: none"> <li>▶ Before construction begins, a qualified professional archaeologist shall conduct training for construction workers to educate them about the possibility of encountering buried cultural resources and inform them of the proper procedures should resources be encountered.</li> <li>▶ A qualified archaeologist and Native American monitor shall monitor all ground-disturbing construction activities within the RM 0.5 Mitigation Site. If a previously unidentified archaeological resource is uncovered during construction, construction activities shall be halted within 50 feet of the find and the construction contractor, SAFCA, and other appropriate parties shall be notified regarding the discovery. The archaeologist shall conduct a field investigation of the specific site and shall assess the significance of the find by evaluating the resource for eligibility for listing on the</li> </ul>	<p>Before the start of ground-disturbing construction activities</p> <p>Throughout ground-disturbing construction activities</p>	<p>SAFCA</p> <p>SAFCA</p>		

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	<p>California Register of Historic Resources (CRHR) and the National Register of Historic Places (NRHP). If the resource is eligible for listing on the CRHR or NRHP, SAFCA shall consult with USACE, the SHPO, and other consulting parties such as Native American individuals and organizations, to develop appropriate treatment or mitigation in a Historic Property Treatment Plan (HPTP), as required by Stipulation V(A) of the PA, if the project would result in adverse effects on eligible resources. The HPTP shall recommend an appropriate program of research and analysis for any portion of the assemblage removed from the site during test excavations.</p> <ul style="list-style-type: none"> <li>▶ Upon concurrence from USACE and the SHPO, SAFCA shall implement the HPTP. The HPTP shall account for and incorporate the concerns of all consulting parties, to the extent possible, given project goals, as required under Section 106.</li> <li>▶ During construction, SAFCA shall monitor construction at this location and within an appropriate radius. This monitoring shall be governed by a plan for monitoring and response to inadvertent discoveries that has been approved by USACE, as required in the PA (Stipulation V[B]).</li> </ul>	<p>In the event of a discovery</p> <p>Throughout ground-disturbing construction activities</p>	<p>SAFCA</p> <p>SAFCA</p>		
<b>Traffic</b>					
3.7-b	<p><b>Prepare and Implement a Traffic Safety and Control Plan for Construction-Related Truck Trips Associated with Phase 2 Construction Activities</b></p> <p>Before the start of construction, SAFCA and its primary contractors for engineering and construction shall develop and implement a coordinated construction traffic safety and control plan to avoid and minimize potential traffic hazards on local roadways during construction of Phase 2 as follows:</p>				

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	<p>(a) The construction contractors shall develop and implement traffic safety and control plans for the local roadways and travel routes in Discovery Park that would be affected by construction traffic. Before the initiation of construction-related activity involving high volumes of traffic, the plan shall be submitted for review by the agencies of the local jurisdictions (City of Sacramento) having responsibility for roadway safety at and between project sites. The plan shall call for the following elements:</p> <ul style="list-style-type: none"> <li>▶ posting warnings about the potential presence of slow-moving vehicles;</li> <li>▶ using traffic control personnel when appropriate and at the existing bike path in Discovery Park; and</li> <li>▶ placing and maintaining barriers and installing traffic control devices necessary for safety, as specified in Caltrans's <i>Manual of Traffic Controls for Construction and Maintenance Works Zones</i> and in accordance with city/county requirements (Caltrans 1996).</li> </ul> <p>The contractor shall train construction personnel in appropriate safety measures as described in the plan and shall implement the plan. The plan shall include the prescribed locations for staging equipment and parking trucks and vehicles. Provisions shall be made for overnight parking of haul trucks to avoid causing traffic or circulation congestion.</p>	<p>Develop and submit traffic safety and control plan before the initiation of construction-related activity that could adversely affect traffic on local roadways</p> <p>Throughout construction</p>	<p>SAFCA and its primary construction contractor</p>		
	<p>(b) All operations shall limit and expeditiously remove, as necessary, the accumulation of project-generated mud or dirt from adjacent public streets at least once every 24 hours if substantial volumes of soil have been carried onto adjacent paved public roadways during project construction.</p>	<p>Throughout construction</p>	<p>SAFCA and its primary construction contractor</p>		
	<p>(c) Before project construction begins, SAFCA shall provide notification of project construction to all appropriate emergency service providers in the City of Sacramento and shall coordinate with providers throughout the construction period to ensure that emergency access through construction areas is maintained.</p>	<p>Prior to and during construction</p>	<p>SAFCA and its primary construction contractor</p>		



