THE CITY OF SAN DIEGO

MITIGATED NEGATIVE DECLARATION

Project No. 696140
SCH No. 2022120663

SUBJECT: City of San Diego Dam Maintenance Program SITE DEVELOPMENT PERMIT (SDP) to allow for the City of San Diego (City) Public Utilities Department (PUD) to implement the Dam Maintenance Program (Project) consisting of oversight and maintenance activities at 13 of the City's dams, Dulzura Conduit, and associated infrastructure located throughout San Diego County. PUD owns and manages 13 dams, spillways, and associated infrastructure, including the approximately 13-mile Dulzura Conduit. These facilities are part of the City's drinking water infrastructure and are subject to the regulatory jurisdiction of the Division of Safety of Dams (DSOD), which is part of the California Department of Water Resources. The DSOD oversees dam safety in California with the goal of avoiding dam failure which could lead to potential loss of life and destruction of property. As part of the dam safety program, the DSOD completes detailed inspections and reports of the City's dams to identify on-going issues such as vegetation removal, grading, dredging, and repairs to infrastructure and may request certain maintenance work to be performed to improve dam safety. The proposed Dam Maintenance Program (Program) would cover maintenance activities that are routinely included in these DSOD inspection reports. The project would occur within the following community planning areas; Black Mountain Ranch, Mid-City: Eastern Area, Navajo, Rancho Bernardo, San Pasqual, and Scripps Ranch and in City owned lands within the County of San Diego. Zoning would Include: AR-1-1 (Black Mountain, Miramar, Murray, Rancho Bernardo Dams), AG-1-1 (Hodges Dam), and OP-1-1 (Chollas Dam). APPLICANT: City of San Diego Public Utilities Department.

I. PROJECT DESCRIPTION:

See attached Initial Study.

II. ENVIRONMENTAL SETTING:

See attached Initial Study.

III. DETERMINATION:

The City of San Diego conducted an Initial Study which determined that the proposed project could have a significant environmental effect in the following areas(s): **Biological Resources and Noise**. Subsequent revisions in the project proposal create the specific mitigation identified in Section V of this Mitigated Negative Declaration. The project as revised now avoids or mitigates the potentially significant environmental effects previously identified, and the preparation of an Environmental Impact Report will not be required.

IV. DOCUMENTATION:

The attached Initial Study documents the reasons to support the above Determination.

V. MITIGATION, MONITORING AND REPORTING PROGRAM:

A. GENERAL REQUIREMENTS

B. SPECIFIC MMRP ISSUE AREA CONDITIONS REQUIREMENTS

BIOLOGICAL RESOURCES

BIO-1 Wetland Habitat Mitigation: Impacts to wetland habitats shall be mitigated at ratios provided in Table 2A of the City's Biology Guidelines through one or a combination of the following: habitat creation, restoration, and/or enhancement; acquisition and preservation of specific land; purchase of mitigation credits at an approved mitigation bank; and/or allocation of available mitigation credits at an existing City Public Utilities Department mitigation site(s). In accordance with the City's Biology Guidelines, impacts to wetland must be mitigation "in-kind" and achieve a "no-net loss" of wetland function and values. Therefore, a minimum 1:1 mitigation ratio shall be provided in the form of creation and/or restoration in order to achieve the no-net loss requirement.

Mitigation locations for wetland impacts shall be selected using the following order of preference, based on the best mitigation value to be achieved:

1. Existing PUD mitigation site(s) (within approved service area).
2. Mitigation site(s) within the impacted watershed on City-owned lands or other publicly owned lands.
3. Approved mitigation bank with a primary service area that includes impacted watershed(s).
4. Approved mitigation bank with a secondary service area that includes impacted watershed(s).
5. Mitigation site(s) outside of impacted watershed(s).

In order to mitigate for impacts in an area outside the limits of the watershed within which the impacts occur, it must be demonstrated that no suitable location exists within the impacted watershed to the satisfaction of the City Manager (or appointed designee) in consultation with the applicable Resource Agencies.

If mitigation is to occur through habitat creation, restoration, and/or enhancement, a Wetland Mitigation Plan shall be prepared in accordance with the City's Biological Guidelines and shall include the following information:

- Planting plan, including plant zones and target habitats;
- Timing;
- Irrigation and grading requirements (as necessary);
- Planting and seeding specifications including plant and seed palettes;
- Monitoring and reporting program;
- Performance standards; and
- Long-term maintenance and preservation plan.

Mitigation which involves habitat acquisition and preservation shall include the following:

- Location of proposed acquisition;
- Description of the biological resources to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the mitigation area would be adequately preserved and maintained in perpetuity.

Mitigation which involves the allocation of mitigation credits from an approved PUD mitigation site or purchase of mitigation credits from an approved mitigation bank shall include the following:

- Location of the mitigation site/mitigation bank;
- Description of the credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact;
- Documentation that the credits are associated with the mitigation site/mitigation bank are available and have been approved by the appropriate Resource Agencies; and
- Documentation in the form of a current mitigation credit ledger.

Anticipated Program impacts to wetland habitats resulting from the implementation of the overall Program and mitigation requirements are summarized below:

- Impacts to 1.49 acres of southern riparian forest and 0.08 acre of riparian woodland will be provided at a 3:1 ratio for an anticipated combined mitigation obligation of 4.71 acres.
- Impacts to 0.27 acre of southern willow scrub, 1.05 acres of freshwater marsh, 0.02 acre of disturbed wetland, 0.06 acre of non-native riparian, 0.49 acre of unvegetated habitat/lakeshore fringe, and 0.06 acre of non-vegetated channel will be provided at a 2:1 ratio, for an anticipated combined mitigation obligation 3.90 acres.

- Mitigation for wetland impacts shall include a minimum 1:1 creation (establishment) or restoration (re-establishment) component to ensure no net loss of wetlands.

BIO-2 Upland Habitat Mitigation: Impacts to sensitive upland habitats shall be mitigated at ratios provided in Table 3 of the City's Biology Guidelines through one or a combination of the following: habitat creation, restoration, and/or enhancement; acquisition and preservation of specific land; purchase of mitigation credits at an approved mitigation bank; and/or allocation of available mitigation credits at an existing City Public Utilities Department mitigation site(s). In accordance with the City's Biology Guidelines, mitigation for impacts to Tier I habitat could either occur within the Multi-Habitat Planning Area portion of Tier I (in Tier), or outside of the Multi-Habitat Planning Area within the affected habitat type (in-kind). Mitigation for impacts to Tier II, IIIA, and IIIB habitats could either occur within the Multi-Habitat Planning Area portion of Tier I-IIIB (out-of-kind) or occur outside of the Multi-Habitat Planning Area within the affected habitat type (in-kind).

If mitigation is to occur through habitat creation, restoration, and/or enhancement, an Upland Mitigation Plan shall be prepared in accordance with the City's Biological Guidelines and shall include the following information:

- Planting plan, including plant zones and target habitats;
- Timing;
- Irrigation and grading requirements (as necessary);
- Planting and seeding specifications including plant and seed palettes;
- Monitoring and reporting program;
- Performance standards; and
- Long-term maintenance and preservation plan.

Mitigation which involves habitat acquisition and preservation shall include the following:

- Location of proposed acquisition;
- Description of the biological resources to be acquired, including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the mitigation area would be adequately preserved and maintained in perpetuity.

Mitigation which involves the allocation of mitigation credits from an approved City Public Utilities Department mitigation site or purchase of mitigation credits from an approved mitigation bank shall include the following:

- Location of the mitigation site/mitigation bank;
- Description of the credits to be acquired, including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact;

- Documentation that the credits are associated with the mitigation site/mitigation bank are available and have been approved by the appropriate Resource Agencies; and

- Documentation in the form of a current mitigation credit ledger.

Anticipated Program impacts to sensitive upland habitats resulting from the implementation of the overall Program and mitigation requirements are summarized below:

- Impacts to 0.20 acre of Tier I habitat, including coast live oak woodland and scrub oak chaparral, shall be mitigated in accordance with ratios provided in Table 3 of the City's Biology Guidelines, for a mitigation obligation of 0.20 acre.

- Impacts to 9.1 acres of Tier II habitat, including Diegan coastal sage scrub (including disturbed, sparse, laurel sumac dominated, and Baccharis dominated) and coastal sage-chaparral scrub, shall be mitigated in accordance with ratios provided in Table 3 of the City's Biology Guidelines, for a mitigation obligation of 9.1 acres.

- Impacts to 3.8 acres of Tier IIIA habitat, including southern mixed chaparral (including Ceanothus dominated), granitic southern mixed chaparral (including disturbed), granitic northern mixed chaparral (including disturbed), and chamise chaparral, shall be mitigated in accordance with ratios provided in Table 3 of the City's Biology Guidelines, for a mitigation obligation of 2.0 acres.

- Impacts to 6.8 acres of Tier IIIB habitat, non-native grassland, shall be mitigated in accordance with ratios provided in Table 3 of the City's Biology Guidelines, for a mitigation obligation of 4.7 acres.

BIO-3 **Rare Plant Avoidance and Mitigation:** Prior to the clearing of vegetation within the Program area, a Qualified Biologist shall conduct a pre-construction survey for special status plant species previously observed or with high or moderate potential to occur within the affected areas, including a 20-foot buffer, to identify the location and number of any individuals present. Program activities shall avoid impacts to special status plant species found within the maintenance areas to the extent feasible (if present). The locations and/or boundaries of special status plant species to be avoided during maintenance activities shall be clearly delineated with flagging or temporary fencing that must remain in place for the duration of activities. If impacts cannot be completely avoided, then efforts shall be made to limit trimming any individual shrubs to the minimum amount necessary, including root disturbance, which will allow for individuals to resprout from the base.

If Program activities can avoid root disturbance, no additional mitigation would be required. If root disturbance cannot be avoided and removal of state/federally listed or City Narrow Endemic plant species is required, then impacts shall be mitigated at a minimum 1:1 ratio through one or a combination of the following actions: transplantation (when feasible) of impacted individuals to suitable habitat areas located outside of the maintenance footprint; installation of plantings within suitable habitat in the Multi-Habitat Planning Area; and/or enhancement of suitable habitat outside of the maintenance footprint that supports the species through supplement seeding of the species.

Mitigation which involves relocation, planting, or enhancement of special status plant species shall include preparation of a species-specific Restoration or Revegetation Plan to ensure successful establishment to achieve a 1:1 replacement for individuals impacted. The Plan shall include the following information: planting and/or seeding specifications, temporary irrigation requirements (if determined to be necessary), monitoring and reporting program, and performance standards.

BIO-4 Quino Checkerspot Butterfly Avoidance and Mitigation: The City shall obtain take coverage for impacts to Quino checkerspot butterfly and occupied Quino checkerspot butterfly habitat and host plant patches through consultation with the U.S. Fish and Wildlife Service. All Terms and Conditions and Conservation Measures specified by U.S. Fish and Wildlife Service as part of the consultation process shall be adhered to, and any required habitat-based mitigation shall occur at mitigation ratios determined during the consultation process.

Mitigation for Program impacts to 4.56 acres of Quino checkerspot butterfly occupied habitat (including 0.31 acre of Quino checkerspot butterfly host plants) is anticipated to occur at a 1.5:1 ratio through habitat restoration and/or off-site acquisition/preservation of Quino checkerspot butterfly occupied habitat. If mitigation is to occur through habitat restoration, the City shall prepare a Habitat Restoration Plan to describe the approach to a minimum five-year restoration program, maintenance and monitoring methods, performance criteria, adaptive management, and reporting requirements. The City will provide a copy of the Habitat Restoration Plan to U.S. Fish and Wildlife Service for review prior to implementation. Upon successful completion of the restoration program, the restoration site will be managed by the City's Parks and Recreation Department, Public Utilities Department, or other qualified land/preserve manager. Funding for long-term management will be provided through the City's annual fiscal budget. If off-site acquisition/preservation of occupied Quino checkerspot butterfly habitat is to occur, the off-site land shall be protected in perpetuity and managed to ensure long-term protection of the habitat and the habitat quality for Quino checkerspot butterfly.

In addition, USFWS consultation and compensatory mitigation, the City shall implement the following Quino checkerspot butterfly measures for Program activities conducted at San Vicente Dam, Savage Dam, Upper Otay Dam, and Dulzura Conduit in order to avoid and/or minimize impacts to Quino checkerspot butterfly.

A. Program activities that would result in the clearing and/or removal of vegetation shall not commence during the Quino checkerspot butterfly flight season (defined as the third week of February through the second Saturday in May) until the following requirements have been met to the satisfaction of the City Manager (or appointed designee):

    1. A Qualified Biologist shall be present to monitor all vegetation clearing activities and ensure that all flagged and mapped host plant locations planned for avoidance are avoided.

    2. The Qualified Biologist shall conduct environmental awareness training for all maintenance personnel prior to the commencement of individual maintenance activities with the potential to impact Quino checkerspot butterfly and/or potential

Quino checkerspot butterfly habitat, and annually for ongoing routine annual maintenance activities.

3. Access roads, access trail, and footpath trail maintenance within these facilities shall either occur outside of the Quino checkerspot butterfly flight season or be monitored by a Qualified Biologist.

4. Any observations of Quino checkerspot butterfly shall be reported to the City and U.S. Fish and Wildlife Service within 24 hours.

BIO-5 Hermes Copper Butterfly Avoidance and Mitigation: The City shall obtain take coverage for impacts to Hermes copper butterfly and potential occupied habitat. All Terms and Conditions and Conservation Measures specified by U.S. Fish and Wildlife Service as part of the consultation process shall be adhered to, and any required habitat-based mitigation shall occur at mitigation ratios determined during the consultation process.

In addition to the U.S. Fish and Wildlife Service consultation, the City shall implement the following Hermes copper butterfly measures for Program activities conducted at Barrett Dam and Dulzura Conduit in order to avoid and/or minimize impacts to Hermes copper butterfly.

A. Program activities that would result in the clearing and/or removal of vegetation shall not commence during the Hermes copper butterfly flight season (defined as May through July) until the following requirements have been met to the satisfaction of the City Manager (or appointed designee):

1. A Qualified Biologist shall conduct a pre-construction survey for Hermes copper butterfly and suitable Hermes copper habitat as defined in the Species Status Assessment for the Hermes Copper Butterfly as spiny redberry (*Rhamnus crocea*) occurring in close proximity to California buckwheat (*Eriogonum fasciculatum*) within the affected areas within one week prior to commencement of activities. If found, host plants will be flagged and avoided.

2. The Qualified Biologist shall present to monitor all vegetation clearing activities and ensure that all flagged and mapped host plant locations planned for avoidance are avoided.

3. The Qualified Biologist will conduct environmental awareness training for all maintenance personnel prior of individual maintenance activities with the potential to impact Hermes copper butterfly and/or potential habitat species, and annually for ongoing routine annual maintenance activities.

4. Access roads, access trail, and foot path trail maintenance within these facilities shall either occur outside of the Hermes copper butterfly flight season or be monitored by a Qualified Biologist.

5. Any observations of Hermes copper butterfly shall be reported to the City and U.S. Fish and Wildlife Service within 24 hours.

BIO-6 Arroyo Toad Avoidance and Mitigation: The following arroyo toad measures shall apply to Program activities conducted at Barrett Dam, El Capitan Dam, and Sutherland Dam.

A. Impacts to potential arroyo toad habitat shall be mitigated in-kind at ratios provided in Table 2A and Table 3 of the City's Biology Guidelines.

B. Program activities that would result in habitat removal or ground-disturbing activity, including spillway clearing and repair, within suitable arroyo toad breeding habitat shall not commence during the arroyo toad breeding season (March 15 through July 1) until the following requirements have been met to the satisfaction of the City Manager (or appointed designee):

1. A Qualified Biologist shall conduct a pre-construction survey for arroyo toad for at least three consecutive nights within one week prior to commencement of activities to determine the presence or absence of arroyo toad within the 500 feet of the affected areas.

I. If arroyo toads are determined to be absent, maintenance/construction activities shall occur under the supervision of the Qualified Biologist with the following requirements:

a. The Qualified Biologist will conduct environmental awareness training for all maintenance personnel prior to the commencement of activities.

b. Work activities will not occur immediately prior to or during rain events.

c. Hours of work will be limited to daylight hours, except when nighttime work is necessary (i.e., for worker safety). If work must be done at night, construction lighting will be of the lowest illumination necessary, selectively placed, shielded, and directed away from natural habitats.

D, The Qualified Biologist shall halt all work activities if any arroyo toads are found to be present within or adjacent to the work areas. Maintenance/construction activities shall not resume until the City has consulted with the U.S. Fish and Wildlife Service to determine appropriate measures to complete activities.

II. If arroyo toads are found to occur within or adjacent to the work areas, maintenance/construction activities shall not occur until either after the arroyo toad breeding season, or until the City has consulted with the U.S. Fish and Wildlife Service to determine appropriate measures to complete activities.

2. All nighttime maintenance/construction activities will be avoided within or adjacent to occupied arroyo toad habitat during the arroyo toad breeding season or monitored by a Qualified Biologist.

3. Access roads, access trail, and footpath trail maintenance at these facilities shall either occur outside of the arroyo toad breeding season or be monitored by a Qualified Biologist.

4. Any observations of arroyo toad shall (including incidental excavation, capture and relocation, injury, or death of arroyo toads in association with Program activities) will be reported to the City and U.S. Fish and Wildlife Service within 24 hours.

BIO-7 Coastal California Gnatcatcher Avoidance:

A. No clearing, grubbing, grading, or other maintenance/construction activities shall occur between March 1 through August 15, the breeding season of the coastal California gnatcatcher, until the following requirements have been met to the satisfaction of the City Manager (or appointed designee):

1. A Qualified Biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit) shall survey those habitat areas within the MHPA that would be subject to maintenance/construction noise levels exceeding 60 decibels (dBA) hourly average, or exceeding ambient noise levels if greater than 60 dBA, for the presence of the coastal California gnatcatcher. Surveys for the coastal California gnatcatcher shall be conducted pursuant to the protocol survey guidelines established by the USFWS within the breeding season prior to the commencement of any maintenance/construction activities with the potential to directly or indirectly impact gnatcatcher. If gnatcatchers are present, then the following conditions must be met:

I. Between March 1 and August 15, no clearing, grubbing, or grading of occupied gnatcatcher habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and

II. Between March 1 and August 15, no maintenance/construction activities shall occur within any portion of the Program area where activities would result in noise levels exceeding 60 dBA hourly average or ambient, whichever is higher, at the edge of occupied gnatcatcher habitat. An analysis showing that noise generated by maintenance/construction activities would not exceed 60 dBA hourly average or ambient (whichever is higher) at the edge of occupied habitat must be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the City Manager (or appointed designee) at least two weeks prior to the commencement of maintenance/construction activities. Prior to the commencement of maintenance/construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

III. At least two weeks prior to the commencement of maintenance/construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dBA hourly average or ambient (whichever is higher) at the edge of habitat occupied by the coastal

California gnatcatcher. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dBA or ambient (whichever is higher) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

**Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance/construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager (or appointed designee), as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.*

2. If coastal California gnatcatchers are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City Manager (or appointed designee) and applicable Resource Agencies that demonstrates whether or not mitigation measures, such as noise walls, are necessary between March 1 and August 15 as follows:

   I. If this evidence indicates the potential is high for coastal California gnatcatcher to be present based on historical records or site conditions, then Condition III shall be adhered to as specified above.

   II. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

BIO-8 Least Bell's Vireo and Southwestern Willow Flycatcher Avoidance and Mitigation:

A. Impacts to riparian habitat occupied by least Bell's vireo shall be mitigated in-kind at ratios provided in Table 2A of the City's Biology Guidelines.

B. No clearing, grubbing, grading, or other maintenance/construction activities shall occur within 500 feet of riparian habitat during the least Bell's vireo breeding season (March 15 through September 15) or southwestern willow flycatcher breeding season (May 1 through September 1) until the following requirements have been met to the satisfaction of the City Manager (or appointed designee):

   1. A Qualified Biologist (possessing a valid Endangered Species Act Section 10(a)(1)(A) Recovery Permit when required) shall survey those habitat areas that would be subject to maintenance/construction noise levels exceeding 60 decibels (dBA) hourly average for the presence of the least Bell's vireo and southwestern willow flycatcher.

Surveys for this species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service within the breeding season prior to the commencement of maintenance/construction. If vireos or flycatchers are present, then Condition I and either II or III must be met:

I. Between March 15 and September 15 for least Bell's vireo and May 1 through September 1 for southwestern willow flycatcher, no clearing, grubbing, or grading of occupied vireo habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; AND

II. Between March 15 and September 15 for least Bell's vireo and May 1 through September 1 for southwestern willow flycatcher, no maintenance/construction activities shall occur within any portion of the site where maintenance/ construction activities would result in noise levels exceeding 60 dBA hourly average at the edge of occupied habitat. An analysis showing that noise generated by maintenance/construction activities would not exceed 60 dBA hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the City Manager (or appointed designee) at least two weeks prior to the commencement of maintenance/construction activities. Prior to the commencement of any maintenance/construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; OR

III. At least two weeks prior to the commencement of maintenance/construction activities, under the direction of a qualified acoustician, noise attenuation measures shall be implemented to ensure that noise levels resulting from maintenance/construction activities will not exceed 60 dBA hourly average at the edge of occupied habitat.

2. If least Bell's vireos or southwestern willow flycatcher are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City Manager (or appointed designee) and applicable Resource Agencies that demonstrates whether or not mitigation measures such as noise walls are necessary between March 15 and September 15 for least Bell's vireo and May 1 through September 1 for southwestern willow flycatcher as follows:

I. If this evidence indicates the potential is high for least Bell's vireo and/or southwestern willow flycatcher to be present based on historical records or site conditions, then Condition A.III shall be adhered to as specified above.

II. If this evidence concludes that no impacts to this species are anticipated, no additional measures would be necessary.

BIO-9 Special Status Avian Species Protection Requirements: To avoid any direct impacts to any species identified as a listed, candidate, sensitive, or special status species in the City's

Multiple Species Conservation Plan, including but not limited to southwestern willow flycatcher, coastal cactus wren, Cooper's hawk, and northern harrier, removal of habitat that supports active nests in the proposed area of disturbance shall occur outside of the breeding season for these species (January 1 to July 15 for raptors; February 1 to September 15 for all other avian species). If Program activities that involve the clearing of vegetation must occur within the breeding season, a pre-construction survey shall be conducted by a Qualified Biologist no more than seven days prior to the commencement of the activities in areas supporting suitable habitat to determine the presence or absence of nesting birds or raptors within the proposed area of disturbance. If the Qualified Biologist determines that no active nesting birds or raptors are present within the proposed area of disturbance, the activities shall be allowed to proceed. If the Qualified Biologist determines that an active bird or raptor nest is present, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, appropriate nest setbacks, maintenance/ construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. Appropriate nest setbacks shall be implemented as determined by the City's Biology Guidelines, or by a Qualified Biologist if no defined setback is provided in the Biology Guidelines. City-defined avoidance setbacks within the Multi-Habitat Planning Area are 300 feet for nesting Cooper's hawk and 900 feet for nesting northern harrier. No impacts shall occur within the setback area until the young have fledged the nest and the nest is confirmed to no longer be active, as determined by the Qualified Biologist. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City Manager (or appointed designee) and Qualified Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during applicable Program activities.

BIO-10 Bat Roost Avoidance:

A. Program activities with the potential to impact suitable roosting habitat for bats, including but not limited to removal of trees or repair of cracks in cement or rocks at least six mm wide, shall not commence until the following requirements have been met to the satisfaction of the City Manager (or appointed designee):

1. During the bat maternity season (April 15 through August 15), a Qualified Biologist with at least three years of experience conducting bat surveys and acoustic monitoring shall conduct a one-night emergence survey during suitable weather conditions (no rain or high winds, night temperatures above 55°F), or if conditions permit, physically examine potential roost sites for presence or absence of bats, within three days prior to the commencement of maintenance/construction activities.

    I. If bats are detected and determined to be roosting within the area proposed for maintenance, maintenance/construction activities within 100 feet of the roost site shall be avoided until after the maternity season (August 15) or when the young are self-sufficiently volant (able to fly).

II. If bats are not detected during the pre-construction survey or determined to be absent from the area proposed for maintenance, maintenance/construction activities shall be allowed to proceed, and no additional measures would be necessary.

2. Outside of the bat maternity season (August 16 through April 14), a Qualified Biologist with experience conducting day roosting surveys for bats will physically examine cavities and other potential roost sites, as conditions permit, for the presence or absence of bats within three days prior to the commencement of maintenance/construction activities.

   I. If bats are detected and determined to be roosting within the area proposed for maintenance during the winter months when bats are in torpor (October 31 through February 15), maintenance/construction activities within 100 feet of the roost site shall be avoided until after the winter season when bats are once again active.

   II. If bats are detected and determined to be roosting within the area proposed for maintenance outside of both the winter months and bat maternity season (i.e., maintenance activities conducted between August 16 through October 30, and February 16 through April 14), maintenance/construction activities within 50 feet of the roost site shall be avoided until bats are no longer determined to be roosting within the proposed area for maintenance as determined by the qualified bat biologist.

   III. If bats are not detected during the pre-construction survey or determined to be absent from the area proposed for maintenance, maintenance/construction activities shall be allowed to proceed, and no additional measures would be necessary.

NOISE

NOI-1 Construction Noise Management Plan. Noise from project construction activities shall comply with the thresholds and hours specified by the City of San Diego and County of San Diego. Construction shall not occur outside the hours of 7:00 a.m. and 7:00 p.m. Construction noise shall not exceed 75 dBA L_{EQ} (8 hour) at nearby residential land uses in the County of San Diego and 75 dBA L_{EQ} (12 hour) at residential land uses in the City of San Diego.

If work is conducted within the setback distances found in Table 3 of this Program's Initial Study, noise levels may exceed the thresholds at a given work site. Appropriate measures shall be implemented to reduce construction noise including, but not be limited to, the following:

- Construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.

- Diesel equipment shall be operated with closed engine doors and equipped with factory-recommended mufflers.

- Mobile or fixed "package" equipment (e.g., arc-welders and air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

- Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment, where feasible.

- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) shall be prohibited.

- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

- Any truck or equipment equipped with back-up alarm moving within 300 feet of a noise-sensitive land use should have the normal back-up alarm disengaged and safety provided by lights and flagman or broad-spectrum noise backup alarm (as appropriate for conditions) used in compliance with the Occupational Safety and Health Administration safety guidelines.

- If a temporary barrier is used, all barriers shall be solid and constructed of wood, plastic, fiberglass, steel, masonry, or a combination of those materials, with no cracks or gaps through or below the wall. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove or close butted seams and must be at least ¾-inch thick or have a surface density of at least 3.5 pounds per square-foot. Sheet metal of 18-gauge (minimum) may be used if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind. Noise blankets, hoods, or covers also may be used, provided they are appropriately implemented to provide the required sound attenuation.

- A noise monitor shall be provided to ensure noise levels do not exceed thresholds. The monitor, in cooperation with the on-site construction manager, shall have the authority to halt construction activities in the event that noise levels exceed thresholds. Monitors shall submit regular reports to the City documenting noise levels and compliance.

NOI-2 **Aircraft Noise**. Non-emergency use of helicopters for Program activities shall occur outside of the general bird breeding season (February 1 to September 15) when activities would occur within or adjacent to biologically sensitive habitat occupied by sensitive avian species as defined by the City's Biology Guidelines including, but not limited to, coastal California gnatcatcher and least Bell's vireo.

WILDFIRE

FIRE-1 Fire Safety Plan. The following fire prevention strategies would be implemented during Program construction:

- Construction within areas of dense foliage during dry conditions will be avoided, when feasible.
- In cases where avoidance is not feasible, brush fire prevention and management practices will be incorporated. Specifics of the brush management program will be incorporated into project construction documents.

VI. PUBLIC REVIEW DISTRIBUTION:

Draft copies or notice of this Mitigated Negative Declaration were distributed to:

Federal Government
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish & Wildlife Service

State of California
State Clearinghouse
California Department of Fish and Wildlife

City of San Diego
Mayor's Office (91)
Council President , District 9 (MS 10A)
Councilmember Campillo, District 7 (MS 10A)
Councilmember Von Wilbert, District 5 (MS 5)

Development Services Department
Jeff Szymanski, EAS
Catherine Rom, Development Project Manager
Phil Lizzi, LDR Planning Review
Andrea Navagato LDR- Landscape

Planning Department
Dan Monroe, MSCP

City Attorney (93C)

City of San Diego Libraries
Library Department - Government Documents (81)
Rancho Bernardo Branch Library (81aa)
Scripps Branch Library (MS 17)
City Heights Library (81ff)

Other Organizations, Groups, and Interested Individuals
Sierra Club (163)
San Diego Audubon Society (167)
Mr. Jim Peugh (167a)
Endangered Habitats League (182a)
Black Mountain Ranch (226c)
City Heights Area Planning Committee (287)
Rancho Bernardo Community Council (398)
San Pasqual (426)
Scripps Ranch Planning Group (437)
Navajo Community david.smith@eldpinc.com

VII. RESULTS OF PUBLIC REVIEW: (**CHECK BOX IF RETYPED FOR FINAL**)

( ) No comments were received during the public input period.

( ) Comments were received but did not address the accuracy or completeness of the draft environmental document. No response is necessary and the letters are incorporated herein.

X Comments addressing the accuracy or completeness of the draft environmental document were received during the public input period. The letters and responses are incorporated herein.

Copies of the draft Mitigated Negative Declaration, the Mitigation, Monitoring and Reporting Program and any Initial Study material are available in the office of the Development Services Department for review, or for purchase at the cost of reproduction.

Jeff Szymanski
NAME
Senior Planner
Development Services Department

December 27, 2022
Date of Draft Report

May 25, 2023
Date of Final Report

Analyst: Jeff Szymanski

Attachments:

Exhibit A, Maintenance Plan
Appendix A: Air Quality and Greenhouse Gas Emissions Assessment
Appendix B: Biological Technical Report

Appendix C: City of San Diego Source Water System Historical Resources Assessment
Appendix D: Cultural Resources Technical Report
Appendix E: Noise Assessment Study

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
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San Diego, CA 92123
(858) 467-4201
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

February 2, 2023

Jeffrey Szymanski
Senior Planner
City of San Diego
1222 1st Avenue
San Diego, CA 92101
JSzymanski@sandiego.gov

Subject: City of San Diego Dam Maintenance Program (PROJECT), Mitigated Negative Declaration (MND), SCH #2022120663

Dear Mr. Szymanski:

A-1 The California Department of Fish and Wildlife (CDFW) received a Notice of Intent to Adopt an MND from the City of San Diego for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

A-2 CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

A-3 CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) CDFW also oversees implementation of the Natural Community Conservation Planning (NCCP) program. The City of San Diego participates in the NCCP program by implementing its approved Multiple Species Conservation Program (MSCP) Subarea Plan (SAP). This affords the City "take" of MSCP covered species, some of which are listed under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). If any CESA-listed species may be impacted by the Project that are not covered by the MSCP, the project proponent may seek related take authorization as provided by the Fish and Game Code.

PROJECT DESCRIPTION SUMMARY

A-4 **Proponent:** City of San Diego Public Utilities Department (City)

Objective: The objective of the Project is to conduct long-term maintenance of City-owned dams and infrastructure, the Dulzura Conduit, and spillways. The facilities are subject to the regulatory jurisdiction of the Division of Safety of Dams (DSOD), part of the California Department of Water Resources.

Location: The Project involves long-term routine maintenance of 13 dams and associated infrastructure throughout San Diego County, as well as the 13-mile Dulzura Conduit. The locations are detailed below:

1. *Barrett Dam*: Barrett Dam is located in at the outlet of Barret Reservoir in eastern unincorporated San Diego County, in the community of Dulzura.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

A-1 The City of San Diego (City) acknowledges the comment as an introduction to comments that follow. No further response is required.

A-2 Comment noted. The City acknowledges CDFW as a Trustee Agency. No further response is required.

A-3 Comment noted. The City acknowledges CDFW as a Responsible Agency. No further response is required.

A-4 Comments noted. This comment summarizes the proposed Dam Maintenance Program (Program) and information contained within the Biological Technical Report (Attachment B). No further response is required.

2. *Black Mountain Dam*: Black Mountain Dam is located in the northern San Diego, within the Black Mountain Ranch community. The study area is within the City's Black Mountain Open Space Park, within the boundaries of the MSCP SAP and within the Multi-Habitat Planning Area (MHPA).

3. *Chollas Dam*: Chollas Dam is located at the outlet of Chollas Reservoir in central San Diego. Cholles Dam is within the MSCP SAP and the northeastern portion of the study area occurs within the MHPA.

4. *El Capitan Dam*: El Capitan Dam is located at the outlet of El Capitan Reservoir in eastern San Diego County, in the unincorporated community of Lakeside.

5. *Hodges Dam*: Hodges Dam is located at the outlet of Hodges Reservoir in northern San Diego, at the outlet of Hodges Reservoir, within the boundaries of the MSCP SAP, within the MHPA.

6. *Miramar Dam*: Miramar Dam is located at the outlet of Miramar Reservoir in northern San Diego, within the boundaries of the MSCP SAP. A majority of the study area occurs within the MHPA.

7. *Morena Dam*: Morena Dam is located at the outlet of Morena Reservoir, in the unincorporated community of Lake Morena, within the County's Lake Morena Regional Park and Cleveland National forest.

8. *Murray Dam*: Murray Dam is located at the outlet of Murray Reservoir in eastern San Diego, within the MSCP. A majority of the study area is within the MHPA.

A-1 cont.

9. *Rancho Bernardo Dam*: Rancho Bernardo Dam is located in the northern portion of San Diego within the community of Rancho Bernardo. It is within the MSCP SAP, but outside of the MHPA.

10. *San Vicente Dam*: San Vicente Dam is located at the outlet of San Vicente Reservoir, in the unincorporated community of Lakeside. The Dam is within the MSCP SAP, within the MHPA.

11. *Savage Dam*: Savage Dam is located at the outlet of Lower Otay Reservoir, in the unincorporated community of Otay in south San Diego. The study area occurs within the City's Otay Lakes Recreation Area, within the boundaries of the MSCP SAP, and is mostly within the MHPA.

12. *Sutherland Dam*: Sutherland Dam is located at the outlet of Sutherland Reservoir, in the unincorporated community of Ramona in northern San Diego County.

13. *Upper Otay Dam*: Upper Otay Dam is located at the outlet of Upper Otay Reservoir, in the unincorporated community of Otay in southern San Diego County. The dam is within the boundaries of the MSCP SAP, with the majority of the study area occurring within the MHPA.

14. *Dulzura Conduit*: The 13-mile Dulzura Conduit is located in eastern San Diego County, in the unincorporated community of Dulzura. The northern terminus is located at Barrett Dam, and the Southern terminus is located at the confluence with Dulzura Creek.

Project Activities:

- Vegetation removal at all of the Project sites, including clearing of all vegetation within five feet of Dulzura Conduit and within 10 feet of all dams and associated infrastructure; clearing of marsh habitat within 10 feet of all dams; removal of trees within 10 feet of dams, saddle dams, parapet walls, and spillways; and clearing and maintaining of all vegetation within 10 feet of weirs, headwalls, valves, pipes, and discharge paths.

- Maintenance of access roads, pedestrian footpaths, staging areas, and materials storage areas along current path alignments at all Project sites.

- Mechanical and/or hydraulic dredging of accumulated lake bottom sediment covering dam infrastructure, within a 50-foot radius of the outlet/intake tower base at Barrett, Chollas, El Capitan, Miramar, Morena, Murray, San Vicente, and Savage Dams, and within a 50-foot radius at the low-level outlet intake at Barrett, Hodges, and San Vicente dams.

- Routing maintenance and repairs to the outlet/intake towers at all dams.

- Clearing and maintenance of trash racks.

- Spillway clearing.
- Maintenance of the earthen dams (Chollas, El Capitan, Miramar, and Morena dams), including filling of voids, gullies, and rills caused by erosion, minor grading, and regular compaction of the dam face and toe of the dam.
- Maintenance of concrete dams (Barrett, Hodges, Murray, San Vicente, Savage, Sutherland, and Upper Otay dams) and concrete reservoirs (Black Mountain and Rancho Bernardo), including sealing of joints and cracks, repairing degraded concrete, spalls and boulder impact areas, and smoothing vertically displaced joints on concrete surfaces.
- Routine maintenance of Dulzura Conduit, including removal of landslide debris, rocks, boulders, and vegetation, and repair of damaged or deteriorating sections of the conduit with in-kind materials.
- Geotechnical investigations of the dams, foundations, and associated infrastructure.

Biological Setting:

The Project site contains suitable habitat to support a variety of sensitive wildlife species, including those covered under the MSCP, CESA-listed species, federal Endangered Species Act (ESA)-listed species; and designations of State Fully Protected (FP), California Species of Special Concern (SSC), and CDFW Watch List Species (WL). A total of 36 vegetation communities were recorded within the Project area.

A-4 cont.

Special-Status Plants: No ESA- and/or CESA-listed plant species were documented within the Project area. Sixteen other special-status plants were documented within the Project area during biological surveys including: California adolphia (*Adolphia californica;* California Rare Plant Rank (CRPR) 2B.1), San Diego bur-sage (*Ambrosia chenopodiifolia*; CRPR 2B.1), San Diego sagewort (*Artemisia palmeri;* CRPR 4.2), Dean's milkvetch (*Astragalus deaneri*; CRPR 1B.1), San Diego goldenstar (*Bloomeria clevelandii*; CRPR 1B.1), wart-stemmed ceanothus (*Ceanothus verrucosus;* CRPR 2B.2), delicate clarkia (*Clarkia delicata;* CRPR 1B.2), San Diego barrel cactus (*Ferocactus viridescens;* CRPR 2B.1), San Diego marsh-elder (*Iva hayesiana;* CRPR 2B.2), pride of California (*Lathyrus splendens*; CRPR 4.3), golden-rayed pentachaeta (*Pentachaeta aurea ssp. aurea;* CRPR 4.2), chaparral rein orchid (*Piperia cooperi;* CRPR 4.2), Engelmann oak (*Quercus engelmannii*; CRPR 4.2), Munz's sage (*Salvia munzii*; CRPR 2B.2), ashy spike-moss (*Selaginella cinerascens*; CRPR 4.1), and rush-like bristleweed (*Xanthisma junceum*; CRPR 4.3).

Special-status animals: The following 34 special status animal species have been documented within Project's study area:

- Invertebrates (2): monarch (*Danaus plexippus;* ESA-candidate species), Quino checkerspot butterfly (*Euphydryas editha quino*; ESA-endangered)
- Amphibians (2): arroyo toad (*Anaxyrus californicus;* ESA-endangered, SSC), western spadefoot (*Spea hammondii*; SSC)
- Reptiles (6): Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*; WL), San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*; SSC), San Diego banded gecko (*Coleonyx variegatus abbotti*; SSC), northern red diamond rattlesnake (*Crotalus ruber ruber*; SSC), Blainville's horned lizard (*Phrynosoma blainvillii*; SSC), two-striped gartersnake (*Thamnophis hammondii*; SSC)
- Birds (18): Cooper's hawk (*Accipiter cooperii*, WL), sharp-shinned hawk (*Accipiter striatus*; WL), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; WL), redhead (*Aythya americana*; SSC), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; SSC), olive-sided flycatcher (*Contopus cooperi*; SSC), white-tailed kite (*Elanus leucurus*; FP), willow flycatcher (*Empidonax traillii*; ESA-endangered, CESA-endangered), peregrine falcon (*Falco peregrinus*; FP), bald eagle (*Haliaeetus leucocephalus*; CESA-endangered, FP), yellow breasted chat (*Icteria virens*; SSC), California gull (*Larus californicus*; WL), osprey (*Pandion haliaetus*; WL), American white pelican (*Pelecanus erythrorhynchos*; SSC), double-crested cormorant (*Phalacrocorax auritus*; WL), coastal California gnatcatcher (*Polioptila californica californica;* ESA-threatened, SSC), yellow warbler (*Setophaga petechia*; SSC), least Bell's vireo (*Vireo bellii pusillus;* ESA-endangered, CESA-endangered)

Critical Habitat: The Project area contains several areas of United States Fish and Wildlife Service (USFWS) designated critical habitat for Quino checkerspot butterfly, arroyo toad, Hermes copper butterfly (*Lycaena hermes*; ESA-threatened), and coastal California gnatcatcher.

Wetlands: Lake, streambed, and riparian habitats within the Project area are detailed below:

Table 5
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURIDICTIONAL AREAS

Jurisdictional Resource	Program Component[1] (acres)[2]												
	BM	CH	EC	HOD	MIR	MOR	MUR	SNV	SAV	SUT	UPO	DC	Total
Riparian Habitat													
Southern Riparian Forest	1.05	-	7.30	1.34	-	0.09	-	-	-	0.05	-	0.17	**10.00**
Southern Coast Live Oak Riparian Forest	0.89	-	-	-	-	-	-	-	-	-	-	-	**0.89**
Coast Live Oak Woodland	0.27	-	-	-	-	-	-	-	-	-	-	-	**0.27**
Riparian Woodland	-	0.10	-	-	-	<0.01		0.05	-	-	-	-	**0.15**
Southern Willow Scrub	-	-	-	-	-	-	-	-	0.14	-	-	-	**0.14**
Mule Fat Scrub	-	-	-	0.03	-	-	-	0.25	-	-	-	-	**0.28**
Arrowweed Scrub	0.39	-	-	-	-	-	-	-	-	-	-	-	**0.39**
Freshwater Marsh	-	0.05	-	0.05	0.96	-	0.21	0.03	0.07	-	0.04	-	**1.41**
Disturbed Wetland	-	-	-	-	-	-	-	-	-	-	-	0.02	**0.02**
Non-Native Riparian	-	-	-	-	-	-	0.17	-	-	-	-	-	**0.17**
Arundo-dominated Riparian	-	-	-	-	-	-	-	-	-	-	-	0.09	**0.09**
Subtotal	***2.60***	***0.15***	***7.30***	***1.42***	***0.96***	***0.09***	***0.38***	***0.33***	***0.21***	***0.05***	***0.04***	***0.28***	***13.81***
CDFW Lake/Streambed													
Perennial Stream	-	-	-	<0.01	-	-	-	-	-	-	-	-	**<0.01**
Intermittent Stream	0.07	-	-	-	-	-	-	0.18	-	-	-	0.02	**0.27**
Ephemeral Stream	-	0.06	-	-	-	-	-	-	-	-	0.05	-	**0.11**
Concrete-lined Stream	-	-	-	-	-	-	-	-	-	-	-	0.01	**0.01**

A-4 cont.

Jurisdictional Resource	Program Component[1] (acres)[2]												
	BM	CH	EC	HOD	MIR	MOR	MUR	SNV	SAV	SUT	UPO	DC	Total
Grouted Riprap Spillway	-	-	-	-	-	-	-	0.28	-	-	-	-	**0.28**
Open Water/Lake	0.58	0.79	4.80	0.87	2.01	0.95	1.00	2.14	1.47	0.82	0.18	-[3]	**15.61**
Subtotal	***0.65***	***0.85***	***4.80***	***0.87***	***2.01***	***0.95***	***1.00***	***2.60***	***1.47***	***0.82***	***0.23***	***0.03***	***16.28***
TOTAL	**3.25**	**1.00**	**12.10**	**2.29**	**2.97**	**1.04**	**1.38**	**2.93**	**1.68**	**0.87**	**0.27**	**0.31**	**30.09**

[1] Program Component abbreviations refer to the study areas as follows: BAR = Barrett Dam; BM = Black Mountain Dam; CHO = Chollas Dam; EC = El Capitan Dam; HOD = Hodges Dam; MIR = Miramar Dam; MOR = Morena Dam; MUR = Murray Dam; RB = Rancho Bernardo Dam; SNV = San Vicente Dam; SAV = Savage Dam; SUT = Sutherland Dam; UPO = Upper Otay Dam; DC = Dulzura Conduit.
[2] Acres rounded to the nearest hundredth.
[3] Open water/lake habitat at northern portion of Dulzura Conduit overlaps with the Barrett Dam study area and is included within that Program component to avoid double counting.

