

ATTACHMENT A

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE UNITED STATES ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

AND

THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

CONCERNING

OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION

OF THE LOS ANGELES COUNTY DRAINAGE AREA PROJECT

IN WATERS OF THE UNITED STATES

THIS MEMORANDUM OF UNDERSTANDING (“MOU”) is entered into pursuant to a settlement agreement executed on May 8, 2017 (“Agreement”) between the United States Army Corps of Engineers, Los Angeles District (“District”) and the California Regional Water Quality Control Board, Los Angeles Region (“Regional Water Board”), collectively referred to as the “Signatories.”

RECITALS

WHEREAS, the Los Angeles County Drainage Area (“LACDA”) project is a congressionally authorized flood risk management project the District constructed pursuant to the Emergency Relief Appropriation Act of 1935, as amended, and the Flood Control Act of 1936, as amended.

WHEREAS, the LACDA project included the construction of Hansen, Sepulveda, Santa Fe, Whittier Narrows, Lopez and Haines Canyon Debris Basin flood risk management basins, debris basins in 31 tributary canyons, 93 miles of main channel and 147 miles of tributary channels, including 316 bridges on the Los Angeles, Rio Hondo, and San Gabriel rivers. Construction of the LACDA project took 20 years to complete. Linear LACDA facilities include segmented reaches of channels throughout Los Angeles County, and are composed of concrete rectangular channels, concrete trapezoidal channels, or soft bottom channels with reinforced or armored trapezoidal embankments.

WHEREAS, pursuant to the Flood Control Act of 1938, the United States Army Corps of Engineers (“Corps”) is authorized to perform operation, maintenance, repair, replacement, and rehabilitation (“OMRR&R”) of certain sections and/or features of the LACDA project, including 5 dam basins, 1 debris basin and 45 non-contiguous miles of linear levee and channel.

WHEREAS, Clean Water Act (“CWA”) § 301, 33 U.S.C. § 1311(a), prohibits “the discharge of any pollutant” except in compliance with a permit or as otherwise authorized under the CWA.

WHEREAS, CWA § 404, 33 U.S.C. § 1344 authorizes the Corps to issue permits for discharges of dredged or fill material into waters of the United States.

WHEREAS, CWA § 404(t), 33 U.S.C. § 1344(t), provides that “[n]othing in this section shall preclude or deny the right of any State or interstate agency to control the discharge of dredged or fill material in any portion of navigable waters within the jurisdiction of such States, including any activity by any Federal agency, and each agency shall comply with such State or interstate requirements both substantive and procedural to control the discharge of dredged or fill material to the same extent that any person is subject to such requirements.”

WHEREAS, activities that do not result in a discharge of any pollutant into waters of the United States do not require a CWA § 404 permit; and not all discharges require a permit under the CWA pursuant to 33 U.S.C. § 1344(f)(1) and 33 C.F.R. § 323.2(d)(3).

WHEREAS, CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1), provides that “[a]ny applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate.”

WHEREAS, 33 C.F.R. § 336.1, provides that “[a]lthough the Corps does not process and issue permits for its own activities, the Corps authorizes its own discharge of dredged or fill material by applying all applicable substantive legal requirements including [application for] state water quality certification for discharges of dredged or fill material into waters of the U.S.”

WHEREAS, individual LACDA project OMRR&R activities, such as temporary stream diversion and dewatering and removal of accumulated sediment and vegetation from soft bottom channels, may involve discharges of dredged or fill material into water of the United States for which the District may be required to seek CWA § 401 certification from the Regional Water Board.

WHEREAS, other individual LACDA project OMRR&R activities may not involve discharges of any pollutant into waters of the United States, or may involve only discharges of dredged or fill material that are exempt or excepted from CWA permitting requirements, and therefore would not require the District to seek CWA § 401 certification from the Regional Water Board.

NOW, THEREFORE, the Signatories hereby acknowledge and declare as follows:

I. PURPOSE

A. In the interest of mutual cooperation, the Regional Water Board and the District have developed this MOU to coordinate the respective regulatory processes associated with the District's LACDA OMRR&R activities in waters of the United States.

B. The Signatories recognize that this MOU provides guidance about the nature of, or extent of, water quality control measures described in Section II that may be required for individual LACDA project OMRR&R activities that may require CWA § 401 certification.

II. WATER QUALITY CONTROL MEASURES

A. The District agrees to notify the Regional Water Board's contact persons pursuant to paragraph 7 of the Agreement by email on or around October 31 of each Federal fiscal year this MOU is in effect, listing the planned LACDA projects OMRR&R activities and specific locations in LACDA for that year, and indicating, to the extent known, whether the activity falls under Section II.B. or II.C. of this MOU. For activities planned in Federal fiscal year 2017, the District agrees to notify the Regional Water Board's contact persons pursuant to paragraph 7 of the Agreement of those activities by email within thirty (30) days of the execution of the MOU.

B. CWA § 401 Water Quality Certification for Certain LACDA Project OMRR&R Activities.

1. The CWA § 401 Water Quality Certification attached hereto and incorporated by reference as Exhibit A shall apply to LACDA project OMRR&R activities that involve discharges of dredged or fill material that are subject to CWA permitting requirements. The District agrees to comply with the conditions of that certification.

2. To the extent not otherwise certified under CWA § 401, categories of LACDA OMRR&R activities that may result in discharges of dredged or fill material into waters of the United States and those covered by the CWA § 401 Water Quality Certification attached hereto as Exhibit A, include, but are not limited to:

- a. The repair, rehabilitation, or replacement of any previously constructed structures or fill that result in deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement.
- b. The removal of sediment and associated vegetation, resulting from activities associated with the maintenance of earthen debris basins or earthen retention/detention basins that were constructed by the District.
- c. Survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, sample plots or transects for wetland delineations, and historic resources surveys. The term "exploratory trenching" means mechanical land

clearing of the upper soil profile to expose bedrock or substrate, for the purpose of mapping or sampling the exposed material.