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<b>Air Quality</b>					
3.8-a	<p><b>Implement Applicable District-Recommended Control Measures to Minimize Temporary and Short-Term Emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> during Construction</b></p> <p>Sacramento Metropolitan Air Quality Management District's (SMAQMD's) <i>Guide to Air Quality Assessment in Sacramento County</i> (SMAQMD 2004) provides mitigation measures for reducing temporary and short-term air quality impacts. As recommended by SMAQMD, SAFCA shall ensure that the following mitigation measures are implemented during all project construction activities to the extent practicable and feasible.</p> <ul style="list-style-type: none"> <li>▶ SAFCA shall prepare a construction emissions dust control plan(s) in accordance with SMAQMD recommendations that reduces fugitive dust emissions by at least 85 percent (or shall provide calculations based on SMAQMD-approved methodologies showing that emissions would be reduced to less than 100 tons per year assuming a conservative reduction of 75 percent with typical mitigation). All grading operations shall be suspended when fugitive dust levels exceed levels specified by SMAQMD rules. SAFCA and primary construction contractors shall ensure that dust is not causing a nuisance beyond the property line of the construction site.</li> <li>▶ If overlapping construction phases in Sacramento County create unmitigated respirable particulate matter less than 10 microns in diameter (PM<sub>10</sub>) emissions in excess of 400 tons per year (TPY), SAFCA shall use advanced dust suppressant materials (such as EnviroTac II) on all unpaved roadways and stockpiled materials to ensure 95 percent or greater control of fugitive dust and a reduction of PM<sub>10</sub> emissions below 100 TPY.</li> <li>▶ SAFCA shall develop a plan, in consultation with SMAQMD, demonstrating that the heavy-duty (&gt;50 hp), off-road vehicles to be used in the construction project (including owned, leased, and subcontractor vehicles) shall achieve a project-wide fleet-average 20 percent oxides of nitrogen (NO<sub>x</sub>) reduction and 45 percent particulate reduction compared to the most recent ARB fleet average at the time of construction.</li> </ul>	<p>Submit construction emission/dust control plan before the commencement of ground-disturbing construction activities</p> <p>Implement measures during construction</p>	<p>SAFCA</p> <p>SAFCA and its primary construction contractors</p>		

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	<ul style="list-style-type: none"> <li>▶ A comprehensive inventory of all off-road construction equipment equal to or greater than 50 hp that will be used for an aggregate of 40 or more hours during any portion of project construction shall be submitted to SMAQMD. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction operations occur. At least 48 hours before heavy-duty off-road equipment is used, SAFCA shall provide SMAQMD with the anticipated construction timeline, including the start date, and the name and phone number of the contractor's project manager and on-site foreman.</li> <li>▶ Emissions from off-road, diesel-powered equipment used on the project site shall not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified of noncompliant equipment within 48 hours of identification. A visual survey of all in-operation equipment shall be made at least weekly. A monthly summary of visual survey results shall be submitted to SMAQMD throughout the construction period, except that the monthly summary shall not be required for any 30-day period in which no construction operations occur. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. SMAQMD and/or other officials may conduct periodic site inspections to determine compliance.</li> </ul>				
	<p><b>All Project Construction</b> SAFCA shall implement the following additional measures to reduce construction emissions of PM<sub>10</sub> comprising fugitive dust and mobile-exhaust and ozone precursors:</p> <ul style="list-style-type: none"> <li>▶ Open burning of removed vegetation shall be prohibited. Vegetation material shall be chipped on-site or delivered to waste-to-energy facilities to the extent feasible.</li> </ul>	<p>Submit fugitive dust control plan before the commencement of ground-disturbing construction activities</p> <p>Implement measures</p>	<p>SAFCA</p> <p>SAFCA and its</p>		

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	<ul style="list-style-type: none"> <li>▶ An operational water truck shall be on-site at all times. Water shall be applied to control dust as needed to prevent dust impacts off-site. Unpaved areas subject to vehicle traffic, including employee parking areas and equipment staging areas, shall be stabilized by being kept wet, treated with a chemical dust suppressant or soil binders, or covered.</li> <li>▶ The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventive measures, and removed within 1 hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations. All visible roadway dust tracked out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a high-efficiency particulate air (HEPA) filter equipped vacuum device shall be used for roadway dust removal.</li> <li>▶ Low-sulfur fuel shall be used for stationary construction equipment.</li> <li>▶ Existing power sources or clean fuel generators shall be used rather than temporary power generators to the extent feasible.</li> <li>▶ Low-emission on-site stationary equipment shall be used.</li> <li>▶ Vehicle speeds on unpaved roadways shall be limited to 15 miles per hour.</li> <li>▶ Idling time for all heavy-duty equipment shall be limited to 5 minutes.</li> <li>▶ Install Air-Resources-Board-certified (ARB-certified) Level 3 diesel particulate filters (DPF) on a minimum of 15 percent of the total number of off-road (non-street legal) diesel-powered construction equipment pieces with an engine size equal to or greater than 50 hp throughout the duration of the project. For fleets with six or fewer total applicable equipment pieces, a DPF shall be installed on a minimum of one engine. All DPFs shall be kept in working order and maintained in operable condition according to manufacturer's</li> </ul>				