Vegetation Impacts: The Project will impact 95.40 acres of habitat, including: 10.90 acres of wetlands and non-wetland resources, 19.90 acres of sensitive upland habitats, and 64.60 acres of non-sensitive uplands and developed land. Impacts that occur within the MHPA include: 4.87 acres of wetland impacts, 5.20 acres of sensitive upland impacts, and 13.70 acres of non-sensitive upland impacts.

Mitigation: The City's Biology Guidelines require that any impacts to wetlands must be mitigated "in-kind" and achieve a "no-net loss" of wetland function and values, except as provided for in Section 3B of the Biology Guidelines (Economic Viability Option). Wetland mitigation ratios are summarized in Tables 2A and 2B of the Biology Guidelines. Significant impact to upland habitat requires mitigation based on rarity of upland resources, as characterized by one of four Habitat Tiers; mitigation ratios are summarized in Table 3 of the City's Biology Guidelines (City of San Diego 2018).

Timeframe: The Project involves long-term routine maintenance of the City's dams and Dulzura conduit, with no specified timeframe.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

I. General Comments

A-5

COMMENT #1: Invertebrates

Issue: Quino checkerspot butterfly was previously petitioned to CDFW for State listing but a Fish and Game Commission decision was not taken at that time due to an ongoing legal review concerning CDFW's authority to list invertebrates. Since that time, CDFW's authority to list

A-5 This comment provides factual background information regarding the previous petitions to list species under the California Endangered Species Act and recent legal rulings. This comment does not address the adequacy or accuracy of the Draft MND. No further response is required.

invertebrate species has been legally upheld; therefore, if the petition is resubmitted it is reasonably foreseeable that Quino could become either a candidate species or listed under CESA during the lifetime of the Dam Maintenance Program. Quino is not a covered species under the MSCP and there are no efforts underway to add it as such at this time. It is also possible that other invertebrates, such as the Hermes copper butterfly could be petitioned for protection under CESA in the near future as well (Fish and Game Code § 2050, *et seq.*, and § 670.1, Title 14, California Code of Regulations). Considering that the timeline of City dam maintenance activities extends indefinitely into the future, it is possible that permitting will be required under CESA at some point for "take" of State-listed invertebrate species, if impacts cannot be completely avoided. In this context, the term "take" is defined by Fish and Game Code section 86 as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

A-5 (cont.)

Specific Impact:

Quino checkerspot butterfly: The MND indicates that the Project will result in direct impacts to Quino checkerspot butterfly through removal of 0.76 acre of potentially occupied habitat at Savage Dam, and 3.80 acres of potentially occupied habitat at Dulzura Conduit. The Project would also result in impacts to 2.90 acres of USFWS-designated critical habitat at Savage Dam; the MND indicates that 0.90 acre of the designated critical habitat contains physical or biological features essential for Quino checkerspot butterfly. Indirect impacts may also occur through disturbance of host plant patches during maintenance activities. Quino checkerspot butterfly avoidance measures in the Mitigation, Monitoring, and Reporting Program (MMRP) BIO-4 include:

1. flagging and mapping host plants;
2. monitoring by a Qualified Biologist during vegetation clearing;
3. environmental awareness training for maintenance personnel;
4. maintenance of access roads, trails, and footpaths will be conducted outside of Quino checkerspot butterfly flight season, or be monitored by a Qualified Biologist; and,
5. observations shall be reported to the City and USFWS within 24 hours.

A-6

Mitigation for 4.56 acres of Quino checkerspot butterfly occupied habitat is proposed in the MND at a 1.5:1 ratio, through habitat restoration and/or off-site acquisition/ preservation of occupied habitat. The City will create a Habitat Restoration Plan for review by USFWS. Funding for long-term management would be provided through the City's annual fiscal budget.

Hermes copper butterfly: The MND indicates that Hermes copper butterfly has a high potential to occur at Barrett Dam and Dulzura Conduit, based on the presence of the species' larval host plant, previous observations, and presence of USFWS-designated critical habitat in the study area. USFWS-designated critical habitat occurs along the northern portion of the Barrett Dam access road; because activities are limited to the existing road right-of-way that does not contain physical or biological features essential to the species, implementation of the Project would not result in direct impacts to critical habitat with the potential to support the species. The MND states that the City will obtain take coverage from USFWS for impacts to Hermes copper butterfly and potentially occupied habitat. In addition to USFWS consultation, avoidance measures included in the Mitigation, Monitoring, and Reporting Program BIO-5 are described below:

1. pre-construction survey by a Qualified Biologist for Hermes copper butterfly and suitable habitat, within one week prior to commencement of activities. If host plants are found, they will be flagged and avoided;
2. monitoring by a Qualified Biologist during vegetation clearing;
3. environmental awareness training for maintenance personnel;
4. maintenance of access roads, trails, and footpaths will be conducted outside of Hermes copper butterfly flight season, or be monitored by a Qualified Biologist; and,
5. observations shall be reported to the City and USFWS within 24 hours.

Why impact would occur: Direct impacts to Quino checkerspot butterfly could occur from removal of potentially occupied habitat at Savage Dam and Dulzura Conduit. Indirect impacts could occur from disturbance of occupied host plants. Direct and indirect impacts to Hermes copper butterfly habitat could occur from maintenance activities along the access road at Barrett Dam.

A-7

Evidence impact would be significant: CDFW considers adverse impacts to a species protected by CESA, for the purposes of CEQA, to be significant without mitigation. Should Quino checkerspot butterfly or Hermes copper butterfly become candidate species or listed under CESA, the City would need to consider the listing status in relation to the Project and ongoing dam maintenance activities. Take of any endangered, threatened, or candidate

A-6 Comments noted. This comment summarizes the proposed Program and information contained within the Draft MND and Biological Technical Report (Attachment B). The comment also notes that direct impacts could occur to the Quino checkerspot butterfly and Hermes copper butterfly as a result of the project.

A-7 Comment noted. The City acknowledges the CDFW's regulatory authority to review and issue appropriate take authorization for species designated as endangered or threatened, or a candidate for listing under the CESA. This comment does not address the adequacy or accuracy of the Draft MND. No further response is required.

A-7 cont.

species that results from the project is prohibited, except as authorized by state law (Fish & G. Code, §§ 2080, 2085). Consequently, if the Project or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an incidental take permit (ITP) or a consistency determination (CD) in certain circumstances, among other options (Fish and G. Code §§ 2080.1, 2081, subds. (b),(c)). Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit.

A-8

Recommended Potentially Feasible Mitigation Measure(s)

Recommendation #1: Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species, and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP. Should a CESA ITP or CD be required, impacts of the authorized take shall be minimized and fully mitigated to the extent of the impact of the authorized taking on the species. The applicant must also ensure adequate dedicated funding (*e.g.*, a non-wasting endowment) to implement and monitor the success criteria of the measures (Fish and G. Code § 2081).

A-9

Given the impacts to possible future CESA-listed species, the Project may result in significant impacts even with mitigation, and in such an instance an MND would not be the appropriate environmental document for the Project (CEQA Guidelines § 15064). CDFW therefore recommends rather than an MND, that a complete draft Programmatic Environmental Impact Report (PEIR) be circulated for public review and comment. The additional information and analyses identified in this letter should be included in the draft PEIR.

A-10

COMMENT #2: State Fully Protected Species

Issue: Impacts to species designated as State Fully Protected must be fully avoided.

Specific Impact: The MND identifies several State Fully Protected bird species that have a high potential to occur within the Project areas, or that were detected during surveys, including: bald eagle, golden eagle, white-tailed kite, and peregrine falcon.

A-11

Bald eagle: Bald eagle is a Fully Protected species, in addition to an MSCP-covered and CESA-endangered species. The BTR informs that bald eagles were detected within the Morena Dam, San Vicente Dam, and Sutherland Dam study areas. An active nest was detected at Morena Reservoir in 2021 through news reports. The BTR states that most individuals are likely to occur as wintering visitors, and are unlikely to represent breeding pairs, which are generally rare and well documented. There are no conditions for coverage under the MSCP. The BTR indicates that, although the Project would impact wetland habitat, wetland mitigation in accordance with the City's Bio Guidelines would be subject to no net loss of function and values, and would be consistent with the MSCP.

Golden eagle: Golden eagle is a Fully Protected species, in addition to a WL and MSCP-covered species. The BTR indicates that golden eagle has a high potential to occur at Barrett Dam, El Capitan Dam, Morena Dam, Savage Dam, Sutherland Dam, Upper Otay Dam, and Dulzura Conduit based on the presence of suitable foraging habitat, geographic location, and reported occurrences. Active golden eagle nest sites are not publicly disclosed; however, previous nesting records are documented in several of those areas. Area specific management directives are incorporated into the BTR (6.7 Conditions of Coverage for Covered Species), which include establishing a 4,000-foot disturbance avoidance buffer around active nests within preserve lands, in conjunction with monitoring of nest sites and coordination with the USFWS and CDFW (collectively, the Wildlife Agencies).

Peregrine falcon: Peregrine falcon is a Fully Protected species, in addition to a MSCP-covered species. The BTR indicates that peregrine falcon was detected in Barrett Dam, San Vicente Dam, and Sutherland Dam study areas. At San Vicente Dam, a pair was observed with an active nest on the dam itself. Peregrine falcon also have a high potential to occur at El Capitan Dam, Hodges Dam, Morena Dam, Murray Dam, Savage Dam, Upper Otay Dam, and Dulzura Conduit, based on the presence of suitable habitat and documented occurrences in the surrounding area. Peregrine falcon may use the Project areas for foraging, or breed within the surrounding hillsides or on the dams. There are no conditions for coverage under the MSCP. The BTR indicates that the Project would mitigate for impacts to sensitive vegetation communities and be consistent with the MSCP.

A-8 Comment noted. This comment does not address the adequacy or accuracy of the Draft MND. No further response is required.

A-9 The Draft MND and Biological Technical Report (Attachment B) analyzed the potential direct and indirect impacts to special-status species in accordance with current listings, currently proposed listings, and designations. Seven state and/or federally listed animal species were documented to occur within the Program area (monarch butterfly, Quino checkerspot butterfly, arroyo toad, willow flycatcher, bald eagle, coastal California gnatcatcher, and least Bell's vireo), of which one is a federal candidate species for listing (monarch butterfly). In addition, one federally listed species (Hermes copper butterfly) was determined to have a high potential to occur within the Program area. No state candidate species were documented to occur within the Program area or determined to have a high potential to occur, as detailed in the Biological Technical Report. To the extent that potentially significant impacts to special-status species were identified, mitigation is required to reduce the impacts to a less than significant level. The determination of impacts was evaluated and analyzed based on the scientific and factual data known at this time. As the potential for future listing of species under the CESA is unknown, analysis of species based on a potential future status would be speculative and is therefore not required under CEQA.

Intentionally left blank

If a species is listed under the CESA or FESA in the future, and if the Program would potentially result in take of that future-listed species, the City will apply for and obtain the appropriate take authorization at that time, and additional CEQA analysis would be conducted, as necessary.

The Program does not currently have a need for an ITP for CESA listed species. As the analysis demonstrates that potential impacts to all special-status species would be reduced to below a level of significance through the required mitigation measures, an MND is the appropriate form of CEQA document.

A-10 Comment noted. This comment does not address the adequacy or accuracy of the Draft MND. No further response is required.

A-11 Comments noted. This comment summarizes the proposed Program and information contained within Draft MND and Biological Technical Report (Attachment B). No further response is required. Please also refer to Responses to Comments A-12, A-13, and A-14.

A-11 cont.

White-tailed kite: White-tailed kite is a Fully Protected species. The BTR indicates that white-tailed kite was detected within the Savage Dam and Upper Otay Dam study areas. A pair with at least three fledglings was observed to the north of Savage Dam. The species also has a high potential to occur at El Capitan Dam, Hodges Dam, Morena Dam, and Sutherland Dam based on the presence of suitable habitat and documented occurrences in the surrounding area. The BTR and MND do not specifically address project impacts to white-tailed kite or avoidance measures.

A-12

Why impact would occur: BIO-9 in the MMRP addresses protection requirements for avian species identified as listed, candidate, sensitive, or special status species in the City's MSCP, including but not limited to southwestern willow flycatcher, coastal cactus wren, Cooper's hawk, and northern harrier. Requirements include: pre-construction surveys within 7 days of vegetation clearing during breeding season (January 1 to July 15 for raptors; February 1 to September 15 for other avian species); a mitigation plan subject to review and approval by the City, per the City's Biology Guidelines and applicable state and federal laws; and appropriate avoidance setbacks.

Although BIO-9 identifies protection requirements specific to avian species identified as listed, candidate, sensitive, or special status species in the City's MSCP, it may incidentally provide some benefit to white-tailed kite, peregrine falcon, bald eagle, and golden eagle; however, there is not sufficient analysis in the MND to ensure that impacts to Fully Protected species will be completely avoided.

A-13

Evidence impact would be significant: Per Fish & Game Code § 3511, a Fully Protected bird may not be taken or possessed at any time. "Given that Fully Protected species are afforded protections beyond state or federal listing status, minimization of significant impacts is not sufficient for Fully Protected species, and impacts must be fully avoided to avoid take of any individuals.

Recommended Potentially Feasible Mitigation Measure(s)

A-14

Recommendation #2: Project activities should include measures to fully avoid impacts to species designated by the State of California as Fully Protected. CDFW recommends that specific avoidance measures for Fully Protected Species be thoroughly discussed in the environmental document and incorporated into the MMRP.

COMMENT #3: Ongoing Diversions and FGC section 1602

A-15

Issue: Water diversion and/or transfer of water between facilities may present a substantial change to the channels between facilities, and therefore significantly impact biological resources described in the MND.

Specific Impact: Water diversion and transfer of water has the potential, either directly or cumulatively, to significantly reduce the instream flow of channels, rivers, and streams between City facilities. These activities could be categorized as Operations and Maintenance activities, and as such it is possible that the biological resources in the MND (i.e., wetland, riverine, riparian, and aquatic habitats, as well as the wildlife that depend upon such habitats) will be significantly adversely impacted when diversions or transfers occur. Specific impacts associated with the activities include but is not limited to impacts of unseasonable watering and controlled velocities on riparian habitats, scour which may impact herpetofauna such as arroyo toad, and changes in reservoir levels which could affect nesting activity and/or result in nest abandonment.

A-16

Why impact would occur: CDFW and the City have preliminarily discussed permitting water diversions and transfers between City facilities under the CDFW Lake and Streambed Alteration Program. Previous discussions resulted during concerns about nest abandonment by Western and Clark's grebes (*Aechmophorus occidentalis* and *Aechmophorus clarkii*, respectively) at Hodges Reservoir (2021). At the time the effects on grebe nesting was viewed as necessary due to the need to perform emergency activities; CDFW recommends pursuing the discussion further in order for potential triggers and responses to avoid take of nesting birds can be anticipated. To date, the City has not submitted a notification to CDFW nor obtained a lake or streambed alteration (LSA) agreement for its diversion/transfer activities between facilities.

A-17

Evidence impact would be significant: FGC section 1602 requires a person to notify CDFW before: 1) substantially diverting or obstructing the natural flow of a river, stream, or lake; 2) substantially changing the bed, channel, or bank of a river, stream, or lake; 3) using any material from the bed, channel, or bank of a river, stream, or lake; and/or 4) depositing or disposing of debris, waste, material containing crumbled, flaked, or ground pavement where it

A-12 Comment noted. The MND (under Section IV.A) and BTR (under Section 7.2.2.2) have been updated to include a discussion on CDFW Fully Protected species, including measures to ensure avoidance of impacts to Fully Protected species. Mitigation measure BIO-9 has been revised to identify avoidance of CDFW Fully Protected avian species. BIO-9 requires that a mitigation plan be prepared if active bird or raptor nests are present and that nest setbacks be implemented at distances specified in the City's Biology Guidelines, or as determined by a Qualified Biologist if no defined setback is provided. No work activities would occur within the nest setback until the nest has fledged or is determined to be no longer active. Implementation of BIO-9 would ensure that no impacts to Fully Protected species are avoided and that no take of individuals occurs.

A-13 This comment provides factual background information regarding CDFW protections for Fully Protected species. This comment does not address the adequacy or accuracy of the Draft MND. No further response is required.

A-14 Comment noted. Please refer to the Response to Comment A-12. The Draft MND and Biological Technical Report (Attachment B) analyzed the potential direct and indirect impacts to special-status plant and animal species, including CDFW Fully Protected Species. Mitigation measure BIO-9 has been slightly modified to identify CDFW Fully Protected (including white-tailed kite, peregrine falcon, and golden eagle) and specify that no direct impacts to Fully Protected bird species shall occur.

Intentionally left blank

A-15 Comment noted. As described in the Program Description and *Maintenance Plan* (Exhibit A), the proposed Program is limited to the routine maintenance of 13 City-owned dams, Dulzura Conduit, and appurtenant structures. The purpose of the Program is to complete routine maintenance and repairs to these facilities in an effort to comply with maintenance recommendations and mandates issued by the Division of Safety of Dams (DSOD), which is part of the California Department of Water Resources, and improve dam safety. Water transfers and diversions are separate activities related to the operation of the dams, reservoirs, and region's drinking water. The proposed Program does not describe or regulate the operation of the dams, reservoirs, or associated facilities. These activities are beyond the scope of the proposed Program. As such, water transfers and diversions are not required to be analyzed within the Draft MND or technical studies.

A-16 Comment noted. Please refer to the Response to Comment A-15 above. Water diversions and transfer are not part of the Program activities, and as such, are beyond the scope of this Program. No further response is required.

A-17 Comment noted. This comment provides factual background information on the Fish and Game Code under Section 1602. Please refer to the Response to Comment A-15 above. Water diversions and transfer are not part of the Program activities, and as such, are beyond the scope of this Program. No further response is required.

A-17 cont.

may pass into a river, stream, or lake. CDFW's understanding is that the City's ongoing water diversions and transfers may not be in compliance with FGC section 1602. This concept is not unique to the City of San Diego situation, as FGC 1602 is under discussion with water providers elsewhere in California.

Recommended Potentially Feasible Mitigation Measure(s)

A-18

Recommendation #3: Given the possible significant impacts of these activities on the biological resources in the MND, and that such activities generally fall within the scope of Operations and Maintenance activities for City facilities, CDFW recommends that water transfers and diversions between facilities be included in the Project Description and subsequently analyzed in a recirculated environmental document. This analysis should include a discussion of compliance with FGC 1602 *et seq.* CDFW looks forward to continuing this conversation with the City.

II. Specific Comments

COMMENT #3: Rare Plant Avoidance and Mitigation

A-19

No CESA- or ESA- listed plants were observed within the program area; however, 17 special status plant species were documented, of which 3 are covered under the MSCP: San Diego golden star, wart-stemmed ceanothus, and San Diego barrel cactus. None of the documented species are designated as MSCP narrow endemics.

BIO-3 in the MMRP indicates that a Qualified Biologist will conduct a pre-construction survey for special-status plant species prior to vegetation clearing. Individuals will be flagged, and the Project will avoid impacts to special-status plants to the extent feasible. BIO-3 also states that if impacts cannot be avoided, then efforts will be made to limit trimming to the minimum amount necessary, avoiding root disturbance. Per the MND, no mitigation will be required if root disturbance is avoided. If root disturbance cannot be avoided and removal of a CESA/ESA-listed or City Narrow Endemic plant is required, impacts will be mitigated at a 1:1 ratio through transplantation (when feasible) of individuals to suitable habitat areas outside of the maintenance footprint; installation of plantings within suitable habitat in the MHPA; and/or enhancement of suitable habitat outside of the maintenance footprint that supports the species through supplemental seeding.

Although the City's Biology Guidelines have some provisions for transplantation, more generally CDFW does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful; however, there are some species for which translocation has proven successful. Additionally, the BTR states that a species-specific Restoration or Revegetation Plan will be prepared for mitigation which involves relocation, planting, or enhancement of special status plant species, to establish a 1:1 replacement for individuals impacted.

A-20

Recommendation #3: CDFW requests to be closely involved and participate in discussions for Restoration or Revegetation Plans addressing covered or otherwise sensitive plant species.

COMMENT #4: Agency Review and Approval for Mitigation Plans

A-21

Wetland Habitat Mitigation: MM BIO-1 in the MMRP indicates that impacts to wetland habitats shall be mitigated at ratios provided in Table 2A of the City's Biology Guidelines through one or a combination of: habitat creation; restoration and/or enhancement; or acquisition and preservation of specific land; and that wetland mitigation must be "in-kind" and achieve a "no-net loss" of wetland function and values. Impacts to 1.49 acres of southern riparian forest and 0.08 acre of riparian woodland will be provided at a 3:1 mitigation ratio, totaling 4.71 acres. Impacts to 0.27 acre of southern willow scrub, 1.05 acres of freshwater marsh, 0.02 acre of disturbed wetland, 0.06 acre of non-native riparian, 0.49 acre of unvegetated habitat/lakeshore fringe, and 0.06 acre of non-vegetated channel will be provided at a 2:1 ratio, for an anticipated combined mitigation obligation of 3.90 acres. Mitigation for wetland impacts will include a minimum of 1:1 creation (establishment) or restoration (re-establishment) component to ensure no-net loss of wetlands.

The MND states that if mitigation is to occur through habitat creation, restoration, and/or enhancement, a Wetland Mitigation Plan shall be prepared in accordance with the City's Biological Guidelines, and parameters are discussed.

A-18 Comment noted. Please refer to the Response to Comment A-15 above. The proposed Program is limited to routine maintenance repairs of the dams and appurtenant structures to comply with maintenance recommendations and mandates issued by the DSOD and to improve dam safety. The proposed Program does not describe, regulate, or cover activities related to the operation of the dams, reservoirs, or other City infrastructure. Water diversions and transfers are beyond the Program's scope. As such, water transfers and diversions are not analyzed within the Draft MND or technical studies.

A-19 Comments noted. Mitigation Measure BIO-3 includes the potential for seeding, planting, and/or transplanting to allow for the replacement of the impacted individuals. As noted by the Commentor, there are certain species that transplant well, and those efforts have been shown to be successful (e.g., cactus species), which is the reason transplantation was included as one of the options for mitigation (when transplanting is feasible). No changes were made in response to this comment.

A-20 The City acknowledges CDFW's interest in participating in discussions for Restoration or Revegetation Plans addressing covered or otherwise sensitive plant species. The City will continue to coordinate with the CDFW under the MSCP for Program activities requiring subsequent environmental review and approvals.

A-21 Comments noted. This comment summarizes the proposed Program and information contained within the Draft MND and Biological Technical Report (Attachment B). No further response is required.

A-22 **Recommendation #4:** CDFW requests that the Wetland Mitigation Plan be submitted to the Wildlife Agencies for review and approval prior to implementation, and in support of the City's 1602 Lake and Streambed Alteration Agreement notification.

A-23 *Upland Habitat Mitigation:* MM BIO-2 in the MMRP indicates that impacts to upland habitat will be mitigated at ratios provided in Table 3 of the City's Biology Guidelines through one or a combination of: habitat creation, restoration and/or enhancement; acquisition and preservation of specific land; purchase of mitigation credits at an approved mitigation bank; and/or allocation of available mitigation credits at an existing City Public Utilities Department mitigation site. Impacts to 0.20 acre of Tier I habitat including coast live oak woodland and scrub oak chaparral will be mitigated at a mitigation obligation of 0.20 acre. Impacts to 9.1 acres of Tier II habitat, including Diegan coastal sage scrub and coastal sage-chaparral scrub, will be mitigated at a mitigation obligation of 9.1 acres. Impacts to 3.8 acres of Tier IIIA habitat, including southern mixed chaparral, granitic southern mixed chaparral, granitic northern mixed chaparral, and chamise chaparral, will be mitigated at a mitigation obligation of 2.0 acres. Impacts to 6.8 acres of Tier IIIB habitat, non-native grassland, will be mitigated at a mitigation obligation of 4.7 acres.

The MND indicates that if mitigation is to occur through habitat creation, restoration, and/or enhancement, an Upland Mitigation Plan shall be prepared in accordance with the City's Biology Guidelines.

A-24 **Recommendation #5:** CDFW requests that the Upland Mitigation Plan be submitted to the Wildlife Agencies for review and approval prior to implementation.

COMMENT #5: Lake and Streambed Alteration Agreement: Routine Maintenance

A-25 The Biological Technical Report (BTR) and MND indicate that a Section 1602 lake or streambed Alteration Agreement (LSA) will be obtained from CDFW. We look forward to receiving the City's notification for wetland impact activities described in Table 5, including the wetland mitigation plan, prior to grading of wetland areas.

ENVIRONMENTAL DATA

A-26 CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

A-27 The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

A-28 CDFW appreciates the opportunity to comment on the MND to assist the City in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Jessie Lane, Environmental Scientist, at Jessie.Lane@wildlife.ca.gov.

Sincerely,

DocuSigned by:
David Mayer
0703A4923D7548...

David Mayer
Environmental Program Manager
South Coast Region

A-22 The City acknowledges CDFW's request. Wetland Mitigation Plans prepared to provide compensatory mitigation for Program impacts to CDFW-jurisdictional wetland/riparian habitat would be submitted to the Wildlife Agencies for review and approval prior to the implementation of mitigation activities and as part of the City's Lake and Streambed Alteration Agreement Notification.

A-23 Comments noted. This comment summarizes the proposed Program and information contained within the Draft MND and Biological Technical Report (Attachment B). No further response is required.

A-24 The City acknowledges CDFW's request. Upland Mitigation Plans prepared to provide compensatory mitigation for Program impacts to state-listed species would be submitted to the Wildlife Agencies for review and approval prior to the implementation of mitigation activities. Upland Mitigation Plans that do not involve state-listed species would not be provided to CDFW for review. The City will continue to coordinate with the Wildlife Agencies under the MSCP for Program activities requiring subsequent environmental review and approvals.

A-25 Comment noted. An application for a Lake and Streambed Alteration Agreement will be submitted to CDFW. The City will obtain the required permits prior to commencing Program activities within CDFW-jurisdictional streambed and riparian habitat.

Intentionally left blank

A-26 Comment noted. Field survey forms for special-status species and natural communities detected during project surveys will be completed and submitted to the CNDDB. This comment does not address the adequacy of the Draft MND. No further response is required.

A-27 Comment noted. The required fees will be paid upon filing the Notice of Determination.

A-28 The City acknowledges the comment and notes that it provides concluding remarks that do not address the adequacy or accuracy of the Draft MND. No further response is required.

ec: CDFW
Jennifer Turner, San Diego – Jennifer.Turner@wildlife.ca.gov
Karen Drewe, San Diego – Karen.Drewe@wildlife.ca.gov
Cindy Hailey, San Diego – Cindy.Hailey@wildlife.ca.gov
OPR
State Clearinghouse, Sacramento – State.Clearinghouse@opr.ca.gov
USWFS
David Zoutendyk – David_Zoutendyk@fws.gov

Attachments

A. CDFW Comments and Recommendations

REFERENCES

California Code of Regulations 15000-15387

California Natural Diversity Database (CNDDB). 2022. RareFind 5 [Internet]. California Department of Fish and Wildlife, Government Version.

City of San Diego, Land Development Code Biology Guidelines, 2018.

City of San Diego, Multiple Species Conservation Program (MSCP), Subarea Plan, 1997.

LexisNexis Matthew Bender. (2021). *California Fish and Game Code*.

Public Resources Code Sections 21000-21177 and State CEQA Guidelines 14

A-29

Attachment A:
CDFW Draft Mitigation, Monitoring, and Reporting Plan and Associated Recommendations

Recommendation	Mitigation Measures	Timing	Responsible Party
Rec. 1	CDFW recommends that a draft Environmental Impact Report (EIR) or Programmatic Environmental Impact Report (PEIR) be circulated for public review and comment, rather than rely on an MND for the proposed project.	Before Impacts	City of San Diego
Rec. 2	CDFW recommends that specific avoidance measures for Fully Protected Species be thoroughly discussed in the CEQA document, and incorporated into the MMRP.	Before Impacts	City of San Diego
Rec. 3	CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Additionally, CDFW requests that each Restoration or Revegetation Plan be submitted to the Wildlife Agencies for review and approval prior to implementation.	Before Impacts	City of San Diego
Rec. 4	CDFW requests that the Wetland Mitigation Plan be submitted to the Wildlife Agencies for review and approval prior to implementation, and in support of the City's 1602 Lake and Streambed Alteration Agreement notification.	Before Impacts	City of San Diego
Rec. 5	CDFW requests that the Upland Mitigation Plan be submitted to the Wildlife Agencies for review and approval prior to implementation.	Before Impacts	City of San Diego

A-29 The information provided in Attachment A is a summary of recommendations presented in the CDFW comment letter. No further response is required.

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
(619) 709-5152 | FAX (619) 688-4299 TTY 711
www.dot.ca.gov

January 26, 2023

11-SD- 8, 15, 67, 94
PM VAR
City of San Diego Dam Maintenance Program
MND/SCH#2022120663

Mr. Jeffrey Szymanski
Senior Planner
City of San Diego
1222 1st Avenue
San Diego, CA 92101

Dear Mr. Szymanski:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Mitigated Negative Declaration for the City of San Diego Dam Maintenance Program located near Interstate 8 (I-8), Interstate15 (I-15), State Route 67 (SR-67), and State Route 94 (SR-94). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

B-1

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans is committed to prioritizing projects that are equitable and provide meaningful benefits to historically underserved communities, to ultimately improve transportation accessibility and quality of life for people in the communities we serve.

We look forward to working with the City of San Diego in areas where the City and Caltrans have joint jurisdiction to improve the transportation network and connections

B-1 The City acknowledges the comment as an introduction to comments that follow. No further response is required.

B-1 cont.

between various modes of travel, with the goal of improving the experience of those who use the transportation system.

Caltrans has the following comments:

Traffic Control Plan/Hauling

B-2

The California Department of Transportation (Caltrans) has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at: http://www.dot.ca.gov/trafficops/permits/index.html

B-3

A Traffic Control Plan is to be submitted to Caltrans District 11, including the interchanges at SR-94/College Grove Way, at least 30 days prior to the start of any construction for the Chollas Reservoir. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during closures, including routes and signage. Potential impacts to the highway facilities and traveling public from the detour, demolition and other construction activities should be discussed and addressed before work begins.

B-4

Please coordinate with the Groundworks project in the area of SR-94, near Chollas Reservoir.

B-5

A Traffic Control Plan may need to be submitted to Caltrans District 11, for the access from SR-94/Campo Road in Dulzura (see Figure 1), at least 30 days prior to the start of any construction for the Dulzura Conduit. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during closures, including routes and signage. Potential impacts to the highway facilities and traveling public from the detour, demolition and other construction activities should be discussed and addressed before work begins.

B-2 This comment provides factual background information regarding the California Department of Transportation (Caltrans) Transportation Permits Issuance Branch but does not address the adequacy or accuracy of the Draft MND. No further response is required.

B-3 Commented noted. While maintenance activities are not anticipated to result in impacts to state highway systems or road and lane closures, should these be needed, the City would be required to prepare and submit a Traffic Control Plan to Caltrans District 11 prior to the start of work activities. If required, the Traffic Control Plan would include an analysis of potential impacts and measures to minimize those effects.

B-4 The City acknowledges this comment and notes that Groundwork San Diego-Chollas Creek is a community-based organization with an overall mission to restore the Chollas Creek Watershed through citizen engagement. As this comment does not directly address the adequacy or accuracy of the analyses in the Draft MND, no further response is required.

B-5 Please see the Response to Comment B-3 above. If required, a Traffic Control Plan would be prepared and submitted to Caltrans District 11 prior to the start of work activities.

Existing Facilities and Maintenance Footprint/Limits of Work - Dulzura Conduit

Figure 1: Dulzura Conduit (Location shown on Figure 2n-2 Mitigated Negative Declaration)

B-6 Traffic Control Plans to be used for evacuation planning or other emergencies for all dam maintenance locations shall be submitted to Caltrans for review prior to implementation on state facilities.

B-7 Any traffic control devices and signs, or work equipment that need to be placed inside Caltrans' Right-of-Way (R/W) will require an approved encroachment permit from Caltrans.

Environmental

B-8 Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process. We look forward to the coordination of our efforts to ensure that Caltrans can adopt the alternative and/or mitigation measure for our R/W.

B-9 An encroachment permit will be required for any work within the Caltrans' R/W prior to construction. As part of the encroachment permit process, the applicant must provide

B-6 Please see the Response to Comment B-3 above. If required, a Traffic Control Plan would be prepared and submitted to Caltrans District 11 and include measures to ensure the safe passage of evacuees or emergency response vehicles. Furthermore, the proposed Program does not introduce the construction of new structures or housing for residents in the region that would result in slower emergency response or evacuation times.

B-7 Comment noted. Please see the Response to Comment B-9 below.

B-8 The City of San Diego acknowledges the comment as an introduction to comments that follow. No further response is required.

B-9 cont. approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, any CEQA determinations or exemptions. The supporting documents must address all environmental impacts within the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

B-10 We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to lighting, signage, drainage, guardrail, slopes and landscaping. Caltrans is interested in any additional mitigation measures identified for the project's draft Environmental Document.

Right-of-Way

B-11
- Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.
- Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

B-12 Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing D11.Permits@dot.ca.gov or by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions or concerns, please contact Kimberly Dodson, LDR Coordinator, at (619) 985-1587 or by e-mail sent to Kimberly.dodson@dot.ca.gov.

Sincerely,

Maurice A. Eaton

MAURICE EATON
Branch Chief
Local Development Review

B-9 Comment noted. In the event that maintenance activities identified in the *Dam Maintenance Program* would be performed within a Caltrans right-of-way, the City will provide the final approved MND, as well as any corresponding technical studies, to Caltrans District 11 as part of the required encroachment permit process for review. No further response is required.

B-10 The proposed Program would not result in impacts within Caltrans right-of-way. The draft MND and Biological Technical Report (Attachment B) addressed direct and indirect impacts to traffic and sensitive biological resources. No additional mitigation measures have been identified beyond those included in the Draft MND.

B-11 Comment noted. Any survey monuments that are encountered during maintenance activities would be avoided and not destroyed or otherwise impacted by Program maintenance activities.

B-12 Comment noted. In the event that maintenance activities identified in the *Dam Maintenance Program* would be performed within a Caltrans right-of-way, the City would provide the final approved MND, as well as any corresponding technical studies, to Caltrans District 11 as part of the required encroachment permit process for review. No further response is required.

C-1

From: Moore Stump <mrjohnstump@cox.net>
Sent: Thursday, December 29, 2022 2:54 PM
To: Catellier, Melissa <MCatellier@sandiego.gov>; Mezo, Renee <RMezo@sandiego.gov>; Rom, Catherine <CRom@sandiego.gov>; damsafety@water.ca.gov
Cc: CouncilMember Sean Elo-Rivera <SeanEloRivera@sandiego.gov>; Councilmember Monica Montgomery Steppe <mmontgomerysteppe@sandiego.gov>; Councilmember Vivian Moreno <VivianMoreno@sandiego.gov>; CouncilMember Marni von Wilpert <MarnivonWilpert@sandiego.gov>; SDAT City Attorney <CityAttorney@sandiego.gov>; AUD City Auditor <CityAuditor@sandiego.gov>; Modica, Charles <CModica@sandiego.gov>; SD Office Of The IBA <OfficeoftheIBA@sandiego.gov>
Subject: [EXTERNAL] Comments and Happy New Year Fwd: City of San Diego Dam Maintenance Program / Project No. 696140 / Draft Mitigated Negatived Declaration Date 12-29-2022

Dear Ms. Rom,

Thank You and happy New Year

I am very pleased that Chollas Dam is on list. I was concerned that the Notice was flawed as it did not actually list the subject 13 Dams or correctly include the Council district communities that would be affected by a Dam failure, spill or breach Council Districts 4, 8 & 9.

The California Bureau of Dams lists the Chollas Dam risk as "Extremely High" See: Below and attached

Dam Name: Chollas, No. 8-2 **National**
Dam ID:CA00107 **County**: San Diego
Dam Owner: City of San Diego
Downstream Hazard: Extremely High

I am very concerned about Chollas Dam because:

Chollas Reservoir Dam's "Extremely High" hazard rating for people, property, and **national defense**

Chollas Reservoir Dam's Unique and flawed Design and age

Chollas Dam and Reservoir history of leakage since completion [Please see leakage reports following Dam's construction and City Manager's Reports of wet sampling cores from Chollas Landfill- across the street from reservoir]

Chollas Lake requires constant refilling with treated water, at an estimated cost of $250,000/year

I am pleased that the City is doing further studies on this very old dam with an antique design. There have been several articles in the local media concerning the maintenance and conditions at Cholas Reservoir / Lake

C-1 The City acknowledges the comment and notes that it expresses the opinions of the commenter and does not address the adequacy or accuracy of the Draft MND. As directed in the comment, supplemental attachments have been included with this response. No further response is required.

C-1 cont.

I ask that you include this e-mail and its attachments among the comments concerning the referenced notice

Again, Happy New Year

John Stump,

2415 Shamrock Street City

Heights, CA 92105 619

281 4663

NPS Form 10-900 OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

417

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: University Heights Water Storage and Pumping Station Historic District
Other names/site number: University Heights Water Pumping Plant; University Heights Regulating Reservoir; North Park Water Tower; the "Tin Man"
Name of related multiple property listing: N/A
(Enter "N/A" if property is not part of a multiple property listing

2. Location

Street & number: 4236 Idaho Street
City or town: San Diego State: CA County: San Diego
Not For Publication: N/A Vicinity: N/A

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___national ___statewide X local

Applicable National Register Criteria:

X A ___B X C ___D

Carol Roland-Nawi 5-8-13

Carol Roland-Nawi, Ph.D., State Historic Preservation Officer **Date**

California State Office of Historic Preservation

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title : **State or Federal agency/bureau or Tribal Government**

1

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register
___ determined eligible for the National Register
___ determined not eligible for the National Register
___ removed from the National Register
___ other (explain:) _____

for Edson H. Beall — 6-25-13
Signature of the Keeper — Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:	☐
Public – Local	X
Public – State	☐
Public – Federal	☐

Category of Property

(Check only **one** box.)

Building(s)	☐
District	X
Site	☐
Structure	☐
Object	☐

Sections 1-6 page 2

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
1	2	buildings
3	1	sites
6	7	structures
0	0	objects
10	10	Total

Number of contributing resources previously listed in the National Register 0

6. **Function or Use**
Historic Functions
(Enter categories from instructions.)
GOVERNMENT/Public Works: Water Storage, Treatment, and Pumping Complex

Current Functions
(Enter categories from instructions.)
GOVERNMENT/Public Works: Water Storage, Treatment, and Pumping Complex
VACANT: Abandoned Areas Converted into Public Right-of-Way and Municipal Park

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

7. Description

Architectural Classification
(Enter categories from instructions.)
OTHER: Early Twentieth Century Elevated Steel Water Storage Tower
OTHER: Vernacular Early Twentieth Century Bungaloid
OTHER: Mid-Twentieth Century International Style

Materials: (enter categories from instructions.)
Principal exterior materials of the property: Metal: Steel; Concrete: Wood: Weatherboard; Glass; Composition Asphalt

Narrative Description

Summary Paragraph

Located in the northwestern section of the North Park community, between El Cajon Boulevard and an abandoned section of Polk Avenue, the University Heights Water Storage and Pumping Station Historic District occupies 7.67 acres of city-owned land on two city blocks and two abandoned city streets. Within the district's boundaries are ten contributing resources associated with a key municipal water storage, treatment, and distribution plant. While its 127-foot-tall, 1.2 million gallon capacity elevated steel water storage tank dominates, the district contains a 4.9 million gallon water storage reservoir, operating pump house, three concrete water valve vaults, and a caretaker's house. In addition, the district contains the sites of three structures: a chlorinating house, water treatment plant, and 17.5-million gallon concrete reservoir. Although no longer extant, their sites possess sufficient historic value for their contributions to what is still a vital link in the City of San Diego's current water storage, treatment, and distribution system.

Narrative Description

The University Heights Water Storage and Pumping Station Historic District is located on a broad 300 to 400 foot high mesa 3.5 miles northeast of downtown San Diego, California. Situated in the western section of the present community of North Park, its setting consists of a moderately built up urban neighborhood composed primarily of single story to two story homes and apartment blocks along Idaho and Oregon Streets, the district's respective east and west perimeters. The district's northern perimeter runs along the south shoulder of El Cajon Boulevard, a linear east-to-west-oriented commercial transportation corridor. Its southern perimeter runs along an abandoned and closed east-to-west-oriented section of Polk Avenue. A

Sections 7 page 4

poured-in-place concrete walk leading from Oregon Street past a public comfort station to a children's play area at Idaho Street informally marks the southern perimeter.

Except for its massive 12.7-story, 1.2 million gallon capacity elevated steel tank, the district blends in with the surrounding mixed-use commercial and residential neighborhood. Composed primarily of early twentieth century single-family bungalows arranged along a grid-like street pattern, the neighborhood contains few multi-story buildings that might otherwise block the water tank from view. Indeed, at a height of 127 feet, the tower can be seen clearly from as far as three miles away in any direction. The elevated tower is located within the district's northern section, which occupies all of 2.32-acre City Block No. 122 bounded by El Cajon Boulevard and Howard Avenue along its north and south perimeters, and Idaho and Oregon Streets along its respective east and west perimeters. Besides the tower, there are five other contributing historic resources located within Block 122: a 4.9 million gallon concrete water reservoir, pump house, concrete water valve vault, caretaker's residence, and the site of a chlorinating house.[1]

Separating the district's northern and southern sections is a 57-foot-wide by 345-foot-long section of Howard Avenue. A dedicated city street running between Idaho and Oregon Streets, this 0.45-acre section was the site of an above-ground water-treatment plant that played a critical role in the University Heights Water Storage and Pumping Station Historic District from 1928 to 1952. Located beneath the street's southeast corner, just north of the southwest corner of Howard Avenue and Idaho Street, is an underground concrete vault chamber. Accessible via a metal manhole cover, the vault houses metal valves that still redirect water from the City's Chollas Reservoir to the University Heights facility.

The Howard Avenue Vault also contains valves and a 30-inch diameter steel pipe line that once linked the district's northern section to a 17.5 million gallon reservoir. In operation between 1912 and 1967, the massive concrete-walled structure occupies all of City Block No. 151. Extending south from Howard Avenue approximately 630 feet to the district's southern boundary along an abandoned 345-foot-long section of Polk Avenue, the former reservoir site constitutes the district's southern section. An improved 4.9-acre municipal neighborhood park now occupies the area. Non-contributing resources include a recreation building, comfort station, children's playground, concrete walks, and tree-shaded lawn areas.