- d. Temporary structures, work, and discharges, including cofferdams, necessary for construction activities, water diversion, access fills, or dewatering of construction sites.
- e. Mechanized land clearing, mechanized mulching, mechanized removal, chipping, and excavation of living or dead invasive, exotic plants from the bottom of earthen channels, and the temporary stockpiling of invasive plants within such earthen channels.
- f. Mechanized land clearing of sediment and associated vegetation, including clearing of multiple stands of emergent vegetation or significant vegetation, from earthen bottom channels.

C. Other Individual LACDA Project OMRR&R Activities

1. Individual LACDA project OMRR&R activities for which CWA § 401 water quality certification may not be required include, but are not limited to:

- a. Discharges of dredged or fill material resulting from activities associated with the maintenance, repair, rehabilitation, or replacement of any previously constructed structures or fill *that do not* result in deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement.
- b. Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chain sawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material.
- c. Activities that involve removal of accumulated sediment and vegetation from fully lined, grouted-stone and concrete channels, when water diversions are not used.

2. For any such LACDA project OMRR&R activities in water of the United States:

- a. The District agrees to consider and implement best management practices ("BMPs"), to the extent appropriate. Potential BMPs are identified in Exhibit B, attached hereto and incorporated by reference. The BMPs identified in Exhibit B may not be applicable to every individual LACDA project OMRR&R activity, nor is every possible BMP listed for every individual LACDA project OMRR&R activity. In the event the District implements "other BMPs" to limit increases of turbidity levels caused by individual LACDA project OMRR&R activities, such as downstream check dams, clean gravel-filled or compost-filled turbidity/filter socks, the parties recognize that these "other BMPs" may result in the discharge of dredge or fill

material that is not exempt from the need for a CWA § 401 water quality certification. For this reason, the Regional Water Board has expressly waived § 401 water quality certification for “other BMPs” implemented by the District should they result in a discharge of dredged or fill material into waters of the United States. Such waiver is attached hereto as Exhibit C and incorporated by reference.

- b. The District agrees to notify the Regional Water Board by email at least 45 calendar days prior to commencing an individual LACDA project OMRR&R activity, which includes information provided below, except in the case of an emergency:

- (1) Activity description

- (2) Proposed schedule (start date, and completion date)

- (3) Name(s) of receiving water body(ies)

- (4) A brief description of the BMPs to be implemented to avoid and/or minimize impacts to waters of the United States.

- c. Under emergency circumstances, the District shall alert the Regional Water Board, via telephone and email, of a potential emergency activity and notify the Regional Water Board’s contact persons pursuant to paragraph 7 of the Agreement of the information described in the subparagraph b, above, as soon as practicable.

3. Within fifteen (15) working days of receipt of the District’s notification, the Regional Water Board may transmit comments by email to the District concerning the adequacy of the District’s BMPs. The District agrees to consider the Regional Water Board’s comments concerning the adequacy of the specific BMPs to be implemented. The Regional Water Board agrees that the District retains the discretion in determining the appropriateness of the adequacy of the BMPs pursuant to Section II.C. of this MOU based on the specific facts and application of relevant statutes and regulations.

4. The District agrees to notify the Water Board by email no later than thirty (30) calendar days after completion of an individual LACDA project OMRR&R activity subject to Section II.C., providing a description of the work completed, a map of the project location, and representative pre- and post-OMRR&R activity photographs.

III. GENERAL PRINCIPLES

A. This MOU applies to the District’s OMRR&R activities associated with the LACDA project, and does not have broader applicability beyond LACDA project features for which the District retains OMRR&R responsibility.

B. This MOU does not modify existing agency authorities by reducing, expanding or transferring any of the statutory or regulatory authorities and responsibilities of any of the Signatories.

C. Nothing in this MOU shall be construed as obligating any of the Signatories to the expenditure of funds in excess of appropriations authorized by law or otherwise commit any signatory to actions for which it lacks statutory authority.

D. This MOU does not, and is not intended to, create any other right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, the State of California, any agencies thereof, any officers or employees thereof, or any other person, except as provided in the Agreement.

E. The policies and procedures contained within this MOU are intended solely to improve the working relationships of the Signatories in connection with decisions with regard to individual LACDA project OMRR&R activities. This MOU does not restrict either the District or the Regional Water Board in exercising its discretion in each case to make regulatory decisions based on its judgment about the specific facts and application of relevant statutes and regulations.

F. This MOU may be modified, as necessary, by mutual agreement of both parties, by a written amendment signed and dated by an authorized representative of each party.

G. This MOU will remain in force for 10 years from the effective date.

H. This MOU is not a final Federal agency action by the District, and does not, and is not intended to, create any right, benefit, or responsibility, substantive or procedural, enforceable at law or equity by any person or party against the United States, its agencies, its officers, or any other person, except as provided in the Agreement.

I. This MOU is to be construed in a manner consistent with all existing laws and regulations.

J. This MOU neither expands nor is in derogation of those powers and authorities vested in the Signatories by applicable laws, statutes, or regulations.

K. This MOU does not alter or modify compliance with any applicable Federal or State laws or regulations.

L. This MOU does not direct or apply to any party outside of the signatory agencies. The terms of this MOU are not intended to be enforceable by any party other than the Signatories hereto.