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	<p>specifications. At the time of writing, a list of ARB-certified Level 3 DPF can be found at <a href="http://www.arb.ca.gov/diesel/verdev/level3/level3.htm">http://www.arb.ca.gov/diesel/verdev/level3/level3.htm</a>. Alternatively, this requirement may be met by using a fleet of equipment that reduces its fleet-wide PM<sub>10</sub> emissions by 65 percent, rather than the standard reduction of 45 percent.</p>				
<b>Noise</b>					
3.5-a	<p><b>Implement Noise-Reducing Construction Practices, Prepare and Implement a Noise Control Plan, and Monitor and Record Construction Noise near Sensitive Receptors</b></p> <p>SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented at each work site in any year of project construction to avoid and minimize construction noise effects on sensitive receptors. These measures are consistent with SAFCA’s standard contract specifications for noise control.</p> <p>The primary construction contractors shall employ noise-reducing construction practices. Measures that shall be used to limit noise shall include the following:</p> <ul style="list-style-type: none"> <li>▶ Equipment shall be used as far away as practical from noise-sensitive uses.</li> <li>▶ All construction equipment shall be equipped with noise-reduction devices such as mufflers to minimize construction noise and all internal combustion engines shall be equipped with exhaust and intake silencers in accordance with manufacturers’ specifications.</li> <li>▶ Equipment that is quieter than standard equipment shall be used, including electrically powered equipment instead of internal combustion equipment where use of such equipment is a readily available substitute that accomplishes project tasks in the same manner as internal combustion equipment.</li> <li>▶ Construction site and haul road speed limits shall be established and enforced.</li> <li>▶ The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.</li> </ul>	<p>Develop plan prior to the start of construction</p> <p>Implement measures during construction</p>	<p>SAFCA</p> <p>SAFCA and its primary construction contractors</p>		

Mitigation Monitoring and Reporting Program for the Natomas Levee Improvement Program Landside Improvements Project Proposed Modifications					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<ul style="list-style-type: none"> <li>▶ Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators).</li> <li>▶ Fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes shall be located at the most distant point feasible from noise-sensitive receptors.</li> <li>▶ When noise sensitive uses are within close proximity and subject to prolonged construction noise, noise-attenuating buffers such as structures, truck trailers, or soil piles shall be located between noise generation sources and sensitive receptors.</li> <li>▶ Before construction activity begins within 500 feet of one or more residences or businesses, written notification shall be provided to the potentially affected residents or business owners, identifying the type, duration, and frequency of construction activities. Notification materials shall also identify a mechanism for residents or business owners to register complaints with the appropriate jurisdiction if construction noise levels are overly intrusive. The distance of 500 feet is based on the 60 A-weighted decibels (dBA) contour of the loudest anticipated construction activity other than pile driving.</li> </ul>				
	<ul style="list-style-type: none"> <li>▶ If noise-generating activities are conducted within 100 feet of noise-sensitive receptors (the 70-dBA noise contour of construction noise), the primary contractor shall continuously measure and record noise levels generated as a result of the proposed work activities. Sound monitoring equipment shall be calibrated before taking measurements and shall have a resolution within 2 dBA. Monitoring shall take place at each activity operation adjacent to sensitive receptors. The recorded noise monitoring results shall be furnished weekly to SAFCA.</li> </ul>				

Mitigation Monitoring and Reporting Program for the Natomas Levee Improvement Program Landside Improvements Project Proposed Modifications					
Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Completion of Implementation	
				Action	Date Completed
	<ul style="list-style-type: none"> <li>▶ The primary contractor shall prepare a detailed noise control plan based on the construction methods proposed. This plan shall identify specific measures to ensure compliance with the noise control measures specified above. The noise control plan shall be submitted to and approved by SAFCA before any noise-generating construction activity begins.</li> </ul>				

## REFERENCES

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