Contributing Resources:

1. Elevated Metal Water Tank (one contributing structure)

   The district's most visible contributing resource is a 1924-built elevated water storage tower. Located approximately 100 feet northwest of the North Section's southeast corner, the 127-foot-tall riveted steel structure consists of eight interrelated sections: a finial-topped conical cap, tubular tank shell, scaling ladder, circular catwalk, hemispherical ellipsoidal

[1] County of San Diego, *Tax Assessor's Map Book*, No. 445, 1987, 43, sheet 1 of 2; City of San Diego California Water Department, *University Heights North Reservoir, Proposed Placement of Caretaker's House*, Document No. 5808-W (26 November 1952), 1 sheet; Sanborn Map Company, *Sanborn Fire Insurance Maps of San Diego, California* (vol. 3, 1956), sheet 354; and City of San Diego, Property Department, *Land Acquisition Record, University Heights Block 122* (5 May 1995), 1-2.

bottom, "Z" zig-zag strapped channel iron girder support legs, and concrete foundation piers. A central riser contains infill and outflow pipes connecting the tank to an underground valve vault. A unique design feature typical of early twentieth century elevated hemispherical ellipsoidal water towers is the joining of the tops of all twelve diagonal-braced steel girder support legs directly to a circumferential ring around the tank shell, not to the tank's riveted steel plate outer walls. By doing so, the tower becomes one single unified symmetrical structure.[2] Diagonal steel "X" tension braces, with screw-threaded turnbuckles, and horizontal flanged steel braces hold the tower legs taut. Once capable of holding 1.2 million gallons of water, the tank is now empty. However, the tank and its steel girder tower are in good condition. Photographs taken prior to 1960 indicate the water tank and its supporting legs might have had a shiny silver-gray coating.[3] Despite a May 1983 coating of anti-rust Alumizol paint, the tank's conical cap is showing signs of rust. Non-historic elements include several communication antennas and a low-flying aircraft warning light. Additional non-historic elements include a 10-foot-tall steel fabric security fence out from and along the tower's base.

2. Regulating Water Reservoir (one contributing structure)

Except for a small .5 acre section occupied by the water tower and auxiliary structures, this 1952-constructed nearly 5-million gallon capacity Z-shaped concrete-walled above-ground reservoir occupies most of the district's northern section. Set back 10 feet from the street curb, the reservoir's approximately 10-foot high outer walls, which consist of interlocked pre-stressed gusseted rectangular concrete sections, are devoid of decoration. Inside the reservoir, multiple reinforced concrete columns support its massive pre- stressed reinforced concrete roof. Originally used to store filtered water from the southern raw water reservoir, this 60-year-old structure is still an integral part of the City of San Diego's water supply and distribution system. In good condition, despite superficial additions, it has retained a great deal of its structural integrity. Non-historic, but reversible features include planted shade trees along a narrow planter strip along the base of its west, north, and east-facing walls. There are no planting strips along the reservoir's southwest perimeter wall. Besides the landscaping, other non-contributing features include an approximately 16-foot-tall steel fabric security fencing along the reservoir's roof's outer perimeter. An additional 10-foot-tall steel fabric security fence runs along the inner walls of the east planter along Idaho Street, and along the outer perimeter of the section occupied by the water tower. Two lozenge-shaped plywood-walled and fabric netting-contained "indoor" concession-operated soccer fields on the roof of the reservoir, laid over the faded painted surfaces of former tennis courts and the used car lot parking spaces that preceded the courts, are non-contributing structures. The reservoir's present color scheme does not appear original.

3. Pump House (one contributing structure)

Approximately 29 feet northeast of the water tower's base, adjacent to the reservoir's southeast corner wall, is a rectangular pump house. Also dating from the early 1950s, it is

[2] Allen H. Wright, "A New Large Municipal Water-Tower," *American City* 31 (November 1924): 485.
[3] San Diego History Center, Historic Photograph Collection, *El Cajon Boulevard Aerial*, No. UT 84 (1951).

situated on the site of the Caretaker House's automobile garage.[4] This nondescript vernacular style concrete block-constructed structure may appear to lack individual distinction. However, it played an important role in the complex' operation, serving as the reservoir's pump house between 1952 and 1998. The approximately 20-foot-wide by 65-foot-long single story flat roof structure consists of two parts: a 42-foot-long by 20-foot-wide main west block, attached to a slightly lower 25-foot-long by 20-foot-wide rectangular wing. A single secured doorway in the middle of the west block's south-facing wall provided access to the structure's interior. Three recently installed large regulating valves have replaced three of the original electric-powered water pumps.[5]

4. Caretaker's Residence (one contributing building)

This roughly 40-foot-square wood-frame building once served as the living quarters for the reservoir's caretaker from around 1924 to 1952. Situated on the roof of the southeast corner of the concrete reservoir's western section, this simple, clapboard-sided, gable-end utilitarian building's construction date may coincide with that of the water tower. A comparison of historical photographs indicates that the cottage was originally located at ground level northeast of the water tower, at 4236 Idaho Street. The cottage's additional character-defining vernacular architectural elements include a medium-pitch composition asphalt-covered front gable roof, with louvered attic vents in each tympanum, as well as bands of three 1x1 double-hung windows, and single 1x1 double-hung windows. After the reservoir's 1952 construction, the City Water Department relocated the building up to its present location, where it has been adapted for use by concessionaires. Although relocated, it was done so during the latter part of the district's historic period. The building appears to have maintained most of its historic integrity, except for the closing in of the original recessed southeast porch with metal-framed sliding glass doors.

5. El Capitan Pipeline Valve Vaults (two contributing structures)

Located within the fenced-in area east of the elevated water tank, 13 feet south of the pump house, are two partially buried steel plate-covered concrete vaults. Each contains a large underground gate valve. One is a 21 feet by 15 feet by approximately 8-foot-deep vault that contains a shut-off valve controlling the flow of water from the 1935-installed 36-inch-diameter El Capitan Reservoir steel pipeline. The other is a smaller 12 feet by 11 feet by approximately 8-foot-deep ell-shaped vault that contains a two-way directional valve that once took water from the larger gate valve to the northeast and redirected it into the South Raw Water Concrete Reservoir or the Howard Avenue Water Filtration Plant. Since 1952 and 1967, respectively, the valves direct water straight into the existing North Concrete Water Storage Reservoir.[6]

[4] City of San Diego, Water Department, Division of Development and Conservation, *University Heights Layout*, Drawing No. WD-595, File No. 2760, D3 (September 1937, revised 3 March 1945), 1 sheet; Sanborn Map Company, *Sanborn Fire Insurance Maps of San Diego, California*, vol. 3 (1921-1948), sheet 354.
[5] Gary Hogue [Retired Senior Civil Engineer, City of San Diego Public Utilities Department, Water and Waste Water]. *Interview with Alexander D. Bevil* (22 July 2011)
[6] Hogue, Interview; and City of San Diego, *University Heights Layout*.

6. Chlorinating House Site (one contributing site)

Located approximately 55 feet due east of the water tower legs, and 70 feet south of the pump house near the northwest corner of Idaho Street and Howard Avenue, this approximately 930 square foot rectangular area is the site of the Chlorinating House. A single-story, gable-end-roofed shed, it replaced a similar structure located some 20 feet southwest of the tower sometime after 1935. While the structure is no longer extant, vestigial gas meter hookup pipes and historic photographs indicate its historic location.[7]

7. Howard Avenue Water Filtration Plant Site (one contributing site)

Located in the district's Middle Section, this 57-foot-wide by 329-foot-long 0.43-acre section of Howard Avenue, between Idaho and Oregon Streets, was the site of the University Heights Water Storage and Pumping Station's water filtration plant from 1928 to 1952. From 1928 to 1935, the facility consisted of two rows of eight redwood tubs each. Sitting some 9 feet above ground-level, the sand-filled tubs filtered suspended iron and other impurities out of the water stored in the south reservoir. The filtered water was then chlorinated and pumped into the north reservoir, where it would also be on-demand for the elevated tank. Two additional rows of four redwood tubs each were added in 1935 to filter water from the new El Capitan reservoir. After the completion of a modern Alvarado water filtration plant at Lake Murray in 1949, the University Heights plant was phased out and eventually demolished around 1952. The paving of Howard Avenue removed all trace of the plant's location, reducing it to a historic site.[8]

8. Howard Avenue Underground Valve Vault (one contributing structure)

Located beneath the southeast corner of the Howard Avenue Water Filtration Site, just north of the corner of Howard Avenue and Idaho Street is this rectangular underground concrete vault chamber. Accessible via a metal manhole cover, the approximately 30 square foot underground vault houses a 30 inch diameter metal valve that still redirects water from the City's Chollas Reservoir to the University Heights facility. The vault also contains abandoned valves and sections of 30-inch diameter steel pipe lines that once linked the Howard Avenue Water Filtration Plant to the Chollas Reservoir pipe line and the nearby Raw Water Reservoir between 1912 and 1967.[9]

9. South "Raw Water" Concrete Reservoir (one contributing site)

This is the site of the University Heights Water Storage and Pumping Station's 600 foot long by 300 foot wide South Reservoir. Also known as the "Raw Reservoir," this 12-to-20-foot-deep above-ground concrete-walled wood plank-covered reservoir stored water

[7] City of San Diego, *University Heights Layout*; Sanborn Map Company (vol. 3, 1921-1948), sheet 354; and (1956), sheet 354; and San Diego History Center, Historic Photograph Collection, *El Cajon Boulevard Aerial*, and *North Park Aerial*, No. 82-13673-1851 (ca. 1955).
[8] City of San Diego, *University Heights Layout*; City of San Diego, Public Library, Photograph Collection, *University Heights Filter Plants* (No. 1303, 6 February 1936); and San Diego History Center, Photograph Collection, *El Cajon Boulevard Aerial*.
[9] City of San Diego Water Department, *University Heights Layout*.

delivered by the Chollas, Otay, and El Capitan water delivery pipelines from 1913 to 1967. Water held in this 17.5 million gallon reservoir was sent on demand through the Filtration Plant into the North Reservoir and Elevated Tank. Located in the district's South Section, the former reservoir's site is located in a 4.80-acre rectangular section of improved municipal urban park extending south from Howard Avenue some 657 feet to the district's southern boundary. The latter extends in an east-to-west direction along an inclusive 318-foot-long by 40-foot-wide .29-acre closed section of Polk Avenue, between Idaho and Oregon Streets. Because the reservoir is no longer extant, this is a historic site where the location itself possesses historic value regardless of any non-contributing existing structures or landscape improvements.

Non-Contributing Resources:

10. Roof-top Soccer Fields (two non-contributing structures)

These two approximately 200-foot-long by 80-foot-wide lozenge-shaped plywood-walled and fabric netting-contained concession-operated soccer "fields" are situated on top of the regulating reservoir's concrete roof's southwest and north-central sections. Installed between approximately 2000 and 2001, they are associated with a sports concession that operates out of the former Custodian's House next to the southwest soccer field. The soccer field concession replaced an earlier tennis sports center.[10] Some of the latter's abandoned tennis courts can still be discerned next to the soccer fields. The soccer fields are reversible, and have no historic association with or lessen the integrity of the University Heights Water Storage and Pumping Station's 1924 to 1967 period of historic significance.

11. Sports Concession Building (one non-contributing building)

This two story side-gabled building sits adjacent to the regulating reservoir's southeast corner. A centrally located internal stairwell provides public access up to a sports recreation concession facility on top of the reservoir. It also contains offices and multiple public restrooms along its top floor. The 1,248 square foot building does not appear in any historic photographs taken prior to 1967. Because of this and its simple stripped-down vernacular style it appears to have been built circa 1970. The non-contributing building has no impact on the district's historic integrity.

12. Howard Avenue (one non-contributing structure)

This 57-foot-wide by 345-foot-long 0.45-acre section of Howard Avenue, between Idaho and Oregon Streets, is part of a dedicated city street that wasn't improved until after 1952. The street occupies the site of the 1928-1952 University Heights Water Storage and Pumping Station's water filtration plant. Beneath the street's southeast corner, just north of the corner of Howard Avenue and Idaho Street is the contributing Howard Avenue Underground Vault. The structure's 1952 demolition and the paving over of the area to connect Howard Avenue to Idaho and Oregon Streets reduced the location to a historic

[10] Hogue, Interview.

site.[11] The street, along with flanking concrete curbing and sidewalks, is a non-contributing structure that has no impact on the district's historic integrity.

13. North Park Recreation Center (one non-contributing building, one non-contributing site, four non-contributing structures)

The north 4.80-acre section of this 7-acre municipally owned community park is on the site of the historic South Raw Water Concrete Reservoir. Within the landscaped park's northwestern section are the following non-contributing features:

a. Trees and lawn areas (interpreted as one site).
b. A post-1967s-built recreation building, with an attached semi-enclosed indoor gymnasium (one building).
c. Curvilinear concrete pathways extending through the park (one structure).
d. A recently-constructed children's playground at the southeastern corner (one structure).
e. Oregon Avenue parking strip inset along Oregon Street perimeter (one structure).
f. Comfort station (one structure).

The site's southern perimeter separated the district from a multi-purpose sports field that has been in use since 1928.[12] While over 50 years old, the multi-purpose sports field has no historic association with the reservoir.

Integrity Statement:

Comparing historic with current aerial photographs, maps, and design plans with on-site inspections, the district contains a cohesive collection of contributing and non-contributing buildings, structures, and sites associated with the evolution of the University Heights Water Storage and Pumping Station Historic District from 1924 to 1967. Despite alterations, subtractions, and additions (as described), the district's contributing historic resources have retained their historic significance in regards to their location, site, design, materials, and workmanship, and continue to convey the feeling and association of a historic municipal water facility. The non-contributing resources were constructed after the historic period, and are located on historic sites where the locations themselves possess historic value.

[11] City of San Diego, *University Heights Layout*; and San Diego History Center, *El Cajon Boulevard Aerial*.
[12] City of San Diego, Recreation Centers, *North Park Recreation Center*, last modified 2011, http://www.sandiego.gov/park-and-recreation/centers/northpark.shtml.

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

[X] A. Property is associated with events that have made a significant contribution to the broad patterns of our history.

[ ] B. Property is associated with the lives of persons significant in our past.

[X] C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

[ ] D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

[ ] A. Owned by a religious institution or used for religious purposes

[ ] B. Removed from its original location

[ ] C. A birthplace or grave

[ ] D. A cemetery

[ ] E. A reconstructed building, object, or structure

[ ] F. A commemorative property

[ ] G. Less than 50 years old or achieving significance within the past 50 years

Areas of Significance
(Enter categories from instructions.)
Community Planning and Development
Engineering

Section 8 page 11

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Period of Significance
1924-1967

Significant Dates
1924: Construction of Elevated Metal Water Storage Tank & Chlorination House
1928: Construction of Howard Avenue Water Filtration Plant
1935: Expansion of Howard Avenue Water Filtration Plant
1952: Demolition and Replacement of North Reservoir and Stand Pipe with 4 mil. Gallon Concrete Reservoir; Demolition of Howard Avenue Water Filtration Plant
1967: Demolition of South Reservoir; Transformation of Site into Neighborhood Park; Conversion of North Reservoir into Regulating Reservoir

Significant Person
(Complete only if Criterion B is marked above.)
N/A

Cultural Affiliation
N/A

Architect/Builder
City of San Diego Water Utilities Department
Pittsburg-Des Moines Steel Company

Statement of Significance

Summary Paragraph

The University Heights Water Storage and Pumping Station Historic District is locally significant under National Register Criterion A in the area of Community Planning and Development. It possesses a significant concentration of structures, buildings, and sites that are part of a unified entity connected by plan and use. During its 1924 to 1967 period of historic significance, the University Heights Water Storage and Pumping Station Historic District was one of the City of San Diego's four major municipal water storage, filtration, and distribution facilities. Its steady supply of millions of gallons of safe potable water was directly responsible for the expansion of Mid-City San Diego's "streetcar suburbs" from 1907 to 1942. While the majority of the district's contributing elements may lack individual distinction, its 127-foot tall elevated water storage tank is significant under National Register Criterion C in the area of Engineering. The elevated tank's design, shape, scale, materials, and construction are

Section 8 page 12

representative of early twentieth century municipal water storage and delivery systems. A highly visible local landmark, it is the only known example of a 12-legged full hemispherical bottom elevated metal water storage tank in Southern California. An integral part of the University Heights Water Storage and Pumping Station Historic District, during its 1924 to 1967 period of historical significance, it provided adequate "head pressure" to propel water through the surrounding area's water delivery system during periods of peak water demand.

Narrative Statement of Significance

Significance under Criterion A

The University Heights Water Storage and Pumping Station Historic District is historically significant under National Register Criterion A in the area of Community Planning and Development. During the district's period of significance, it was one of the City of San Diego's four major municipal water storage, filtration, and distribution facilities. Still in operation, it continues to provide safe, potable water to the residents of downtown and Mid-city San Diego.

University Heights Elevated Metal Water Tank: 1923-1924

During the early 1920s, the City Water Department discovered that the metal stand pipe next to the north reservoir did not provide enough head pressure for the rapidly growing northern streetcar suburbs. The City Engineer and fire insurance companies urged city leaders to invest in the area's future by increasing the University Heights Water Storage and Pumping Station's ability to distribute water under constant pressure to fight fires in the surrounding communities. For example, if a major conflagration was to occur, the University Heights reservoirs could dry up, forcing the rest of the city to depend on a 24-inch wooden pipe line from the Chollas Reservoir. Both the City Engineer and fire insurance companies recommended the city extend a new 30-inch diameter cast iron pipeline from the Chollas reservoir to the University Heights facility. However, the San Diego Water Department's hydraulic engineer's recommended choice was to erect an elevated riveted steel plate water tank instead of an additional and far more costly pipeline.[13] The City's decision to accept the Water Department's recommendation would reflect its continued acceptance of then innovative American hydraulic engineering design principles.

A typical elevated water tank's design and engineering were based on the basic concept of a gravity-generated water pressure distribution system. The ratio between the water tank's storage capacity and height above ground, as well as its supply pipe diameter, determined the amount of serviceable water it could deliver throughout the surrounding area. Even during periods of peak demand and emergency situations, the amount of water inside the tank would be constant. Typically, when a storage tank's water level fell below a fixed point, an internal float triggered a nearby pumping station. A motorized pump would then send water stored in a nearby reservoir up through a vertical inflow pipe or "riser" directly beneath the tower. When the tank had been refilled to capacity, the float would return to its original position, switching off the pump. A vertical outflow pipe situated adjacent to the inflow pipe sent water via gravity to households,

[13] Allen H. Wright, "A Large Municipal Water-tower," *American City* 31 (November 1924): 485; and City of San Diego, "The Story of Water," n.p.

businesses, fire hydrants, and other locations throughout the water distribution systems service range. A "lantern," a finial vent in the tank's apex, allowed the proper amount of air to enter or exit the water tank in order to facilitate the gravity-forced distribution system. The lantern acted as an anti-siphon device preventing "air locks" from blocking the flow of water; or "negative pressure" from sucking contaminated groundwater back into a leaky water supply system. In addition, because they relied primarily on gravity, water tanks, along with stand pipes, could operate during power outages; albeit, this was true as long as the tank was at full storage capacity.[14]

As stated previously, the purpose of an elevated gravity tank was to either supply water directly or hold it in readiness to compensate for a drop in water pressure during peaks in domestic service demands or fire emergencies.[15] The latter was the case for the University Heights elevated water tank, which would hold approximately 1.2 million gallons of water in reserve to meet peak demand periods, or for fire protection. The elevated water tank's estimated $69,150 construction cost would also be less than the $330,000 to $400,000 it would take to install an additional water main from the Chollas pumping station. Besides, the City Water Department was planning on extending a new pipeline from the future El Capitan reservoir to University Heights in 1927, thus making the new Chollas pipeline superfluous. Additional energy cost savings would occur by refilling the tank during the period of low electrical demand between the hours of 6 p.m. and 6 a.m.[16]

After the passage of a municipal bond act in 1923, the City of San Diego awarded a contract to the Pittsburg-Des Moines Steel Corporation to erect a 1,200,000 million gallon capacity elevated metal water tank on the southeast corner of Block 122 in University Heights.[17] Completed the following year, the new elevated water tank consisted of a 54 foot diameter by 52 foot tall cylindrical body, with a 54 foot diameter by 30 foot deep elliptical spheroid-shaped bottom, and a 54 foot diameter by approximately 10 foot high conical cap. Another standard feature was the use of a circumferential ring above the hemispherical ellipsoidal bottom section. Besides serving as the connecting points for the tops of the tower's support legs, it supported a circumferential steel catwalk with a 3-foot high, V-braced railing. Also typical of the type, adjustable X-shaped vertical steel tension rods and horizontal struts braced the twelve 75 foot 2½ inch tall "Z-laced" steel girder legs in place. The bottom of each leg was bolted to the top of a concrete footing. Completed in 1924, the 127 foot 5.5 inch tall University Heights Elevated Metal Water Tank was reportedly the "world's tallest" at the time.[18]

[14] United States Department of the Interior, National Park Service, *Townsend Water Tower, City of Townsend, New Castle County, Delaware*, Historic American Engineering Record No. DE-24 (1990), 2.
[15] Blackburn, "Elevated Tanks," 392; and "Water Storage in Johnstown, Pa.," *American City* 27 (12 July 1922), 11.
[16] C. J. Franklin, "Elevated Steel Tank Solves Portland Water-Supply Problem," *American City* 26 (May 1922), 431-432; "Water Storage in Johnstown, Pa.," 12; and Wright, "Water-tower," 485.
[17] Wright, "Water-tower," 485; and City of San Diego Office of the City Clerk, *An Ordinance Appropriating the Sum of $73,000.00 for the Relief of the Pittsburg-Des-Moines Steel Corporation*, Ordinance No. 9494 (20 May 1924), 1.
[18] City of San Diego Operating Department, *Plan Showing [the] Location of [the] Proposed Elevated Steel Water Tank to Be Erected on Block 122, University Heights*, Document No. 670B, 1778-B (23 May 1923), San Diego

Expansion of the University Heights Water Storage and Pumping Station: 1924-1947

In anticipation of additional water from the soon to be constructed El Capitan Dam and Reservoir, in 1927 the City Water Department extended a 36-inch-diameter riveted steel pipe line approximately seventeen miles from the Riverview Pumping Plants near the town on Lakeside to the University Heights Water Storage and Pumping Station. With the eventual completion of the El Capitan dam and reservoir in 1935, University Heights would once again receive water from the San Diego River.[19]

Due to an increase in the amount of suspended iron in the water pumped from the Mission Valley wells, the City Hydraulic Engineer oversaw the installation of a water filtration plant at the University Heights facility.[20] Completed in 1928, the facility consisted of sixteen sand-filled redwood tubs mounted on an elevated platform constructed along an east-to-west orientation on a closed section of Howard Avenue. The filtration system worked in the following way: pumps drew one million gallons a day of "raw water" from the south reservoir into and through the sand-filled redwood tubs. The sand could also trap such impurities as iron, grit, and organic matter, before being pumped into the smaller-capacity north reservoir. The pumps either filled the old upright stand pipe or the new elevated water tank with freshly chlorinated water. Both structures provided adequate head pressure to propel the water through the northern streetcar suburbs, as well as augmenting the rest of the city's supply during periods of peak water demand.[21]

With its completion, the University Heights water filtration plant was one of three then operating within San Diego's city limits. Besides the previously-mentioned Otay and Chollas water filtration plants, there was an additional plant at Torrey Pines, which had been treating 3 million gallons of water entering the city mains from the Lake Hodges-San Dieguito system since 1920.[22]

After it won a bitter legal battle with the rival Cuyamaca Water Company over paramount rights to San Diego River water in 1930, the City of San Diego began construction of the El Capitan

History Center, Photograph Collection, *Water Tank: El Cajon Boulevard*, Photograph No. 2621 (1923); City of San Diego Operating Department, *Tank & Tower-University Hts.-Pittsburgh-Des Moines Steel Co.*, Drawing No. 1778 [Copy of Original 16 April 1923 Plan] (March 1930), 1 sheet; and Donald P. Covington, *North Park: a San Diego Urban Village, 1896-1946* (San Diego: North Park Community Association, 2007), 35-36; and National Park Service, *Townsend Water Tower* (1990), 2.

[19] Pyle, "City Water System" (1936), 244; City of San Diego, *Historical Water Utilization (1951)*, 9; and City of San Diego, *Water History* (2011).

[20] City of San Diego Bureau of Water Development, *El Capitan Pipeline Aerating Table, University Heights Reservoir* (4 May 1927), 1 sheet; Arnold, "San Diego Water Supply Development" (1950), 45; and City of San Diego, *Historical Water Utilization* (1951), 9.

[21] City of San Diego Operating Department, *University Heights Filter Plant*, Document No. 3651-J. (10 November 1927), 1 sheet; Pyle, "City Water System" (1936), 244; "Filtration Plant Will Give S.D. Filtered Water," *San Diego Union* (31 October 1948), 16A; City of San Diego, *Historical Water Utilization* (1951), 9; and Hogue, *Interview* (2011).

[22] Pyle, "City Water System" (1936), 243; Arnold, "San Diego Water Supply Development (1959), 44; and Pryde, "Most Essential Resource" (2004), 130-131. The Torrey Pines water treatment plant remained in operation until 1960. See: San Diego Water Department, "Water History" (2011).

Dam some twenty-two miles northeast of University Heights. Completed in 1935, the dam impounded 38 billion gallons of water within the new El Capitan Reservoir. New 36- and 48-inch-diameter steel pipelines sent 10 million gallons of water a day via the Riverview Pumping Plants to the University Heights Water Storage and Pumping Station. By this time, the latter facility's Filter Plant featured 8 additional redwood tubs to filter the increased amount of water.[23]

In conjunction with the Otay, Chollas Heights, and Torrey Pines facilities, the University Heights Water Storage and Pumping Station was strategically important during World War II. With the addition of 5.3 million gallons a day from the 1943-built San Vicente Reservoir 8 miles northwest of El Capitan, the University Heights facility filtered and distributed millions of gallons of water every day. The dependable supply of potable water for personal as well as industrial use resulted in the rapid development and expansion of San Diego's military facilities, defense industries, and an expanded war-time civilian population of 400,000.[24]

Postwar Changes: 1947-1967

Post-war advances in water filtration techniques would soon render the outdated University Heights Water Filtration Plant obsolete. In 1947 the newly formed San Diego County Water Authority sanctioned the construction of a new pipe line connecting the San Vicente Reservoir to the regional Metropolitan Water District of Southern California. By doing so, San Diego tapped indirectly into the Colorado River, ending its total dependence on local sources of impounded water runoff. Three years later, the City took over operations at the Lake Murray Reservoir (which now received water from the San Vicente and El Capitan reservoirs), where it constructed a new water filtration plant. With the completion of the Alvarado Filtration Plant at Lake Murray, the City's Municipal Water Department could filter upwards to 66 million gallons of water a day. Although peak capacity in 1948 was 50 million gallons a day, the Alvarado facility could be expanded to filter 100 million gallons daily. With more than three times the total capacity of both Chollas and University Heights, the Alvarado Filtration Plant made the latter two obsolete. As a result, in 1952, the City Water Department abandoned and disassembled the University Heights Water Filtration Plant. In a few years there would be no evidence of the facility along a newly reclaimed and paved-over section of Howard Avenue.[25]

While no longer a water filtration plant, the University Heights facility was still a vital link in the City's water storage and distribution system. So much so, that in 1952 the water department replaced the 1908 and 1910-built metal stand pipe and North Reservoir with a larger Z-shaped 4 million gallon capacity concrete reservoir.[26] In order to accommodate the larger reservoir, the

[23] Pyle, "City Water System" (1936), 244; City of San Diego, "University Heights Layout" (1937), San Diego History Center, Historic Photograph Collection, *University Heights Filter Plant* (1947); Arnold, "San Diego Water Supply Development" (1950), 44-45; City of San Diego, *Historical Water Utilization* (1951), 9; and City of San Diego, *Water History* (2011).
[24] Arnold, "San Diego Water Supply Development" (1950), 40; and City of San Diego, *Water History* (2011).
[25] "Filtration Plant," *San Diego Union* (1948), Arnold, "San Diego Water Supply Development" (1950), 45; City of San Diego, *Historical Water Utilization* (1951), 9; and Hogue, *Interview* (2011).
[26] City of San Diego Water Department, *University Heights North Reservoir Walls and Column Details*, Document No. 5224-W (6 December 1951), 1 sheet; Sanborn Insurance Map Company, *Insurance Maps of San Diego, California*, vol. 3 (1956), sheet 354; and Covington, *North Park*, 35.

water department found it necessary to relocate two original structures on Block 122. The first was the Pump House, which it relocated a few feet north of the elevated water tank. The second was the Caretaker's House, which it placed on top of the new reservoir's southeast corner.[27] At this time, both structures are extant.

The University Heights Water Storage and Pumping Station continued to remain in operation, albeit in a reduced capacity. In 1967 the water department demolished the large 1912-built reservoir. Two years later, the City of San Diego Department of Park and Recreation converted and annexed the site to an existing adjacent community park to the south.[28]

In 1957, the City of San Diego had granted a 5-year lease to Tower Motors, Inc., a local car dealership, to operate a used car lot on top of the north reservoir. The city extended the lease in 1963, 1968, and 1972. There is very little evidence of this activity on the reservoir roof's concrete surface. Sometime after 1972, the City granted a lease to a concessionaire to operate a tennis sports center on the site of the former used car lot. Some evidence of the latter's tennis courts can still be discerned on the concrete roof's surface. After the tennis sports center closed around 2000 or 2001, the City granted another operating lease to a concessionaire to erect and operate two hard-surface soccer fields on the roof. The soccer playing areas are still in operation.[29]

During the 1990s new seismic safety standards forced the city water department to discontinue using the elevated water tank, the tank of which stands empty. The elevated tank had actually been redundant ever since the opening of the Alvarado Filtration Plant in 1952. Situated at an elevation 177 feet higher than the University Heights elevated water tower, its pumps were more than sufficient to provide adequate water pressure throughout the University Heights mesa. While the water tank stands empty, the expanded north reservoir is still in operation. It stores water to allow sediment to settle. Then the water is released back into the system as "flush water" to back wash sediment out of the Alvarado filtration units. If need be, it can also reenter treated water back into the water mains to augment the neighborhood water supply.[30]

Significance under Criterion C

The University Heights Water Storage and Pumping Station's 127-foot tall elevated water storage tank is locally significant under National Register Criterion C in the area of Civil Engineering. The tank's design, shape, scale, materials, and construction are representative of early twentieth century municipal water storage and delivery systems. Touted as "The World's

[27] Sanborn Insurance Map Company, *Insurance Maps of San Diego, California*, vol. 3 (1948), sheet 354; and City of San Diego California Water Department, *University Heights North Reservoir, Proposed Placement of Caretaker's House*, Document No. 5808-W (26 November 1952), 1 sheet.
[28] City of San Diego Engineering Department, *Plans for the Removal of the University Heights South Reservoir*, Document No. 12874-D (27 November 1967), 1 sheet; United States, Department of the Interior, Geographical Survey, *La Jolla, Calif. Topographic Map*, (1967 and Photorevised 1975); and Stephen Hon, North Park Historical Society, *Electronic Mail to Alexander D. Bevil* (8 April 2011).
[29] Hogue, Interview; and City of San Diego, Property Department, *Leases of North Park Reservoir Roof for Auto Storage to Tower Motors, 1957-1972*.
[30] Hogue, *Interview*; and Gary Hogue, *Electronic Mail to Alexander D. Bevil* (18 December 2011).

Tallest" at the time of its 1924 completion, it is the only surviving example of an early twentieth century riveted steel plate-constructed conical-capped elevated full hemispherical bottom municipal water storage tank with Z-laced girder leg supports constructed in San Diego County. However, many surviving early twentieth century elevated steel water storage tanks still serve local communities outside of San Diego. A sample comparison of similar structures has found that they typically feature 4, 6, or 8 Z-laced steel girder-legged towers. However, the University Heights structure is the only known example of a full hemispherical bottom elevated riveted steel plate water storage tank supported by 12 Z-laced girder steel legs in Southern California, if not the entire western United States.[31]

First developed during the late nineteenth century, by the early twentieth century elevated steel water tanks had spread across the American urban landscape. Prior to that, stone or brick-lined reservoirs or stand pipes had been the norm. In 1900 alone, 161 towns had built some form of elevated metal water storage tank.[32] Boone, Iowa reportedly erected the first in 1894. However, the design, similar to a traditional late-nineteenth century western railroad water tank, consisted of a wood stave-built water tank on top of a wood-frame tower.[33] Fort Dodge, Iowa was the first American town to construct an elevated riveted steel plate water tank on a braced steel girder-legged tower as part of its municipal water supply system. Erected in 1894, it was also the first recorded use of an elevated water storage tank built with a full hemispherical ellipsoidal bottom. Both practical and economical, its design negated the flat-bottom tank's need for heavy girder and floor beams. Another innovative design feature was the bolting of the steel girder support legs directly to the tank shell via a circumferential catwalk ring above the hemispherical ellipsoidal bottom section, thus making the tank and tower one single unified symmetrical structure.[34]

However, the U.S. Patent Office didn't issue a patent for a "Hemispherical Ellipsoidal Bottom Water Tank Supported on a Riser" until June 25, 1907. The patentee, George Horton, was a civil engineer employed by the Chicago Bridge and Iron Company. By 1912, the elevated steel water tank was the leading type in use throughout the United States. Between 1907 and 1915 Chicago Bridge and Iron would erect over eighty-five elevated tanks in twenty-three states from Virginia to Washington State. By 1915 its rival, the Pittsburg-Des Moines Steel Company, had contracts to build elevated steel water tanks in forty-two states and the District of Columbia, as well as

[31] Wright, "A Large Municipal Water-tower," 485; Hogue, *Interview* and *Electronic Mail*. Note: The number of supporting girder legs—four, six, eight, or twelve—is directly proportional to an elevated tank's projected carrying capacity. See Continuation Sheets. Franklin, C. J. "Elevated Steel Tank Solves Portland Water-Supply Problem," *American City* 431 (2 May 1922), 431-432; and Nathalie Weinstein, "Oregon Takes on Hydropower Projects," *Daily Journal of Commerce*, last modified 10 June 2010, http://djcoregon.com/news/2010/06/10/oregon-takes-on-hydropower-projects/.

[32] James Nisbit Hazlehurst, *Towers and Tanks for Water-Works: The Theory and Practice of their Design* (New York: John Wiley & Sons, 1901), 9-10, 135 and 144-145, http://books.google.com/books?id=nwZLAAAAMAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false. Accessed 7-8 July 2012.

[33] Paul E. Vanderlinde, *Bovey Water Tower, Itasca County, Minnesota*, Historic American Engineering Record No. MINN31-BOV-1 (1968), 5-6.

[34] Vanderlinde, *Bovey Water Tower*, 5-6; and Bryan Blackburn, "Elevated Tanks for Fire-Protective Service," *The Engineering Magazine* 44 (December 1912), 390.

eight Canadian provinces and several foreign countries. The average size of their tanks' carrying capacity ranged from between 2,500 to 2 million gallons.[35]

Like its predecessors, the University Heights elevated riveted steel plate water tank's design and engineering were based on the basic concept of a gravity-generated water pressure distribution system. The ratio between the water tank's storage capacity and height above ground, as well as its supply pipe diameter, determined the amount of serviceable water it could deliver throughout the surrounding area. Even during periods of peak demand and emergency situations, the amount of water inside the tank would be constant. Typically, when the storage tank's water level fell below a fixed point, an internal float triggered a nearby pumping station. A motorized pump would then send water stored in the nearby concrete reservoir up through a centrally located vertical inflow pipe or "riser" directly beneath the tower. When the tank had been refilled to capacity, the float would return to its original position, switching off the pump. A vertical outflow pipe situated adjacent to the inflow pipe sent water via gravity to households, businesses, fire hydrants, and other locations throughout the water distribution systems service range. The "lantern," a finial vent at the conical cap's apex, allowed the proper amount of air to enter or exit the water tank in order to facilitate the gravity-forced distribution system. The lantern also acted as an anti-siphon device preventing "air locks" from blocking the flow of water; or "negative pressure" from sucking contaminated groundwater back into a leaky water supply system. In addition, because they relied primarily on gravity, the water tank could operate during power outages; albeit, this was true as long as the tank was at full storage capacity.[36]

Besides its riveted steel plates, and full hemispherical ellipsoidal bottom, the University Heights elevated tank's character-defining features include the bolting of the steel girder support legs directly to the tank shell via a circumferential ring above the hemispherical ellipsoidal bottom section. The ring also supports another design feature common to all early twentieth century elevated water storage tanks: a circumferential steel catwalk with a 3-foot high, V-braced railing. Additional design features typical of early twentieth century elevated water tanks include adjustable X-shaped steel tension "spider" rods with steel turnbuckles, and horizontal flanged struts. Connected to the tower's 12 "Z" braced girder legs, they stiffened and protected the tower from lateral shear forces as well as keep compression loads from splaying the legs off their concrete footings. Perhaps the most eye-catching character-defining feature typical to all early twentieth century elevated metal water storage tanks is its high conical cap, topped by a small open-sided metal anti-siphon "lantern." Other minor, but important devices include a vertical steel service ladder and wooden water level gauge mounted on the tank's north-facing wall.[37]

Although no longer functioning as a water storage tank, over the past 88 years the University Heights elevated water storage tank has ingratiated itself into the surrounding community's

[35] Vanderlinde, *Bovey Water Tower*, 6; and Blackburn, "Elevated Tanks," 392.
[36] United States Department of the Interior, National Park Service, *Townsend Water Tower, City of Townsend, New Castle County, Delaware*, Historic American Engineering Record No. DE-24 (1990), 2.
[37] City of San Diego Operating Department, *Tank & Tower-University Hts.-Pittsburgh-Des Moines Steel Co.*, 1 sheet; Vanderlinde, *Bovey Water Tower*, 5-6; and Bryan Blackburn, "Elevated Tanks for Fire-Protective Service," 390.

consciousness.[38] Respondents to an informal on-line survey reported that, whether walking or driving in the area, they often use the tank as a visual landmark. Newcomers to the neighborhood use it as a navigational aide. Established residents refer to it in directing visitors to their homes: "Turn south on Oregon, first street west of the water tower." Another respondent echoed an earlier sentiment: "It has a quirky steam-punk charm that somehow reminds me of the Tin Man in the *Wizard of Oz*." Some have even incorporated the "Tin Man" into body art. Less permanent effigies have appeared in children's school coloring exercises and along parade routes during neighborhood appreciation days. Perhaps the following remark best explains the elevated water tank's evocation of a sense of place: "Whenever I fly back into town, I look out the window [of the airplane] and spot the water tower to find [my] neighborhood." "No," it continued, "it won't win any water tower beauty pageants, but it's like the slightly scrawny, yet beloved family pet that fills you with warmth as it welcomes you home."[39]

Developmental history/additional historic context information (if appropriate)

Earliest Development of San Diego's Municipal Water System: 1873-1895

While the University Heights Water Storage and Pumping Station Historic District's period of historical significance extends from 1924 to 1967, the district's history begins in 1898, when the *San Diego Water Company* [SDWCo] built a reservoir and pumping station at this location to store and deliver water pumped from wells in Mission Valley.[40] Incorporated in 1873, the SDWCo had originally supplied water directly to the homes of at least 2,000 of its San Diego customers (in what is now downtown San Diego) from a well located in Pound Canyon. Located in what is now the southern approach to the Cabrillo Freeway in Balboa Park, the wells pumped over 54,000 gallons of water per hour from an underground cavern. The SDWCo erected two large concrete tank reservoirs on two opposing mesas above the canyon. Water mains were laid to deliver water by gravity to the new homes and businesses being built along the waterfront.[41]

As the town expanded, it became necessary for the SDWCo to seek additional sources of potable water. The most logical source was the bed of the San Diego River along Mission Valley. Located some 3.8 miles northeast of downtown San Diego, the river had been a source of water since the Spanish first established a presidio and mission near the river's western mouth in 1769. In 1875, the SDWCo installed a pumping plant in the valley at the base of Sandrock Grade Road (today's Texas Street and Camino Del Rio South). Tapping the river's underground aquifer, the

[38] Alexander D. Bevil, *North Park Water Tower (a.k.a. "The Tin Man"), City of San Diego Historic Resources Inventory* (11 September 1989), 1-2. Due to a political reorganization of the surrounding neighborhood, the University Heights Water Treatment Plant is now within the community of North Park. However, the City's Municipal Water Department still refers to it as the "University Heights Water Treatment Plant." Hogue, Interview (2011).
[39] Katherine Hon, Electronic Mail Alexander D. Bevil (22 December 2011); and Alexander D. Bevil, "The Tin Man," 1-2. Note: The author of this nomination first recorded the local use of the name "Tin Man" when referring to the University Heights elevated water storage tank during his 1989 field survey and recordation.
[40] "Heights Gets Water Supply," *San Diego Tribune* (2 March 1907), n.p. On File at the San Diego Public Library, California Room.
[41] Fred D. Pyle, "History of San Diego City Water System," in *The History of San Diego County*, Carl H. Heilbron, ed. (San Diego: San Diego Press Club, 1936), 242; and Richard F. Pourade, *The History of San Diego: The Glory Years* (San Diego: Union-Tribune Publishing Company, 1964), 108.

Sandrock Grade Plant pumped some 2 million gallons of water a day up the Sandrock Grade Water Pipeline to a holding reservoir at the top of the 350-foot-high south grade overlooking the valley floor. An underground pipeline transported the water via gravity southwestward another mile and a half to what is now the community of Hillcrest. From here it travelled in a southerly direction to a storage reservoir at 5th and Hawthorne Streets above downtown San Diego. In spite of the company's guarantee that the water from its wells was of a "good pure quality," contemporary accounts offered a somewhat different opinion due to its high iron content: "First we boiled the water, then we strained it, then we boiled it again, then we drank something else."[42]

With the completion of a rail link to a transcontinental railroad in 1882, San Diego experienced a building boom as upwards of 2,000 new residents flocked to the area each month.[43] As a result, the SDWCo was hard-pressed to provide water for a San Diego's burgeoning population.[44] In response, in 1887 the SDWCo constructed an additional pumping station near the mouth of Mission Valley. Similar to the Sandrock Grade facility, steam-powered pumps transported San Diego River water up Presidio Hill, where it was stored in four covered reservoirs with a combined storage capacity of 6,600,000 gallons. A pipeline carried water from the reservoirs south across the Middletown plateau to downtown San Diego. However, in order to prevent a vacuum from stopping the flow of water in the pipeline, the company erected a 136-foot-tall 3-foot-diameter iron pressure regulating standpipe at the pipeline's tallest point just south of Presidio Hill.[45]

The City of San Diego wasn't the only area where the building boom of the 1880s had an effect. The extension of steam and electric rail lines into outlying areas had stimulated real estate sales in the neighboring communities of Coronado to the west, and National City and Chula Vista to the south, as well as in the eastern rural communities of Spring Valley, La Mesa, and El Cajon. It soon became apparent to real estate promoters, as well as civic leaders (whose roles, in the case of San Diego at this time, were often interchangeable) that San Diego's water supply was woefully inadequate to supply the growing needs of an ever-expanding population. They realized that, although the majority of the new towns and settlements were being laid out along the semi-arid coastline, there wasn't enough underground water on tap due to inadequate rainfall.

[42] "San Diego Water Company Has Completed Ditch across Mesa," *San Diego Union*, 12 September 1875:3; Elizabeth C. MacPhail, *The Story of New San Diego* (San Diego: San Diego Historical Society, 1979), 55; Clarence McGrew, *City of San Diego and San Diego County*, vol. 1 (Chicago: The American Historical Society, 1922), 234-235; City of San Diego Water Department, *Historical Water Utilization* (1951), 17; Pourade, *The Glory Years* (1964), 141; Philip R.Pryde, "The Most Essential Resource: Water Supply for the County," in *San Diego: an Introduction to the Region*, Philip R. Pryde, ed. (San Diego: Sunbelt Publications, 2004), 131; and City of San Diego Water Department, "San Diego Water History," last modified 2011, http://www.sandiego.gov/water/gen-info/history.shtml.