M. All provisions in this MOU are subject to the availability of funds.

ACCORDINGLY, the Signatories have signed this Memorandum of Understanding on the dates set forth below, to be effective for all purposes as of the date last signed, subject to the execution of the

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Agreement. The signatures may be executed using counterpart original documents.

U.S. Army Corps of Engineers, Los Angeles District



Dated: 12 May 2017

Kirk E. Gibbs
Colonel, US Army
Commander and District Engineer

California Regional Water Quality Control Board, Los Angeles Region



Dated: May 8, 2017

Samuel Unger, P.E.
Executive Officer

Exhibit A

CWA § 401 Water Quality Certification

CLEAN WATER ACT § 401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION; U.S. ARMY CORPS OF ENGINEERS LOS ANGELES DISTRICT, OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION (OMRR&R) ACTIVITIES ASSOCIATED WITH THE LOS ANGELES COUNTY DRAINAGE AREA (LACDA) PROJECT SYSTEM, LOS ANGELES COUNTY

This Order is a Water Quality Certification (Certification) for the OMRR&R of the LACDA project (Project) system in waters of the United States by the U.S. Army Corps of Engineers, Los Angeles District (District). This Certification provides coverage for permanent and temporary impacts to waters of the United States. For OMRR&R activities, the District will take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States, shall minimize adverse impacts to native, aquatic vegetation and water quality in the activity work areas, and shall not adversely impact water quality, aquatic vegetation, or aquatic habitat downstream of the Project activity work areas.

This Certification provides regulatory coverage for the District's OMRR&R of 5 flood risk management dam basins, 1 debris basin and approximately 45 miles of flood risk management channels and levees within Los Angeles County related to the Project. Coverage under this Certification is for OMRR&R activities conducted in waters of the United States within Los Angeles County, which include: Haines Canyon Debris Basin, Hansen Dam, Lopez Dam, Santa Fe Dam, Sepulveda Dam, Whittier Narrows Dam, Alhambra/San Pasqual Wash, Ballona Creek, Compton Creek, Los Angeles River, Haines Canyon Channel, upper and lower Rio Hondo, San Gabriel River (above and below Whittier Narrows Dam), San Gabriel River (above Santa Fe Dam), and San Jose Creek.

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This Order serves as a Certification action that is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to § 13330 of the California Water Code and § 3867 of the California Code of Regulations.
2. This Certification action 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 § 3855(b) of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
3. All reports, notices, or other documents required by this Certification or requested by the Los Angeles Regional Water Quality Control Board (Regional Water Board) shall be signed by either a principal executive officer or ranking elected official or by a duly authorized representative of that person.
4. Any person signing a document under Standard Condition number 3 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am

aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

B. CERTIFICATION CONDITIONS:

1. Routine Notification

In addition to the above standard conditions, the District shall notify the Regional Water Board’s contact persons pursuant to paragraph 7 of the Settlement Agreement by email at least 75 days prior to discharging dredged or fill material into waters of the United States. The notification shall include the following:

(a) Activity Description

(b) Proposed Schedule (start date, and completion date)

(c) Name(s) of Receiving Water Body(ies)

(d) Describe potential impacts to water quality

(e) Amount, in ACRES and LINEAR FEET (where appropriate), of waters of the United States would be impacted by the activity, and identify the impacts(s) as permanent and/or temporary.

(f) Indicate the amount (cubic yards) and type of fill material to be discharged/installed in waters of the United States

(g) Briefly describe best management practices (BMPs) to be implemented to avoid and/or minimize impacts to waters of the United States, including preservations of habitats, erosion control measures, project scheduling, flow diversions, etc.

(h) The District shall attach to the notification a copy of the District’s compliance with the National Environmental Policy Act and Clean Water Act 404(b)(1) Guidelines, as applicable.

2. Emergency Notification:

Under emergency circumstances, the District shall alert the Regional Water Board’s contact persons pursuant to paragraph 7 of the Settlement Agreement, via a phone call and email, of a potential emergency project as soon as known and make a notification by email of the information in paragraphs B.1.(a-h) above, as soon as practicable.

C. TECHNICAL CERTIFICATION CONDITIONS:

In addition to the above standard conditions, the District shall satisfy the following:

1. Except for activities carried out under § 404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

2. The District shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the activity work site during work for review by site personnel and agencies. All

personnel (employees, contractors, and subcontractors) performing work/participating in described activity shall be adequately informed and trained regarding the conditions of this Certification.

3. Activities shall not cause visible oil, grease, or foam in the receiving water.
4. Refueling of equipment within the waterway is prohibited.
5. Equipment shall be staged outside of waters of the United States. Storage areas shall be provided with containment including drip pans and/or placement of absorbent material.
6. The District must perform inspections of construction equipment prior to utilizing it in surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality.
7. The District shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the project. The Plan must detail the project elements, construction equipment types and location, access and staging and construction sequence.
8. Raw cement, concrete (or washing thereof), asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering waters of the United States.
9. Silt fencing, straw wattles, or other effective management practices must be used along the construction zone to minimize soil or sediment along the embankments from migrating into the waters of the United States through the entire duration of the project.
10. All earthen embankment areas disturbed by project activities that could contribute to water quality impairment shall be protected from erosion.
11. All temporarily affected areas in soft bottom channels shall be restored to pre-construction contours upon completion of construction activities.
12. All materials resulting from the activity shall be removed from the site and disposed of properly.
13. This Certification does not allow permanent water diversion of flow from the receiving water. This Certification is invalid if any water is permanently diverted as a part of the activity.
14. If surface flows in the work area exceed an average water depth of 6 inches, measured by using a yard stick at three or more random locations that account for water depth variability within the work area, the District shall isolate the work area via water diversion unless technically infeasible or financially impracticable. In the event water diversion is technically infeasible or financially impracticable, other BMPs to protect water quality shall be implemented in order to avoid and minimize impacts to water quality, especially to limit increases to turbidity. Other BMP methods to control turbidity may include downstream check dams, or gravel, or compost filled turbidity socks, or other appropriate methods. In the event the District implements a BMP in place of a water diversion, the District shall document for the record why a water diversion was not implemented. Upon its request, the District shall share such record with the Regional Water Board. If water diversion is anticipated, the District shall follow the

District's Los Angeles County Drainage Area Project *Water Diversion and Best Management Practices Guide*. If water quality monitoring indicates that an activity will adversely impact water quality, the District shall alter or modify water diversion or BMPs to minimize impacts to water quality.

15. The discharge of petroleum products, any construction materials, hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete, asphalt, paint, coating material, drilling fluids, or other construction-related potentially hazardous substances to surface water and/or soil is prohibited. In the event of a prohibited discharge, the District shall notify the Regional Water Board's contact persons pursuant to paragraph 7 of the Settlement Agreement within 24-hours of the discharge.

16. If construction or groundwater dewatering is proposed or anticipated, the District shall obtain any necessary NPDES permits prior to discharging waste.

17. The District shall allow the staff of the Regional Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the work area for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this Certification.

18. The District shall conduct water quality monitoring to ensure effectiveness of water diversions and/or other in-water work or BMPs implemented in lieu of water diversions. If surface flows are present, upstream and downstream monitoring for the following shall be implemented:

- pH
- temperature
- dissolved oxygen
- turbidity

These constituents shall be measured at least once prior to diversion or other BMP implementation and then monitored on a daily basis during the first week and then on a weekly basis, thereafter, until the in-stream work is complete. Monitoring shall take place during the period when clearing activities are occurring. The District shall review water quality data each day water quality data is collected.

19. Pre-project planning shall include consideration of contingency measures to address various flow discharges, if anticipated.

20. When invasive species may be encountered, BMPs to limit the spread of invasive species shall be considered and implemented to the extent appropriate as follows:

- (a) The District shall follow the Regional General Permit 41 BMPs in the removal and disposal of invasive plants.
- (b) All equipment, including equipment for personnel such as hand tools, survey equipment and boots, that have been deployed in an area which supports New Zealand mud snails, shall be subject to a program of inspection and be carefully cleaned before use at an additional project site.

- (c) Construction and maintenance personnel shall be instructed in invasive species control methods.

D. NOTIFICATIONS AND REPORTS:

21. The District shall provide a Notice of Completion (NOC) no later than 45 days after activity completion. The NOC shall demonstrate that the activity has been carried out in accordance with the activity description in the Notification and/or provide an explanation as to any deviations/modifications. The NOC shall include a map of the activity location(s) and representative pre-and post-construction photographs. Each photograph shall include a descriptive title, date taken, photographic site, and photographic orientation. The NOC will include all water quality data collected.

WATER QUALITY CERTIFICATION:

I hereby certify that as long as all of the conditions listed in this certification are met, any discharge of dredged or fill material into waters of the United States related to OMRR&R of the Project will comply with the applicable provisions of § 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") of the Clean Water Act.

California Regional Water Quality Control Board, Los Angeles Region



Samuel Unger, P.E.
Executive Officer

Dated: May 8, 2017

Exhibit A, Attachment 1
Los Angeles County Drainage Area Project
Water Diversion and Best Management Practices Guide



**US Army Corps
of Engineers®**

Los Angeles County Drainage Area Project

Water Diversion and Best Management Practices Guide

Los Angeles District

April 2015

Exhibit A to Memorandum of Understanding

1.0 INTRODUCTION

The U.S. Army Corps of Engineers' ongoing maintenance program of the Los Angeles County Drainage Area (LACDA) system entails the proper operation and function of six flood risk management facilities and approximately 34 miles of flood control channels and levees within Los Angeles County (see Figure 1). Routine maintenance and repair activities ensure proper operation of the outlet works and preserve design flow conveyance and retention capacities of the LACDA system.

1.1 PURPOSE

This document describes temporary water diversion structures and associated best management practices that would be implemented as appropriate for routine and periodic maintenance activities within aquatic areas of LACDA.

Most flows within the LACDA system are riverine. The lone exception is the terminus of Ballona Creek where riverine flows are subject to tidal influence. Moreover, most flows within the system are ephemeral. One major exception is the Los Angeles River downstream of Sepulveda Basin where flows are perennial due to discharge of treated water from the Tillman Water Reclamation Plant and the Los Angeles-Glendale Water Reclamation Plant. If present, reclaimed waters within the system are typically low flows.

Though scheduled maintenance is conducted year-round, most of the work is done in the dry due to the absence of flows in many channels and basins within LACDA. In cases where in-water work may be required, the Corps would assess the potential impacts to water quality. If deemed appropriate, temporary water diversion structures would be discharged in order to avoid and minimize impacts to water quality during routine maintenance activities within aquatic areas of LACDA.