[43] Alexander D. Bevil, *Cable Cars & Ostrich Feathers: a Walking Tour of the Mission Cliff Garden Site and the Surrounding Historic Neighborhoods of University Heights* (San Diego: Save Our Heritage Organisation, 1996), 1.

[44] MacPhail, *The Story of New San Diego* (San Diego: San Diego Historical Society, 1979), 106.

[45] City of San Diego, *Historical Water Utilization*, 17. Note: A standpipe is very similar in appearance to an upright cylindrical water storage tank. The difference between a standpipe and a reservoir is the former has a greater height-to-diameter ratio, while the latter has a greater diameter-to-height ratio. See: Chicago Bridge and Iron Company, "Elevated Storage Tanks: Standpipes and Reservoirs," last modified 2011.

Therefore, it would be a matter of necessity to impound the runoff flowing down from the eastern mountains. The latter, on average, experienced about forty inches of rain a year, as opposed to only 10 inches along the coast. The result was the initiation of one of the most extensive private and later public investments in a municipal water system in the United States.[46]

The earliest development was the *San Diego Flume Company*, which sought to impound the waters descending from the Cuyamaca Mountains. In 1887 the company constructed a dam across Boulder Creek and directed the waters from newly formed Lake Cuyamaca down a 31-mile-long aqueduct, which included wooden flumes, tunnels, and ditches through the rural farming communities of El Cajon, Spring Valley, La Mesa, and City Heights to San Diego. The following year, *the San Diego Land and Town Company* financed the construction of the 90-foot-high Sweetwater Dam. The highest dam in the United States at the time, it impounded the waters of the Sweetwater River, which also had its headwaters in the Cuyamacas, for the company's holdings in the National City-Chula Vista area. One year prior, Elisha S. Babcock formed the *Otay Water Company* to take over the *Mount Tecate Land and Water Company*'s efforts to build dams at across lower and upper Otay River and Cottonwood Creek to impound waters flowing from the San Ysidro Mountains. In addition to impounding water for his real estate interests on Coronado, including the Hotel del Coronado, the reservoirs also serviced the South Bay communities of Chula Vista, National City, and the rural communities along the U.S/Mexico International Boundary. Both reservoirs, as well as a third north of at La Mesa behind a dam that the San Diego Flume Company built in 1895, would have a critical role to play in the developmental history of the University Heights Water Storage and Pumping Station.[47]

Development of University Heights as one of San Diego's Streetcar Suburbs: 1887-1898

Besides the actual or promise of an adequate supply of potable water, the second most important stimulus for San Diego's urban and suburban development during the late 1800s was the proliferation of electric street cars. Radiating out from downtown San Diego's urban center near the harbor area, they extended out into the surrounding windswept mesas overlooking Mission Valley's southern rim and East San Diego. Moreover, the trenching and laying of privately invested water and sewer lines usually preceded the laying of electric rail lines along the same public right of way. The expansion of the local water supply and waste delivery systems in conjunction with privately built electric streetcar routes out away from San Diego's downtown core coincided with a wave of speculative growth in San Diego's "Streetcar Suburbs." An outlying residential area whose growth and development were closely shaped by direct access to relatively reliable and cheap streetcar lines, streetcar suburbs proliferated across the United States, especially in the Midwest and Western states. Until the availability and affordability of

[46] MacPhail, *The Story of New San Diego*, 106; G. E. Arnold, "San Diego Water Supply Development Has Long and Interesting History," *Western City* 26 (October 1950): 40; Richard F. Pourade, *The History of San Diego: Gold in the Sun* (San Diego: Union-Tribune Publishing Company, 1965), 36; and Imre E. Quastler and Philip R. Pryde, "San Diegans on the Move: Transportation in the County," in *San Diego: an Introduction to the Region*, Philip R Pryde, ed. (San Diego: Sunbelt Publications, 2004): 184-185. Pryde, "The Most Essential Resource," 128.
[47] MacPhail, *The Story of New San Diego*, 106-107; Pyle, "History of San Diego City Water System," 243; and Pryde, "The Most Essential Resource," 129.

mass-produced automobiles, the electric streetcar was the primary factor behind the growth of American cities between 1890 and 1928. During this time period, the expansion of privately owned electric streetcar lines, along with power and water utilities into San Diego's outlying areas, would play a major symbiotic role in the creation of modern San Diego.[48]

One of the oldest of San Diego's streetcar suburbs that sprang up during San Diego's 1880s "Railroad Boom" was the community of University Heights, which the *College Hill Land Association* had surveyed and platted in 1887. A large tract of land situated roughly between Cabrillo Canyon and Sandrock Grade south of Mission Valley, it was less than twenty minutes away from downtown San Diego via then-existing inter-urban steam trains and electric-powered streetcars. To stimulate sales, the syndicate advertised that the subdivision would become the home of the prestigious *San Diego College of Arts and Letters*. Part of the total cost of each individual lot sold would go into a college building fund, guaranteeing the school's construction and maintenance. However, the collapse of San Diego's speculative real estate boom in 1889, followed by an ensuing nation-wide economic depression in the early 1890s, quashed any attempts to build a college of higher learning in University Heights.[49]

Nevertheless, by the early 1900s, San Diego's speculation-driven economy was on the rise, particularly in University Heights. In 1898, a consortium of civic, educational, and business leaders were finally successful in bringing an institution of higher learning to the area. The site of the aborted San Diego College of Arts and Letters now housed the new campus of the *San Diego State Normal School*, the forerunner of today's *San Diego State University*. Other improvements that attracted new residents to the area were the Mission Cliff Gardens, a five-acre park with landscaped grounds and an attractive pavilion located at the end of Park Boulevard. Formerly known as *The Bluffs*, and later as *Mission Cliff Park*, the *San Diego Cable Railway*, and later *Citizens Traction Company*, had improved and promoted the park as an end-of-line attraction to promote ridership and land sales along property it owned along the right-of-way. The *San Diego Electric Railway Company* [SDERy], which had purchased the entire streetcar line in 1898, renamed the park the *Mission Cliff Gardens*.[50]

University Heights Standpipe: 1898

Perhaps more important to the development of University Heights and other streetcar suburbs was the availability of clean potable water for domestic and commercial use, as well as for waste disposal and fire protection. As mentioned earlier, the SDWCo had already installed a water pipeline across what is now University Heights from Sandrock Grade to Hillcrest. However, there was no provision to store and distribute water east of Mission Cliff Gardens. Therefore, it would be necessary to divert some of the Mission Valley water into a storage reservoir. To

[48] MacPhail, *The Story of New San Diego*, 95; Quastler and Pryde, "San Diegans on the Move" (2004): 185 Bevil, *Cable Cars & Ostrich Feathers*, 2; and David L. Ames and Linda Flint McClelland, *National Register Bulletin: Historic Residential Suburbs, Guidelines for Evaluation and Documentation for the National Register of Historic Places* (National Park Service, Washington D.C., 2002), 17-18.
[49] Bevil, *Cable Cars & Ostrich Feathers*, 1; and Alexander D. Bevil, *Georgia Street Bridge, National Register of Historic Places Listing No. 99000158* (02 December 1999), Section 8:2.
[50] Bevil, *Cable Cars & Ostrich Feathers*, 2-3.

facilitate this, the SDWCo acquired Block 122 of the University Heights Addition from the College Hill Land Association sometime between 1894 and 1895.[51] Located at an elevation of 385 feet above sea level in the addition's eastern section, the 2.47-acre parcel fronted El Cajon Avenue [sic] on the north, Howard Avenue on the south, and Oregon and Idaho Streets on its respective west and east sides.[52] Two years later, in 1897, the College Hill Land Association donated funds for the SDWCo to erect a metal stand pipe on the site.[53] Completed in 1898, engineers estimated that the weight of 160,000 gallons of stored water inside the stand pipe would provide enough hydrostatic pressure to send water to outlying homes and businesses, as well provide for adequate fire protection.[54]

Municipal Acquisition and Expansion: 1901-1912

After a lengthy drought, in 1900 the people of San Diego voted to de-privatize and manage their own water supply system. The following year the newly formed City of San Diego Municipal Water Department obtained the water rights to, as well as the storage and distribution system of the San Diego Water Company within the City's corporate limits for $500,000. This included the transfer of ownership and operation of the University Heights standpipe.[55] Five years later, in 1906, the Water Department entered into a contract with the Southern California Mountain Water Company by which the latter would provide 7,776,000 million gallons of potable water a day from its Otay River-Cottonwood Creek water system. In order to do so, it had to construct an 11-mile-long section of twenty-four-inch-diameter riveted steel pipe between its Otay-Coronado Pipe Line north to the 435-foot high Chollas Heights Reservoir. Located approximately six miles east of downtown San Diego, water first flowed through sand filters at the Chollas Heights water filtration plant before it entered the City's mains via a twenty-four-inch-diameter wooden pipe line. Another pipe line directed filtered water from Chollas 4.5 miles to the northwest to the

[51] County of San Diego, Office of the Assessor, *Tax Assessment "Lot" Books for University Heights, San Diego* (1895), 279.
[52] County of San Diego, Office of the Assessor, *Tax Assessor's Map*, Book 445, Page 43 (1987), sheet 1 of 2; United States Department of the Interior, *Geographical Survey, La Jolla, California*. Topographic Map (1953).
[53] County of San Diego, Office of the Assessor, *Tax Assessment "Lot" Books for University Heights, San Diego* (1896), 50; and "Heights Gets Water Supply," *San Diego Tribune* , n.p.
[54] City of San Diego Water Department, *University Heights Reservoirs: General Arrangement and Detail*, Document No. 2341 (November 1912), 1 sheet; Sanborn Map Company, *Sanborn Fire Insurance Maps of San Diego, California*, vol. 3 (1921), sheet 354; City of San Diego Water Department, Division of Development and Conservation, *University Heights Layout*, Drawing No. WD-595, File No. 2760, D3 (September 1937, revised 3 March 1945), 1 sheet; and Gary Hogue [Retired Senior Civil Engineer, City of San Diego Public Utilities Department, Water and Waste Water], *Interview with Alexander D. Bevil* (22 July 2011). Note: According to Mr. Hogue, the gravitational pressure exerted by water in a closed system, the ratio of head pressure must be greater than pressure loss in a closed system. If the total pressure loss in a piping system exceeds the available head pressure, the water will not flow. See: Base Products Corporation, "Alphabetical Listing of Commonly Used Plumbing Terms," last modified 2011, http://www.basepump.com/Common%20Terms.htm.
[55] City of San Diego, Property Department, *Land Acquisition Record, University Heights Block 122* (5 May 1995), 1; County of San Diego, Office of the Assessor, *Tax Assessment "Lot" Books for University Heights, San Diego* (1902), 43; Fyle, "City Water System," 242; and City of San Diego, *Historical Water Utilization*, 8 and 18.

University Heights Standpipe. The latter would no longer have to depend on water purchased from the San Diego Flume.[56]

Assured of a relatively abundant supply of water, San Diego experienced another wave of speculative real estate activity. The leading impetus for the boom was the 1902 announcement of the United States federal government's building of the Panama Canal. San Diego's boosters reasoned that the canal would turn San Diego into a major American port of call in a new era of trans-Atlantic/Pacific sea trade.[57] In addition, local financier John D. Spreckels announced that he would begin construction of another railroad connecting San Diego's harbor to the man line of the *Southern Pacific Railroad* at El Centro, in the Imperial Valley. Just as the coming of the transcontinental railroad had stimulated growth twenty years earlier, the announcement of Spreckels' railroad and Panama Canal projects would result in a $6 million increase in new construction, and a nearly 50 per cent increase in the city's population between 1902 and 1910.[58]

In addition to the new *San Diego & Arizona Railroad*, Spreckels had a controlling interest in the SDERy. Spreckels, who believed that "transportation determines the flow of population," advocated the current trend in American city planning that electric streetcar lines were the best stimuli for suburban development. As early as 1891, Spreckels had initiated the modernization and expansion of San Diego's existing electric and steam-powered rail lines into outlying suburban areas. Two route extensions along Adams Avenue and University Avenue in 1907 had a profound effect on suburban development along University Heights' respective northeastern and southeastern boundaries.[59] Indeed, the SDERy's policy of low fares, free transfers, and dependable service, in collaboration with aggressive real estate developers, stimulated suburban growth. Access to cheap land encouraged young families, as well as small business owners, to build single-family homes and start businesses, not only in University Heights, but in one of nine new neighborhoods that sprung up along either the Adams or University Avenues streetcar lines like Normal Heights, Kensington Park, North Park, and City Heights. City Heights' growth, in particular, which rose from 400 to 4,000 residents, resulted in its incorporation on November 7, 1911 as East San Diego.[60]

The expansion of San Diego's northern "streetcar suburbs," as well as older residential, business, and commercial districts placed a greater demand on the Municipal Water Department's water storage and delivery system. With hundreds of prospective new homes and businesses being built, they would all require water for personal use, as well as fire protection. Without increased

[56] Pyle, "City Water System," 243; Pourade, *Gold in the Sun*, 36; San Diego Water Department, "*San Diego Water History*," and Austin H. Adams, "Southern California Mountain Water Company Map," in *The Story of Water in San Diego: and What the Southern California Mountain Water Company Has Done to Solve the Problem* (Chula Vista: Denrich Press, ca. 1905), n.p.
[57] Pourade, *Gold in the Sun*, 4, 5, 112 and 264; and Bevil, *Cable Cars & Ostrich Feathers*, 5.
[58] Bevil, *Cable Cars & Ostrich Feathers*, 5; and Bevil, *Georgia Street Bridge*, Section 8:2.
[59] Bevil, *Cable Cars & Ostrich Feathers*, 5; Richard V. Dodge, *Rails of the Silvergate: the Spreckels San Diego Empire* (San Marino: Golden West Books, 1960), 23, 42-43; and Ames and McClelland, *Historic Residential Suburbs*, 20.
[60] Bevil, *Cable Cars & Ostrich Feathers* (1996), 5; Ames and McClelland, Historic Residential Suburbs, 18; and Bevil, *Georgia Street Bridge*, Section 8: 2.

sources of water, suburban development would come to a standstill. As a result, the City of San Diego began an ambitious water acquisition program that would remain ongoing for the next 90 years.[61]

The first step on San Diego's quest for water began in 1912, when John D. Spreckels, who now owned a controlling interest in the Southern California Mountain Water Company, announced that he would sell the company, including its entire storage and delivery system, in order to help pay off the San Diego & Arizona Railroad's mounting debt. In response, between February and August 1913, the City of San Diego purchased the water company for $4 million, and an option to buy the site of the future Morena Reservoir for $1.5 million by 1914. That year, it built a water treatment plant at Otay Lake to supplement the one at Chollas Heights. Within nine years, it would complete the Morena Dam and link its reservoir and the Cottonwood Creek watershed with the City's water supply at Lower Otay Lake. The City's acquisition of the former Southern California Mountain Water Company's infrastructure created a municipally-owned and operated water supply system that delivered over 13 million gallons a day "from mountain to meter" to over 39,000 residents. In addition, the deal added much-needed capital into the continued building of the San Diego & Arizona Railroad. By doing so, it had a "trickle-down" effect on the local economy, providing jobs and opportunities for investment. All of which attracted more residents, who purchased homes in San Diego, especially in its outlying streetcar suburbs.[62]

The increased demand of water storage and distribution for an ever-expanding city did not leave the renamed *University Heights Water Storage and Pumping Station* idle. University Heights along with the rest of the early twentieth century streetcar suburbs were transforming San Diego into a substantial city. Because of the value of existing and future homes, businesses, churches, and schools in the area, as well as the health and welfare of hundreds of residents, the City Engineer and fire insurance companies urged city leaders to invest in fire prevention. During a major conflagration, they argued, the existing University Heights water reservoir would dry up, and the city would be forced to depend on the Chollas Heights Reservoir's wooden water supply pipe. Part of the solution would be the latter's replacement with a new thirty-inch-diameter cast iron pipe, and expand the water storage, treatment, and distribution capabilities at University Heights.[63]

New University Heights Water Reservoir and Upright Metal Stand Pipe Constructed: 1908-1913

The first major improvement to the University Heights Water Storage and Pumping Station occurred in 1908, when City Engineer A. F. Growell designed and supervised the installation of a partially buried concrete reservoir along the western perimeter of Block 122 along Oregon

[61] Bevil, *Cable Cars & Ostrich Feathers*, 5; Ames and McClelland, Historic Residential Suburbs, 18; and Bevil, *Georgia Street Bridge*, Section 8: 2.
[62] Pyle, "City Water System," 243; Arnold, "San Diego Water Supply," 44; City of San Diego, Water Utilization, 8; Pourade, *Gold in the Sun*, 175 and 264; Bevil, *Cable Cars & Ostrich Feathers*, 5, and San Diego Water Department, "Water History."
[63] City of San Diego Water Department, "The Story of Water" (n.d.), n.p. On File at the City of San Diego Public Library, Special Collections.

Street.[64] Stretching from El Cajon Boulevard south to Howard Avenue, the 337.60 foot long by 150 foot wide by 10 foot deep reservoir would hold 3.172 million gallons of water from the newly acquired Otay/Chollas water supply line.[65] In order to provide adequate head pressure within the system, in 1910 City Engineer Edwin M. Capps designed and installed a 52.2-foot high by 40-foot-diameter 490,660 gallon-capacity upright cylindrical metal water stand pipe near the reservoir. A worker in a chlorination house on the reservoir's northeast corner monitored the addition of liquid chlorine into the water to prevent contamination.[66]

In order to provide an adequate reserve of water at the University Heights Water Storage and Pumping Station, on April 14, 1905 the City of San Diego purchased all of Block 151 south of the 1908-built concrete reservoir from the College Hill Land Association. The purpose was for the City Engineer to design and supervise the construction of an additional 17.5 million gallon capacity concrete water storage reservoir south of Howard Avenue. Because it was built on gradual slope, the depth of the new 600 foot long by 300 foot wide concrete reservoir graduated from approximately 12 to 20 feet deep.[67] Wooden boards covered both the new *South University Heights Reservoir* and the smaller *North University Heights Reservoir* to prevent evaporation, contamination, and neighborhood children from using them as swimming holes. After the completion of the south reservoir, the north reservoir became a holding tank for sludge flushed out of the south reservoir.[68]

Concurrent with the installation of the south reservoir was the installation of larger water distribution pipe lines from the University Heights Water Storage and Pumping Station to the city's water mains. Between 1913 and 1914 city Water Department crews excavated trenches along the southern perimeter of El Cajon Boulevard to install 12-inch, 24-inch, and 35-inch water distribution pipe lines from the facility. Many of these are still in place and in use after almost 100 years of service.[69]

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[64] A. F. Growell, City Engineer, City of San Diego, *Plans for Reservoir to Be Erected on Block 151, University Heights Showing Arrangement of Pipes and Connections* (28 September 1908), 1 sheet.
[65] City of San Diego Water Department, *University Heights Reservoirs: General Arrangement and Detail*, Document No. 2341 (November 1912), 1 sheet; City of San Diego Water Department, Division of Development and Conservation, *University Heights Layout*, Drawing No. WD-595, File No. 2760, D3 (September 1937, revised 3 March 1945), 1 sheet; Sanborn Map Company, *Sanborn Fire Insurance Maps of San Diego, California*, vol. 3 (1921), sheet 354.
[66] Edwin M. Capps, City Engineer, City of San Diego, *Plan of Water Tower, Block 122 University Heights, San Diego, California*, Document No. 892-W (March 1910), 1 sheet; and Sanborn, Insurance Maps (1921), sheet 354.
[67] City of San Diego, *University Heights Reservoirs: General Arrangement and Detail*, Document No. 234 (November 1912), 1 sheet.
[68] City of San Diego, Property Department, Land Acquisition Record, University Heights Block 151, 5 May 1995; Sanborn Insurance Map Company, *Insurance Maps of San Diego, California*, vol. 3 (1921), sheet 349 and vol. 3 (1948), sheet 354; and City of San Diego Public Library, Historic Photograph Collection, *University Heights Reservoir---Cracks and Holes in Wood Covering*, Photograph No. 791 (16 August 1927).
[69] San Diego History Center, Photograph Collection, *El Cajon Blvd. near Louisiana—View East, 1913*, Photograph #15992; and Sanborn, Insurance Maps (1921), sheet 354.

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Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
____ previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey # _____
____ recorded by Historic American Engineering Record # _____
____ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

____ State Historic Preservation Office
____ Other State agency
____ Federal agency
__X__ Local government
____ University
__X__ Other
Name of repository: San Diego History Center

Historic Resources Survey Number (if assigned): N/A

10. Geographical Data

Acreage of Property 7.67

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates
Datum if other than WGS84:
(enter coordinates to 6 decimal places)

1. Latitude:	32.755097°	Longitude:	-117.135007°
2. Latitude:	32.755100°	Longitude:	-117.133949°
3. Latitude:	32.752213°	Longitude:	-117.133941°
4. Latitude:	32.752240°	Longitude:	-117.135005°

Or
UTM References
Datum (indicated on USGS map):

☐ NAD 1927 or ☐ NAD 1983

1. Zone:	Easting:	Northing:
2. Zone:	Easting:	Northing:
3. Zone:	Easting:	Northing:
4. Zone:	Easting:	Northing:

Verbal Boundary Description

The boundary of the nominated property is delineated by a dashed line on the accompanying map in the Additional Documentation Section entitled "Aerial Photo/Sketch Map of Historic District." The district's northern boundary begins at the southeast corner of the intersection of El Cajon Boulevard and Oregon Avenue. It continues 345 feet in an easterly direction across the northern perimeter of Block 122 to a point at the southwest corner of El Cajon Boulevard and Idaho Street. The district's eastern boundary travels from this point 370 feet due south along Block 122's eastern perimeter to Block 122's southeastern corner at Polk

Avenue. The boundary continues another 57 feet across Polk Avenue to the northeastern corner of Block 151 near the southwest corner of Howard Avenue and Idaho Street. The district's eastern boundary continues unbroken for another 630 feet to Block 151's southeastern corner. The latter is located at the northwestern corner of Idaho Street and Polk Avenue. The district's southern boundary continues due west from this point 345 feet along the northern edge of a closed section of Polk Street to Block 151's southwest corner. The district's western boundary begins at this point and continues due north to a point where it meets the point of origin at the northwest corner of Block 122.

Boundary Justification

The boundary encompasses three sections of land that contain a significant concentration of buildings, structures, and sites associated with the district's 1924 to 1967 period of historic significance. The district's boundary generally follows the historic property lines of city Block 122, 151, and a 42–foot wide by 300-foot long section of Howard Avenue, a dedicated City Street that separated the two city blocks.

Property Owner

City of San Diego

c/o Office of the City Clerk

202 "C" Street

San Diego, California 92101

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

11. Form Prepared By

name/title: Alexander D. Bevil
organization: North Park Historical Society
street & number: 2226 Dwight Street
city or town: San Diego state: CA zip code: 92104
e-mail alexdbevil@yahoo.com
telephone: 619-692-6212
date: 29 July 2012

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Additional Documentation

Photograph Log

Name of Property:	University Heights Water Storage and Pumping Station Historic District
City or Vicinity:	San Diego
County:	San Diego
State:	California
Name of Photographer:	Alexander D. Bevil
Date of Photographs:	June 2012
Location of Original Digital Files:	4752 Mt. Longs Dr., San Diego, CA 92117

Photograph #1: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0001
West elevation of water tower, camera facing east on Howard Avenue

Photograph #2: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0002
Northeast corner elevation of water tower and regulating reservoir, camera facing southwest on the northeast corner of El Cajon Boulevard and Idaho Street

Photograph #3: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0003
Southwest corner elevation of water tower, regulating reservoir, and the sites of the Howard Avenue water filtration plant, and "raw water" concrete reservoir, camera facing northeast off the southwest corner of Oregon Street and Howard Avenue

Photograph #4: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0004
Southwest elevation of water tower, regulating reservoir, caretaker's residence, sports concession building, and the sites of the Howard Avenue water filtration plant, and "raw water" concrete reservoir, camera facing northeast off Howard Avenue from the site of the "raw water" concrete reservoir

Photograph #5: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0005
South elevation of caretaker's residence and regulating reservoir, camera facing north from Howard Avenue

Photograph #6: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0006
Southeast elevation of water tower, pump house, chlorinating house site, regulating reservoir and sports concession building, camera facing northeast southwest from Howard Avenue

Photograph #7: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0007
South elevation of pump house and chlorinating house site, camera facing north

Photograph #8: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0008
Interior of pump house, camera facing east at water valves and electrical control panels

Photograph #9: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0009
Overhead view into interior of El Cajon pipeline valve vault, camera facing northeast

Photograph #10: CA_San Diego County_University Heights Water Storage Pumping Station Historic District_0010
Northeastern corner of "raw water" concrete reservoir site (North Park Recreation Center), camera facing south

Contributing Resources

1. Elevated Metal Water Tank
   One Contributing Structure
   Built: 1924
   Aerial Photo/Sketch Map #1
   Historic Photographs #3-4, 6-8
   Photographs #1-5, 9
2. Regulating Water Reservoir
   One Contributing Structure
   Built: 1952
   Aerial Photo/Sketch Map #2
   Historic Photograph #8
   Photographs #2, 3, 9
3. Pump House
   One Contributing Structure
   Built: 1952
   Aerial Photo/Sketch Map #3
   Historic Photograph #7
   Photographs #5-6
4. Caretaker's Residence
   One Contributing Building
   Built: ca. 1924; Relocated to this Location: 1952
   Aerial Photo/Sketch Map #4
   Historic Photograph #7-8
   Photographs #4, 8
5. El Capitan Pipeline Valve Vaults
   Two Contributing Structures
   Built: 1935
   Aerial Photo/Sketch Map #5
   Historic Photograph #7
   Photographs #6-7
6. Chlorinating House Site
   One Contributing Site
   Built: ca. 1924; Removed: ca. 1998
   Aerial Photo/Sketch Map #6
   Historic Photograph #7
   Photographs #5-6

7. Howard Avenue Water Filtration Plant Site
   One Contributing Site
   Built: ca. 1928; Expanded 1935; Removed: ca. 1952
   Aerial Photo/Sketch Map #7
   Historic Photographs #5-7
   Photographs #3-4
8. Howard Avenue Underground Valve Vault
   One Contributing Structure
   Built: ca. 1924
   Aerial Photo/Sketch Map #
   Historic Photograph #7
   Photograph #5
9. South "Raw Water" Concrete Reservoir Site
   One Contributing Site
   Built: 1912; Demolished: 1967
   Aerial Photo/Sketch Map #
   Historic Photograph #2, 6-8
   Photograph #10

Non-Contributing Resources:

10. Roof-top Soccer Fields
    Two Non-contributing Structures
    Built: ca. 2000-2001
    Aerial Photo/Sketch Map #10
    Historic Photograph #N/A
    Photograph #9
11. Sports Concession Building
    One Non-contributing Building
    Built: ca. 1970
    Aerial Photo/Sketch Map #11
    Historic Photographs #N/A
    Photographs #4-5
12. Howard Avenue
    One Non-contributing Structure
    Built: 1952 (est.)
    Aerial Photo/Sketch Map #11
    Historic Photographs #N/A
    Photographs #3-5

13. North Park Recreation Center
    a. Trees and Lawn Area
       One Non-contributing Site
       Built: 1968 (est.)
       Aerial Photo/Sketch Map #13a
       Photographs: 3, 4 & 10
    b. Recreation Building/Outdoor Sports Court
       One Non-contributing Building
       Built: 1968 (est.)
       Aerial Photo/Sketch Map #13b
       Photograph: 3
    c. Curvilinear Concrete Pathways
       One Non-contributing Structure
       Built: 1967 (est.)
       Aerial Photo/Sketch Map #13c
       Photographs: 3 & 10
    d. Children's Playground
       One Non-contributing Structure
       Built: 1990 (est.)
       Aerial Photo/Sketch Map #13d
       Photographs: 10
    e. Oregon Avenue Parking Strip
       One Non-contributing Structure
       Built: 1968 (est.)
       Aerial Photo/Sketch Map #13e
       Photographs: 10
    f. Comfort Station
       One Non-contributing Structure
       Built: 1968 (est.)
       Aerial Photo/Sketch Map #13f
       Photographs: 10

United States Department of the Interior
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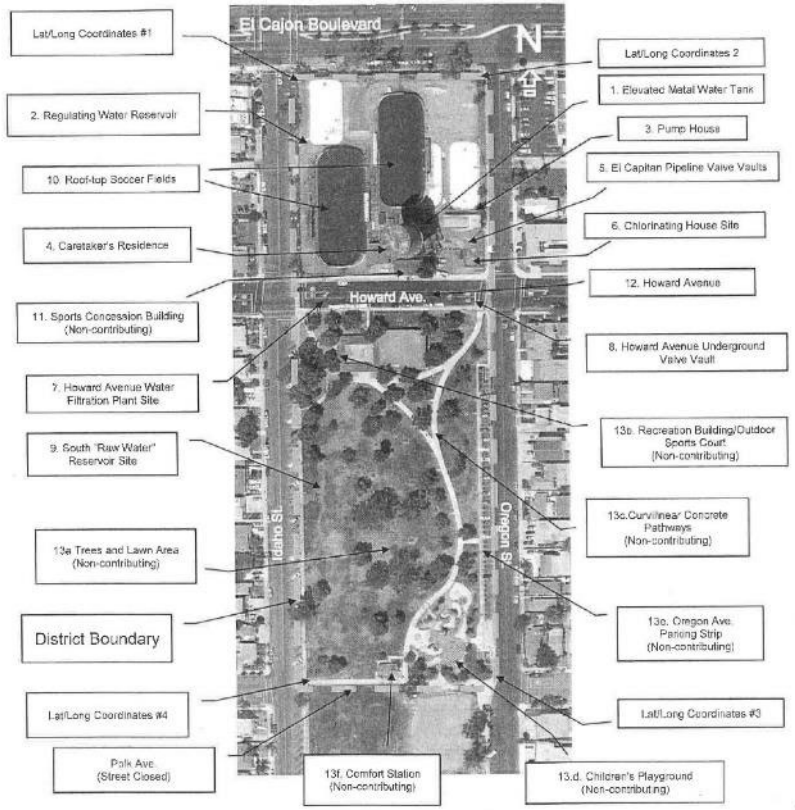
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

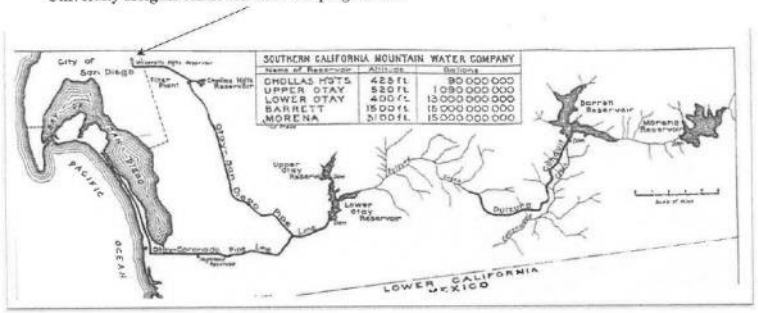
Aerial Photo/Sketch Map of Historic District
Scale: 1"=165'



Additional Documentation page 41

Map Showing the Location of the University Heights Water Storage and Pumping Station within the Context of the San Diego's Water Distribution Network, ca. 1905

University Heights Reservoir and Pumping Station



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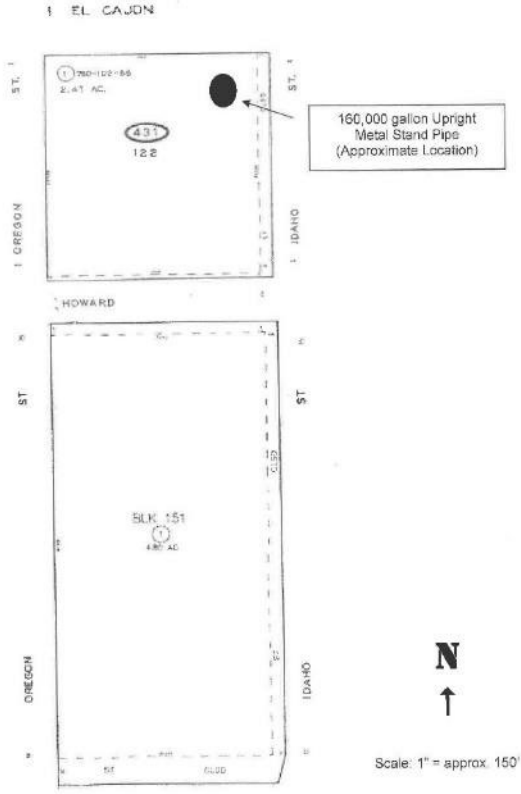
NPS Form 10-900

OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State

Historical Evolution of the District's Development
Blocks 122, 151 and Howard Avenue
1898-1907



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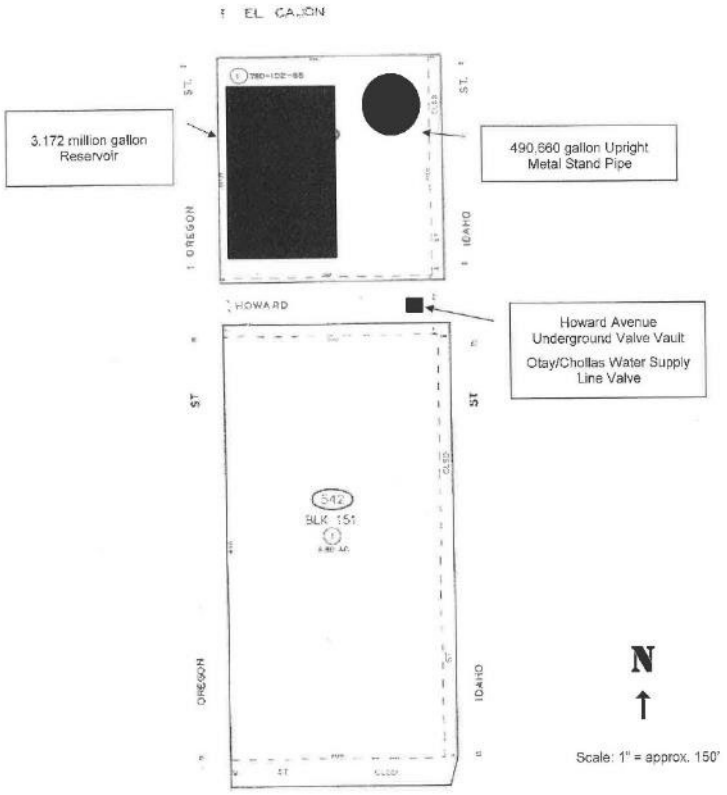
NPS Form 10-900

OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State

Historical Evolution of the District's Development
Blocks 122, 151 and Howard Avenue
1908-1912



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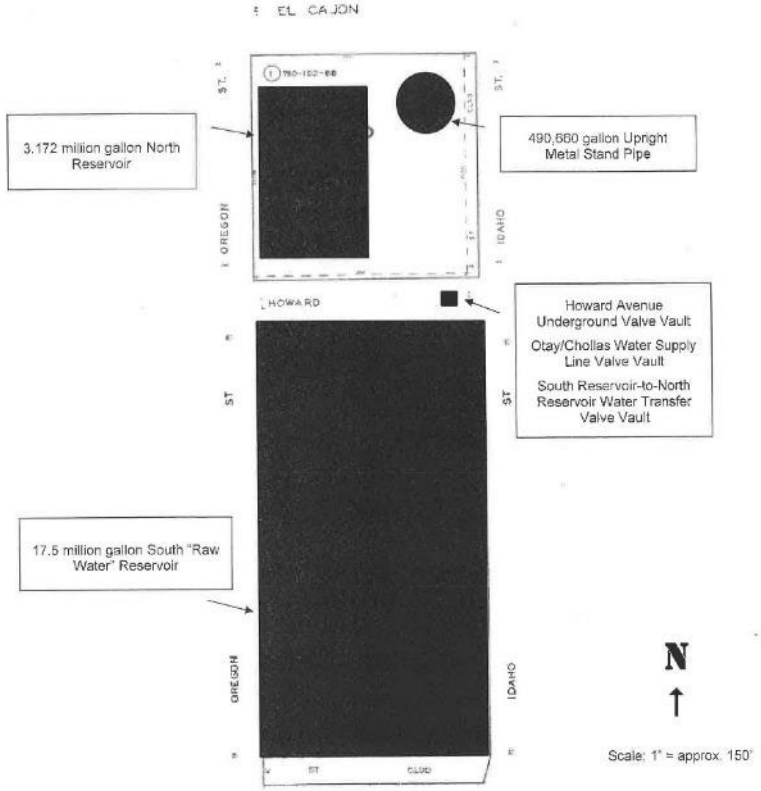
NPS Form 10-900

OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State

Historical Evolution of the District's Development
Blocks 122, 151 and Howard Avenue
1913-1923



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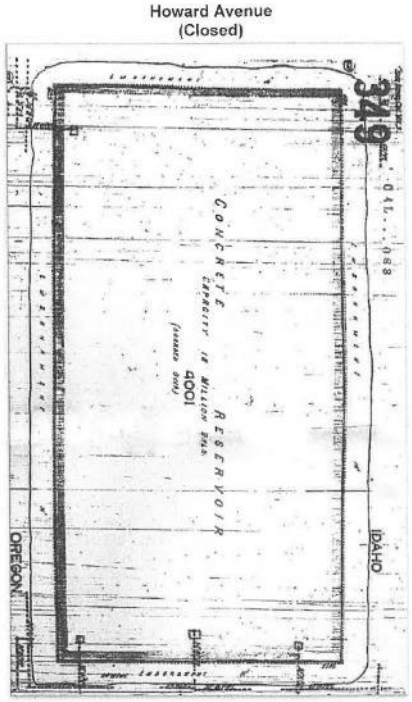
Historical Evolution of the District's Development
Block 151
1920
Sanborn Insurance Map, San Diego, Vol. 3, Sheet 349, 1920



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Map Not to Scale

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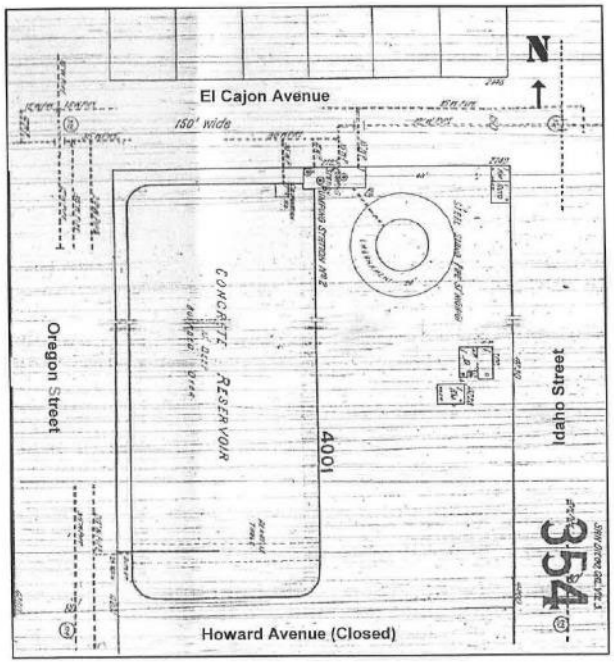
NPS Form 10-900

OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State

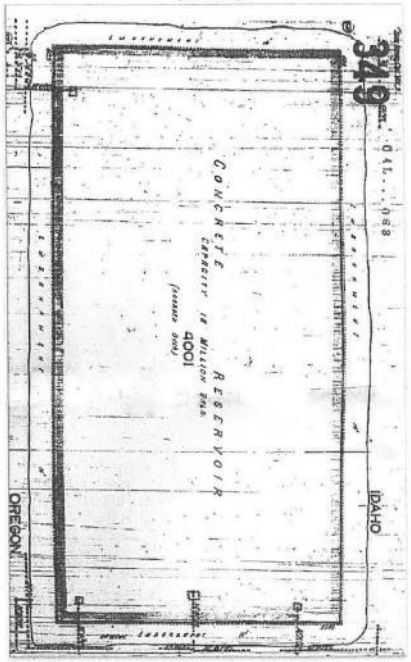
Historical Evolution of the District's Development
Block 122
1921
Sanborn Insurance Map, San Diego, Vol. 3, Sheet 354, 1921



Map Not to Scale

Historical Evolution of the District's Development
Block 151
1920
Sanborn Insurance Map, San Diego, Vol. 3, Sheet 349, 1920

Howard Avenue
(Closed)



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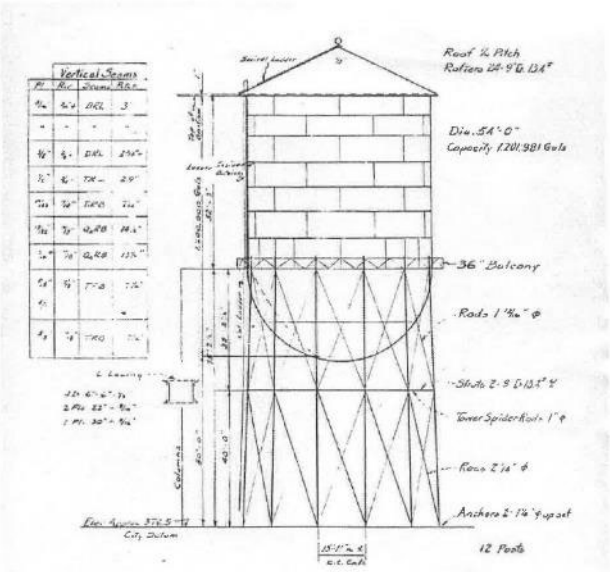
Map Not to Scale

Polk Avenue (Closed)

Historical Evolution of the District's Development

Block 122, 1924-1930

City of San Diego. Operating Department. University Heights Water Tank and Tower, 16 April 1923; reprinted March 1930



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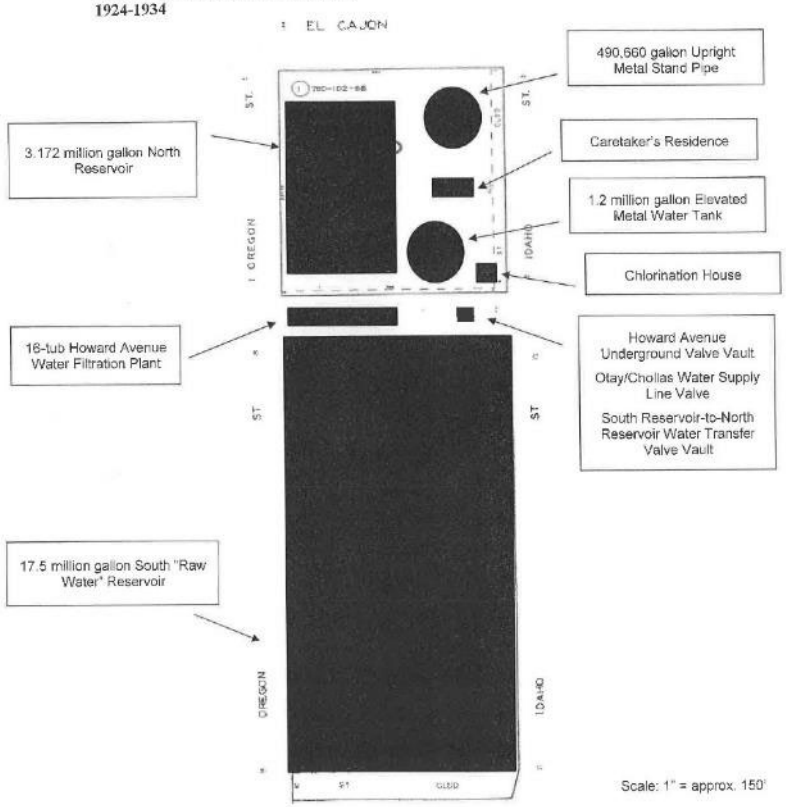
University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Historical Evolution of the District's Development
Blocks 122, 151 and Howard Avenue
1924-1934



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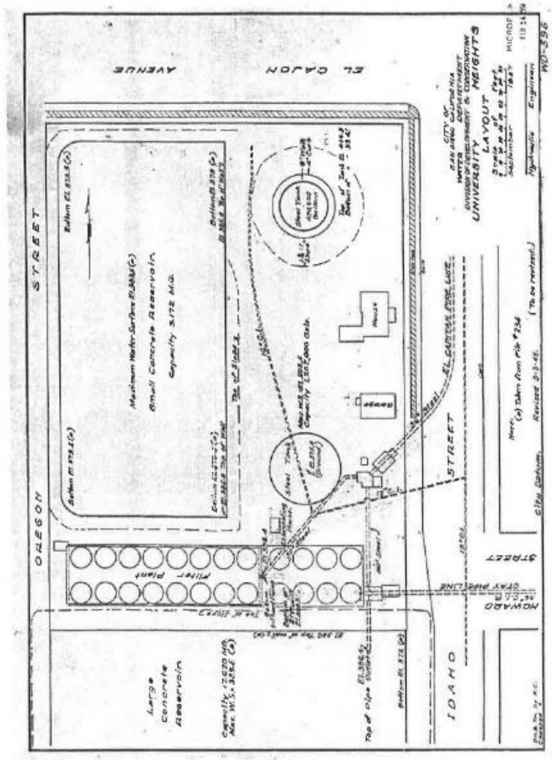
Historical Evolution of the District's Development
Block 122 and Howard Avenue Layout, 1937-1945
City of San Diego. Water Department. University Heights Layout, September 1937; Revised 3 March 1945.