2.0 FACILITY TYPES AND DESCRIPTIONS

2.1 BASIN FACILITIES

The Corps operates and maintains six basin facilities within LACDA. With the exception of Haines Canyon Debris Basin and Lopez Dams, the remaining LACDA basin facilities support a variety of land uses including but not limited to recreation, education, equestrian, military, and wastewater treatment. The

dominant land use is recreation. Recreational areas are leased to the City of Los Angeles at Hansen Dam and Sepulveda Dam. The County of Los Angeles leases recreational areas within the basins for Santa Fe and Whittier Narrows Dam. The lessees are responsible for all operations and maintenance activities within the leased lands. The Corps maintains small operational areas primarily within the vicinity of the inlet and outlet works.

| Facility Name | Total Area (acre) | Operational Area (acre) | Location (lat/long WGS 84) |
|----------------------------|-------------------|-------------------------|----------------------------|
| Haines Canyon Debris Basin | 7.6 | n/a ¹ | 34 15 40 , -118 16 37 |
| Hansen Dam | 1,500 | 8.5 | 34 15 41, -118 23 06 |
| Lopez Dam | 103 | 5.9 | 34 18 21, -118 24 36 |
| Santa Fe Dam | 1,970 | 10.0 | 34 07 04, -117 57 19 |
| Sepulveda Dam | 2,121 | 10.8 | 34 10 26, -118 29 23 |
| Whittier Narrows Dam | 2,812 | 7.0 | 34 1 18, -118 04 53 |

¹ Neither annual nor routine periodic maintenance is performed at Haines Canyon Debris Basin on an annual basis. The last maintenance activity within the aquatic area occurred in 2010 in order to remove sediment and debris from the Station Fire. Prior to that action, the basin had not been cleaned for 40 years.

2.2 LINEAR FACILITIES

Linear LACDA facilities include segmented reaches of channels throughout Los Angeles County. They are composed of concrete rectangular channels; concrete trapezoidal channels or soft bottom channels with reinforced or armored trapezoidal embankments.

| Facility Name | Channel Configuration | Length (miles) |
|---------------------------|-----------------------|----------------|
| Alhambra/San Pasqual Wash | concrete rectangular | 4 |
| Ballona Creek | soft bottom | xxx |
| Ballona Creek | concrete trapezoidal | 1.6 |
| Compton Creek | concrete rectangular | 4.5 |

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| Los Angeles River | concrete/soft bottom | 3 |
| Los Angeles River | concrete rectangular | 3.7 |
| Los Angeles River (Glendale Narrows) | soft bottom/reinforced trapezoidal | 12 |
| Haines Canyon Channel | concrete rectangular | 1.8 |
| Rio Hondo | concrete rectangular | |
| San Gabriel River (above Whittier Narrows Dam) | soft bottom/armored trapezoidal embankment | 1.2 |
| San Gabriel River (above Santa Fe Dam) | soft bottom/armored trapezoidal embankment | 3 |
| San Jose Creek | soft bottom/armored trapezoidal embankment | 1 |

3.0 ROUTINE MAINTENANCE ACTIVITIES IN AQUATIC AREAS

3.1 DAM OUTLET WORKS AND APPROACH CLEANOUT

Debris, sediment and vegetation from the approaches to the dams may be removed in preparation for the storm season. Vegetation and debris clogging the outlet works (e.g., gates) or appurtenant structures such as log booms may also be removed. The activity may require the use of backhoes, loaders, or dozers working in a channel in combination with dump trucks. Equipment would enter the channel via existing access ramps.

3.2 CONCRETE CHANNEL CLEANOUT

Debris, sediment and vegetation from concrete channels are removed on a monthly basis to maintain conveyance capacities and vector control. There are approximately 4,000 cubic yards (cy) of debris, sediment, and vegetation that need to be removed from Corps-maintained concrete channels. Approximately 100 cy of debris are removed monthly from concrete channels using grapple trucks, rubber-tired dump trucks with a grapple arm attachment. The use of grapple trucks eliminates the need for temporary stockpiles in aquatic areas. However, backhoes or loaders working in a channel in combination with dump trucks may be utilized as needed. Equipment would enter the channel via existing access ramps.

3.3 SOFT BOTTOM CHANNEL CLEANOUT

The primary activity within soft bottom channels is trash removal. Approximately 3,500 tons of trash is removed annually using grapple trucks. In addition, vegetation near the levee toes may be removed in order to maintain levee structural integrity. Construction equipment such as backhoes, loaders, and excavators may be utilized as needed. Equipment would enter the channel via existing access ramps. Vegetation is removed from levee toes and concrete inverts via hand tools.

3.4 STRUCTURAL REPAIR

Repair activities within basin and channel facilities may include replacement or repair of damaged structures. In-channel repair activities would entail re-shaping and re-compaction of earthen channels to repair erosion damage, replacement of damaged concrete in lined channels and other in-kind replacement bank protection. These types of repairs do not alter the facility footprint or change the designed uses.

3.5 ROUTINE MAINTENANCE ACTIVITIES BY BASIN FACILITIES

- **Haines Canyon Debris Basin:** Neither annual nor routine periodic maintenance is performed at Haines Canyon Debris Basin on an annual basis. The last maintenance activity within the aquatic area occurred in 2010 in order to remove sediment and debris from the Station Fire. Prior to that action, the basin had not been cleaned for 40 years.
- **Hansen Dam:** Annual maintenance activities typically occur over a two-week period between January and February. The operational area immediately upstream of the inlet works is cleared of sediment and debris. Debris caught on the inlet works is removed. Approximately 1,000 cy of debris and sediment are typically removed. Structural damages are repaired. Vegetation may be mowed or removed by other means as needed. See Figure 2.
- **Lopez Dam:** Annual maintenance activities typically occur over a two-week period between October and November. The operational area immediately upstream of the inlet works is cleared of sediment and debris. Debris caught on the inlet works is removed. Approximately 5,000 cy of debris and sediment are typically removed. Structural damages are repaired. Vegetation may be mowed or removed by other means as needed. See Figure 3.

Exhibit A to Memorandum of Understanding

- **Santa Fe Dam:** Annual maintenance activities typically occur over a two-week period between March and April. The operational area immediately upstream of the inlet works is cleared of sediment and debris. Debris caught on the inlet works is removed. Structural damages are repaired. The area adjacent to the log boom and associated anchor points are cleared. Once every five years, the energy dissipater immediately downstream of the outlet works is cleaned. The structure is dewatered, sediment is removed, and damaged concrete baffles and blocks are repaired. See Figure 4.
- **Sepulveda Dam:** Annual maintenance activities typically occur between November and December. Duration of work is typically being two weeks but may be longer based on maintenance needs. An approximately seven-acre area in the concrete lined portion of the Los Angeles River from Burbank Boulevard to the inlet works is cleared of sediment and debris. Debris caught on the inlet works is removed. Approximately 4,000 cy of debris and sediment are typically removed. Structural damages are repaired.

An approximately 48-acre area between Burbank Boulevard and the dam, outside of active channel on River Right is maintained as needed. Maintenance activities may include but are not limited to removal of non-native trees and vegetation; vegetation mowing; trimming of native trees; removal of debris and litter associated with unauthorized encampments; herbicide application; structural repair; bank stabilization; and road maintenance. See Figure 5.

- **Whittier Narrows (Rio Hondo):** Annual maintenance activities typically occur over a two-week period between February and March. The operational area immediately upstream of the inlet works is cleared of sediment and debris. Debris caught on the inlet works is removed. Structural damages are repaired. Vegetation may also be mowed or removed by other means as needed. Vegetation from an approximately 50-foot-wide by 650-foot-long rectangular area immediately downstream of the outlet works is cleared.

The area within the cross-connector channel between Rio Hondo and San Gabriel River immediately upstream of the Rosemead Boulevard crossing is cleared of sediment and debris. See Figure 6.

- **Whittier Narrows (San Gabriel River):** Annual maintenance activities typically occur over a two-week period between February and March. The operational area immediately upstream of the inlet works is cleared of sediment and debris. Debris caught on the inlet works is removed. Structural damages are repaired. Vegetation may also be mowed or removed by other means

as needed. Vegetation from an approximately 50-foot-wide by 650-foot-long rectangular area immediately downstream of the outlet works is cleared. See Figure 7.

4.0 WATER DIVERSION METHODS

4.1 TRANSVERSE COFFERDAMS

Transverse cofferdams may be used as needed in channels or basins to span the entire cross-section of the facility upstream of the maintenance or repair activity. Water would be impounded upstream of the cofferdam and a bypass system would route flows through the work area. Transverse cofferdams typically consist of sandbags, inflatable dams or k-rails. A gravity pipeline would be used to bypass water through or adjacent to the work area. In earthen bottom channels, a temporary riprap apron would be placed at the pipe outlet to dissipate energy and minimize erosion.

4.2 LONGITUDINAL COFFERDAMS

A longitudinal cofferdam may be used as needed in cases where low flows are present within the work area. The structure allows work to proceed in the dewatered portion of the channel while allowing low flows to continue along the remaining part of the channel. In concrete channels, longitudinal cofferdams would be constructed from k-rails and sandbags. The water diverting segment of the cofferdam at the upstream end of the work area would be relocated from one side of the channel to another.

4.3 DIVERSION BERM & LOW FLOW CHANNEL

In earthen bottom channels, a low flow channel would be excavated around the work area as needed. An earthen berm would be constructed from the excavated material to protect the worksite. The discharge of sediment into the temporary low flow channel would be reduced by the use of erosion and siltation controls such as silt-fencing, coir rolls (also known as straw wattles), filter fabric and silt-free sand bags.

4.4 EXCAVATED BASIN DIVERSION

A temporary detention basin may be excavated as needed upstream of a work area. Water would be bypassed via pipeline. Filter fabric or hay bale filters would be placed within the excavated basin. A stand pipe or a sump would be used to minimize sedimentation in the outflow. Wattles may be used

upstream or downstream of the excavated basin and downstream of the bypass outlet. A temporary riprap apron would be placed at the pipe outlet to dissipate energy and minimize erosion.

5.0 GENERAL BEST MANAGEMENT PRACTICES

5.1 PRE-PROJECT PLANNING

During the project and environmental planning process, the Corps will assess the need for water diversion structures. If needed, environmental planning documents prepared pursuant to the National Environmental Policy Act will identify and incorporate the appropriate water diversion structures and associated best management practices. The documents will incorporate the following information as needed:

- Type of water diversion structure and general specifications such as length, width, depth, capacity and height as appropriate.
- Construction methods, materials and anticipated duration of diversion activities.
- Erosion control BMPs, including methods, materials and installation, maintenance and removal requirements.
- A map or drawing indicating the location of structures, type and location of bypass system, cofferdam height and location of downstream discharge point.
- Location of proposed upstream and downstream water quality monitoring sites.
- Structures will be located to avoid or minimize impacts to aquatic and riparian resources.

5.2 PROJECT IMPLEMENTATION

The following BMPs will be implemented during project implementation:

Exhibit A to Memorandum of Understanding

- The water diversion and work area dewatering system will be in place and functional before in-channel work is started.
- While the water diversion is in place, it will be operational 24 hours a day.
- Inspection and maintenance of the water diversion and associated erosion and sediment control BMPs will be conducted on a regular basis.
- With the exception of emergency repair work, routine maintenance activities will not be conducted during a rainfall event.

5.3 POST-PROJECT IMPLEMENTATION

The following BMPs will be implemented upon completion of work:

- Water diversion structures, bypass systems and erosion controls will be removed upon completion of work. Removal normally proceeds from downstream in an upstream direction.
- Earthen channels will be restored to pre-project contours and gradients.