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Map Not to Scale

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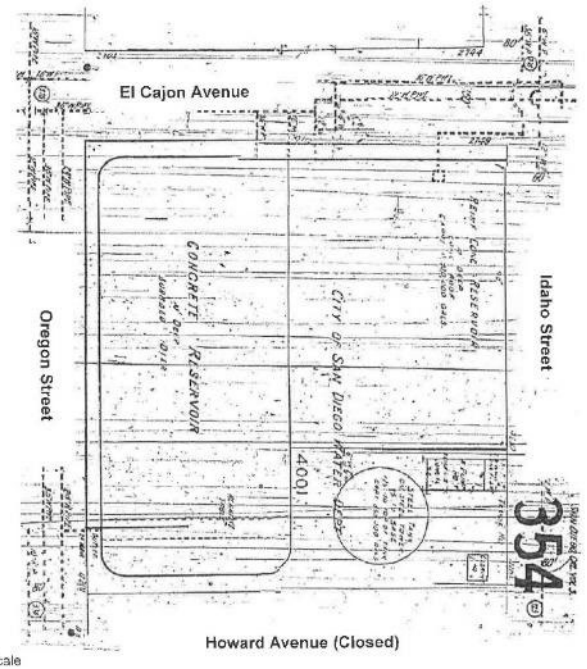
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Historical Evolution of the District's Development
Block 122 Layout, 1951-1956
Sanborn Insurance Map, San Diego, Vol. 3, Sheet 354, 1956



Map Not to Scale

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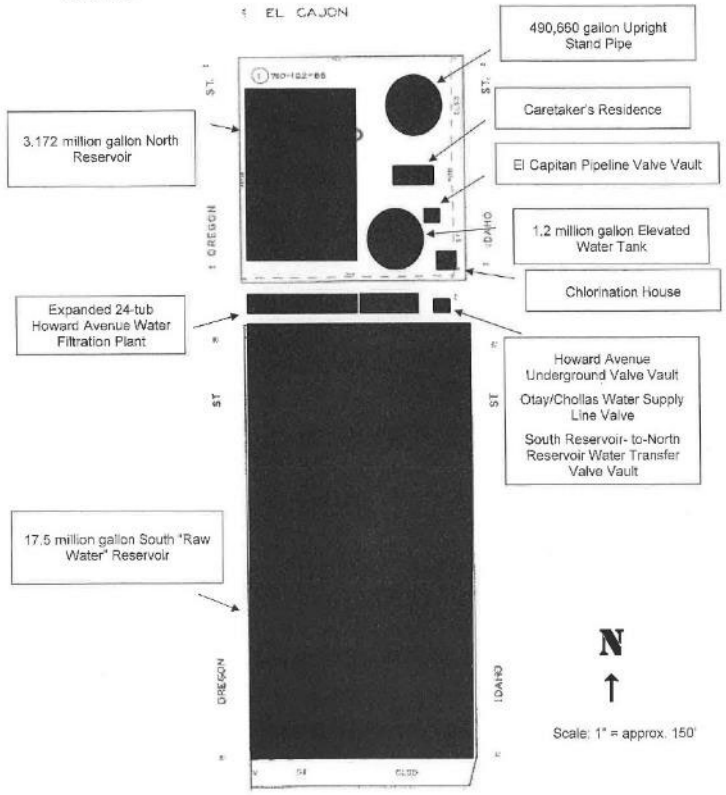
NPS Form 10-900 OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Historical Evolution of the District's Development
122, 151 and Howard Avenue
1945-1951



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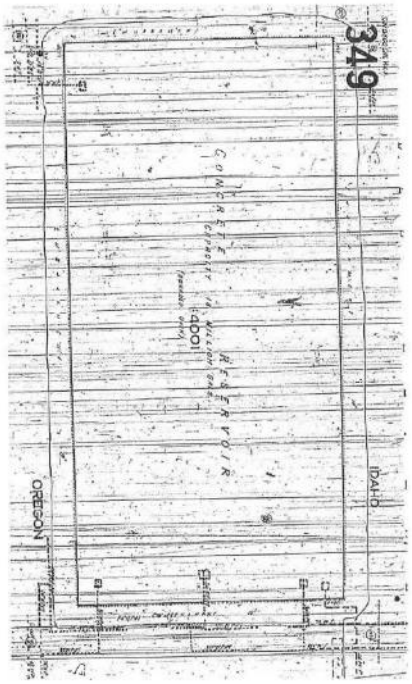
OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State

Historical Evolution of the District's Development
Block 151 Layout, 1951-1956
Sanborn Insurance Map, San Diego, Vol. 3, Sheet 349, 1956



N

Map Not to Scale

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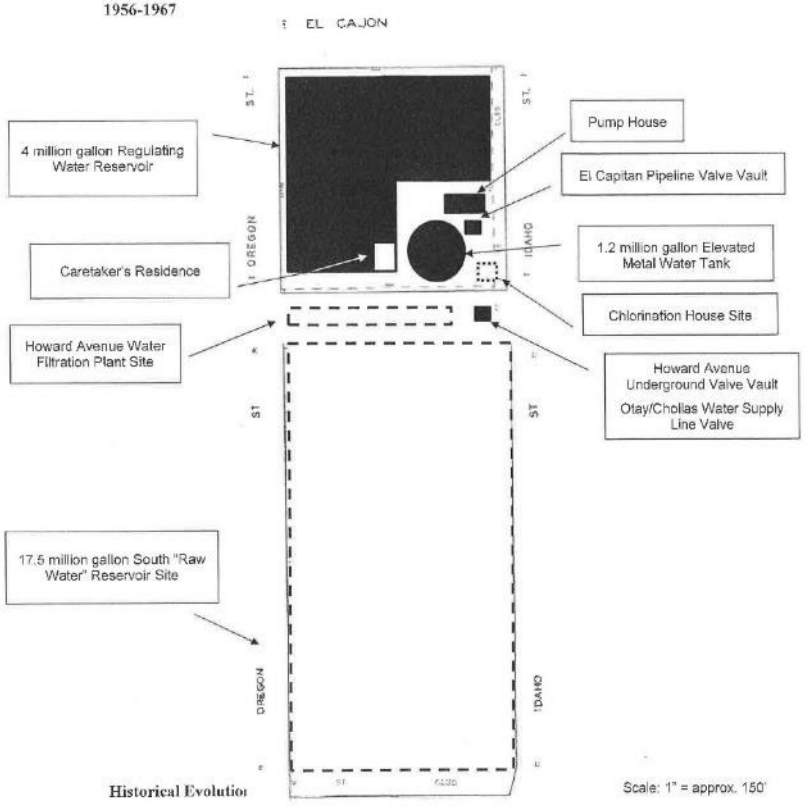
University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Historical Evolution of District's Development
Blocks 122, 151 and Howard Avenue
1956-1967



Historical Evolution

Scale: 1" = approx. 150'

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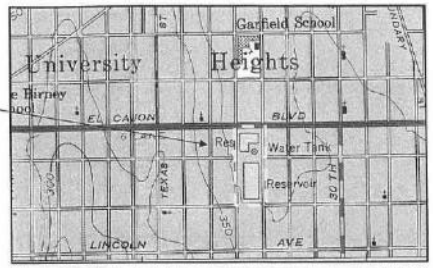
University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

U.S. Topographic Quad Map
La Jolla, California
1953

District Location

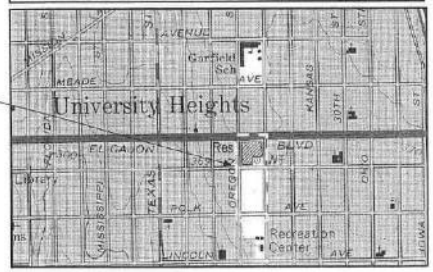


U.S. Topographic Quad Map
La Jolla, California
1967

District Location

U.S. Topographic Quad Map
La Jolla, California
1967-Photorevised 1975

District Location



Maps Not to Scale

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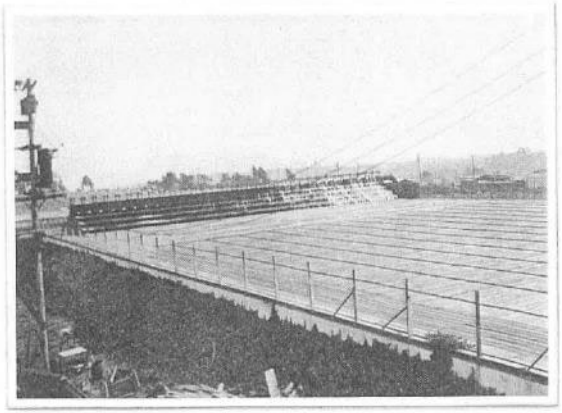
OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State

Historic Photographs

Historic Photograph #1
El Cajon Boulevard near
Louisiana Street
Looking West at
University Heights Water
Standpipe (Arrow)
Date: 1913
San Diego County, CA
Photograph #15992
San Diego History
Center—Union-Tribune
Photograph Collection



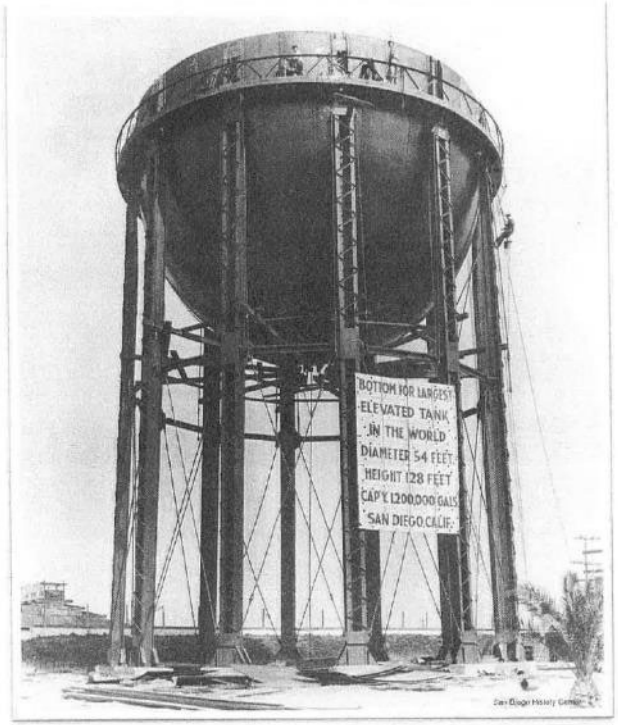
Historic Photograph #2
South Raw Water
Reservoir
Looking Southwest
Date: ca. 1914
San Diego County, CA
Photograph #1894
San Diego Public Library
Photograph Collection

United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
NPS Form 10-900

OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State



Historic Photograph #3
University Heights Elevated Water Storage Tank
Looking Northeast
Date: ca. 1923
San Diego County, CA
Photograph #2621
San Diego History Center Photograph Collection

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United States Department of the Interior
National Park Service / National Register of Historic Places Registration Form
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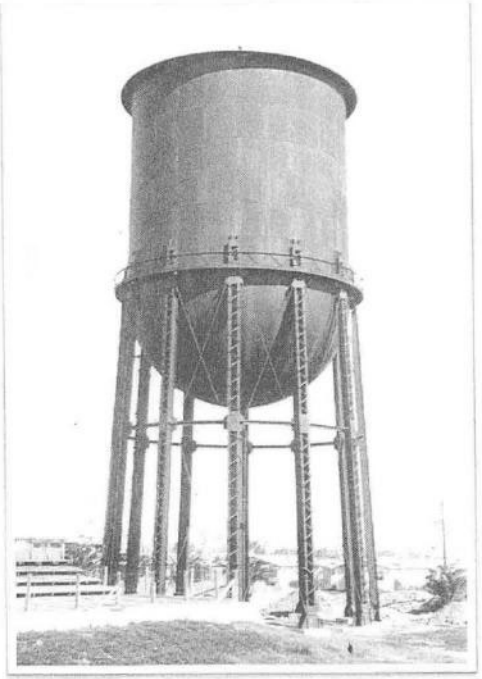
OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

San Diego, CA
County and State



Historic Photograph #4
University Heights Elevated Water Storage Tank
Looking Northeast
Date: ca. 1924
San Diego County, CA
Photograph #1898
San Diego Public Library Photograph Collection

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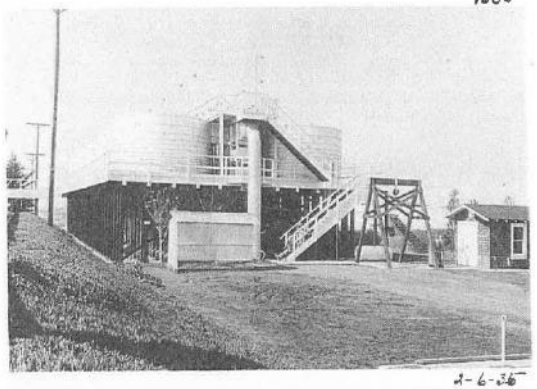
OMB No. 1024-0018

University Heights Water Storage and Pumping Station Historic District
Name of Property

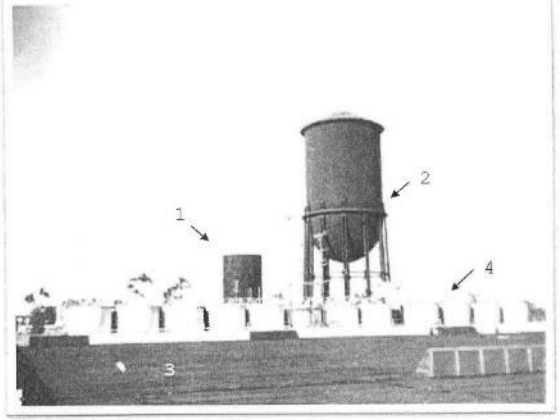
San Diego, CA
County and State

1303



2-6-35

Historic Photograph #5
University Heights Water Filtration Plant on Howard Avenue
Looking West
Date: 6 February 1935
San Diego County, California
Photograph #1303
San Diego Public Library Photograph Collection



Historic Photograph #6
University Heights Water Storage and Pumping Station
1. Metal Standpipe
2. Elevated Water Tank
3. Raw Water Reservoir
4. Howard Ave. Water Filtration Plant
Looking North
Date: 1947
San Diego County, California
Photograph # N/A
San Diego Public Library Photograph Collection

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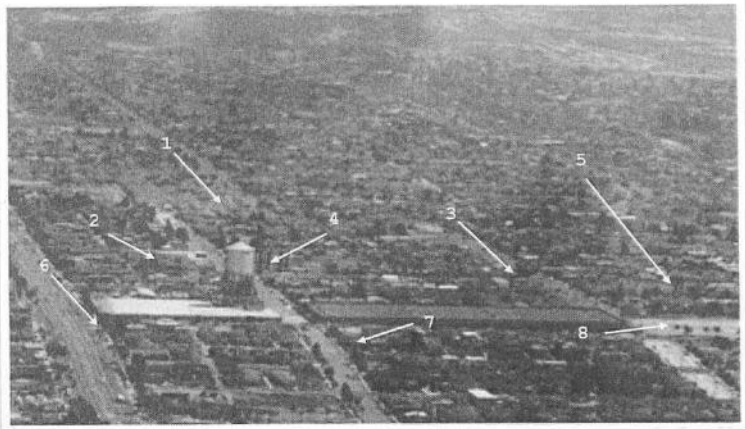
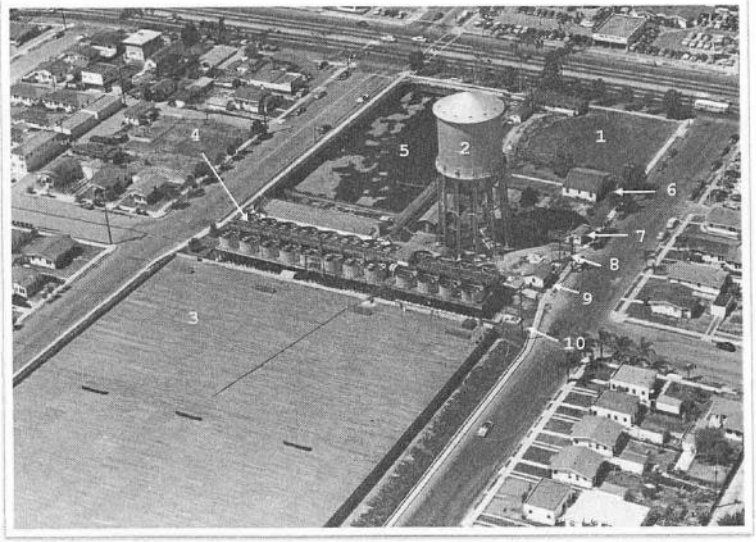


Historic Photograph #8
University Heights Water Storage and Pumping Station
Looking East
1. Elevated Water Tank
2. North Water Reservoir
3. South Raw Water Reservoir
4. Relocated Caretaker's Residence
5. Sport Recreation Field
6. El Cajon Boulevard
7. Howard Avenue
8. Polk Avenue
Date: 1954
San Diego County, California
Photograph S-2062—University Heights Aerial
San Diego History Center Photograph Collection



Historic Photograph #7
University Heights Water Storage and Pumping Station
Looking Northwest
1. Site of Metal Standpipe
2. Elevated Water Tank
3. South Raw Water Reservoir
4. Howard Avenue Water Filtration Plant
5. North Water Reservoir
6. Caretaker's Residence
7. Pump House
8. El Capitan Pipeline Valves Vaults
9. Chlorinating House
10. Howard Ave. Valves Vault
Date: 1951
San Diego County, California
Photograph # UT 84—El Cajon Boulevard Aerial
San Diego History Center Photograph Collection

Comparison Resources

The following properties are similar in type, design, style, function, and materials to that of the University Heights Water Storage and Pumping Station Historic District. They are included to place the latter within the larger historic context of early Twentieth Century American municipal elevated water storage tanks.

Cuyuna Iron Range Municipally-Owned Elevated Metal Water Tank Thematic Resources

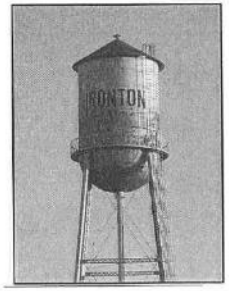
Location: Crow Wing County, Minnesota

National Register of Historic Places Status: Listed 22 October 1980

Description: Five nearly identical surviving municipally owned riveted steel elevated water storage tanks. Each consists of a cylindrical tank, with a finial-topped conical roof, hemispherical bottom, diagonal X-braced cable-trussed 4-legged zig-zag "Z" braced-girder trestle tower attached to a circular metal balcony, flanged horizontal braces, external metal service ladder, and a riser pipe connect it to the municipal water system. Each has the community name lettered on the tank's outer surface.

Significance: The five surviving elevated metal water tanks combine engineering, public works, and community planning within the general area known as the Cuyuna Iron Range.

They represent an historical occurrence peculiar to the development of communities along the Cuyuna Range. Funded by an exorbitant property tax on iron ore mining between 1912 and 1924, the elevated water tanks set standards for up-to-date municipal water storage and delivery systems. As engineering artifacts, these metal structures constitute a cluster of similar structures represent a once-prolific structural type that is rapidly disappearing from the American urban landscape.[70]



Ironton Elevated Metal Water Tank

Location: Ironton, Minnesota

National Register of Historic Places Status:

Listed 17 October 1980

Description: Elevated riveted ellipsoidal-bottom, conical caped steel water tank on built-up zig-zag "Z" braced steel girder legs, with diagonal cable-tension X braces, flanged horizontal braces, and central riser.

Significance: Erected in 1913, it is one of five surviving elevated riveted steel municipal water storage tanks associated with regional public works projects between 1918 and 1924.[71]

[70] Framm, Robert M., *Cuyuna Iron Range Municipally-Owned Elevated Metal Water Tank Thematic Resources* (National Register of Historic Places No. 64000350, 27 September 1979), 1-4.
[71] Framm, *Cuyuna Iron Range*, 1-4; and BruceS, "Elevated Metal Water Tank, Ironton," Waymarking.com!, accessed 7 July 2012, http://www.waymarking.com/waymarks/WM3G1A_Elevated_Metal_Water_Tank_Ironton.

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University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State

Townsend Water Tower
Location: Townsend, Delaware
National Register of Historic Places Status:
Townsend Historic District, 1986
HAER No. DE-24, 1990
Description: Elevated riveted ellipsoidal-bottom, conical caped steel water tank on built-up zig-zag "Z" braced steel girder legs, with diagonal cable-tension X braces, flanged horizontal braces, and central riser.
Significance: Erected in 1929 as part of the utility infrastructure of the town of Townsend, Delaware.[72]

Townsend Water Tower
Detail of bottom of tower's southwest channel iron support leg's zig-zag "Z" braces, diagonal "X" brace anchor, foot and concrete pad; looking east.[73]

[72] United States Department of the Interior, National Park Service, *Townsend Water Tower, City of Townsend, New Castle County, Delaware*, Historic American Engineering Record No. DE-24, Philadelphia, 1990.
[73] United States Department of the Interior, *Townsend Water Tower*.

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National Park Service / National Register of Historic Places Registration Form
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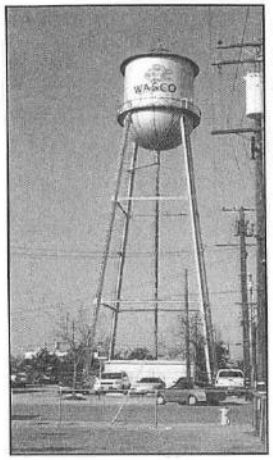
University Heights Water Storage and Pumping Station Historic District — San Diego, CA
Name of Property — County and State



Wasco Elevated Metal Water Tank

Location: Wasco, California

National Register of Historic Places Status:

Not Listed

Description: Elevated riveted ellipsoidal-bottom, conical caped steel water tank on built-up zig-zag "Z" braced steel girder legs, with diagonal cable-tension X braces, flanged horizontal braces, and central riser.

Significance: Erected sometime between 1913 and 1924, the water tower still services the small agricultural town of Wasco, in California's central valley.

Note: The big rose painted on the tower denoted Wasco as the "Rose Capital of the World."[74]

Warner Bros. Studios Elevated Metal Water Tank

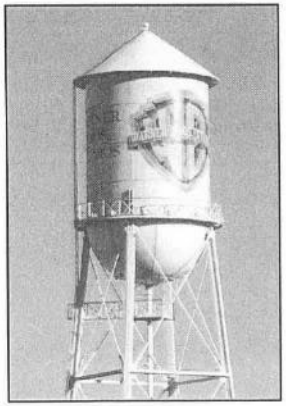
Location: Burbank, California

National Register of Historic Places Status:

Not Listed

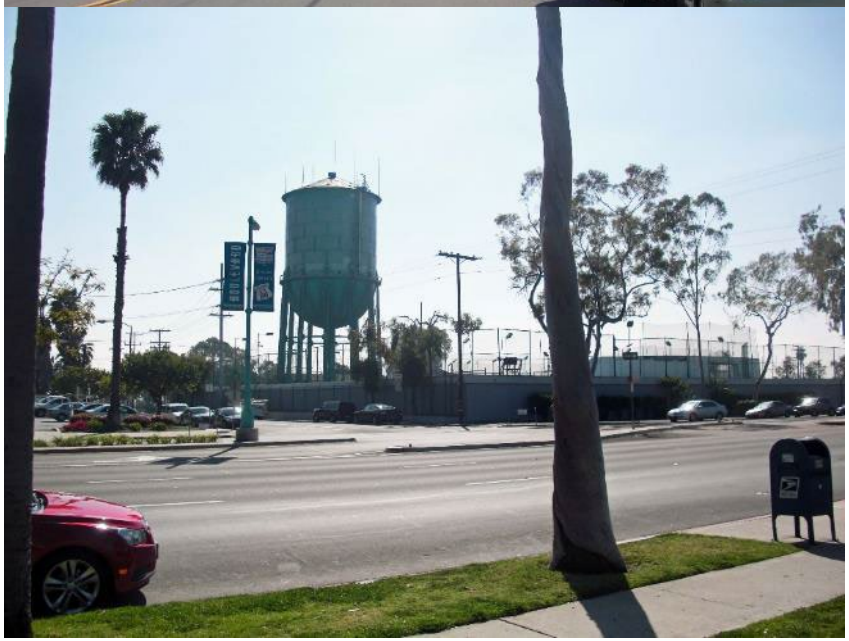
Description: Elevated riveted ellipsoidal-bottom, conical caped steel water tank on built-up zig-zag "Z" braced steel girder legs, with diagonal cable-tension X braces, flanged horizontal braces, and central riser.

Significance: Iconic landmark erected in 1926.[75]



[74] Silvergull, "Water Tower- Wasco, CA," Waymarking.com Accessed 7 July 2012. http://www.waymarking.com/waymarks/WM913J_Water_Tower__Wasco_CA.
[75] Raine Vara, "Warner Brothers Studios Water Tower Located in Burbank, California," World of Stock, Accessed 7 July 2012, http://www.worldofstock.com/stock_photos/TAC2510.php).


STOP




STOP

"The Wooden Pipeline to San Diego"

There wasn't a lawn in the city. But some people went without baths so they could water their pet shrubs. Everybody with money left town. Those who remained became water experts.

--Fred Heilbron, city councilman and water crusader.

With a population of less than 18,000 at the turn of the century, San Diego's water needs should have been simple. But after several years of drought in the late 1890s, the thirsty city struggled for a reliable water supply.

Even the great wooden flume built in 1888 that brought rainwater from the Cuyamaca Mountains to San Diego was running almost dry after three years of rainfall that averaged barely five inches. The San Diego Water Company maintained a meager supply in 1900 by pumping from wells in the bed of the San Diego River in Mission Valley.

Wooden pipe often failed

To ensure dependable sources the City of San Diego looked to the private companies that supplied all of the region's water. In late 1900, the City Council approved the purchase of the 28-year-old San Diego Water Company, and the distributing system of the Southern California Mountain Water Company for water delivered within San Diego. City voters passed bond measures the following spring to finance the purchases.

The Southern California Mountain Water Company, owned by capitalists John D. Spreckels and Elisha S. Babcock, had recently built the Lower Otay Dam (1897), started work on the Morena Dam, and planned construction on Barrett Dam. The *Union* predicted the string of new reservoirs—perhaps the largest water project in the United States at the time--would create "an immense storage capacity" with a "practically exhaustless" water supply.

To get that water to San Diego the Southern California Mountain Water Company began construction of a pipeline. Remarkably, the pipe would be made of wood, stretching nearly twenty miles from Otay to San Diego, with additional branch lines to supply farmers in the Otay Valley and residents of Coronado.

In the early century wood-stave pipes were the modern method for bringing water to cities. The first public water system in America had brought water to Boston, Massachusetts through wood pipe in 1652. Two and half centuries later, the technique was still state of the art. "It is common knowledge that wood pipe," noted the American Water Works Association in 1922, "buried in the ground or kept saturated with water, has an indefinitely long life."

For the San Diego project, engineers designed 40-inch diameter pipe made from Humboldt County redwood. The pipeline would run northward from Lower Otay for nineteen miles, ending

The completed pipeline opened on August 13, 1906. In a grand public ceremony at University Heights, Mayor John Sehon turned a six-foot long ceremonial key, which opened a gate to release water that had traveled twenty miles via redwood pipe. Drinking glasses of Otay water were passed among assembled dignitaries. Unfortunately, the soil filters were not working. The cloudy water was politely overlooked and "its excellent quality was generally commented on."

San Diego's wooden pipeline lasted until 1930, when it was replaced by a new pipeline of cast iron and steel. By that time the city's population had grown to nearly 148,000 and plans were being made for a massive reservoir at El Capitan in a new attempt to address the insatiable demand for water in San Diego.

The construction of wood stave pipe near Chollas.

From Richard Crawford, *The Way We Were in San Diego* (Charleston, S.C.: The History Press, 2011), pgs. 70-74.

3

at a new city reservoir being built at Chollas Heights. From Chollas the water would run four miles northwest through cast iron pipes to the city filtration plant at University Heights at Howard Avenue and Oregon Street. There the water would be aerated in a fountain and then piped to city users.

Construction began in December 1900, when laborers from the Mountain Water Company began building tunnels and trestles in preparation for the redwood pipe, which was being cured on Coronado. The contract for trimming the lumber into pipe staves went the Russ Lumber Company of San Diego.

Building the pipeline required series of work camps that moved along as the conduit was laid. Tents, cookhouses, and livestock corrals supplied the laborers who earned $2 a day, minus $4.50 a week for board. The poorly paid work was manual and low-tech. Mules dragged excavating "machines" and horse teams delivered materials by wagon.

With the trenches dug the workers assembled the redwood pipe like a cooper building a barrel. The tapered, wedge-shaped staves--12 to16 feet in length--were formed into a cylinder held together by iron bands. Water pressure usually kept the pipe tight, though blown-out staves and broken bands could create spectacular geysers. Properly maintained, engineers expected the wood pipe to last about 25 years.

"Neither men nor money will be spared in hurrying the water into San Diego at the earliest possible moment," reported the *Union* on January 1, 1901. By late summer the pipeline stretched nine miles. Water to Bonita and Chula Vista arrived in August to irrigate the lemon and orange orchards. The *Union* heralded "the great success which attended this first delivery," and predicted the pipeline would soon reach the city limits of San Diego.

There was also fast progress building a new city reservoir in Chollas Heights to serve as the terminus of the pipeline. An earth-fill dam with a steel and masonry core was built over the summer of 1901. The reservoir held enough water to supply the city for two months.

But the water to fill Chollas was slow in coming. The Mountain Water Company finished its pipeline to Bonita and then stopped. Decent rainfall in 1901 diminished demand for water from Lower Otay and the pipeline project lagged. In the meantime, San Diego's first municipal water department--organized in August 1901--continued to rely on supplies from the San Diego Flume Company and well water from Mission Valley.

The City of San Diego agreed to a new contract with the Mountain Water Company in the fall of 1905, to purchase water from Otay for the price of four cents per 1,000 gallons—a price low enough for the city to close its Mission Valley pumping plant and end the purchase of water from the flume company. Work started up again on the wooden conduit to Chollas and the branch line to Coronado.

C-2

JOHN STUMP
2411 SHAMROCK STREET, CITY HEIGHTS, CA 92105-4515
TELEPHONE: 619.281.4663 E MAIL: mjohnstump@cox.net

September 24, 2019
Ms Karen Bucey, Development Project Manager
City of San Diego kBucey@sandiego.gov; Ljg1230@cox.net; cityclerk@sandiego.gov
Development Services Department 1222 First Avenue, MS 302
San Diego, CA 92101-4140

RE: Objections and Concerns regarding FAIRMOUNT AVENUE FIRE STATION SDP 645073
Demand for a full CEQA/ NEPA Environmental Study and Significant Mandatory Mitigations

Dear Ms. Bucey,

Your description of the environmentally challenged site FAIRMOUNT AVENUE FIRE STATION SDP 645073 is nearly complete when it describes it as'...Residential (RS-1-7) Zone, Geological Hazards, Multiple Species Conservation Plan , Multi-Habitat Planning Area, Sensitive Vegetation, Steep Slopes, Storm Water: Environmentally Sensitive Areas, Airport Influences Areas, Federal Management Agency Floodways & Floodplains, Brush Zones, and Very High Fire Hazards Severity Zones...". This over abundant list of environmental challenges neglected to include SENSITIVE RECEPTORS (Adjacent to Elementary School and Senior Retirement Community), documented Native Indigenous Peoples sites, Endangered Listed Species Habitat, the description fails to identify the adjacent high aged pressure gas transmission line hazards and the well document burn ash at this site from closed landfills.

The Notice, mailed September 17, 2019, provides a 30 day period for objections and comments concerning whether this project should proceed. I do not think the project should proceed with this use at this sensitive location. This location is appropriate for **RESIDENTIAL** not for operation and maintenance of high noise, diesel fume and storm water polluting uses. This site needs a full environmental study to fully identify the impacts before its zoned uses can be changed to such a high impact use. This project is being shoehorned into the wrong place-alternatives exist.

The project description is flawed as it indicates a Fairmount Avenue location when the narrative states: '... 1950 47th Street...' - https://tinyurl.com/y5mt79vu . This address may be an early recognition of traffic handling accommodations that must mitigate the hazardous geometry of entering and exiting form this property on to Fairmont Avenue. The line of sites require that driveways for emergency vehicles and visitors must be placed on the East side or 47th street side of the property and use the traffic signal on Fairmount, because of slopes. Unfortunately, this driveway location places fumes, noise, and storm water pollution more directly near the two sensitive receptors and into the impaired waterway / habitats. Luckily, the site has a single **Climate Change Plan** obtainment benefit as it is within site of a bus stop; so no on site employee parking should be permitted.

If this site continues to be considered for the high impact uses, instead of RESIDENTIAL HOUSING, then mandatory mitigation measures must include:

1. No Construction during avian nesting or amphibian breeding seasons;
2. Careful light screening and restrictions on emergency noise and lighting so as not to infer with habitats;
3. Prohibition of all equipment and vehicle washing that could place polluted water or debris into the impaired waterway via the storm drain or streets. All wash must go to sanitary sewer;
4. Pre design and construction Documentation of listed fauna and flora and specific mitigations;
5. Pre design and construction Documentation of native indigenous peoples sites and specific mitigations; and
6. Climate Action Plan compliance to reduce energy uses and mitigate the high carbon particle impacts of the intended equipment uses. Mitigation to include significant restrictions on employee parking..

Frankly this is a needed project in the wrong place. Alternative locations exist in the adjacent Federal Boulevard and Home Avenue Industrial areas. There are plenty of adjacent sites serving the same Mid-City Communities. This site is best used to meet a more immediate city crisis HOUSING. This site should be used for HOUSING and an alternative site found in the listed industrial areas.

Please notice me, City Schools, & Leisure Land of all future opportunities to comment or to appear.

Respectfully, John Stump

C-2 The comment letter is part of the supplemental attachments and does not address the project. The comment does not address the adequacy or accuracy of the Draft MND. No further response is required.

COMMENTS	RESPONSES

INITIAL STUDY CHECKLIST

1. Project title/Project number: Dam maintenance Program (Program) / 696140

2. Lead agency name and address: City of San Diego (City), 1222 First Avenue, MS-501, San Diego, California, 92101

3. Contact person and phone number: Jeffrey Szymanski / (619) 446-5324

4. Project location:

   Barrett Dam 19886 Japatul Lyons Valley Rd., Jamul, CA 91935
   Black Mountain Dam 14799 Black Mountain Rd., San Diego, CA 92129
   Chollas Dam 5350 College Grove Dr., San Diego, Ca 92115
   El Capitan Dam 16850 El Monte Rd., Lakeside, CA 92040
   Hodges Dam 20175 Lake Dr., Escondido, CA 92029
   Miramar Dam: 10710 Scripps Lake Dr., San Diego, CA 92131
   Morena Dam 2550 Lake Morena Dr., Campo, CA 91906
   Murray Dam 5540 Kiowa Dr., La Mesa, CA 91942
   Rancho Bernardo Dam 16061 Big Springs Way, San Diego, CA 91927
   San Vicente Dam 12387 Moreno Ave., Lakeside, CA 92040
   Savage Dam 1500 Wueste Rd., Chula Vista, CA 91915
   Sutherland Dam 22850 Sutherland Dam Rd., Ramona, CA 92065
   Upper Otay Dam 12161 Otay Lakes Rd., Chula Vista, CA 91915
   Dulzura Conduit 19886 Japatul Lyons Valley Rd., Jamul, CA 91935

   See location maps in Figure 1, *Regional Location*, and Figures 2a-1 through 2n-9, *Existing Facilities and Maintenance Footprint/Limits of Work*. These figures can be found in the attached Exhibit A, *Maintenance Plan*.

5. Project Applicant/Sponsor's name and address: City of San Diego Public Utilities Department, 9192 Topaz Way, MS 901A, San Diego, CA 92123

6. General/Community Plan designation: Residential/Black Mountain Ranch, Mid-City: Eastern Area, Navajo, Rancho Bernardo, San Pasqual, and Scripps Ranch Community Plans.

7. Zoning: Base Zone AR-1-1 (Black Mountain, Miramar, Murray, Rancho Bernardo Dams), AG-1-1 (Hodges Dam), OP-1-1 (Chollas Dam)

8. Description of project (Describe the whole action involved, including but not limited to, later phases of the project, and any secondary, support, or off-site features necessary for its implementation.):

   SITE DEVELOPMENT PERMIT (SDP) for the proposed Program maintenance activities at 13 City-owned dams and associated infrastructure, including the approximately 13-mile Dulzura Conduit, located throughout San Diego County as part of the City's drinking water infrastructure. Each dam has a unique system of outlet works and spillway components to

control the reservoir water levels and to safely release water during severe storm events or impending dam failure. Associated dam infrastructure includes, but is not limited to, groins, toes, saddle dams, spillways and auxiliary spillways, training and parapet walls, outlet works, storm drain headwalls that are associated with the outlet works, and appurtenant structures. The City PUD is responsible for conducting maintenance and repair of these facilities.

These facilities are subject to the regulatory jurisdiction of the Division of Safety of Dams (DSOD), which is part of the California Department of Water Resources, under Division 3 of the California Water Code. The DSOD oversees dam safety in California with the goal of avoiding dam failure which could lead to potential loss of life and destruction of property. As part of the dam safety program, the DSOD completes detailed semi-annual inspections and provides an annual inspection report of the City's dams to identify maintenance activities such as vegetation removal, grading, dredging, and repairs to infrastructure and may request certain maintenance work to be performed to improve dam safety.

The proposed Program would cover the long-term maintenance of these facilities and includes maintenance activities that are routinely included in the DSOD annual inspection reports. As of recent, DSOD is in the process of providing a regulatory framework that could potentially penalize an agency through monetary fines should violations occur. The proposed Program provides the City oversight to address items in DSOD's inspection reports and avoid potential violations. The Program describes the maintenance methods and overall potential impacts that are anticipated to occur during the implementation of the Program. It also includes the protocols to address the impact of maintenance activities with respect to environmental resources.

Maintenance Activities

Maintenance activities covered under the proposed Program include the maintenance of access roads, access trails, and pedestrian footpaths, maintenance of staging and material storage areas, trimming and clearing of vegetation, dredging, maintenance of outlet/intake towers and trash racks, removal of debris along spillways and other appurtenant structures to provide a clear path and remove obstructions, maintenance and repair of the dams and appurtenant structures to prevent deterioration that could lead to dam failure, concrete maintenance and repairs, maintenance and replacement of piezometers and survey monuments, and geotechnical investigations, as described further below.

Access Road and Staging Area Maintenance

Under the proposed Program, existing access roads, access trails, pedestrian footpaths, and staging and material storage areas will continue to be maintained in a usable condition along the current path alignments and existing disturbed/developed footprints. No widening, expansion, relocation, or establishment of new access roads, access trails, footpaths, or staging areas are proposed as part of the Program. Routine maintenance activities include patching and minor surface repaving of paved access roads and trails and staging areas; patching and minimal grading of gravel and dirt access roads and trails and staging areas; filling of erosional voids, rills, and gullies caused by winter storms; and minor trimming of vegetation to remove overhanging branching and other encroaching vegetation.

Minor trimming of vegetation will also occur along footpaths, which are necessary to maintain pedestrian access to the toe of dams, dam leakage measuring structures, and weir and outlet work structures. Maintenance and repair activities along existing paved, gravel, and dirt access roads and trails will be limited to the current road width, generally 10 feet wide, and established road rights-of-way, where present. Maintenance of pedestrian footpaths will be limited to minor trimming of vegetation along the path alignment; no soil disturbance or removal of vegetation will occur as part of footpath maintenance. Maintenance and repair activities within staging and material storage areas will be limited to the current disturbed and developed footprints.

Access to the dams and associated infrastructure to complete maintenance activities covered under this Program, and detailed below, will occur along established access roads, access trails, and pedestrian footpaths. Any staging of equipment or materials required to complete activities will occur within existing staging and material storage areas, within disturbed and developed portions of the dam, or within existing developed lands on nearby City property at the reservoirs. These areas are maintained as parking and operational space for dam and reservoir maintenance staff. If direct access to outlet/intake towers from the dam is not available, crews, materials, and the necessary equipment to perform maintenance and repair activities, including dredging, will be transported to the outlet/intake towers utilizing a boat or barge launched from the reservoir's boat ramp.

Vegetation Clearing

Vegetation growing on and adjacent to the dams and associated infrastructure has potential to hinder site access and safety inspections, visually obstruct dam components, interfere with safe operations, damage critical infrastructure, and possibly lead to dam failure. Removal of vegetation and debris is critical to the functioning of the dams and associated infrastructure, and Dulzura Conduit, as vegetation could reduce design capacity and prevent proper inspection of infrastructure. Clearing of vegetation will continue to be conducted on a routine basis under this Program to keep the maintenance area free and clear of vegetation. This will avoid re-establishment of upland and wetland vegetation, as well as decrease the chances of introducing a new species into an existing maintenance area.

Vegetation clearing will be limited to the following activities and areas:

- Clearing of all vegetation located within at least 5 feet of Dulzura Conduit;
- Clearing of all vegetation located within 10 feet of the dams and associated infrastructure;
- Clearing of all marsh habitat (i.e., giant reed [*Arundo donax*], cattail [*Typha* spp.], bulrush [*Schoenoplectus* spp.], etc.) located within 10 feet of the dam;
- Removal of all trees located within 10 feet of the dams, saddle dams, parapet walls, and spillways;
- Removal of all eucalyptus (*Eucalyptus* spp.) trees located within 50 feet of the dam, saddle dams, parapet walls, and spillways;

- Clear and maintain all vegetation within 10 feet of all weirs; headwalls; blow-off and outlet valves; inlet and outlet pipes; discharge, leakage, and seepage pipes and associated discharge paths; and

- Maintain slopes surrounding Black Mountain and Rancho Bernardo Dams so that no trees are allowed to establish. The slopes will be maintained in their current condition so that only herbaceous vegetation and low-growing shrubs occur.