6.0 COFFER DAM BEST MANAGEMENT PRACTICES

6.1 CONSTRUCTION

- Cofferdam construction would be adequate to prevent seepage into or from the work area.
- Cofferdams may be constructed from sand bags, concrete k-rails, sheet piles or other appropriate materials.
- Cofferdams constructed of earth or other materials subject to erosion will be covered by erosion control measures such as filter fabric, silt-fencing, sheet-piling or other appropriate materials.
- Materials used for the construction of earthen cofferdams will not incorporate contaminated sediments, clays or other materials including concrete, pavement, trash or debris.
- Concrete k-rails or sand bags would be used to the extent practicable for construction of transverse dams. Transverse cofferdams would not be made of earth or other substances subject to erosion.
- Longitudinal cofferdams in low flow channels may be constructed from alluvium excavated from the channel and compacted onsite.

6.2 INSPECTION AND MAINTENANCE

- Regularly inspect coffer dams to check for water seepage under the dam and general integrity of the dam.
- Fix all leaks immediately.
- If water is discharged from the work area despite the cofferdam:

- Place wattles, filter fabric, silt fencing across the flow stream downstream of the work area to remove sediment from the water.

- For higher flows, construction of a downstream de-silting basin may be required.

- Clean water intake if clogged.

6.3 REMOVAL

- Upon completion of work in soft-bottom channels, reintroduce water into the channel slowly so that high turbidity is avoided.

- Remove all imported construction materials.

- After removal of the cofferdam, dismantle the bypass system and restore disturbed areas to pre-construction grades.

- Flows in an earthen bottom channel may be left within the temporary low flow channel if re-introduction of flows to the work area would result in excessive discharge of sediment downstream.

6.0 BYPASS SYSTEMS

6.1 OPEN CHANNEL BYPASS SYSTEMS

- An open channel bypass will be protected from erosion or spillage of material from channel and basin banks and slopes using readily available such as filter fabric, silt fencing, straw bales, sand bags on cofferdam banks, channel banks and slopes.

- An upstream silt catchment basin may be constructed so that silt or other deleterious materials are not allowed to pass into the open channel bypass. The silt catchment basin should be monitored and cleaned/repared on a regular basis.

6.2 PIPELINE BYPASS SYSTEMS

- Bypass systems with pipelines may be gravity flow or pumped as necessary.
- When using a gravity flow system, the pipeline must slope continuously downgrade and therefore may have to pass through or near the work area.
- A pumped system is required where there is no available discharge point continuously downgrade of the intake (i.e., if the pipeline cannot be routed through the work area).
- Intakes and/or excavated basins may be required for gravity flow or pump-fed bypass systems.
 - Turbulence around the intake and associated turbidity may be reduced by means of ponding water behind the cofferdam or in an excavated sump.
 - In earthen bottom channels or basins, the intake pipe end would be substantially above the bottom of the ponded water or excavated basin to avoid discharge of sediments.
 - For gravity systems, a standpipe arrangement is very effective. An intake filter can also be used to screen out sediment but can be easily clogged so is not recommended if the pump must run on a 24-hour schedule.
- Outlet protection may be incorporated at the pipe outlet to prevent generation of turbidity, erosion and scour as indicated below.
- Pump sizes may be changed as appropriate to match dry weather flows.

6.4 SEDIMENT CONTROL ACTIVITIES

- Work areas, channel banks or stockpile areas adjacent to the water diversion area that could be subject to erosion during storm events would be stabilized with erosion control measures as appropriate: silt fencing, straw bales, sand bags, filter fabric, coir rolls or wattles.
- In low flow channels an upstream silt basin may be constructed so that silt or other deleterious materials settle out before passing through the water diversion area.
- Erosion control methods used to prevent siltation would be monitored and cleaned/repared regularly.
- In order to minimize downstream turbidity for returning flows filter fabric, wattles or silt fencing would be installed downstream of the work area as appropriate. Bypass flows would be introduced into the dewatered area at the lowest velocity possible to allow minimize erosion and turbidity.
- Water diversions would not be used during clean-outs of concrete-lined channels where flows are minimal (less than three inches deep) and channel widths are narrow (25 feet or less). In low-flow channels, small bulldozers or “bobcats” would proceed upstream to downstream within the channel bottom to scrape sediment, trash and debris into piles for collection. In other low flow conditions, 6-inch diameter wattles would be sufficient to contain and filter flows within a concrete-lined channel.

6.5 OUTLET PROTECTION

- Place effectively sized outlet protection underneath pipeline outlet of where diverted water is discharged into a soft bottom channel. Rock aprons are the most common type of outlet protection for high flows; however, erosion control fabric, wattles, or silt fencing may be installed in front of an outlet to provide additional velocity reduction.
- Energy dissipation or other protection may not be necessary if the discharge is to an existing hardened structure (culvert, riprap or concrete), to deep water or a heavily vegetated area.

6.6 EQUIPMENT AND VEHICLE USE

6.6.1 Equipment Operation

- Stationary equipment such as motors, pumps, generators and welders located within or adjacent to the channel or basin will be positioned over drip pans.
- Access to the work site via existing roads and access ramps will be shown on the project plans. If no ramps are available in the immediate area, a temporary ramp may be constructed within the flagged work area. Any temporary ramp will be removed upon completion of the project.

6.6.2 Equipment Maintenance During Construction

- Any equipment or vehicles driven and/or operated within or adjacent to the channel or basin should be checked and maintained daily, to check for leaks. All maintenance will occur in a designated offsite area. The designated area will include a drain pan or drop cloth and absorbent material to clean up spills.
- Fueling and equipment maintenance will be done in a designated area removed from the area of the channel or basin such that no petroleum products or other pollutants from the equipment may enter these areas via rainfall or runoff. The designated area will include a drain pan or drop cloth and absorbent materials to clean up spills.