Clearing of vegetation on land surfaces will be limited to above ground level and the roots of all cut vegetation will be left in place to prevent soil disturbance and reduce potential erosion. Clearing of eucalyptus and other tree species will be completed by cutting trees at the base and treating the stumps with herbicide. Aquatic vegetation, such as cattails (*Typha* spp.) and bulrushes (*Schoenoplectus* spp.), will either be cut at the water surface, removed with mechanical equipment, or treated with an herbicide approved for aquatic use by the U.S. Environmental Protection Agency by a licensed applicator. Vegetation clearing work will be conducted with hand tools such as pole saws, chain saws, and weed eaters. Felled trees and aquatic vegetation will be removed from the area with the use of mechanized equipment (such as a bobcat, backhoe, or excavator), where feasible, and transported to an appropriate waste management facility for disposal. Felled trees in areas inaccessible to mechanized equipment will be removed via helicopter.

Dredging

Accumulated lake bottom sediment and debris covering dam infrastructure, such as lower saucer valve ports, will be removed through dredging to maintain operational function. Dredging will occur within a 50-foot radius of the outlet/intake tower base at Barrett, Chollas, El Capitan, Miramar, Morena, Murray, San Vicente, and Savage (Lower Otay) Dams, and within a 50-foot radius at the low-level outlet intake at Barrett, Hodges, and San Vicente Dams. The depth of dredging activities will be variable depending on site conditions.

There are two main dredging methods that will be employed under this Program: mechanical and hydraulic. Mechanical dredging typically involves a stationary, bucketed machine (such as a boom, clamshell, or backhoe) positioned on a barge that is lowered into the water to scoop up material. The dredged material is then raised above the water surface and deposited on a barge or other structure above the water surface. Hydraulic dredging utilizes a high-powered water pump to suction up material that is then pumped away from the dredge site. A dredging plan will be prepared and approved prior to the commencement of dredging activities at each location. The dredging plan will describe the scope of work, amount of material to be removed, method of dredging, equipment, access roads and points, staging area(s), duration and schedule, and protocols to be implemented. Dredged material will be removed from the reservoir and either disposed of at an appropriate disposal facility or reused in a beneficial capacity (e.g., agriculture).

Outlet Tower and Trash Rack Maintenance

Routine maintenance and minor repairs will occur to existing outlet/intake towers to maintain and improve the operational safety of the towers. Activities include filling cored holes on the operating platform; repairing the valve rack; repairing concrete spalls; applying

a top seal to waterproof and protect concrete surfaces and seal hairline cracks; coating metal covers, access ladders, and handrails to prevent corrosion; repair and replacement of access ladders; replacement of access hatches (in-kind); replacement of the safety chains across rails at the landing (in-kind); replacement or refurbishment of fall arrests; coating of the roof structural steel; and strengthening the concrete roof slab with the application of a fabric reinforced matrix. Equipment required to complete these activities will be limited to the use of manual and mechanical hand tools; no heavy machinery will be required. Additionally, trash racks will be regularly cleared, maintained, and kept free of debris that may block intake and outlet valves and other critical dam infrastructure hindering operational functionality.

Spillway Clearing

Accumulated debris such as dirt, rocks, boulders, and vegetation present on the spillways, spillway channels, and auxiliary spillways will be removed to maintain operational function and prevent damage to infrastructure. Debris will be removed by hand, where feasible, and heavy equipment including, but not limited to, a truck-mounted crane, rubber-wheeled front-end loader, track-mounted long arm excavator, track-mounted bobcat with jackhammer attachment, and dump trucks. Small equipment (such as a bobcat) will be lowered into the spillways and other appurtenant structures with a truck mounted crane to move the debris to a point where it can be accessed by a long-arm track-mounted excavator positioned at the top of the structure. Boulders will be broken up into manageable pieces with a hydraulic jackhammer to allow for removal. A track-mounted excavator will lift the debris from the spillway and appurtenant structures and place it in a dump truck to be hauled away and disposed of at a licensed landfill or stockpiled on-site within disturbed/developed areas of the dam. Spillway clearing activities will be contained within the unvegetated spillways and appurtenant structures, existing access roads, previously disturbed workspaces and staging areas, and disturbed and developed areas adjacent to the dams.

Removal of soil, debris, and vegetation along the El Capitan Dam spillway, lower dam spillway, and spillway channel will be conducted as part of the El Capitan Dam Spillway Vegetation Removal Project (Project No. 679843; State Clearing House No. 2022050039). Long-term maintenance of these areas will be covered under the El Capitan Dam Spillway Vegetation Removal Project and is not included as part of this Program.

Dam Maintenance and Repairs

Routine maintenance and minor repairs of the dams and appurtenant structures will occur to prevent deterioration and maintain the integrity and functionality of critical dam infrastructure. The 13 City-owned dams covered under this Program include four earthen dams (Chollas, El Capitan, Miramar, and Morena Dams), seven concrete dams (Barrett, Hodges, Murray, San Vicente, Savage, Sutherland, and Upper Otay Dams), and two concrete reservoirs (Black Mountain and Rancho Bernardo).

Maintenance of earthen dams includes filling of voids, gullies, and rills caused by erosion on the upstream and downstream faces of the dam, and minor grading and regular compaction of the dam face and toe of dam. Maintenance of concrete dams, reservoirs, and concreted

appurtenant structures at earthen and concrete dams (i.e., saddle dams, parapet walls, spillways, etc.) includes repairs such as sealing of all joints and cracks with gaps with a flexible sealant to prevent infiltration of water and buildup of stagnation pressures; repairing all degraded concrete, spalls, and boulder impact areas within the spillway (channel floor and walls) and dam face and walls by cutting-out existing material then replacing and patching material to prevent further damage; repair of spalled concrete on all elements of the dam, especially where reinforcing steel is exposed; and smoothing vertically-displaced joints on concrete surfaces by surface grinding or other approved methods.

Additionally, auxiliary infrastructure located on or within the dams will be maintained, repaired, and or replaced, including perimeter fencing, piezometers and survey monuments, ladders, micrometers, electronic level sensors, and other instrumentation. All maintenance and repairs activities will be performed on existing structures with work activities limited to disturbed and developed portions of the dam.

Dulzura Conduit

Routine maintenance and minor repairs of Dulzura Conduit will occur to prevent flow impairment through the conduit and to maintain design capacity. The Dulzura Conduit is an approximately 13-mile-long aqueduct constructed to divert water from Barrett Dam Reservoir to Lower Otay Reservoir through a series of canals, flumes, and tunnels. Water is released into the conduit through the Barrett Dam outlet tower by a 30-inch drainpipe. Upgrades to the conduit were completed in 2011 with a majority of the conduit now comprised of concrete channels and steel pipes. The average depth of the concrete trench segments is approximately four and a half feet, with a bottom width of three feet, and a top width of approximately six feet. The flume is a combination of enclosed metal flumes measuring approximately four feet in interior diameter, and board-formed poured concrete. Existing access roads and trails are constructed of decomposed granite, gravel, or concrete. Pedestrian footpaths primarily consist of dirt paths, and in some cases, small steel catwalks.

Maintenance activities along Dulzura Conduit involve the removal of landslide debris, rocks and boulders, and vegetation within the concrete conduit and repair of damaged or deteriorating sections of the existing conduit with in-kind materials. Repairs of the existing concrete conduit will be completed with shotcrete and include installation of reinforcing mesh, ground wires, and compound curing. The shotcrete will be broom finished by hand. Large boulders that are found to be blocking the conduit will be broken up into manageable pieces with the use of approved expansive chemical agents and/or mechanical equipment.

All inspection, repair, and maintenance activities along Dulzura Conduit will occur within the existing developed footprint of the conduit, pedestrian footpaths, and access roads and trails. The remote location of the conduit, rugged terrain, and limited vehicle access make typical maintenance activities challenging. Maintenance and construction personnel will access the site through existing access roads, access trails, and pedestrian footpaths. Helicopters will airlift supplies, equipment (i.e., mini excavator, bobcat, etc.), and debris that cannot be hand carried to and from the repair sites or removed with maintenance vehicles. Helicopter landing, materials, and equipment staging areas will be located within existing developed lands on nearby City property at Barrett Reservoir. These areas are maintained as parking and operational space for dam and reservoir maintenance staff.

Geotechnical Investigations

Subsurface geotechnical investigation of the dams, foundations, and associated infrastructure will occur as part of periodic condition assessments. Geotechnical investigations will include seismic stability analysis using modern techniques, penetration tests, and borings. The techniques used to perform the investigations will be limited to a small footprint within existing disturbed and developed areas associated with the dams and along access roads. No vegetation will be removed as part of the geotechnical investigation activities, and no native soil will be impacted as excavations will be conducted within disturbed soils of previously installed infrastructure (i.e., rockfill and concrete).

Frequency of Maintenance Activities

The frequency of maintenance activities will be based upon routine inspections and recommendations identified in the DSOD annual inspection reports. Factors influencing the timing and frequency of maintenance events include, but are not limited to, current conditions, past maintenance history, and risk assessment. In general, clearing of vegetation is anticipated to occur annually, though the extent of clearing will depend on the current conditions at each location. Other maintenance activities will occur on an as needed basis as directed by the DSOD and City PUD.

Maintenance activities may need to be conducted in the event of an emergency. "Emergency" means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. Physical evidence, such as observation of surcharging conditions, blockages by debris/rocks/roots, or holes/cracks/offsets in dam infrastructure, or where impacts to vegetation, wetlands, and landforms have resulted from surcharging conditions (unanticipated water releases) will demonstrate emergency conditions.

Maintenance Implementation Procedures

Maintenance activities will commence upon approval of this Program and issuance of the Master SDP. However, maintenance activities located within waters and wetlands subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Wildlife (CDFW) will commence upon issuance of the appropriate regulatory permits.

Exhibit A, *Maintenance Plan*, provides a detailed description of the Program procedures. A summary of the maintenance process is provided below.

Maintenance Determination Process

The maintenance determination process will begin with a review of information compiled by the City PUD and maintenance recommendations and mandates provided by DSOD. The City PUD will complete technical assessments of each facility and develop a maintenance plan for each planned activity, as determined necessary. The proposed maintenance activities will be reviewed and approved by the City PUD prior to initiation of activities. Maintenance activities

will be limited to the Program's maintenance footprint, as shown in Figures 2a through 2n of Exhibit A and will follow the methods and procedures as described in Exhibit A. Maintenance will occur on an annual to as-needed basis as directed by the City PUD and DSOD.

Maintenance Plan

If necessary, a site-specific maintenance plan will be prepared for the planned maintenance activity prior to the initiation of maintenance. The maintenance plan will describe the scope of work, limits of maintenance, maintenance method, equipment, access roads and points, staging area(s), duration and schedule, and protocols to be implemented. If dredging activities are to occur, a site-specific dredging plan will also be prepared. Maintenance crews and technical staff will use the maintenance plan to direct and limit maintenance activities within the appropriate work areas.

Technical Assessments

The City PUD will conduct site-specific technical assessments for each maintenance activity to determine if the activities will result in impacts to sensitive biological or historical resources. The assessment will include a description of the proposed maintenance activity(ies); summary of any field surveys completed; identification of any sensitive biological and historical resources present within the maintenance area, and those with potential to occur, if appropriate; description and quantification, as needed, of impacts to all sensitive biological and historical resources; and identification of any resource protection or avoidance measures. If the proposed maintenance activity(ies) were to result in impacts to sensitive biological resources or significant historical resources, the associated assessment will identify the mitigation measures and permit conditions to be implemented to minimize the impact(s) in accordance with the approved Mitigation and Monitoring Reporting Program (MMRP) and master permits, including regulatory permits, as applicable.

The Program will generally not involve any maintenance efforts that will generate issues related to geology and soils as routine maintenance and repair activities will not involve grading or excavation at sufficient depths or volumes that will affect geologic resources. However, maintenance activities such as geotechnical investigations (borings) or dredging may require preparation of a site-specific geotechnical investigation report to evaluate geologic hazards of that maintenance activity.

Permit Requirements and Mitigation Measures

Maintenance activities will occur within environmentally sensitive lands that support sensitive biological and jurisdictional waters and wetlands and will require the issuance of appropriate permits. As part of the environmental review process, mitigation measures will be developed and included in the Program's approved MMRP. The complete and final text of mitigation measures will be part of the certified Final Mitigated Negative Declaration (MND). The City is also pursuing programmatic regulatory permits with the required state (RWQCB and CDFW) and federal (USACE and USFWS) agencies to authorize activities proposed under this Program. These regulatory permits are anticipated to contain additional requirements such as notifications, receipt of letters of authorization, approval of compensatory mitigation, and implementation of pre-construction surveys and monitoring for sensitive

resources. Prior to implementation of maintenance or repair activities, the City will review and ensure compliance with all applicable maintenance procedures, mitigation measures, and regulatory permit requirements.

Substantial Conformance Review Process

City PUD will complete a review of maintenance and repair activities to confirm that work will be completed within the maintenance footprint described in this Plan and in conformance with the methods detailed in this Plan. Consistency with the Program's final environmental documents, mitigation measures, and conditions will be determined by City PUD in compliance with the applicable delegation of authority under CEQA provided by the City's Planning Department.

Maintenance or repair activity deviating from the maintenance activities and methods detailed in this Plan or located outside of the defined maintenance footprint will be submitted to the City's Development Services Department (DSD) for a Substantial Conformance Review (SCR) to determine if the activity is consistent with the Program's SDP. As part of the SCR process, DSD will determine if the planned maintenance activity deviating from the Program description or maintenance footprint is consistent with the SDP and applicable mitigation measures and conditions included in that permit. If DSD determines that maintenance activities substantially conform, work may proceed. Any maintenance activities or expansion in maintenance footprint that are not in substantial conformance will require a new or amended permit to address any new impacts that may occur and subsequent CEQA review.

Maintenance Implementation

Maintenance activities under this Program would commence once activities have been approved by the City PUD, as well as the state and federal agencies with jurisdiction over waterways and wetlands occurring within proposed maintenance areas. Maintenance activities would follow the methods and procedures as described in Exhibit A, *Dam Maintenance Program*.

Maintenance Reporting

An annual Program Monitoring Report summarizing any programmatic maintenance activities and associated mitigation measures (including the status of compensatory mitigation) that took place during the preceding year will be prepared and submitted to the designated City departments and state and federal agencies. This report will include a summary of biological resources impacted during maintenance and repair activities, any associated mitigation that occurred, and a summary of the status of mitigation which has been carried out during the current and previous years to compensate for impacts to upland and wetland vegetation, as well as special status species.

Program Approvals

Implementation of the maintenance activities included in the Program would require a variety of discretionary actions and approval by the City and resources agencies. Due to the

long-term nature of the Program, long-term (master) permits from the City, as well as state and federal agencies, are being sought to streamline the maintenance process. Long-term authorizations include an SDP (City of San Diego), Section 404 Permit (USACE), 1602 Streambed Alteration Agreement (CDFW), and Section 401 Certification (California RWQCB). If surface discharges of water are involved, maintenance will require a Wastewater Discharge Permit from the RWQCB. Impacts to state and/or federally listed species would also require appropriate approvals and permits including a Section 10(a) Permit or Section 7 Consultation by the U.S. Fish and Wildlife Service (USFWS). In the event of an emergency, after-the-fact permits which may be required by the City, state or federal agencies for emergency maintenance would be obtained.

9. Surrounding land uses and setting:

Facilities covered under the proposed Program area located throughout San Diego County. The Program area has been heavily modified and developed through the construction of previous stream impoundments (i.e., dams), reservoirs, and aqueducts for water storage and conveyance, along with surrounding residential, commercial, and recreational development. The location of each of these facilities are summarized below.

Barrett Dam

Barrett Dam is located in the eastern portion of the County, in the unincorporated community of Dulzura. It is located at the outlet of Barrett Reservoir along Barrett Lake Road to the north of Campo Road (State Route [SR] 94), south of Skye Valley Road, east of Lyons Valley Road, and west of Horizon View Drive. Barrett Dam, which consists of a single curved concrete gravity dam, was constructed between 1920 and 1922.

Black Mountain Dam

Black Mountain Dam is located in the northern portion of the City, in the community of Black Mountain Ranch. It is located to the south of Carmel Valley Road, east of Black Mountain Road, and north of Maler Road. Black Mountain Dam occurs within the City's Black Mountain Open Space Park. Black Mountain Dam, which consists of a concrete reservoir, was constructed between 2000 and 2003.

Chollas Dam

Chollas Dam is located in the central portion of the City. It is located at the outlet of Chollas Reservoir to the north of College Grove Road, south of Fauna Drive, east of Chollas Station Road, and west of College Grove Way. Chollas Dam, which consists of an earthen fill dam, was constructed between 1900 and 1901.

El Capitan Dam

El Capitan Dam is located in the eastern portion of the County, in the unincorporated community of Lakeside. It is located at the outlet of El Capitan Reservoir along El Monte Road to the north Interstate (I-) 8, south of Featherstone Canyon Road, east of Lake Jennings Road,

and west of Peutz Valley Road. El Capitan Dam, which consists of a hydraulic fill rock embankment, was constructed between 1932 and 1934.

Hodges Dam

Hodges Dam is located in the north portion of the City. It is located at the outlet of Hodges Reservoir to the north of Camino Santa Fe, south of Del Dios Road, east of Lake Drive, and west of Calle Ambiente. Hodges Dam, which consists of a concrete multiple arch buttress dam, was constructed between 1917 and 1919.

Miramar Dam

Miramar Dam is located in the northern portion of the City. It is located at the outlet of Miramar Reservoir to the north of Scripps Lake Drive, south and east of Scripps Ranch Boulevard, and west of Mira Lago Terrace. Miramar Dam, which consists of a zoned earth embankment, was constructed between 1959 and 1960.

Morena Dam

Morena Dam is located in the eastern portion of the County, in the unincorporated community of Lake Morena. It is located at the outlet of Morena Reservoir along Morena Reservoir Road, north of Hauser Creek Road, south of Skye Valley Road, and west of Lake Morena Drive. Morena Dam, which consists of a rock filled structure with a concrete face, was constructed between 1895 and 1912.

Murray Dam

Murray Dam is located in the eastern portion of the City. It is located at the outlet of Murray Reservoir to the north of Lake Murray Boulevard, south of Jackson Drive, east of Del Cerro Boulevard, and west of Baltimore Drive. Murray Dam, which consists of a concrete multiple arch dam, was constructed in 1918.

Rancho Bernardo Dam

Rancho Bernardo Dam is located in the northern portion of the City within the community of Rancho Bernardo. It is located to the north of Sun Summit Point, south of Cloudcrest Drive, east of Lofty Trail Drive, and west of Turtleback. Rancho Bernardo Dam, which consists of a concrete reservoir, was constructed between 1963 and 1964.

San Vicente Dam

San Vicente Dam is located in the central portion of the County, in the unincorporated community of Lakeside. It is located at the outlet of San Vicente Reservoir to the north of Morena Avenue, south of Foster Truck Trail, east of SR-67, and west of Muth Valley Road. San Vicente Dam, which consists of a concrete gravity raised dam, was constructed between 1941 and 1943 and raised between 2011 and 2014.

Savage Dam

Savage (Lower Otay) Dam is located in the southern portion of the County, in the unincorporated community of Otay. It is located at the outlet of Lower Otay Reservoir to the north of Alta Road, south of Otay Lakes Road, east of Wueste Road and Otay Lakes County Park, and west of the Otay Open Space Preserve. Savage Dam, which consists of a curved concrete gravity dam, and was constructed between 1917 and 1919.

Sutherland Dam

Sutherland Dam is located in the northern portion of the County, in the unincorporated community of Ramona. It is located at the outlet of Sutherland Reservoir along Sutherland Dam Road to the north of SR-78, south and east of Black Canyon Road, and west of Rancho Ballena Road. Sutherland Dam, which consists of a multiple arch concrete wall buttress dam, was constructed between 1927 and 1928.

Upper Otay Dam

Upper Otay Dam is located in the southern portion of the County, in the unincorporated community of Otay. It is located at the outlet of Upper Otay Reservoir to the north of Otay Lakes Road, south of Proctor Valley Road, east of Centennial Trail, and west of Wueste Road. Upper Otay Dam, which consists of a concrete arch dam, was constructed between 1896 and 1901.

Dulzura Conduit

The approximately 13-mile long Dulzura Conduit, also known as the San Diego City Conduit, is located in the eastern portion of the County, in the unincorporated community of Dulzura. The northern terminus of the Dulzura Conduit is located at Barrett Dam, and the southern terminus is located at the conduit's confluence with Dulzura Creek to the west of the Community Building Road and Flume Road intersection. The conduit traverses from Barrett Dam southward to Campo Road (SR-94), primarily along the eastern facing slopes west of Lake Barrett Road. The conduit then travels under Campo Road and continues in a westerly direction towards Dulzura Creek with the western underground portion paralleling Flume Road. Dulzura Conduit, which consists of an approximately 13-mile-long concrete aqueduct, was constructed between 1907 and 1909, and historically transported water from the Barrett Reservoir to Lower Otay reservoir through a series of canals, flumes, and tunnels.

Land uses within San Diego County vary between the urban areas along the coast and the more rural areas in the eastern regions. The majority of the land in the eastern portion of San Diego County is open space or undeveloped, while the majority of land along the coastal region is developed. Urban uses tend to consist of residential and commercial uses, as well as small-scale agricultural and industrial uses. Land uses that occur throughout San Diego County include low-density residential and commercial uses, agricultural operations, mineral resources and extraction, and undeveloped habitats, as well as national forest and state park lands. The Program area generally encompasses open space and recreation areas that are public or semi-public facilities situated within undeveloped, open space, rural, and residential areas. Barrett Dam, El Capitan Dam, Morena Dam, San Vicente Dam, Sutherland

Dam, and Dulzura Conduit are located in more rural or undeveloped areas. Black Mountain Dam, Chollas Dam, Hodges Dam, Miramar Dam, Murray Dam, Rancho Bernardo Dam, Savage Dam, and Upper Otay Dam are located in more urbanized areas, and in some cases, are completely surrounded by residential development.

Regional Context

In the context of the City's Multiple Species Conservation Program (MSCP) subarea plan (City 1997), Black Mountain Dam, Chollas Dam, Hodges Dam, Miramar Dam, Murray Dam, San Vicente Dam, Savage Dam, and Upper Otay Dam occur within the MHPA. Though Barrett Dam, El Capitan Dam, Morena Dam, Sutherland Dam, and Dulzura Conduit are located outside of the boundaries of the City's MSCP subarea plan, the dams and associated infrastructure are owned and operated by the City, and as such, will comply with the policies and guidelines of the City's MSCP subarea plan.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

United States Army Corps of Engineers Section 404 Permit, California Regional Water Quality, Control Board Section 401 Certification, and California Department of Fish and Wildlife, Section 1602 Permit. Impacts to state and/or federal listed species would also require appropriate approvals and permits including a Section 10(a) Permit or Section 7 Consultation by the U.S. Fish and Wildlife Service.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Consultation notification letters were sent to the Native American Tribes traditionally and culturally affiliated with the project area, including San Pasqual Band of Mission Indians, Jamul Indian Tribe and the Iipay Nation of Santa Ysabel. The San Pasqual Band of Mission Indians responded and requested further consultation, which was initiated, and concluded, in October 2022.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Greenhouse Gas Emissions	☐	Public Services
☐	Agriculture and Forestry Resources	☐	Hazards & Hazardous Materials	☐	Recreation
☐	Air Quality	☐	Hydrology/Water Quality	☐	Transportation
☐	Biological Resources	☐	Land Use/Planning	☐	Tribal Cultural Resources
☐	Cultural Resources	☐	Mineral Resources	☐	Utilities/Service System
☐	Energy	☐	Noise	☐	Wildfire
☐	Geology/Soils	☐	Population/Housing	☐	Mandatory Findings Significance

DETERMINATION: (To be completed by Lead Agency)

On the basis of this initial evaluation:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact answer should be explained where it is based on project specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis.)

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses", as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or (mitigated) negative declaration. *Section 15063(c)(3)(D).* In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated", describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

In accordance with the City's CEQA Significance Determination Thresholds, Visual Quality/ Neighborhood Character impacts may result from projects whose bulk, scale, materials, or style are incompatible with surrounding development, or would substantially alter the existing or planned character of the area.

The proposed Program includes the long-term, routine maintenance of dams and associated infrastructure, including the Dulzura Conduit, at various locations throughout San Diego County. Activities would include maintenance of access roads, access trails, pedestrian footpaths, staging, and storage areas; trimming and clearing of vegetation; dredging; removal of debris and rocks; geotechnical investigations; and maintenance and repair of the dams and appurtenant structures. Individual maintenance activities may be located near, within, or visible from a scenic vista, but maintenance activities would be temporary and of short durations and would not involve the construction of permanent structures or the removal of existing structures. As such, impacts would be less than significant.

b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐

In accordance with the City's CEQA Significance Determination Thresholds, Visual Quality/Neighborhood Character impacts may result from projects whose bulk, scale, materials, or style are incompatible with surrounding development, or would substantially alter the existing or planned character of the area.

The proposed Program includes the long-term, routine maintenance of dams and associated infrastructure, including the Dulzura Conduit, in various locations throughout San Diego County. Activities would include maintenance of access roads, access trails, pedestrian footpaths, staging, and storage areas; trimming and clearing of vegetation; dredging; removal of debris and rocks; geotechnical investigations; and maintenance and repair of the dams and appurtenant structures. Maintenance activities would be temporary and of short durations, and would not involve the construction of permanent structures or the removal of existing structures. Clearing of vegetation and removal of debris, including the removal of rocks or boulders within the Dulzura Conduit, would be conducted as part of Program activities. Vegetation and rock removal for the Dulzura Conduit would be located within the vicinity of SR 94, and would be visible from the roadway. SR 94 is eligible to be listed as a State scenic highway, however work would be minimal and isolated to the existing developed footprints of the conduit, footpaths, access roads, and trails. Impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

The proposed Program is limited to the long-term, routine maintenance of existing infrastructure and facilities and does not propose the new development of utilities or additional facilities. The physical activities associated with the Program have limited potential to impact the quality of scenic resources or existing visual character within the maintenance areas, as maintenance activities are limited to the areas within and immediately adjacent to existing developed footprints. Impacts would be less than significant.

While maintenance activities may require minor grading or dredging, no major earthwork is proposed that would significantly alter the visual character of the dam locations. Furthermore, the Program's maintenance activities would not be located in urbanized areas and would not conflict with applicable zoning or other regulations governing scenic quality. Impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Per the City's Thresholds, projects that would emit or reflect a significant amount of light and glare may have a significant impact. To meet this significance threshold, one or more of the following must apply:

a. The project would be moderate to large in scale, more than 50 percent of any single elevation of a building's exterior is built with a material with a light reflectivity greater than 30 percent (see LDC Section 142.07330(a)), and the project is adjacent to a major public roadway or public area.

b. The project would shed substantial light onto adjacent, light-sensitive property or land use, or would emit a substantial amount of ambient light into the nighttime sky. Uses considered sensitive to nighttime light include, but are not limited to, residential, some commercial and industrial uses, and natural areas

The Program is limited to the long-term, routine maintenance of existing infrastructure and does not propose the new development of utilities or additional facilities. As such, no major structures or new lighting are proposed that, if constructed, would be incompatible with the existing visual character of natural resource areas. Dam maintenance equipment and ground-level features would typically be in use during the daytime hours, and nighttime lighting, if used, would be temporary. Impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

II. AGRICULTURAL AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. – Would the project:

a) Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. Unique farmland is land, other than prime farmland, which has combined conditions to produce sustained high quality and high yields of specialty crops. Farmland of Statewide Importance may include tracts of land that have been designated for agriculture by State law. In some areas that are not identified as having national or statewide importance, land is considered to be Farmland of Local Importance. The Farmland Mapping and Monitoring Program (FMMP) maintained by the California Department of Conservation (CDC) is the responsible state agency for overseeing the farmland classification. In addition, the City's Thresholds state that in relation to converting designated farmland, a determination of substantial amount cannot be based on any one numerical criterion (i.e., one acre), but rather on the economic viability of the area proposed to be converted. Another factor to be considered is the location of the area proposed for conversion.

The Program does not propose construction or expansion of current facilities beyond those currently in place. Individual maintenance activities would occur at multiple locations within San Diego County. Due to the Programmatic nature of the proposed activities, there is the potential for future maintenance activities to be located on or adjacent to farmland pursuant to the FMMP. However, the proposed maintenance activities would not result in a change in land use of these sites, and they would not result in the conversion of agricultural lands to a non-agricultural use. As such, no impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒

The Program would not install new uses that would conflict with the existing zoning of a site, and no Program maintenance areas are located under a Williamson Act contract. Herbicides would be used for specific applications, such as applied to tree stumps or for individual plants, avoiding impacts to regional agricultural activities. No impact would occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

There is potential for Program activities to be located within forest land or timberland since the Program area occurs across the entire region. However, the proposed maintenance activities would be consistent with existing zoning because it would not propose a rezone of property. Furthermore, San Diego County does not contain any existing Timberland Production Zones. No impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

Implementation of the proposed Program would not result in a change to existing land uses or the disturbance, loss, or conversion of forest land resources to a non-forest use. Therefore, no impact would occur.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

The proposed Program includes the long-term, routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. Activities would include maintenance of access roads, pedestrian footpaths, staging, and storages areas; trimming and clearing of vegetation; dredging; removal of debris and rocks; geotechnical investigations; and maintenance and repair of the dams and appurtenant structures. The Program does not propose construction or expansion of current facilities beyond those currently in place. Individual maintenance activities would occur at multiple locations within San Diego County. Due to the Programmatic nature of the proposed activities, there is the potential for future maintenance activities to be located on or adjacent to farmland or forestland, but the proposed maintenance activities would not result in a change in land use of these sites, and they would not result in the conversion of lands to a non-forest or non-agricultural use. Therefore, no agricultural or forestry resources would be impacted by the proposed Program.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations – Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

According to the City's Thresholds, a project may have a significant air quality impact if it could conflict with or obstruct implementation of the applicable air quality plan.

The proposed Program is located within the San Diego Air Basin (SDAB). Air quality in the SDAB is regulated by the San Diego Air Pollution Control District (SDAPCD). The SDAPCD is the government agency that regulates sources of air pollution within the County. Currently, the SDAB is in "non-attainment" status for criteria pollutants ozone (O_3), 10-micron or less particulate matter (PM_{10}), and 2.5-micron or less particulate matter ($PM_{2.5}$). The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The regional air quality plan for the County is SDAPCD's 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (Attainment Plan; SDAPCD 2020). An Air Quality and Greenhouse Gas Emissions Letter was prepared by HELIX Environmental Planning, Inc. for the proposed Program (HELIX 2022a; Appendix A). The Program's maintenance activity emissions were estimated using equipment assumptions and emissions factors described in the Air Quality and Greenhouse Gas Emissions Letter (Appendix A). The Program would be inconsistent with the Attainment Plan if it is inconsistent with the population and employment growth assumptions within the County's General Plan or if the Program's emissions would exceed the applicable SDAPCD thresholds below in Table 1, *Maximum Daily Emissions*.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 1
MAXIMUM DAILY EMISSIONS

Facility	VOC[1]	NO_X[1]	CO[1]	SO_X[1]	PM_{10}[1]	$PM_{2.5}$[1]
Barrett	20.0	6.7	54.1	<0.1	0.4	0.3
Black Mountain	19.8	4.3	50.3	<0.1	0.4	0.3
Chollas	20.0	6.7	54.1	<0.1	0.2	0.2
El Capitan	20.2	9.1	56.1	<0.1	0.4	0.3
Hodges	20.0	6.7	54.1	<0.1	0.4	0.4
Miramar	20.2	9.1	56.1	<0.1	0.4	0.3
Morena	20.3	9.8	57.4	<0.1	0.4	0.4
Murray	20.3	9.8	57.4	<0.1	0.5	0.4
Rancho Bernardo	13.0	0.4	32.1	<0.1	0.5	0.4
San Vicente	20.2	9.1	56.1	<0.1	0.1	0.0
Savage	20.3	9.8	57.4	<0.1	0.4	0.4
Sutherland	20.2	9.1	56.1	<0.1	0.5	0.4
Upper Otay	20.2	9.1	56.1	<0.1	0.4	0.4
Dulzura Conduit	19.5	11.5	49.1	<0.1	0.4	0.4
Maximum Daily Emissions	**20.3**	**11.5**	**57.4**	**<0.1**	**0.5**	**0.4**
SDAPCD Thresholds	*137*	*250*	*550*	*250*	*100*	*67*
Exceed Thresholds?	***No***	***No***	***No***	***No***	***No***	***No***

Source: HELIX 2022a. Calculations using emission factors from CARB emissions inventory and USEPA AP-42
[1] Pollutant Emissions (pounds per day).
VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; SDAPCD = San Diego County Air Pollution Control District

As shown, the Program's maintenance activities would not result in pollutant emissions exceeding applicable thresholds. Because emissions would be below the applicable thresholds, and because the Program would only involve ongoing maintenance of existing facilities and would not result in population or employment increases, the Program would not conflict with or obstruct implementation of the Attainment Plan for the SDAB and impacts would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

The Program's maintenance activity emissions were estimated using equipment assumptions and emissions factors, as described above. The emissions generated from maintenance activities would include: dust (including PM_{10} and $PM_{2.5}$) primarily from fugitive sources such as soil disturbance and vehicle travel over unpaved surfaces; and combustion emissions of air pollutants (including reactive organic gases [ROG], nitrogen oxides [NO_X], PM_{10}, $PM_{2.5}$, carbon monoxide [CO], and sulfur oxides [SO_X]), primarily from: operation of heavy off-road equipment; operation of gasoline powered hand equipment; on-road worker commute vehicle traveling to and from the maintenance activity sites; trucks hauling equipment, material, and debris to and from the maintenance activity sites; and operation of a helicopter during maintenance of the Dulzura Conduit. The results of the calculations

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

for Program maintenance activities are shown above in Table 1. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD thresholds. As shown in Table 1, the maximum daily emissions would occur during maintenance activities for the Dulzura Conduit. The Program's emissions would not exceed SDAPCD thresholds and would not result in a cumulatively considerable net increase of any criteria pollutant. Impacts would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Sensitive populations (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than are the general population. Sensitive receptors in the vicinity of maintenance activities include residences and schools. Program maintenance activities would result in emissions of diesel particulate matter (DPM). The amount to which the receptors could be exposed, which is a function of concentration and duration of exposure, is the primary factor used to determine health risk. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents) and are best suited for evaluation of long duration toxic air contaminant (TAC) emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of maintenance activities. Typical annual maintenance activities at each facility are anticipated to last less than two weeks. The use of heavy diesel-powered equipment during maintenance would only occur near any individual receptor for a few days. Due to the variable and sporadic nature of the maintenance activities, and the anticipated short annual duration, TAC emissions from the Program's maintenance activities would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The Program could produce odors during maintenance activities resulting from heavy diesel equipment exhaust; however, standard best management practices to minimize equipment idling and maintain equipment would minimize the odor emissions and their associated impacts. Any odors emitted during maintenance activities would be temporary, short-term, and intermittent in nature, and would cease upon the facility maintenance. Therefore, odor impacts from maintenance activities would be less than significant due to the duration of exposure.

IV. BIOLOGICAL RESOURCES – Would the project:

a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

As described in the Program's Biological Technical Report (BTR; HELIX 2022b; Appendix B), several special status plant and animal species were observed in the Program area during biological surveys.

The Program is specifically limited to routine maintenance and repairs of critical infrastructure as directed by the DSOD. Program impacts would primarily occur in existing developed and disturbed areas associated with the dams, appurtenant structures, and existing access roads, trails, and footpaths (Figures 14a-14n) of the Program's BTR (Appendix B). However, portions of the proposed maintenance footprint extend into adjacent native habitats, including wetland and riparian habitats and sensitive uplands habitats, where special status plant and animal species have been detected or have potential to occur. Potential Program effects on special status plant and animal species are described below.

Special Status Plant Species

Implementation of the Program has potential to result in direct impacts to nine special status plant species: Dean's milk vetch, San Diego County sunflower, delicate clarkia, San Diego barrel cactus, pride of California, Cooper's rein orchid, Engelmann oak, ashy spike-moss, and rush-like bristleweed. Such impacts would be a result of maintenance impacts involving the removal of vegetation. These impacts are described below.

Federally or State Listed Plant Species

No impacts would occur to federally and/or state listed plant species as none were documented within the Program area.

Special Status Plant Species

Implementation of the Program has potential to result in direct impacts to nine special status plant species: Dean's milk vetch, San Diego County sunflower, delicate clarkia, San Diego barrel cactus, pride of California, Cooper's rein orchid, Engelmann oak, ashy spike-moss, and rush-like bristleweed. Impacts would be a result of maintenance activities involving the removal of vegetation.

CRPR 1 or 2 Plant Species

Generally, impacts to plant species with a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) of 1 or 2 are considered potentially significant due to their higher sensitivity status, and the impact analysis evaluates substantial adverse effects to these species. Implementation of the Program is anticipated to result in direct impacts to the following special status plant species with a CRPR of 1 or 2: Dean's milkvetch, delicate clarkia, and San Diego barrel cactus.

Dean's Milkvetch

Dean's milkvetch has a CRPR of 1B.1. Approximately 10 individuals of Dean's milk vetch are located within the proposed maintenance footprint at Dulzura Conduit. Maintenance activities proposed in this area include the clearing of vegetation within five feet of the conduit and maintenance of access

roads, trails, and footpaths. Potential impacts to these 10 individuals would be considered less than significant because of the low number of individuals that would be affected, the presence of the species within the surrounding area, and because such impacts would not jeopardize the status of the species in the region or result in a future elevated listing of the species.

Delicate Clarkia

Delicate clarkia has a CRPR of 1B.2. Approximately 17 delicate clarkia plants were located within the proposed maintenance footprint at Barrett Dam, 100 plants are located within the proposed maintenance footprint at El Capitan Dam, and another 1,114 plants are located within the proposed maintenance footprint for Dulzura Conduit. Maintenance activities proposed in these areas include the clearing of vegetation within 10 feet of Barrett Dam, El Capitan Dam, and appurtenant structures; clearing of vegetation within 5 feet of Dulzura Conduit; and maintenance of access roads, trails, and footpaths. Potential impacts to delicate clarkia would be less than significant based on the large number of individuals that would be avoided and the prevalence of species within the surrounding area, as illustrated by the high number of individuals observed within the study area footprint and additional suitable habitat present in the vicinity (such as along Cottonwood Creek). Program impacts would not jeopardize the status of the species in the region or result in a future elevated listing of the species.

San Diego Barrel Cactus

San Diego barrel cactus has a CRPR of 2B.1 and is a City MSCP Covered species. Approximately 43 individuals of San Diego barrel cactus are located within the proposed maintenance footprint at Savage Dam. Maintenance activities proposed in this area include the clearing of vegetation within 10 feet, and the removal of eucalyptus trees within 50 feet, of the dam and appurtenant structures, and maintenance of access roads, trails, and footpaths. Maintenance activities are not anticipated to result in direct impacts to San Diego barrel cactus, as these activities would be limited to the above ground cutting of vegetation and eucalyptus trees. Maintenance activities are not anticipated to result in direct impacts to San Diego barrel cactus, as these activities would be limited to the above ground cutting of vegetation and eucalyptus trees. If direct impacts to San Diego barrel cactus are determined to be unavoidable, such impacts would be less than significant based on the small number of individuals likely to be affected, the prevalence of the species within the surrounding area, and because such impacts would not jeopardize the status of the species in the region or result in a future elevated listing of the species. Therefore, potential Program impacts to San Diego barrel would be less than significant.

CRPR 3 or 4 Plant Species

CRPR 3 and 4 species are relatively widespread and impacts to such species would not substantially reduce their populations in the region and are not significant. Implementation of the Program is anticipated to result in direct impacts to the following special status plant species with a CRPR of 3 or 4: ashy spike-moss, Cooper's rein orchid, Engelmann oak, pride of California, San Diego County sunflower, and rush-like bristleweed.

Ashy Spike-Moss

A single small patch of ashy spike-moss is located within the proposed maintenance footprint at Savage Dam. Maintenance activities proposed in this area include the clearing of vegetation within 10 feet, and removal of eucalyptus trees within 50 feet, of the dam and appurtenant structures, and maintenance of access roads, trails, and footpaths. Direct impacts to this species are not anticipated to occur, as the single occurrence within the proposed maintenance footprint is located within an area designated for the removal of eucalyptus trees. These activities are limited to above-ground cutting of vegetation and would not involve grubbing or other ground disturbance activities. As such, potential impacts would be less than significant due to the low sensitivity of the species, low number of individuals with the potential to be affected, general prevalence within the vicinity, and preservation within adjacent lands located in the MHPA, including City PUD cornerstone lands surrounding Upper and Lower Otay Reservoirs.

Cooper's Rein Orchid

Approximately two Cooper's rein orchid plants are located within the proposed maintenance footprint at the Dulzura Conduit near Trail 3. Maintenance activities proposed in this area include clearing of vegetation within five feet of the conduit and maintenance of access roads, trails, and footpaths. Impacts to Cooper's rein orchid would be less than significant based on the low number of individuals with the potential to be impacted and the low sensitivity of the species.

Engelmann Oak

A single Engelmann oak tree is located within the proposed maintenance footprint at Dulzura Conduit within the discharge channel at the western end of the conduct alignment at Community Building Road. Maintenance activities proposed in this area include the clearing of vegetation within five feet of the discharge channel and maintenance of access roads, trails, and footpaths. Maintenance activities are not anticipated to result in direct impacts or removal of the Engelmann oak tree, as the oak is located at the periphery of the maintenance boundary in an upslope area outside of the discharge channel and does not impede flows within the channel. Though minor trimming of the oak tree is not anticipated, trimming may occur if overhanging branches are found to impede safe access to the channel or cause damage to the perimeter fencing surrounding the discharge channel. Minor trimming of vegetation would only be implemented on an as-needed basis and would be the minimum amount necessary. Impacts from minor trimming of vegetation would be less than significant due to the negligible area involved and the selective nature of the trimming. As such, potential impacts to Engelmann oak would be less than significant.

Pride of California

Approximately six pride of California plants are located within the proposed maintenance footprint at Dulzura Conduit. Maintenance activities proposed in this area include the clearing of vegetation within five feet of the conduit and maintenance of access roads, trails, and footpaths. Impacts to pride of California would be less than significant based on the low number of individuals with the potential to be impacted, continued presence within the surrounding area, and the low sensitivity of the species.

San Diego County Sunflower

San Diego County sunflower shrubs are located within the proposed maintenance footprint of several of the Program components as scattered individuals, small patches, and a dominant shrub component within vegetation. Potential impacts to San Diego County sunflower include 0.05 acre at Miramar Dam, 0.03 acre at Murray Dam, 1.2 acres at San Vicente Dam, approximately 386 shrubs at Savage Dam, and approximately 8,826 shrubs at Dulzura Conduit. Maintenance activities proposed in these areas include the clearing of vegetation within 10 feet of the dams and appurtenant structures, removal of eucalyptus trees within 50 feet of Savage Dam and appurtenant structures, clearing of vegetation within five feet of Dulzura Conduit, and maintenance of access roads, trails, and footpaths. Program impacts to San Diego County sunflower would be less than significant, as the local long-term survival of the species would not be impacted as this relatively widespread species is known to occur elsewhere in the Program vicinity. The impacted individuals are not part of a population at the periphery of the species' range, located in an area where the taxon is especially uncommon, or occurring on unusual substrates. Lastly, there are numerous documented occurrences of this species within the Program area and throughout the region, including on MHPA lands, indicating that the Program does not represent a geographically significant population.

Rush-like Bristleweed

Approximately 230 individuals of rush-like bristleweed are located within the proposed maintenance footprint at Dulzura Conduit. Maintenance activities proposed in this area include the clearing of vegetation within five feet of the conduit and maintenance of access roads, trails, and footpaths. Program impacts to rush-like bristleweed would be less than significant as this is a relatively widespread species within the area. The impacted individuals are not part of a population at the periphery of the species' range, located in an area where the taxon is especially uncommon, or occurring on unusual substrates. Additionally, this species is relatively common in the surrounding area, and the Program area does not represent a geographically significant population.

Other Special Status Plant Species

Implementation of the proposed Program is not anticipated to result in impacts to other special status plant species known from, or with high potential to occur, in the Program area. These species are expected to be avoided by Program activities due either to the species' location being outside of the proposed maintenance footprint, or the lack of suitable conditions (habitat, soils, hydrology, elevations, etc.) within the maintenance footprint. However, due to the long-term nature of the Program, there are potential additional or new populations of special status plant species to be discovered in the future, including City Narrow Endemic species. Program impacts to special status plant species may be considered significant and require mitigation depending on the species, sensitivity, and the number of plants to be impacted. Implementation of mitigation measure **BIO-3** would reduce potential impacts to special status plant species to a less than significant level through avoidance and transplantation and/or restoration when necessary.

Special Status Wildlife Species

Implementation of the Program would result in direct impacts to habitats occupied or suitable for special status wildlife species. These habitats include wetland and riparian habitats, open water/lake,

oak woodlands, various chaparral communities, Diegan coastal sage scrub and various subtypes of this habitat, coastal sage-chaparral scrub, and non-native grassland. Such impacts would be a result of maintenance activities such as vegetation removal, eucalyptus removal, and dredging conducted under the Program, which could cause loss of habitat and/or direct injury or mortality to individuals. These impacts are described below.

Federally or State Listed Animal Species

Implementation of the Program would impact locations where the following five listed animal species have been documented within the Program area or have high potential to occur: Quino checkerspot butterfly (QCB), Hermes copper butterfly, Arroyo toad (ARTO), coastal California gnatcatcher (CAGN), and least Bell's vireo (LBVI).

Quino Checkerspot Butterfly

Implementation of the Program would result in impacts to QCB from the removal of 0.76 acre of potentially occupied QCB habitat (including 0.03 acre of host plants) at Savage Dam and 3.80 acres of potentially occupied QCB habitat (including 0.28 acre of host plants) at Dulzura Conduit. These impacts are considered significant and require mitigation. Indirect impacts to QCB could also occur through surface disturbance to occupied host plant patches during maintenance activities.

Seven QCB individuals (spread across three locations) were observed in the Savage Dam study area approximately 430 feet east of the proposed maintenance footprint. The following maintenance activities at Savage Dam would impact would result in impacts to approximately 0.76 acre of potentially occupied QCB habitat containing 0.03 acre of host plants at Savage Dam: clearing of vegetation within 10 feet, and removal of eucalyptus trees within 50 feet (if the understory below the eucalyptus is disturbed), of Savage Dam and appurtenant structures, and maintenance of access roads, trails, and footpaths.

QCB individuals at Dulzura Conduit were observed along dirt roads adjacent to the conduit, along a Program access road (Trail 4), and perched within the conduit. The following maintenance activities associated with the Dulzura Conduit would result in impacts to approximately 3.80 acres of potentially occupied QCB habitat containing 0.28 acre of host plants within the Dulzura Conduit study area: clearing of vegetation within 5 feet of the conduit and maintenance of access roads, trails, and footpaths.

Implementation of the Program would also result in impacts to 0.9 acre of designated critical habitat that contains the physical or biological features essential for QCB.

Potential Program impacts to QCB and QCB occupied habitat would be reduced to a less than significant level through implementation of mitigation measure **BIO-4** which includes avoidance measures, habitat-based mitigation, and consultation with the USFWS.

Hermes Copper Butterfly

Potentially suitable habitat for Hermes copper is present within the Program area at Barrett Dam and Dulzura Conduit where the species' larval host plant, spiny redberry, was observed in close

proximity to California buckwheat, the species' preferred nectaring resource. The species has a high potential to occur within the maintenance footprint at these locations based on the presence of core and non-core occurrences areas along the northern portion of the Barrett Dam access road and surrounding area. Impacts to occupied Hermes copper butterfly habitat and Hermes copper butterfly, if found to occur, would be considered significant and require mitigation.

USFWS-designated critical habitat for the species occurs along the northern portion of the Barrett Dam access road. Maintenance activities proposed along the Barrett Dam north access road would be limited to the existing road right-of-way, which is developed and does not contain physical or biological features that are essential for the species. Therefore, at these locations, implementation of the Program would not result in direct impacts to USFWS-designated critical habitat with the potential to support the species.

Potential Program impacts to Hermes copper butterfly and habitat occupied by the species would be reduced to a less than significant level through implementation of mitigation measure **BIO-5** which includes avoidance measures, habitat-based mitigation, and consultation with the USFWS.

Arroyo Toad

Implementation of the Program is not anticipated to result in direct impacts to ARTO as the majority of the Program area is located outside of the known distribution of ARTO and does not contain suitable riparian habitat, sandy soils, and adjacent upland terraces required by the species. Furthermore, the Program is restricted to the long-term maintenance of existing dams which by design disrupt the hydrological regime of the existing creeks and rivers that have been impounded and alter existing habitats and soils so that they are less conducive to ARTO use and occupation. However, ARTO was observed at one dam location (Sutherland Dam) and has the potential to occur at three other facilities (Barrett Dam, El Capitan Dam, and Dulzura Conduit). Potential Program impacts to ARTO at these facilities are presented below.

A single transient ARTO was observed at Sutherland Dam on the rock-lined portion of the dam spillway. Maintenance activities that would occur at Sutherland Dam include the clearing of vegetation within 10 feet of the dam and appurtenant structures, spillway maintenance and repair, and maintenance of access roads, trails, and footpaths. These activities would not result direct impacts to arroyo toad breeding habitat as no riparian habitat along Santa Ysabel Creek would be impacted, and no suitable breeding habitat was found to occur at Sutherland Dam. The habitat within the Sutherland Dam maintenance areas consists of the concrete dam, concrete and bedrock associated with the spillway, and small areas of non-native grassland and coastal sage scrub within vegetation clearing areas, which were characterized as low quality for ARTO and unsuitable for breeding. These areas lack sandy substrates and shallow pools that are required to support breeding toads. The non-native grassland and coastal sage scrub within the maintenance areas are not considered suitable upland arroyo toad habitat because these areas occur immediately surrounding the developed footprint of the dam and lack sandy soils suitable for burrowing. Though maintenance activities would not result in direct impacts to breeding ARTO habitat, there is potential for ARTO to be present within the proposed maintenance footprint during maintenance activities, as one toad was observed during project surveys. Direct impacts to ARTO, if toads were harmed, would be considered significant and require mitigation.

Though ARTO was not detected at Barrett Dam or El Capitan Dam, USFWS-designated critical habitat for the species and potentially suitable riparian and upland habitats occur at both facilities, and there is potential for toads to be present in these areas during maintenance activities. Impacts to suitable ARTO habitat and direct impacts to ARTO, if toads were harmed, would be considered and require mitigation.

USFWS-designated critical habitat for ARTO also occurs within the Dulzura Conduit study area. However, these areas occur within upland areas situated outside of Cottonwood Creek and do not contain suitable breeding habitat. The conduit itself is located between 600- and 2,700-feet upslope of mapped critical habitat areas and is separated from ARTO breeding habitat by a steep hillside that would preclude ARTO access for foraging or aestivating. Furthermore, ARTO found along Cottonwood Creek are unlikely to cross Barrett Lakes Road to reach these upland areas. As such, maintenance activities along Dulzura Conduit and associated access roads would not result in direct impacts to the species.

Implementation of the Program would result in impacts to USFWS-designated critical habitat for the species as follows: 0.3 acre at Barrett Dam (comprised of 0.04 acre of non-vegetated channel, 0.2 acre of southern riparian forest, and 0.07 acre of granitic southern mixed chaparral); 0.7 acre at Dulzura conduit (comprised of 0.1 acre of granitic southern mixed chaparral, 0.05 acre of Diegan coastal sage scrub, 0.2 acre of disturbed habitat, and 0.4 acre of developed land); and 4.76 acres at El Capitan Dam (comprised of 0.73 acre of southern riparian forest, 0.01 acre of coastal live oak woodland, 0.65 acre of Diegan coastal sage scrub, 0.47 acre of non-native grassland, 0.04 acre of eucalyptus woodland, 0.03 acre of non-native vegetation, 0.11 acre of disturbed habitat, and 2.72 acres of developed land).

Potential Program impacts to arroyo toad, potentially suitable ARTO habitat, and critical habitat for the species would be reduced to a less than significant level through implementation of mitigation measure **BIO-6** which includes avoidance measures, habitat-based mitigation, and consultation with the USFWS.

Coastal California Gnatcatcher

Implementation of the Program would result in impacts to CAGN from the removal of 7.9 acres of Diegan coastal sage scrub and 1.2 acres of coastal sage-chaparral scrub within the Program area. Impacts to occupied and potential CAGN habitat within the Program area are considered significant and would require mitigation. If construction activities were to occur during the gnatcatcher breeding season (March 1 through August 15) and impact occupied CAGN habitat, direct impacts to nesting CAGN would be considered significant and would require mitigation. Additionally, indirect impacts to CAGN would occur if construction activities were to take place during the gnatcatcher breeding season and were to generate noise greater than 60 A-weighted decibels (dBA), or exceed ambient noise levels if greater than 60 dBA, within occupied CAGN habitat within the MHPA.

Implementation of the Program would also result in impacts to 3.65 acres of USFWS-designated critical habitat for CAGN at El Capitan Dam. These impacts would be comprised of 0.62 acre of Diegan coastal sage scrub (including disturbed), 0.02 acre of southern mixed chaparral, 0.14 acre of non-native grassland, 0.73 acre of southern riparian forest, 0.04 acre of coast live oak woodland, 0.04 acre of eucalyptus woodland, 0.56 acre of non-native vegetation, 0.08 acre of disturbed habitat,

and 1.42 acres of developed land. However, it should be noted that only Diegan coastal sage scrub, southern mixed chaparral, non-native grassland, and southern riparian forest contain the physical or biological features that are essential for the species, as defined by the USFWS. Therefore, the Program would only impact 1.51 acres of designated critical habitat that contains the physical or biological features that are essential for CAGN.

Program impacts to CAGN and suitable CAGN habitat would be reduced to a less than significant level through implementation of mitigation measure **BIO-7** which includes habitat-based mitigation and avoidance measures to ensure maintenance activities do not disturb CAGN during the breeding season.

Least Bell's Vireo

Implementation of the Program would result in impacts to LBVI from the removal of 1.49 acres of southern riparian forest, 0.08 acre of riparian woodland, and 0.27 acre of southern willow scrub within the Program area. Impacts to occupied and potential LBVI habitat within the Program area are considered significant and would require mitigation. If construction activities were to occur during the vireo breeding season (March 15 through September 15) and impact occupied LBVI habitat, direct impacts to nesting LBVI would be considered significant and would require mitigation. Additionally, indirect impacts to LBVI would occur if construction activities were to take place during the LBVI breeding season and were to generate noise levels greater than 60 dBA, or exceed ambient noise levels if greater than 60 dBA, within occupied LBVI habitat.

Program impacts to LBVI and suitable LBVI habitat would be reduced to a less than significant level through implementation of mitigation measure **BIO-8** which includes habitat-based mitigation and avoidance measures to ensure maintenance activities do not disturb CAGN during the breeding season.

Other Special Status Animal Species

Maintenance activities associated with the proposed Program would be located in areas where 23 special status animal species have been documented to occur and in areas where 27 special status animal species have high potential to occur. Impacts to these species, however, would be less than significant due to the small number of individuals that would potentially be affected, the relatively small amount of habitat to be impacted at each facility, and the large amount of suitable habitat in the Program area that would be avoided by activities and would continue to be preserved within the MHPA and other adjacent conserved lands.

Implementation of the Program would result in the removal of habitats occupied by 14 MSCP-covered species; however, impacts would be less than significant based on adequate species coverage and suitable habitats protected under the MSCP within the MHPA.

Significant impacts to nesting birds, including raptors, could occur if maintenance activities occurring during the breeding season were to directly impact nesting individuals. In order to ensure adequate protection of nesting birds and raptors, Program activities resulting in clearing of vegetation during the breeding shall be conducted in accordance with federal and state nesting bird regulations. Additionally, mitigation measure **BIO-9** would reduce potential impacts to any nesting bird species

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

identified as a listed, candidate, sensitive, or special status species in the City's MSCP subarea plan to a less than significant level through implementation of appropriate avoidance measures and nest setbacks as determined in the City's Biology Guidelines.

Potential bat roosting habitat occurs within the Program area including facilities that would be maintained under the proposed Program, such as the concrete dams. Direct impacts to special status bat species may be considered significant and require mitigation depending on the species, sensitivity, and number of individuals that would be impacted. Mitigation measure **BIO-10** would reduce these impacts to a less than significant level through implementation of appropriate avoidance measures.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Implementation of the overall Program would result in direct impacts to riparian habitat and sensitive natural communities. Program impacts include permanent impacts to 10.90 acres of wetlands and non-wetland resources, and 19.9 acres of Tier I, II, IIIA, and IIIB sensitive uplands as summarized in the Table 2, *Summary of Program Impacts and Mitigation – Wetland Habitat*), and Table 3, *Summary of Program Impacts and Mitigation – Sensitive Uplands*, below. Impacts to wetland habitat (with the exception of arundo-dominated riparian) and sensitive uplands would be considered significant and would require mitigation at ratios prescribed by the City's Biology Guidelines (2018). Impacts to arundo-dominated riparian habitat would be limited to the removal of a monotypic stand of giant reed at the Dulzura Conduit and would not involve grading or other alteration of wetlands; therefore, the impact is considered to be less than significant and would not require mitigation.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 2
Summary of Program Impacts and Mitigation – Wetland Habitat

Vegetation/Land Cover	Anticipated Program Impacts (acres)[1]			Mitigation Ratio[2]	Anticipated Mitigation Requirements (acres)[1]		
	Inside MHPA	Outside MHPA	Total		Creation/ Restoration[3]	Creation/ Restoration/ Enhancement/ Preservation/ Credits[4]	Total
Southern Riparian Forest	0.49	1.00	**1.49**	3:1	1.49	2.98	4.47
Southern Coast Live Oak Riparian Forest	0	0	**0**		0	0	0
Riparian Woodland	0.03	0.05	**0.08**		0.08	0.16	0.24
Mule Fat Scrub	0	0	**0**	2:1	0	0	0
Southern Willow Scrub	0.27	0	**0.27**		0.27	0.27	0.54
Arrowweed Scrub	0	0	**0**		0	0	0
Tamarisk Scrub	0	0	**0**		0	0	0
Freshwater Marsh	0.78	0.27	**1.05**		1.05	1.05	2.10
Disturbed Wetland	0	0.02	**0.02**		0.02	0.02	0.04
Non-native Riparian	0.06	0	**0.06**		0.06	0.06	0.12
Unvegetated Habitat/Lakeshore Fringe	0	0.49	**0.49**		0.49	0.49	0.98
Non-vegetated Channel	0	0.06	**0.06**		0.06	0.06	0.12
Arundo-Dominated Riparian	0	0.02	**0.02**	0:1	0	0	0
Open Water/Freshwater Lake	3.24	4.12	**7.36**[5]		0	0	0
TOTAL	**4.87**	**6.03**	**10.90**	**-**	**3.52**	**5.09**	**8.61**

[1] Acreages rounded to the nearest 0.01 acre for wetlands; total reflects rounding.
[2] Wetland mitigation ratios are in accordance with Table 2A of the City's Biology Guidelines (2018).
[3] Mitigation for wetland impacts shall include a minimum 1:1 creation (establishment) or restoration (re-establishment) component to ensure no net loss of wetlands.
[4] Mitigation shall be achieved through one or a combination of the following: habitat creation, restoration, and/or enhancement; acquisition and preservation of specific land; purchase of mitigation credits at an approved mitigation bank; and/or allocation of available mitigation credits at an existing PUD mitigation site(s).
[5] Program impacts to open water/freshwater lake are restricted to dredging activities around the outlet towers, low-level outlets, and intake pipes, and routine clearing of debris. No habitat modification of open water/freshwater lake would occur.

Table 3
Summary of Program Impacts and Mitigation – Sensitive Uplands

Vegetation/Land Cover	Anticipated Program Impacts (acres)[1]			Mitigation Ratio[2]	Anticipated Mitigation Requirements[3] (acres)[1]
	Inside MHPA	Outside MHPA	Total		
Tier I					
Native Grassland – Disturbed	0	0	**0**	2:1; 1:1	0
Coast Live Oak Woodland	0	0.1	**0.1**		0.1
Engelmann Oak Woodland	0	0	**0**		0
Mixed Oak Woodland	0	0	**0**		0
Scrub Oak Chaparral	0	0.1	**0.1**		0.1
Tier I Total	***0***	***0.2***	***0.2***	**-**	***0.2***
Tier II					
Diegan Coastal Sage Scrub – including Disturbed, Sparse, Laurel Sumac Dominated, and Baccharis Dominated	2.6	5.3	**7.9**	1:1	7.9
Flat-topped Buckwheat Scrub	0	0	**0**		0
Coastal Sage-Chaparral Scrub – including disturbed	0	1.2	**1.2**		1.2
Tier II Total	***2.6***	***6.5***	***9.1***	**-**	***9.1***
Tier IIIA					
Southern Mixed Chaparral – including Ceanothus Dominated	0.1	0	**0.1**	1:1†; 0.5:1‡	0.1
Granitic Southern Mixed Chaparral – including disturbed	0	3.1	**3.1**		1.6
Granitic Northern Mixed Chaparral – including Sparse	0	0.4	**0.4**		0.2
Chamise Chaparral (37200)	0	0.2	**0.2**		0.1
Tier IIIA Total	***0.1***	***3.7***	***3.8***	-	***2.0***
Tier IIIB					
Non-native Grassland (42200)	2.5	4.3	**6.8**	1:1†; 0.5:1‡	4.7
Tier IIIB Total	***2.5***	***4.3***	***6.8***	-	***4.7***
TOTAL	**5.2**	**14.7**	**19.9**	-	**16.0**

[1] Acreages rounded to the nearest 0.1 acre for uplands; total reflects rounding. "

[2] Upland mitigation ratios in accordance with Table 3 of the City's Biology Guidelines (2018) and assume mitigation will occur within MHPA boundaries.

[3] Mitigation shall be achieved through one or a combination of the following: habitat creation, restoration, and/or enhancement; acquisition and preservation of specific land; purchase of mitigation credits at an approved mitigation bank; and/or allocation of available mitigation credits at an existing PUD mitigation site(s); and/or through payment into the City's Habitat Acquisition Fund.

† A 1:1 mitigation ratio is for Tier IIIA/Tier IIIB impacts inside the MHPA and mitigated inside the MHPA.

‡ A 0.5:1 mitigation ratio is for Tier IIIA/Tier IIIB impacts outside the MHPA and mitigated inside the MHPA.

Maintenance activities would occur over an extended period; therefore, the overall Program impacts would not occur all at once. Impacts presented above account for all the Program's known and potential impacts within the defined maintenance footprint, and there are currently no additional impacts anticipated to occur. If any future maintenance or repair activity were required to occur

outside of the defined maintenance footprint, a project-level analysis would be submitted to DSD for an SCR process to determine if the planned maintenance activity deviating from the maintenance footprint is consistent with the SDP and applicable mitigation measures and conditions included in that permit. Impacts to vegetation would occur as part of the following maintenance activities: dredging; clearing of vegetation within 10 feet of the dams, spillways, and appurtenant structures and five feet of Dulzura conduit; and removal of eucalyptus and palm trees. Impacts to riparian habitat and sensitive uplands would be considered significant and would require mitigation. Mitigation measures **BIO-1** and **BIO-2** would reduce these impacts to less than significant level through implementation of habitat-based at ratios prescribed by the City's Biology Guidelines.

The following activities are not anticipated to result in impacts to vegetation: maintenance and repair of the dams, spillways, Dulzura Conduit, and appurtenant structures; maintenance and repairs to outlet towers and trash racks; slope maintenance; access road maintenance; and geotechnical investigations. Maintenance and repair of the dams, spillways, Dulzura Conduit, and appurtenant structures would occur within the existing developed footprint of the structure. Work areas associated with these activities would be limited to developed and disturbed areas and accessed using existing access roads, trails, and footpaths. Any equipment required to complete the activities would be staged within developed and disturbed areas, including on the structure itself.

Maintenance and repair of the outlet towers and trash racks would also be limited to the currently developed footprints of the structures, which would be accessed using existing access roads, trails, and footpaths. Temporary staging of equipment and materials storage would be limited to existing developed and disturbed areas.

Slope maintenance activities involve the maintenance of vegetation on slopes surrounding Black Mountain Dam and Rancho Bernardo Dam. Existing shrubs and herbaceous vegetation within these areas would be maintained in the current condition, but trees would not be allowed to establish on the slopes. Any existing trees, or saplings that may attempt to establish, would be removed through cut and treat methods. No other vegetation would be removed during slope maintenance and tree removal activities.

Access road maintenance would be restricted to the existing road right-of-way and would involve minor repairs, improvements, and resurfacing, as needed. No expansion or temporary widening of the access road or trails is proposed under the Program. As such, vegetation would not be removed during access road maintenance activities. Minor trimming of vegetation along existing access roads, trails, and paths may occur as part of access road maintenance activities to prevent deterioration and keep critical access features in a useable condition. However, trimming activities would be limited to overhanging branches and individual limbs and would not result in ground disturbance or the removal of sensitive vegetation.

Geotechnical investigations, including conditions assessments, would occur within existing developed and disturbed areas, primarily on the structures themselves. Geotechnical activities would avoid any adjacent native vegetation areas. Collection of silt samples and other data in areas surrounding the dams, outlet towers, and other structures would be completed from a barge launched at the nearby boat ramp. No sensitive vegetation would be removed during geotechnical investigations, including condition assessments.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐

Implementation of the Program would result in direct impacts to wetland and non-wetland waters, streambed, and riparian habitat, potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344RWQCB jurisdiction pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act, and streambed and riparian habitat potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the California Fish and Game Code (CFG Code). Impacts would occur as a result of the following maintenance activities: dredging; clearing of vegetation within 10 feet of the dams, and appurtenant infrastructure and five feet of Dulzura conduit; and maintenance (removal of vegetation, sediment, and debris) of leakage, seepage, and other discharges paths. Repeatable temporary impacts to jurisdictional wetland and non-wetland waters and streambed areas would also occur due to dredging activities around the outlet towers and low-level outlet tunnels. Impacts to the wetland and non-wetland waters may require the issuance of a CWA Section 404 permit from the USACE, a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act Waste Discharge Requirements (WDRs) from the RWQCB, and/or a Streambed Alteration Agreement from CDFW. Only the USACE, RWQCB, and CDFW can make a final determination of jurisdictional boundaries. The proposed Program will be required to obtain permits for work within US and state jurisdictional wetlands and non-wetland waters from all required wetland permitting agencies prior to implementation of maintenance activities that would result in impacts to jurisdictional resources. Impacts to wetlands, including riparian habitat, would be reduced less than significant with the incorporation of mitigation measure **BIO-1**.

The following activities are not anticipated to result in impacts to jurisdictional areas: maintenance and repair of the dams, spillways, Dulzura Conduit, and appurtenant structures; maintenance and repairs to outlet towers and trash racks; slope maintenance; access road maintenance; and geotechnical investigations. Maintenance and repair of the dams, spillways, Dulzura Conduit, and appurtenant structures would occur within the existing developed footprint of the structure. Work areas associated with these activities would be limited to developed and disturbed areas and accessed using existing access roads, trails, and footpaths. Any equipment required to complete the activities would be staged within developed and disturbed areas, outside of jurisdictional waters and wetlands, including on the structure itself.

Maintenance and repair of the outlet towers and trash racks would also be limited to the currently developed footprints of the structures, which would be accessed using existing access roads, trails, and footpaths. Temporary staging of equipment and materials storage would be limited to existing developed and disturbed areas, outside of jurisdictional waters and wetlands.

Slope maintenance activities involve the maintenance of vegetation on slopes surrounding Black Mountain Dam and Rancho Bernardo Dam. Existing shrubs and herbaceous vegetation would be maintained in the current condition, but tree species would not be allowed to establish on the slopes. Tree species that may attempt to establish would be removed through cut and treat

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

methods. No other vegetation would be removed during slope maintenance and tree removal activities, and no impacts would occur to jurisdictional waters and wetlands as none were found to occur within these areas.

Access road maintenance would be restricted to the existing road right-of-way and would involve minor repairs, improvements, and resurfacing, as needed. No expansion or temporary widening of the access road or trails is proposed under the Program. As such, vegetation, including jurisdictional wetland and riparian habitats, would not be removed during access road maintenance activities. Existing drainage crossings would be maintained in their current condition; no improvements or other alterations, such as the construction of Arizona crossings, would occur at existing drainage crossings. Minor trimming of vegetation along existing access roads, trails, and paths may occur as part of access road maintenance activities to prevent deterioration and keep critical access features in a usable condition. However, trimming activities would be limited to overhanging branches and individual limbs and would not result in ground disturbance or the removal of jurisdictional wetlands and riparian habitat.

Geotechnical investigations, including conditions assessments, would occur within the existing developed and disturbed areas, primarily on the structures themselves. Geotechnical activities would avoid any adjacent native vegetation areas. Collection of silt samples and other data in areas surrounding the dams, outlet towers, and other structures would be completed from a barge launched at the nearby boat ramp. No jurisdictional wetlands or riparian habitat would be removed during geotechnical investigations, including condition assessments, and no impacts to jurisdictional waters would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐

Regionally identified wildlife corridors and habitat linkages occur within the Program area. However, the proposed Program is limited to the long-term, routine maintenance of existing facilities and would not result in the construction or expansion of new facilities and would not result in the introduction of new land uses within the MHPA and biological core linkage areas. As such, implementation of the Program would not create any barriers to wildlife movement nor substantially alter current baseline conditions for local wildlife movement Program area. Similarly, the Program would not introduce new land uses or facilities that would impede the use of wildlife nursery sites. No impact would occur to wildlife corridors or linkages, or to wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

The proposed Program is consistent with the City's Biology Guidelines and Environmental Sensitive Land Regulations; no conflict with local policies or ordinances protecting biological resources would occur. Impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

In the context of the City's MSCP subarea plan, Black Mountain Dam, Chollas Dam, Hodges Dam, Miramar Dam, Murray Dam, San Vicente Dam, Savage Dam, and Upper Otay Dam occur within the MHPA. Though Barrett Dam, El Capitan Dam, Morena Dam, Sutherland Dam, and Dulzura Conduit are located outside of the boundaries of the City's MSCP subarea plan, the dams and associated infrastructure are owned and operated by the City, and as such, will comply with the policies and guidelines of the City's MSCP subarea plan. As detailed in Section 6.0 of the Program's BTR (Appendix B), the proposed Program is conditionally compatible with the biological objectives of the City's MSCP Subarea Plan and conforms with all applicable management directives, policies, and guidelines, including the MHPA Land Use Agency Guidelines, which ensures adverse effects to the MHPA do not result with project implementation. Impacts would be less than significant.

V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☐		x

The purpose and intent of the Historical Resources Regulations of the Land Development Code (Chapter 14, Division 3, and Article 2) is to protect, preserve and, where damaged, restore the historical resources of San Diego. The regulations apply to all proposed development within the City of San Diego when historical resources are present on the premises. Before approving discretionary projects, CEQA requires the Lead Agency to identify and examine the significant adverse environmental effects which may result from that project. A project that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (sections 15064.5(b) and 21084.1). A substantial adverse change is defined as demolition, destruction, relocation, or alteration activities, which would impair historical significance (sections 15064.5(b)(1)). Any historical resource listed in, or eligible to be listed in the California Register of Historical Resources, including archaeological resources, is considered to be historically or culturally significant.

The cultural resources study identified a total of 46 cultural resources within the Program's Area of Potential Effect (APE). Of these, 11 are associated with the City of San Diego Source Water System (CSDSWS), e.g., associated with the dams, reservoirs, and associated infrastructure. The significance status, project impacts, and recommendations for the CSDSWS-associated resources are discussed in the *City of San Diego Source Water System Historical Resources Assessment* (HELIX 2022d; Appendix C) that has been prepared for the Program. The historical resources assessment concludes that the project does not include any significant alterations, demolitions, relocations, or replacements of the complexes or individual resources within the CSDSWS considered to be historical resources and that given the limited scale of the maintenance activities compared with the expansive, multi-property resources comprising the CSDSWS discontiguous district and the individual reservoir complex historic districts, project implementation would not be expected to result in significant adverse impacts, and therefore, material impairment to historical resources.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The remainder of the 35 cultural resources situated within the APE are mostly unevaluated for listing on the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP). Potential project effects to these 35 cultural resources identified within the APE and management recommendations are provided in Table 38 of the Program's Cultural Resources Report (HELIX 2022c; Appendix D). The resource locations in relation to the APE and the proposed maintenance are shown in Figures 4 through 14 of that report. The maintenance areas for the Program include those areas where dredging, vegetation clearing, slope maintenance, and eucalyptus/palm removal activities have been specifically delineated to occur.

The 35 cultural resources that are not associated with the CSDSWS , are being considered historical resources for the purposes of the Program, except for the resources determined to be destroyed or those that do not possess the characteristics necessary to be considered resources eligible for listing on the CRHR or NRHP, such as isolates. Of these resources, four are located within the Program's maintenance areas. Three would be in areas requiring vegetation removal, and there would be no effect to the resources as the vegetation clearing activities would not include ground disturbance. Another was determined to have been destroyed and would not be affected by Program activities. Additionally, five of the resources would be located within the Program's designated Environmentally Sensitive Areas (ESAs), which would preclude Program activities except for vegetation removal that does not involve ground disturbance.

None of the cultural resources would be impacted by Program maintenance activities, and impacts would not occur.

b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒

Of the 35 cultural resources identified, 21 of them are prehistoric archaeological resources. Of these resources, 12 are located within the Program's maintenance areas. Two are in locations that are likely to have been previously destroyed and would not be affected by Program activities. Another would not be eligible for listing in the CRHR or NRHP. The remaining archaeological resources would be located within the Program's designated Environmentally Sensitive Areas (ESAs), which would preclude Program activities except for vegetation removal that does not involve ground disturbance.

None of the identified archaeological resources would be impacted by Program maintenance activities, and impacts would not occur.

c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

In the event that human remains are discovered, the County Coroner shall be contacted. If the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains. All requirements of Health & Safety Code §7050.5 and PRC §5097.98 shall be followed. Impacts would not occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. Energy used for maintenance activities would primarily consist of fuels in the form of diesel and gasoline for the operation of mechanical equipment and worker vehicles. While maintenance activities would consume petroleum-based fuels, consumption of such resources would be temporary and would cease upon the completion of the temporary maintenance and report work. The petroleum consumed during these activities would be typical of similar construction projects and would not require the use of new petroleum resources beyond what are typically consumed in California. Based on these considerations, construction of the Program would not result in wasteful, inefficient, or unnecessary consumption of energy resources.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

The proposed Program would be built and operated in accordance with existing, applicable regulations. Construction equipment would be maintained to allow for continuous energy-efficient operations. Furthermore, the Program would not result in an increase in energy use. Accordingly, the Program would not conflict with state or local plans related to energy, and no impacts would occur.

VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) Landslides?	☐	☐	☒	☐

The Program area, like the rest of southern California, is located within a seismically active region. Active faults in San Diego County include segments of the San Jacinto, Elsinore, and Rose Canyon fault zones. While there are faults in the vicinity of proposed maintenance areas, the proposed Program does not include the development of any structures that would pose a threat during an earthquake event. Although some activities may require the use of mechanical equipment and minor earthwork activities, maintenance activities do not have the potential to severely damage the environment or cause major loss of life. Similarly, the proposed Program would not require the construction of structures that would be susceptible to liquefaction, landslides, fault rupture, or unstable soils. Furthermore, the proposed Program would provide maintenance and repair of the dams and appurtenant structures to prevent deterioration that could lead to future dam failure. Conformance with standard engineering practices and design criteria for repair work would reduce the effects of seismic ground shaking. Therefore, impacts related to the exposure of seismic-related hazards would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Earthwork during maintenance activities such as grading, dredging, and vegetation removal would displace soils and temporarily increase the potential for soils to be subject to wind and water erosion. Program activities involve operations and maintenance, and the Program would require standard construction Best Management Practices (BMPs) to ensure that the project would not result in a substantial amount of topsoil erosion. Through implementation of standard sediment control and erosion control measure BMPs, impacts from soil erosion and topsoil loss would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Refer to Item VII.a above, regarding soil instability related to seismic effects. No water extractions or similar practices that are typically associated with subsidence effects are proposed. Adherence to standard engineering practices would result in less than significant impacts related to subsidence of the land.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

Certain types of clay soils expand when they are saturated and shrink when dried. These are called expansive soils and can pose a threat to the integrity of structures built on them without proper engineering. Due to Program maintenance being located throughout the County, individual activities may be located on expansive soils. The proposed Program would not involve the construction of buildings or structures. No impacts associated with expansive soils would occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

The proposed Program would not require the need for the disposal of wastewater. Implementation of the Program would not require the construction of structures or buildings or wastewater disposal systems. No impacts would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Impacts to paleontological resources generally occur from the physical destruction of fossil remains by excavation operations that cut into geologic formations. When such activities occur, potential impacts are limited to the immediate area of disturbance. Because paleontological resources are typically located underground and, therefore, not apparent until revealed by excavation, the potential for significant impacts to paleontological resources is based on the extent that a geologic formation would be disturbed and the potential for those geologic formations to contain fossils. The proposed Program's maintenance activities would occur at various locations throughout San Diego County, potentially including areas with high paleontological resource sensitivity. However, the proposed Program does not propose the construction of structures such as buildings or major earthworks. Dredging and grading activities are not anticipated to require earth-moving activities that would disturb the substratum or parent material below major soil horizons.

The City's Municipal Code defines the thresholds for paleontological resource monitoring in the General Grading Guidelines in the Land Development Manual. Monitoring is required for any of the following:

- Grading that involves 1,000 cubic yards or greater, and 10 feet or greater in depth, in a High Resource Potential Geologic Deposit/Formation/Rock Unit; or
- Grading that involves 2,000 cubic yards or greater, and 10 feet or greater in depth, in Moderate Resource Potential Geologic Deposit/Formation/Rock Unit; or
- Grading on a fossil recovery site or within 100 feet of the mapped location of a fossil recovery site.

The proposed Program does not include maintenance activities that would exceed these thresholds. Therefore, impacts to paleontological resources would be less than significant.

VIII. GREENHOUSE GAS EMISSIONS – Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and certain hydro-fluorocarbons. These gases, known as greenhouse gases (GHGs), allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Greenhouse gases are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contributing to what is termed "global warming," the trend of warming of the Earth's climate from anthropogenic activities. Global climate change impacts are by nature cumulative; direct impacts cannot be evaluated because the impacts themselves are global rather than localized impacts.

California Health and Safety Code Section 38505(g) defines GHGs to include the following compounds: CO_2, CH_4, N_2O, ozone, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. As individual GHGs have varying heat-trapping properties and atmospheric lifetimes, GHG emissions are converted to carbon dioxide equivalent (CO_2e) units for comparison. The CO_2e is a consistent methodology for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure.[1] The most common GHGs related to the project are those primarily related to energy usage: CO_2, CH_4, and N_2O.

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, set the state-wide goal to reduce GHG emissions to 1990 levels by 2020. Senate Bill (SB) 32 was passed as a follow up to AB 32 and extended the reduction target to 40 percent below 1990 levels by 2030.

A Climate Action Plan (CAP) was adopted by the City Council in December 2015. The CAP quantifies existing GHG emissions as well as projected emissions for the years 2030 and 2035 resulting from activities within the City's jurisdiction. The CAP also identifies City target emissions levels, below which the Citywide GHG impacts would be less than significant. The CAP Plan and the accompanying certified Final Environmental Impact Report also identify and analyze the GHG emissions that would result from the business-as-usual scenario for the years 2030 and 2035. The CAP includes a monitoring and reporting program to ensure its progress toward achieving the specified GHG emissions reductions and specifies actions that, if implemented, would achieve the specified GHG emissions reductions targets. In 2015, the CAP was adopted in a public process following certification of Final Environmental Impact Report SCH No. 2015021053 (City of San Diego 2015). Subsequent to the adoption of the CAP, the City also established additional specific measures (CAP Consistency Checklist) that, if implemented on a project-by-project basis, would further ensure that the City as a whole achieves the specified GHG emissions reduction targets in the Climate Action Plan.

[1] The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere and is expressed as a function of how much warming would be caused by the same mass of CO_2. For instance, CH_4 has a global warming potential of 21, meaning that 1 gram of CH_4 traps the same amount of heat as 21 grams of CO_2. N_2O has a global warming potential of 310.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

In July 2022, the City Council adopted an update to the CAP (2022 CAP), in a public process following certification of the Second Addendum to Final Environmental Impact Report SCH No. 2015021053. As proposed in the 2022 CAP, in October 2022, the City Council approved an amendment to the Land Development Code which incorporated a revised CAP consistency checklist CAP (Consistency Regulations) which replaced the CAP Consistency Checklist as the measures that could be implemented on a project-by-project basis pursuant to CEQA Guidelines Section 15183.5(b)(1)(D). Projects for new development that are consistent with the CAP, as determined through compliance with the CAP Consistency Regulations, may rely on the CAP for the cumulative impacts analysis of GHG emissions. For public infrastructures projects, the City has developed guidance for assessing CAP consistency. The environmental analysis for public infrastructure projects should include a discussion of overall consistency with each of the strategies of the 2022 CAP: Strategy 1: Decarbonization of the Built Environment; Strategy 2: Access to Clean and Renewable Energy; Strategy 3: Mobility and Land Use; Strategy 4: Circular Economy and Clean Communities; Strategy 5: Resilient Infrastructure and Healthy Ecosystems; and Strategy 6: Emerging Climate Action (City of San Diego 2022).

Pursuant to CEQA Guidelines sections 15183.5(b), 15064(h)(3), and 15130(d), the City may determine that a project's incremental contribution to a cumulative greenhouse gas (GHG) effect is not cumulatively considerable if the project complies with the requirements of a previously adopted GHG emission reduction plan. An environmental document that relies on a GHG emissions reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. As discussed above, the 2022 CAP is a qualified CAP pursuant to CEQA Guidelines sections 15183.5 and the City Planning Department has provided guidance for assessing CAP consistency for public infrastructure projects which requires a discussion of overall consistency with each of the strategies of the 2022 CAP. GHG emissions impacts for public infrastructure projects which are consistent with the CAP, determined by following the City Planning Department Guidance, would be less than significant (City of San Diego 2022).

The Air Quality and Greenhouse Gas Letter Report (HELIX 2022a; Appendix A) conducted modeling of Program GHG emissions using the California Emissions Estimator Model (CalEEMod), as shown below in Table 4, *Annual Operational Emissions*. The calculations included estimated emissions from maintenance activities and repair work. Other operational activities of the existing facilities would not result in new emissions and were not included in the modeling.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table 4
ANNUAL OPERATIONAL EMISSIONS

Facility	CO_2[1]	CH_4[1]	N_2O[1]	CO_2e[1]
Barrett	0.9	<0.1	<0.1	0.9
Black Mountain	0.6	<0.1	<0.1	0.6
Chollas	1.3	<0.1	<0.1	1.3
El Capitan	1.7	<0.1	<0.1	1.7
Hodges	1.4	<0.1	<0.1	1.4
Miramar	1.7	<0.1	<0.1	1.7
Morena	1.7	<0.1	<0.1	1.7
Murray	1.7	<0.1	<0.1	1.7
Rancho Bernardo	0.2	<0.1	<0.1	0.2
San Vicente	1.7	<0.1	<0.1	1.7
Savage	1.7	<0.1	<0.1	1.7
Sutherland	1.7	<0.1	<0.1	1.7
Upper Otay	1.7	<0.1	<0.1	1.7
Dulzura Conduit	4.1	<0.1	<0.1	4.1
Total Annual Emissions	**22.0**	**<0.1**	**<0.1**	**22.0**

Source: HELIX 2022
[1] GHG Emissions (metric tons per year).
GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalents

As discussed in VIII.b below, the Program would be consistent with the strategies in the City's 2022 CAP. Therefore, the implementation of the Program would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

The proposed Program would provide ongoing maintenance to existing municipal facilities. The Program would not generate growth in population or employment or require the alteration of an existing land use designation through amendments to general plans or changes to zoning. Following from the City Planning Department for assessing 2022 CAP consistency for public infrastructure projects, overall consistency with each of the strategies of the 2022 CAP is provided below:

Strategy 1: Decarbonization of the Built Environment: The City has adopted a goal to achieve zero emissions municipal buildings and operations by 2035. The Program is maintenance to existing dams and associated infrastructure. This maintenance is required for ongoing operation of existing facilities with no expansion of use or modification of the facilities. The Program would implement Best Management Practices for construction activities as set forth in the Greenbook (for public projects) that further energy efficiency. The Greenbook, which is also known as the Standard Specifications for Public Works Construction, has a section on work site maintenance that includes measures for pollution control and equipment maintenance. Maintaining construction equipment in proper working condition according to manufacturer's specifications, as required by the Greenbook,

is one way to ensure energy efficiency. The Greenbook also includes construction operations measures that would limit pollution including air emissions. All City contract documents require that the contractor conform to the Greenbook and the City's supplement, the Whitebook. Additionally, California regulations limit construction equipment and vehicle idling by requiring that equipment be shut off when not in use and that idling not exceed five minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Signs must be posted at entrances to work sites stating this requirement. The California Air Resources Board (CARB) enforces idling limitations and compliance with diesel fleet regulations. CARB also issues certificates of compliance for off-road diesel-powered equipment. Therefore, the Program would not conflict with the City's ability to implement the actions identified in the CAP related to decarbonization of the built environment, including City requirements for building electrification, distributed energy generation, and energy storage.

Strategy 2: Access to Clean and Renewable Energy: Strategy 2 transitions City wide energy use for the built environment and for transportation away from fossil fuels and toward clean and renewable sources. The Program would not include construction of new buildings, modifications to existing buildings, or any transportation system components. The Program is required maintenance of existing City-owned infrastructure. Maintenance of the City's dams and associated infrastructure supports continued use of existing local water supplies and will prevent mandated drawdowns of the reservoir level and level restrictions implemented by the State for safety that reduce local water storage and usage. Utilization of local water supplies like those stored at City dams reduces energy associated with importing water and contributes to the City's GHG reduction goals. Therefore, the Program would not conflict with the City's ability to implement the actions identified in the CAP related to clean and renewable energy.