6.6.3 Spill Prevention, Control, and Containment

- Prior to maintenance or repair activities, methods, materials and procedures for spill prevention, control and containment would be identified. This information will be incorporated into the contract documents. Spill containment methods should address the types of materials and equipment to be used at the site. Materials for the containment of spills (i.e., absorbent materials, silt fencing, filter fabric, coir rolls) would be identified and be available onsite prior to commencement of maintenance and/or repair activities.

- Any accidental spill of hydrocarbons or coolant that may occur within the work area will be cleaned immediately. Absorbent materials will be maintained within the work area for this purpose.
- No wet concrete product will come into contact with any flowing or standing water at any time. Areas where raw cement or grout are applied or where concrete curing or finishing operations are conducted will be separated from any ponded or diverted water flows by a cofferdam or silt-free, exclusionary fencing. All equipment involved with the concrete or grouting operations will be located within a contained area while using any slurry or concrete product. A protective berm or other structure will be in place prior to maintenance and/or repair activities.
- Any spill of the grout, concrete, concrete curing or wash water adjacent to or within the work area will be removed immediately.

Exhibit B

Potential Best Management Practices

For individual LACDA project OMRR&R activities for which CWA § 401 water quality certification may not be required, the District agrees to consider and implement BMPs to the extent appropriate, including but not limited to:

1. Stationary equipment such as motors, pumps, generators and welders located within or adjacent to the channel or basin will be positioned over drip pans.
2. Access to the work site via existing roads and access ramps will be shown on the project plans.
3. Any equipment or vehicles driven and/or operated within or adjacent to the channel or basin should be checked and maintained daily, to check for leaks. All maintenance will occur in a designated offsite area. The designated offsite area will include a drain pan or drop cloth and absorbent material to clean up spills.
4. Fueling and equipment maintenance will be done in a designated area removed from the area of the channel or basin such that no petroleum products or other pollutants from the equipment may enter these areas via rainfall or runoff. The designated area will include a drain pan or drop cloth and absorbent materials to clean up spills.
5. Prior to initiation of individual LACDA Project OMRR&R activities in waters of the United States, methods, materials and procedures for spill prevention, control and containment will be identified. This information will be incorporated into the contract documents. Spill containment methods should address the types of materials and equipment to be used at the site. Materials for the containment of spills (i.e., absorbent materials, silt fencing, filter fabric, coir rolls) will be identified and be available onsite prior to commencement of individual LACDA OMRR&R activities.
6. Any accidental spill of hydrocarbons or coolant that may occur within the work area will be cleaned immediately. Absorbent materials will be maintained within the work area for this purpose.
7. Pre-project planning shall include consideration of contingency measures to address various flow discharges, if anticipated.
8. When invasive species may be encountered, BMPs to limit the spread of invasive species shall be considered and implemented as follows:
 - i. The District shall follow the Regional General Permit 41 BMPs in the removal and disposal of invasive plants.
 - ii. All equipment, including equipment for personnel such as hand tools, survey equipment and boots, that have been deployed in an area which supports New

Zealand mud snails, shall be subject to a program of inspection and be carefully cleaned before use at an additional project site.

- iii. Construction and maintenance personnel shall be instructed in invasive species control methods.

9. Raw cement, concrete (or washing thereof), asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering waters of the United States.

10. Because water diversions are not used as BMPs for individual LACDA project OMRR&R activities in MOU Section II.C., the District will consider and implement “other BMPs” to limit increases of baseline turbidity levels caused by individual LACDA project OMRR&R activities, such as downstream check dams, clean gravel-filled or compost-filled turbidity/filter socks, or other appropriate methods. Any and all “other BMPs” will be temporary in nature and completely removed upon completion of in-stream work. In Exhibit C to the MOU, the Regional Water Board has expressly waived §401 water quality certification for “other BMPs” implemented by the District should they result in a discharge of dredged or fill material into waters of the United States.

11. The District shall conduct water quality monitoring to ensure effectiveness of “other BMPs” implemented in lieu of water diversions. If surface flows are present, upstream and downstream monitoring for the following shall be implemented:

- pH
- temperature
- dissolved oxygen
- turbidity

These constituents shall be measured at least once prior to other BMP implementation in waters of the United States and then monitored on a daily basis during the first week and then on a weekly basis, thereafter, until the in-stream work is complete. Monitoring shall take place during the period when in-stream individual LACDA OMRR&R activities are occurring. The District shall review water quality data each day water quality data is collected. Upon its request, the District shall share all monitoring data with the Regional Water Board.



Los Angeles Regional Water Quality Control Board

Exhibit C to Memorandum of Understanding

May 8, 2017

Colonel Kirk E. Gibbs
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd.
Los Angeles, CA 90017

Dear Colonel Gibbs:

This letter concerns Exhibit B to the Memorandum of Understanding (MOU) between the California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) and the United States Army Corps of Engineers, Los Angeles District (District). Specifically, this letter concerns "other BMPs," as described in paragraph 10 of Exhibit B, that the District may implement to limit increases of turbidity levels caused by in-stream individual LACDA project OMRR&R activities conducted in accordance with Section II.C. of the MOU. Should any "other BMPs" implemented by the District pursuant to paragraph 10 of Exhibit B result in a discharge of dredged or fill material into waters of the United States, the Regional Water Board hereby waives Clean Water Act § 401 water quality certification in accordance with 33 U.S.C. §1341(a) for those specific "other BMPs" that are being implemented to protect downstream water quality.

Sincerely,

A handwritten signature in blue ink that reads "Samuel Unger".

Samuel Unger, P.E.
Executive Officer