Strategy 3: Mobility and Land Use: Strategy 3 involves prioritizing infrastructure project that support sustainable mode choices such as walking, bicycling and transit use, and developing strategic land use planning to reduce citywide vehicle emissions. The Program involves maintenance activities at existing facilities owned and managed by the PUD. No bicycle, pedestrian, or transit facilities would be impacted by the Program. Because the Program involves maintenance of existing City-owned infrastructure, there is no proposed change in land use or measures that would reduce vehicle miles traveled as there is no new development proposed as part of the Program. The Program is consistent with this CAP strategy and does not conflict with the City's ability to implement the actions related to mobility and land use.

Strategy 4: Circular Economy & Clean Communities: Strategy 4 is focused on reducing solid waste through recycling, composting, reduction, and reuse. The Program waste would include soils and vegetation removed from the City facilities which would be reused as fill or aggregate material on site for access roads or other operational needs or recycled for use at other PUD facilities. The Program would be required to submit and implement a waste management plan and dispose of any vegetation and debris that cannot be reused or recycled at the Miramar Landfill and Miramar Greenery consistent with the City's Construction and Demolition Debris Diversion Ordinance and the City's Whitebook Standards Specifications for Public Works Construction. The Program would not affect solid waste generation resulting from operation of any of the facilities. Therefore, the Program would not conflict with the City's ability to implement the actions identified in the CAP related to circular economy and clean communities.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Strategy 5: Resilient Infrastructure and Healthy Ecosystems: Strategy 5 relates to climate resiliency and includes the goal of increasing tree canopy coverage. The action under this goal includes consideration of a Citywide Urban Tree Planting Program, which would incorporate water conservation measures and prioritization of drought-tolerant and native trees and plantings in areas with recycled water. The Program does not conflict with the City's ability to implement the goals under this strategy. The Program would not result in the removal of any trees that are considered part of the urban tree canopy. Impacts to sensitive habitat, which could include the removal of trees, would be mitigated through the allocation of credits and a PUD approved site. Program mitigation furthers the City's climate resiliency goals by offsetting Program impacts to habitat at a higher ratio than what was impacted. Mitigation sites are maintained in preservation in perpetuity under agreements with various wildlife agencies and cannot be developed at a later point in time. Therefore, the Program would not conflict with the City's ability to implement the actions identified in the CAP related to resilient infrastructure and healthy ecosystems.

Strategy 6: Emerging Climate Action: This broad strategy looks to identify, support, and collaborate on research and programs for further reductions in GHG emissions. The Program is maintenance to existing dams an associated infrastructure. This maintenance is required for ongoing operation of existing facilities with no expansion of use or modification of the facilities. The Program would not conflict with the City's ability to implement the actions identified in the CAP related to emerging climate action.

As discussed above, the Program would not conflict with any the 2022 CAP's six GHG reduction strategies. Therefore, the Program would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, including the City's Climate Action Plan (CAP), and the impact would be less than significant.

IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

a)	Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒

Construction of the project may require the use of hazardous materials (fuels, lubricants, solvents, etc.), which would require proper storage, handling, use and disposal; however, the project would not routinely transport, use or dispose of hazardous materials. Therefore, the project would not create a significant hazard to the public or environment. No impact would result due to implementation of the Program.

b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

The proposed Program maintenance activities are not anticipated to result in a release of hazardous materials into the environment. Construction of the project may require the use of hazardous materials (fuels, lubricants, solvents, etc.), which would require proper storage, handling, use and

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

disposal; however, the project would not routinely transport, use or dispose of hazardous materials. Therefore, no impact with respect to exposing the public or the environment to hazardous materials through upset and accident conditions would occur.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

The following locations proposed for routine maintenance under the Program would be located within one-quarter mile of an existing school: Chollas Dam, Miramar Dam, Murray Dam, and Rancho Bernardo Reservoir. However, as discussed above, the Program would fully adhere to all applicable federal, state, and local regulations regarding the handling, storage, usage, and transportation of hazardous materials. Furthermore, the Program would only use herbicides that are USEPA/CalEPA registered and, as such, have been determined to be safe for environmental application as specified on the label. The proposed Program's maintenance activities would not result in significant hazardous impacts at existing or proposed schools. Impacts would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

Pursuant to Government Code Section 65962.5 (Cortese List) requirements, the SWRCB GeoTracker database (SWRCB 2022) and the California Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC 2022) were searched for hazardous materials sites within the proposed maintenance areas. The dams and reservoirs are not listed as hazardous materials sites on either of these databases, however some Program activities may be located within 1,000 feet of closed cleanup sites in the vicinity of Miramar Dam, Hodges Dam, Murray Dam, and Upper Otay Dam. The Program's maintenance activities would not affect these closed cleanup sites and there are no active or inactive cleanup sites mapped in the vicinity of the maintenance areas, including along the Dulzura Conduit. Therefore, no impact related to hazardous materials sites would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒

The Program includes maintenance activities that would occur in a wide range of locations throughout San Diego County, including potentially within an airport land use plan or within two miles of a public airport or public use airport where such a plan has not been adopted. However, the proposed Program would not construct structures that would create a safety hazard or excessive noise for people residing or working in the Program area. Therefore, no impacts related to airport hazards would occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

The proposed Program involves maintenance activities that could require the periodic use of vehicles and light trucks. While maintenance activities are not anticipated to result in any road or lane closures, should these be needed, the City would be required to prepare and comply with a traffic control plan which would include measures to minimize effects and ensure safe passage of evacuees or emergency response vehicles. Additionally, the proposed Program would use existing staging areas and would not introduce new structures or residents to the region that may result in slower emergency response or evacuation times. Therefore, impacts would be less than significant.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

The proposed Program would not expose people or structures to a significant risk of wildland fires because the Program does not propose structures that would be at risk for fire damage or buildings meant for human occupancy. Maintenance activities involve the removal of vegetation along access roads and would include the removal of dead vegetation from the maintenance areas. This would reduce the amount of potential fuel and would not increase the risk of loss, injury, or death involving wildfires. Therefore, no impacts would occur.

X. HYDROLOGY AND WATER QUALITY - Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐

The proposed Program maintenance areas are under the jurisdiction RWQCB San Diego Region Basin Plan. Under Section 402 of the Clean Water Act, the RWQCB issues National Pollutant Discharge Elimination System (NPDES) permits to regulate discharges to “waters of the nation,” which include rivers, lakes, and their tributary waters. Potential impacts related to water quality could occur during grading, dredging, and vegetation removal when the potential for erosion, siltation, sedimentation, and accidental release of hazardous materials would be the greatest. These pollutants could degrade surface water quality if carried by stormwater or other runoff into surface waters. Sediment that is washed off site can result in turbidity in surface waters, which can impact aquatic species. Hydrocarbons such as fuels, oils, and hazardous materials discharged from equipment could also potentially impact aquatic plants and animals downstream if not protected.

The City shall obtain applicable permitting from federal and State regulatory agencies for Program activities that would result in impacts to federal or State regulated water bodies (i.e., Waters of the U.S. and State, streambeds, wetlands, and/or riparian habitat) prior to the commencement of discharge or dredging activities. Such agencies may include USACE, RWQCB, and CDFW.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Existing regulatory processes are in place for safeguarding surface water quality under the RWQCB's NPDES Construction General Permit Program. For disturbances greater than one acre, a SWPPP must be prepared that identifies BMPs to minimize ground disturbance, reduce erosion, and limit or prevent various pollutants from entering surface water runoff. For disturbances of less than one acre, the City's water quality BMPs, such as silt fencing, sediment traps, and straw bale barriers would be implemented to reduce the discharge of pollutants associated with smaller sites. As such, individual Program activities would adhere to these regulatory processes and would implement BMPs to reduce potential impacts on surface water quality. These would also include requiring any staging of equipment or materials to occur in developed or previously disturbed areas and minimizing the use of heavy equipment and machinery. Compliance with these requirements would ensure that the proposed Program would have a less than significant impact on water quality standards and waste discharge requirements.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

The proposed Program would not require the use of, or otherwise substantially interfere with, groundwater supplies or recharge. The potential for impacts related to groundwater quality would be limited mainly to ground disturbances associated with maintenance activities. However, maintenance activities would be conducted in previously developed and disturbed areas. Furthermore, the proposed Program would not result in an increase of impervious surfaces or interfere with groundwater recharge. Therefore, no impacts would occur.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) impede or redirect flood flows?	☐	☐	☒	☐

Existing surfaces within the maintenance areas could temporarily be disturbed during grading and vegetation management. While drainage patterns may change temporarily during these activities, required BMPs would minimize on- and off-site erosion through sediment control measures. Conformance with required BMPs would reduce potential impacts related to erosion and siltation during maintenance activities to less than significant. The proposed Program would repave existing access roads but would not result in an increase in impermeable surfaces that could contribute to increased surface runoff compared to existing conditions. Drainage patterns would potentially be affected temporarily by construction activities; however, the Program would require implementation of standard construction BMPs to reduce drainage alteration impacts to a less-than-significant level. No associated flooding would occur, and impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐

Individual maintenance activities would occur at a range of locations within San Diego County. Therefore, there is the potential for Program activities to be located on or adjacent to lands subject to flood hazards or seiches. However, BMPs would ensure that hazardous materials equipment would not be present during a flood event. In addition, due to their locations inland and at high elevations, there would be no tsunami risk from the Program. As such, impacts related to the release of pollutants due to inundation in flood hazard, tsunami, and seiche zones would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

The activities would not adversely impact a groundwater management plan because the Program would not impede groundwater replenishment and would not require the use of groundwater. No related impacts would occur.

XI. LAND USE AND PLANNING – Would the project:

a) Physically divide an established community?	☐	☐	☐	☒

The Program area generally encompasses open space and recreation areas that are public or semi-public facilities situated within undeveloped, open space, rural, and residential areas. Barrett Dam, El Capitan Dam, Morena Dam, San Vicente Dam, Sutherland Dam, and Dulzura Conduit are in more rural or undeveloped areas. Black Mountain Dam, Chollas Dam, Hodges Dam, Miramar Dam, Murray Dam, Rancho Bernardo Dam, Savage Dam, and Upper Otay Dam are in more suburban and developed areas, and in some cases, are entirely surrounded by residential development. The proposed Program is limited to the long-term, routine maintenance of existing infrastructure and would not disrupt or divide an established community by introducing new infrastructure or expanding existing infrastructure. No impact would occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

The proposed Program is limited to the long-term, routine maintenance of existing infrastructure and would not create new facilities or expand existing facilities. As such, the Program would not alter existing land uses nor interfere with existing land uses and would be consistent with the General Plans and the various Community Plans land use designations. No impact would occur.

As described above in Section IV (Biological Resources) and V (Cultural Resources), the proposed Program will comply with the City's Municipal Code Environmentally Sensitive Lands (ESL) Regulations (Chapter 14, Article 3, Division 1) and the Biology Guidelines and Historical Resource Guidelines contained in the City's Land Development Manual. Potentially significant impacts would be reduced to a less than significant level through implementation of the mitigation measures contained in the Program's MMRP.

The Program area occurs within the City's MSCP subarea plan which is a long-term regional conservation plan established to protect sensitive species and habitats. The City's MSCP subarea plan identifies lands designated as MHPA, which is a "hard-line" preserve developed by the City in cooperation with the wildlife agencies, developers, property owners, and various environmental groups. The MHPA contains important biological resources areas and corridors targeted for conservation and restricted from development. In the context of the City's MSCP subarea plan, Black Mountain Dam, Chollas Dam, Hodges Dam, Miramar Dam, Murray Dam, San Vicente Dam, Savage Dam, and Upper Otay Dam occur within the MHPA. Though Barrett Dam, El Capitan Dam, Morena Dam, Sutherland Dam, and Dulzura Conduit are located outside of the boundaries of the City's MSCP subarea plan, the dams and associated infrastructure are owned and operated by the City, and as such, will comply with the policies and guidelines of the City's MSCP subarea plan. The Program's consistency with the City's MSCP subarea plan applicable management directives, policies, and guidelines, are detailed Section 6.0 of the Program's BTR (Appendix B) and summarized below.

Compatible Land Uses (Section 1.4.1 of the MSCP)

The Program is considered conditionally compatible with the biological objectives of the City's MSCP subarea plan with allowable activities within the City's MHPA because the Program contains water facilities and other essential public facilities.

MHPA Guidelines and Exclusions (Section 1.2 of the MSCP)

The MSCP includes specific policies and guidelines that are unique to individual MHPA areas and are to be incorporated into the design of future projects within or adjacent to the MHPA. There is only one specific guideline that applies to the proposed Program for MHPA lands at Black Mountain Park in which Black Mountain Dam is located:

- *Guideline C21 – If purchased by the City's Water Utilities Department for water facility uses, the development areas shown may expand slightly.*

The City PUD constructed Black Mountain Dam between 2000 and 2003 thereby expanding the development area of MHPA lands that overlap this area. The proposed Program is limited to the long-term, routine maintenance of existing infrastructure and would not create new facilities or expand existing facilities.

General Planning Policies and Design Guidelines (Section 1.4.2 of the MSCP)

The MSCP establishes specific guidelines that limit activities that occur within the MHPA. In general, activities occurring within the MHPA must conform to these guidelines and, wherever feasible, should be located in the least sensitive areas. Applicable policies and guidelines from Section 1.4.2 of the MSCP include those related to roads and utilities; fencing, lighting, and signage; material storage; and flood control. A detailed description of the Program's conformance with these policies and guidelines is included Section 6.3 of the Program's BTR (Appendix B) and summarized below.

The proposed Program is limited to the long-term, routine maintenance of existing infrastructure and facilities and does not include the development of new facilities or expansion of existing facilities. Existing access roads, trails, and footpath would be used to access the dams and associated infrastructure and existing parking lots, staging and material storage areas, and disturbed areas will be utilized as staging areas. Existing access roads and trails are compatible for use within the MHPA, and maintenance of such roads is a covered maintenance activity. No temporary widening of existing access features is proposed, and no new access roads or staging areas would be constructed as part of the Program. No new fencing, barriers, or lighting resources would be installed as part of the Program. No additional berming, channelization, or barriers to existing creeks, rivers, and drainages beyond those that are currently in place would occur. Existing riprap, concrete, and creek stabilization structures shall be maintained in their current condition. The City will obtain the appropriate regulatory permits with the appropriate agencies prior to the commencement of maintenance activities that would result in impacts to jurisdictional waters and wetlands. Compensatory mitigation for impacts to waters and wetlands subject to the jurisdiction of the Regulatory Agencies (USACE, RWQCB, and CDFW) will be completed in accordance with the appropriate permits and applicable requirements. As such, the Program is consistent with the MSCP general planning policies and design guidelines.

Land Use Adjacency Guidelines (Section 1.4.3 of the MSCP)

The MSCP addresses indirect impacts to preserve areas from adjacent development in Section 1.4.3, Land Use Adjacency Guidelines (LUAGs). The LUAGs provide requirements for land uses adjacent to the habitat preserve in order to minimize indirect impacts from drainage, toxics, lighting, noise, barriers, invasive species, brush management, and grading to the sensitive resources contained therein. Projects that are within or adjacent to the MHPA must demonstrate compliance with the LUAGs. A detailed description of the Program's conformance with the City's LUAGs is included Section 6.4 of the Program's BTR (Appendix B) and summarized below.

The Program is limited to the routine maintenance of existing infrastructure and does not include the construction of newly developed or paved areas that would drain directly into the MHPA, or the creation of recreational areas or any other uses that would introduce new toxins, chemicals, or by-products within the MHPA. Best Management Practices (BMPs) would be implemented during Program activities, as necessary, in order to prevent the release of toxins, chemicals, petroleum

products, exotic plant materials, and other elements into the MHPA. No new fencing, barriers, or lighting resources would be installed as part of the Program. Maintenance activities are anticipated to take place during daylight hours. However, if night work must occur during Program activities, any temporary artificial night lighting required to complete activities would be shielded and directed down or away from the MHPA to protect resources in the MHPA from artificial night lighting. Standard protection requirements and mitigation measures would be implemented if maintenance activities requiring heavy machinery within or adjacent to the MHPA were to occur during the breeding season for sensitive avian species, such as CAGN, LBVI, and SWFL, to ensure that ensure that no significant and adverse indirect noise impacts occur to breeding CAGN, LBVI, or SWFL within the MHPA. As such, the Program is consistent with the City's LUAGs.

General Management Directives (Section 1.5.2 of the MSCP)

The general management directives outlined in Section 1.5.2 of the City's MSCP subarea plan apply to all projects within the City's MSCP. A detailed description of the Program's conformance with the City's LUAGs is included Section 6.5 of the Program's BTR (Appendix B) and summarized below.

No new trails, overlooks, or staging areas would be created under the Program. Existing access roads and trails, staging and material storage areas, parking lots, and disturbed areas will be utilized as staging areas for any equipment required to complete maintenance activities. Temporary staging and storing of equipment and materials during maintenance activities will occur within existing parking lots and disturbed areas and will be removed from the area following completion of maintenance activities. Appropriate BMPs will be implemented during maintenance activities to avoid the introduction of invasive plants into the Program area by equipment. Maintenance activities under the Program that involve the clearing of riparian vegetation or dredging work that involves removal or disturbance to riparian vegetation shall occur outside of the breeding season for sensitive riparian bird species such as LBVI (March 15 through September 15) and SWFL (May 1 through August 30). If clearing of riparian vegetation must occur between March 15 to September 15, implementation of species-specific mitigation measures for LBVI and SWFL would ensure that no significant impact would occur to either species. Furthermore, unavoidable impacts to sensitive biological resources associated with routine maintenance activities will be mitigated in accordance with the City's ESL regulations and Biology Guidelines, as detailed in Section IV. All proposed mitigation would be subject to the approval of the City, as well as state and federal agencies, as applicable. As such, the Program is consistent with the MSCP general management directives.

Area Specific Management Policies and Directives

The MSCP identifies Area Specific Management Directives (ASMDs) for planned areas of the MHPA. Portions of the Program are located within the following MHPA Planning Areas: Urban Habitat Lands, Northern Area, Lake Hodges, and other Cornerstone Lands. The City's MSCP subarea plan does not include any specific management policies and directives for Urban Habitat Lands. The Program's conformance with the applicable ASMDs for the Northern Area, Lake Hodges, and Cornerstone Lands is included Section 6.6 of the Program's BTR (Appendix B) and summarized below.

Black Mountain Dam and Miramar Dam are located within or adjacent to the Northern Area of the MHPA. Black Mountain Dam is located within the Black Mountain Park Area of the MHPA. The City's MSCP subarea plan includes two ASMDs relating to this area, one of which is applicable to the Program. The applicable ASMD requires that all access areas and trails be clearly marked with post signage to prevent off-trail access and use. Perimeter chain-link fencing surrounds Black Mountain Dam, and the facility is accessed via a gated paved access road from Carmel Valley Road, preventing off-trail access and use of the area. There are no public trails to or from Black Mountain Dam. As such, the Program is consistent with the ASMDs for the Black Mountain Park Area. The City's MSCP SAP does not include any specific management policies and directives for MHPA lands at Miramar Reservoir.

Hodges Dam is within the Lake Hodges/San Pasqual Valley area of the MHPA. There are six Priority 1 ASMDs and two Prior 2 ASMDs relating to the area west of Interstate 15 where Hodges Dam is located. These generally relate to public use of authorized trails, the restriction of public access to sensitive areas, and erosion control. There are multiple access gates and signage along the access roads to Hodges Dam, restricting public use of the area. Existing trails, access gates and fencing (where present), and signage at Hodges Dam will continue to be maintained by City PUD and Parks and Recreation Department. No new trails, overlooks, or staging areas would be created under the Program. Access to the Program facilities would occur via existing access roads and trails. City PUD and Parks and Recreation Department currently perform routine maintenance of existing recreational and public facilities at Hodges Reservoir. Typical management activities regular patrolling; removal of trash and other refuse; maintenance of existing facilities, access roads, and public use trails; and vegetation management. Implementation of the Program would not interfere with or otherwise disrupt these activities. Appropriate BMPs would be implemented during maintenance activities that would include measures to control erosion and avoid the introduction of invasive plants into the Program area. As such, the Program is consistent with the ASMDs for the Lake Hodges/San Pasqual Valley area.

Hodges Dam, San Vicente Dam, Savage Dam, and Upper Otay Dam are located within or adjacent to Cornerstone Lands of the MHPA. The City's MSCP SAP does not include any specific management policies and directives for Cornerstone Lands. These lands are currently maintained and managed by the City (PUD and Parks and Recreation Department) in accordance with the MSCP. Implementation of the Program would not interfere with or otherwise disrupt these activities.

Conditions of Coverage for Covered Species

Special status plant and animal species covered by the MSCP are considered adequately conserved provided that the conditions described in the Appendix A of the City's MSCP subarea plan are implemented. A total of 16 MSCP-covered species were observed within the Program area, and an additional 12 MSCP-covered species were determined to have a high potential to occur as follows:

Plants

- Observed (3): San Diego goldenstar, San Diego barrel cactus, and wart-stemmed ceanothus.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- High Potential to Occur (9): San Diego ambrosia, thread-leaved brodiaea, Orcutt's brodiaea, Dunn's mariposa lily, slender-pod jewelflower, Lakeside ceanothus, San Miguel savory, variegated dudleya, and small-leaved rose.

Animals

- Observed (13): arroyo toad, Belding's orange-throated whiptail, Blainville's (San Diego) horned lizard, bald eagle, Canada goose, coastal cactus wren, CAGN, Cooper's hawk, LBVI, peregrine falcon, southern California rufous-crowned sparrow, western bluebird, and mule deer.

- High Potential to Occur (3): golden eagle, northern harrier, and mountain lion.

A detailed description of the Program's conformance with the MSCP conditions of coverage for these species is included Section 6.7 of the Program's BTR (Appendix B). The Program would not create new facilities or expand existing facilities, and maintenance activities conducted under the Program would be limited to areas immediately surrounding existing facilities potential impacts. The Program would conform with the City's LUAGs and would not substantially add to edge effects already present in the existing condition in the Program area. Areas within the MHPA will continue to be managed by City PUD and Parks and Recreation Department in accordance with the MSCP, which includes regular patrolling and limiting public access in the MHPA (i.e., fencing along trails and appropriate signage), thus guarding against the unauthorized impacts to these species, measures to control non-native predator populations, and reducing the risk of unauthorized fires. Potentially significant direct and indirect impacts to MSCP covered species would be mitigated to a less than significant level through implementation of the mitigation measures presented in the MMRP which include habit-based mitigation, breeding bird avoidance including the incorporation of required nest setbacks for sensitive avian species, and species-specific mitigation, where required. As such, the Program is consistent with the MSCP conditions of coverage.

XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. As such, individual activities could occur in a wide range of locations and could potentially be located on or adjacent to lands designated as Mineral Resource Zone (MRZ)-2 by the Division of Mines and Geology (DMG) or in areas with active mining operations. MRZ-2 is defined as an area where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presents exist. San Diego County is known to contain sand, gravel, and granitic rock deposits suitable for aggregate, and there are several designated mineral resource recovery sites and MRZ-2 zoned lands in the region. Therefore, while it is possible that maintenance activities may be located in alluvial areas known to contain valuable loose sands and gravel and include activities such as minor grading or vegetation management, it would not include significant earthwork, construction, or other activities that would result in the loss of availability of a known mineral resource that will be of value to the region and

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

the residents of the state. Furthermore, such activities would not affect the potential for future mining activities at these sites or change the existing land uses. Therefore, impacts would be less than significant.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒	☐

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. As such, individual activities could occur in a wide range of locations and could potentially be located on or adjacent to lands where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presents exist. San Diego County is known to contain sand, gravel, and granitic rock deposits suitable for aggregate, and there are several designated mineral resource recovery sites and MRZ-2 zoned lands in the region. Therefore, while it is possible that maintenance activities may be located in an area delineated on a local general plan, specific plan, or other land use plan with mineral resources, the proposed Program would not include significant earthwork, construction, or other activities that would result in the loss of availability of a locally important mineral resource. Furthermore, such activities would not affect the potential for future mining activities at these sites or change the existing land uses. Therefore, impacts would be less than significant.

XIII. NOISE – Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐

The San Diego region is a diverse region with a variety of land uses, habitats, and climatic and topographic conditions. The existing conditions at each dam location and along the Dulzura Conduit corridor range from urban to suburban to rural and open space. As such, individual activities could occur in a wide range of locations and could potentially be located adjacent to noise sensitive land uses (NSLUs) such as residences, schools, or biologically sensitive habitat. Dams located within or adjacent to urban or suburban areas include Chollas, Rancho Bernardo, Miramar, Upper Otay, Black Mountain, and Murray. Dams located in largely undeveloped or rural locations include Savage, Hodges, San Vicente, El Capitan, Sutherland, Morena, and Barrett. The areas surrounding the Dulzura Conduit are largely open space or undeveloped.

The following discussion was informed by noise modeling from the Program's Noise Assessment Study (HELIX 2022e). Noise-generating activities associated with the Program would include mobile equipment used for access road maintenance, vegetation clearing, tree removal, dredging, spillway cleaning, and dam and conduit repairs. Noise levels are addressed at a programmatic level based on the types of equipment that may be used during each activity. Construction equipment that would

be used for the Program's access road maintenance, vegetation clearing, tree removal, dredging, spillway cleaning, dam and concrete repairs includes skid-steers, dozers, backhoes, excavators, dump trucks, cranes, loaders, and helicopters.

Because construction equipment would not be used at a standard distance from nearby noise-sensitive land uses or biologically sensitive habitats, the Noise Assessment Study analyzed individual construction equipment to determine the distances within which noise would be significant. If a sensitive land use, such as a nearby residence or habitat, is located within the distances specified below in Table 5, *Construction Equipment Setback Distances* impacts from construction noise would be potentially significant.

Table 5
CONSTRUCTION EQUIPMENT SETBACK DISTANCES

Equipment Type	Percentage Used per Hour	Distance Within Which Noise Levels Would Exceed Threshold	
		Biologically Sensitive Habitat[1]	Noise-Sensitive Land Uses[2]
Bobcat/Skid-steer	40	178 feet	31 feet
Dozer	40	385 feet	68 feet
Backhoe	40	240 feet	43 feet
Chainsaw	20	178 feet	32 feet
Excavator	40	343 feet	61 feet
Dump Truck	40	211 feet	38 feet
Crane	16	214 feet	38 feet
Loader	20	202 feet	36 feet
Jackhammer	20	623 feet	111 feet

Source: Noise Assessment Study (Appendix E; HELIX 2022e); CadnaA

[1] Threshold is noise levels exceeding 60 dBA L_{EQ} (one hour)

[2] Threshold is noise levels exceeding 75 dBA L_{EQ} (8 hour or 12 hour)

As shown in Table 5 the distances within which noise levels would exceed the 60 dBA (A-weighted decibel) L_{EQ} (time-averaged noise level; one hour) limit for biologically sensitive habitat and 75 dBA L_{EQ} (8 hour or 12 hour) limit for NSLUs. Because it cannot be guaranteed that individual construction equipment would be used outside the setback distances provided in Table 5, or that construction equipment would be used for shorter time periods than assumed in Table 5, impacts from temporary construction noise would be significant without mitigation. Therefore, mitigation measure **NOI-1** would implement a construction noise management plan to reduce noise levels to NSLUs to a less than significant level. With regard to permanent increases in noise levels, noise from the maintenance activities would be temporary and would last only for the duration of each activity. No potential exists to produce permanent increases in noise as a result of the Program.

As stated in Section IV, impacts to biologically sensitive habitat (CAGN and suitable CAGN habitat) would be reduced to a less than significant level through implementation of mitigation measure **BIO-7** which includes habitat-based mitigation and avoidance measures to ensure maintenance activities do not disturb CAGN during the breeding season

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

In addition, aircraft such as helicopters are anticipated to be used for loading and unloading of equipment or to remove large trees in areas inaccessible to vehicles. Aircraft would therefore only be required near undeveloped areas away from NSLUs. Aircraft use associated with individual Program activities would be brief and would not remain stationary over any specific location. Impacts would be significant if a helicopter is located within 1,760 feet of a biologically sensitive habitat or within 313 feet of a NSLU. Because the Program would only require the use of helicopters in inaccessible areas, impacts to NSLUs are considered less than significant. Helicopter use during the breeding seasons of avian species, however, would exceed the 60 dBA LEQ (one hour) noise limits if used within 1,760 feet of biologically sensitive habitat, and impacts would be potentially significant. Mitigation measure **NOI-2** would restrict non-emergency aircraft use for Program activities to outside the avian breeding season.

With implementation of mitigation measures **NOI-1, NOI-2**, and **BIO-7**, construction noise impacts from Program activities would be reduced to less than significant levels.

b) Generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

No vibration-sensitive land uses (i.e., land uses where equipment or operations would be disrupted by excessive vibration) are located within the immediate vicinity of the maintenance sites. However, excessive levels of groundborne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. The maintenance activities required under the Program would require the equipment types described in Table 5. This equipment may generate small amounts of vibration but are not anticipated to generate excessive groundborne vibrations or noise levels at nearby NSLUs. Due to the temporary nature of construction activities, impacts related to vibration are considered less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

The Program's maintenance activities would occur in a wide range of locations throughout San Diego County, potentially including within an airport land use plan or within two miles of a public airport or public use airport where such a plan has not been adopted. However, the Program does not propose changes in land use or improvements that would expose people to excessive noise levels associated with proximity to a public airport or private airstrip. Therefore, there would be no impacts to airport land use noise compatibility.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to the routine maintenance of existing infrastructure and facilities and does not propose the new development of utilities or additional facilities. The Program will utilize existing access roads and trails, and footpaths to access the dams, associated infrastructure, and temporary work areas. Therefore, maintenance activities would not induce population growth because they do not propose any physical or regulatory change that would involve removing a restriction to or encouraging population growth in an area. Since the proposed project would not result in these changes, no new population growth would occur. Therefore, no population impacts would not occur.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to the routine maintenance of existing infrastructure and facilities and does not propose the new development of utilities or additional facilities. The Program will utilize existing access roads and trails, and footpaths to access the dams, associated infrastructure, and temporary work areas. Therefore, maintenance activities would not result in the displacement of people or housing. As such, housing impacts would not occur.

XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:				
i) Fire protection;	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to maintenance of existing infrastructure and facilities and does not propose the development of new facilities that would accommodate population growth or necessitate the provision of additional public services. The Program would not place additional demand on fire services. No impact to public services would occur as a result of the proposed Program.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Police protection;	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to maintenance of existing infrastructure and facilities and does not propose the development of new facilities that would accommodate population growth or necessitate the provision of additional public services. The Program would not place additional demand on police services. No impact to public services would occur as a result of the proposed Program.

iii) Schools;	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to maintenance of existing infrastructure and facilities and does not propose the development of new facilities that would accommodate population growth or necessitate the provision of additional public services. The Program would not place additional demand on existing schools. Therefore, no impacts to public services would occur as a result of the proposed Program.

iv) Parks;	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to maintenance of existing infrastructure and facilities and does not propose the development of new facilities that would accommodate population growth or necessitate the provision of additional public services. The Program would not place additional demand on existing parks. Therefore, no impacts to public services would occur as a result of the proposed Program.

v) Other public facilities?	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program is limited to maintenance of existing infrastructure and facilities and does not propose the development of new facilities that would accommodate population growth or necessitate the provision of additional public services. The Program would not result in the need for additional governmental facilities. Therefore, no impacts to public services would occur as a result of the proposed Program.

XVI. RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

Individual activities under the proposed Program would not result in any changes to existing land uses that would accelerate or result in the deterioration of recreational facilities. Therefore, no impacts to recreational facilities would occur as a result of Program implementation.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Individual activities under the proposed Program would not include any new development, including but not limited to a residential subdivision, mobile home park, or construction of any use that may increase the use of existing neighborhood or regional parks or other recreational facilities. Therefore, no impacts to recreational facilities would occur as a result of Program implementation.

XVII. TRANSPORTATION–

a) Would the project or plan/policy conflict with an adopted program, plan, ordinance, or policy addressing the transportation system, including transit, roadways, bicycle, and pedestrian facilities?	☐	☐	☒	☐

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program does not include the construction of habitable structures or stationary sources that would result in additional trips upon the completion of routine maintenance for existing infrastructure. The use of automobiles, light trucks, and heavy trucks would be required to transport workers, materials, and equipment during maintenance activities. According to the Air Quality and Greenhouse Gas Emissions Letter, the calculation of on-road traffic assumed an average of 20 daily worker trips and an average of 10 daily truck trips for individual maintenance activities (HELIX 2022). Therefore, the limited nature of Program-related traffic would not result in a substantial increase in traffic volumes or result in development that could conflict with applicable transportation plans. Impacts to applicable transportation plans, including transit, roadway, bicycle, and pedestrian facilities would be less than significant.

b) Would the project or plan/policy result in VMT exceeding thresholds identified in the City of San Diego Transportation Study Manual?	☐	☐	☒	☐

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. According to the Air Quality and Greenhouse Gas Emissions Letter, the calculation of on-road traffic assumed an average of 20 daily worker trips and an average of 10 daily truck trips for hauling equipment and material to the facility sites and removing debris (HELIX 2022). The fleet mix was assumed to be cars and light trucks for workers and heavy trucks for hauling. The addition of these vehicles on roadways in San Diego County would not exceed the thresholds identified in the City of San Diego's Transportation Study Manual. Therefore, impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project or plan/policy substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The Program would not result in new development that could increase hazards due to a design feature or incompatible uses. Therefore, no impact would occur.

d) Result in inadequate emergency access?	☐	☐	☐	☒

The proposed Program involves maintenance activities that would require the periodic use of vehicles and light trucks. While maintenance activities are not anticipated to result in any road or lane closures, should these be needed, the City would be required to prepare and comply with a traffic control plan which would include measures to minimize effects and ensure emergency access. Additionally, the proposed Program would use existing staging areas and would not introduce new structures or residents to the region that may result in slower emergency response. Therefore, no impact would occur.

XVIII. TRIBAL CULTURAL RESOURCES – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	x

Tribal Cultural Resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources, as defined in subdivision (k) of Public Resources Code Section 5020.1.

Twenty-one prehistoric archaeological resources have been identified within the Program APE. All of the archaeological resources are being considered historical resources for the purposes of the Program, except for those determined to be destroyed or those that do not possess the characteristics necessary to be considered resources eligible for listing on the CRHR, such as isolates. Of these 21 resources, 12 are located within the Program's maintenance areas. Two are in locations that are likely to have been previously destroyed and would not be affected by Program activities. Another would not be eligible for listing in the CRHR or NRHP. The remaining archaeological resources would be located within the Program's designated Environmentally Sensitive Areas (ESAs), which would preclude Program activities except for vegetation removal that does not involve ground disturbance, as such would not have the potential to cause a substantial adverse change in the significance of a resource.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
None of the identified archaeological resources would be impacted by Program maintenance activities, and impacts would not occur.				
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	x

As described above Tribal Cultural Resources include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Native American Tribe. Tribal Cultural Resources include “non-unique archaeological resources” that, instead of being important for “scientific” value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area.

In accordance with the requirements of Assembly Bill (AB) 52, The City of San Diego sent notification letters to the Native American Tribes traditionally and culturally affiliated with the project area on September 16, 2022, including San Pasqual Band of Mission Indians, Jamul Indian Tribe and the Iipay Nation of Santa Ysabel. Both the Jamul Indian Tribe and The Iipay Nation Of Santa Ysabel did not respond to the notification. However, on 9/26/2022 The San Pasqual Band of Mission Indians responded and requested further consultation. A virtual consultation meeting took place on October 6, 2022 with the City of San Diego and The San Pasqual Band. In the meeting The San Pasqual Band concurred with the finding that no impacts would occur to Tribal Cultural Resources and the AB 52 concluded. No impacts would occur.

XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which would cause significant environmental effects?	☐	☐	☐	☒

The proposed Program includes routine maintenance of existing dams and associated infrastructure at various locations throughout San Diego County. The proposed Program does not include any new development such as new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. Impacts associated with the proposed Program would not occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒

The proposed Program would not require the provision of water utilities, As such, impacts associated with the proposed Program would not occur.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's demand in addition to the provider's existing commitments?	☐	☐	☐	☒

The Program would not generate wastewater. Program-related impacts associated with water quality and drainage are analyzed under section X. *Hydrology and Water Quality*. As such, impacts associated with the proposed Program would not occur.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

Proposed maintenance activities would require minor grading and dredging, spillway cleaning, and vegetation management, which could potentially generate solid waste. If such activities require solid waste disposal, there are numerous solid waste disposal facilities within the San Diego region with remaining capacity. Therefore, there would be sufficient existing permitted solid waste capacity to accommodate the proposed Program's solid waste disposal needs. Impacts associated with the proposed Program would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Proposed maintenance activities would require minor grading and dredging, spillway cleaning, and vegetation management, which could potentially generate solid waste. If such activities require solid waste disposal, there are numerous solid waste disposal facilities within the San Diego region with remaining capacity. All solid waste facilities, including landfills require solid waste facility permits to operate. Therefore, impacts associated with the proposed Program would be less than significant.

XX. WILDFIRE – If located in or near state responsibility area or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

The proposed Program involves maintenance activities that could require the periodic use of vehicles and light trucks. While maintenance activities are not anticipated to result in any road or

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

lane closures, should these be needed, the City would be required to prepare and comply with a traffic control plan which would include measures to minimize effects and ensure safe passage of evacuees or emergency response vehicles. Additionally, the proposed Program would use existing staging areas and would not introduce new structures or residents to the region that may result in slower emergency response or evacuation times. Therefore, impacts would be less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☒	☐

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards in San Diego County through their Fire and Resource Assessment Program (FRAP). These maps place areas of the County into different Fire Hazard Severity Zones (FHSZ) based upon fuels, terrain, weather, and other relevant factors. The FRAP divides areas of significant fire hazard into two designations: State Responsibility Areas (SRA), which are areas where CAL FIRE is responsible for wildfire protection, and Local Responsibility Areas (LRA), where local fire protection agencies are responsible for wildfire protection. The majority of the unincorporated area of the County is SRA lands. The FHSZs are divided into three levels of fire hazard severity: Moderate, High, and Very High. The majority of the County is in the High and Very High FHSZ. According to the maps prepared for the Program area by CAL FIRE, the proposed Program includes components that are within High and Very High FHSZs (CAL FIRE 2022). Program activities would remove vegetation along existing roadways, trails, and on and around dams and spillways, however this work would be conducted to reduce hazards. Vegetation removal would not involve root removal and would not impact slope stability. Maintenance activities would be short-term and temporary and would therefore not expose workers to substantial pollutants from wildfires that may occur in nearby areas. Individual maintenance activities under the proposed Program could result in a greater risk of fire due to the presence of mechanical equipment and workers in High and Very High FHSZs. To minimize the risk of wildfire, fire prevention strategies outlined in mitigation measure **FIRE-1** would be implemented during project construction. Implementation of a Fire Safety Plan under mitigation measure **FIRE-1** would be reduce impacts to below a level of significance.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐

The proposed Program would not involve the installation of new infrastructure requiring additional maintenance. The Program would allow for maintenance of existing infrastructure; however, the Program would not result in a long-term increase of maintenance activities. Impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Individual maintenance activities under the proposed Program could result in a greater risk of fire and therefore post-fire runoff, slope stability, or drainage changes due to the presence of mechanical equipment and workers in High and Very High FHSZs. To minimize the risk of wildfire, fire prevention strategies outlined in mitigation measure **FIRE-1** would be implemented during project construction. Implementation of a Fire Safety Plan under mitigation measure **FIRE-1** would be reduce impacts to below a level of significance.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE –				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	x	☐	☐

Potentially significant impacts to the environment resulting from the proposed project have been identified for the areas of biological resources. However, due to the implementation of required mitigation measures the project would not substantially degrade the quality of the environment, cause fish or wildlife populations to drop below self-sustaining levels or threaten to eliminate a plant or animal community. While the project has the potential to cause direct and indirect impacts to sensitive species but impacts would be reduced to below a level of significance through the implementation of mitigation measures.

Please Section V of the above, impacts to Cultural Resources were not identified and major periods of California history and prehistory would not be eliminated.

b) Does the project have impacts that are individually limited but cumulatively considerable ("cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	x	☐	☐

Cumulative environmental impacts are those impacts that by themselves are not significant, but when considered with impacts occurring from other projects in the vicinity would result in a

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

cumulative impact. Related projects considered to have the potential of creating cumulative impacts in association with the project consist of projects that are reasonably foreseeable and that would be constructed or operated during the life of the project.

As documented in this Initial Study, the project may have the potential to degrade the quality of the environment, notably with respect to Biological Resources and Noise, which may have cumulatively considerable impacts. As such, mitigation measures have been incorporated to reduce impacts to less than significant. Other future projects within the surrounding neighborhood or community would be required to comply with applicable local, State, and Federal regulations to reduce the potential impacts to less than significant, or to the extent possible. As such, the project is not anticipated to contribute potentially significant cumulative environmental impacts.

c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	x

The project is consistent with the environmental setting and with the use as anticipated by the City. Based on the analysis presented above, implementation of the mitigation measures would reduce environmental impacts such that no substantial adverse effects on humans would occur.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

INITIAL STUDY CHECKLIST
REFERENCES

I. Aesthetics / Neighborhood Character

☐ City of San Diego General Plan

II. Agricultural Resources & Forest Resources

☐ City of San Diego General Plan
☐ California Agricultural Land Evaluation and Site Assessment Model (1997)

III. Air Quality

☐ Regional Air Quality Strategies (RAQS) - APCD
☐ Site Specific Report:
Air Quality and Greenhouse Gas Emissions Assessment for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022a

IV. Biology

☐ City of San Diego Land Development Code Biology Guidelines
☐ Site Specific Report:
Biological Technical Report for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022b.

V. Cultural Resources (includes Historical Resources and Built Environment)

☐ City of San Diego Historical Resources Guidelines
☐ City of San Diego Archaeology Library
☐ Historical Resources Board List
☐ Community Historical Survey:
☐ Site Specific Report:
Cultural Resources Technical Report for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022c.
☐ Site Specific Report:
City of San Diego Source Water System Historical Resources Assessment for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022d.

VI. Geology/Soils

☐ City of San Diego Seismic Safety Study
☐ U.S. Department of Agriculture Soil Survey - San Diego Area, California, Part I and II, December 1973 and Part III, 1975
☐ City of San Diego Paleontological Guidelines

VII. Greenhouse Gas Emissions

☐ Site Specific Report:
Air Quality and Greenhouse Gas Emissions Assessment for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022a
☐ City of San Diego Climate Action Plan (December 2015)

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

☐ City of San Diego Memorandum: Climate Action Plan Consistency for Plan- and Policy-Level Environmental Documents and Public Infrastructure Projects (June 17, 2022)

VIII. Hazards and Hazardous Materials

☐ San Diego County Hazardous Materials Environmental Assessment Listing
☐ San Diego County Hazardous Materials Management Division
☐ State Assessment and Mitigation, Unauthorized Release Listing, Public Use Authorized

XI. Mineral Resources

☐ California Department of Conservation - Division of Mines and Geology, Mineral Land Classification
☐ Division of Mines and Geology, Special Report 153 - Significant Resources Maps
☐ City of San Diego General Plan: Conservation Element

XII. Noise

☐ City of San Diego General Plan
☐ Site Specific Report:

Noise Assessment Study for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022e.

XVII. Transportation / Circulation

☐ Site Specific Report:

Air Quality and Greenhouse Gas Emissions Assessment for the City of San Diego Dam Maintenance Program, prepared by HELIX Environmental Planning, 2022a

XX. Water Quality

☐ Clean Water Act Section 303(b) list, http://www.swrcb.ca.gov/tmdl/303d_lists.html
☐ Site Specific Report: