

purposes. MCAS Miramar is designated as a master jet facility and serves both fixed and rotary-wing aircraft. It has three runways, one helicopter landing deck strip, and six helipads.

The maximum presently authorized mission of the airfield is 112,242 annual aircraft operations. The majority of fixed-wing aircraft operations are conducted on Runway 24R, the only runway with precision instrument approach capabilities. Helicopter operations are primarily conducted on either the 1,000-foot-long helicopter landing strip or one of the helipads. As noise abatement measures, fixed and rotary-wing flight routes have been designed to follow major rail lines and highways or to remain over base property. Military readiness requires constant training which includes touch and goes (takeoffs and landings with a close-in circuit around the airport), aircraft carrier simulated landings, practice instrument approaches, and normal departures to and arrivals from other installations or training areas (ALUC 2011).

Montgomery Field is located in the City of San Diego near the interchange of I-805 and SR-163. It is approximately 10 miles northeast of downtown San Diego. Montgomery Field is a major general aviation reliever airport for SDIA, the region's principal commercial airport. Consisting of approximately 549 acres of land, Montgomery Field is owned and operated by the City of San Diego.

Montgomery Field has three runways: two parallel, northwest/southeast, runways (10L-28R and 10R-28L) and a crosswind runway (Runway 5-23) oriented northeast-southwest. The longest runway, 10L-28R, is 4,577 feet in length and is the only runway lighted for nighttime use. It is served by precision instrument landing system as well as non-precision Global Positioning System (GPS) instrument approach capabilities at the southeast (28R) end. Runway 28R has a 1,176-foot displaced arrival threshold, limiting the available arrival length to 3,401 feet. The available departure length for Runway 10L is limited to 3,400 feet by Council Resolution R-280194, adopted by the San Diego City Council in 1992 to reduce noise impacts on residential uses located west of Montgomery Field. The full length of the runway (4,577 feet) is available for departures to the west. Runway 10R-28L is 3,401 feet long and 60 feet wide. Runway 5-23 is 3,400 feet long and 150 feet wide, with the arrival threshold displaced by 390 feet. None of these runway ends have published instrument approaches (ALUC 2010a).

SDIA is the commercial air carrier airport serving the region and is located adjacent to downtown San Diego. Primarily commercial aircraft with a limited number of

cargo, general aviation corporate jet, and military aircraft use SDIA, totaling over 210,000 flights per year. SDIA has the busiest single-runway airport in the nation. In 2007, SDIA served 18.3 million passengers. The San Diego County Regional Airport Authority has forecasted that by 2030 there could be 28.2 million annual passengers using SDIA. However, SDIA is currently constrained by the capacity of its single runway. Although various industrial, commercial, and residential uses surround the airport, residential is the primary use and the most affected by the airport due to its location in the City's urban center (City of San Diego 2007).

Gillespie Field is primarily located within the City of El Cajon, with a small portion also within the City of Santee. Gillespie Field encompasses approximately 757 acres and is owned and operated by the County of San Diego. There are three runways at the airport: two parallel runways oriented in an east/west alignment and a crosswind runway oriented in a north/south alignment (ALUC 2010b).

### **5.9.3 REGULATORY FRAMEWORK**

#### **5.9.3.1 Federal**

##### **Hazardous Materials Use**

Hazardous materials and wastes are identified and defined by federal and state regulations for the purpose of protecting public health and the environment. Hazardous materials contain certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous wastes are defined in the Code of Federal Regulations (CFR) Title 40, Volume 25, Parts 260–265, and in the California Code of Regulations (CCR), Title 22 Division 4.5, Chapter 11, Article 1, Section 66261. Over the years, the laws and regulations have evolved to deal with different aspects of the handling, treatment, storage, and disposal of hazardous substances.

Federal agencies that regulate hazardous materials include the U.S. Environmental Protection Agency (EPA) and the U.S. Occupational Safety and Health Administration.

##### ***Federal Toxic Substances Control Act of 1976 and Resource Conservation and Recovery Act of 1976***

The federal Toxic Substances Control Act of 1976 (15 U.S.C. 2601 et seq.) and the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 et seq.) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and

Recovery Act was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle-to-grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act (EPA 2013).

### ***Comprehensive Environmental Response, Compensation, and Liability Act***

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as “Superfund,” was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986 (EPA 2011).

### ***National Fire Protection Association 820***

The National Fire Protection Association 820 provides the standard for fire protection in wastewater treatment and collection facilities. National Fire Protection Association 820 provides requirements for ventilation, construction materials and electrical equipment, as well as fire protection measures and administrative controls designed to protect wastewater treatment facilities and associated collection systems against fire and explosion hazards (NFPA 2016).

### ***Aircraft Hazards***

#### ***Federal Aviation Administration Part 77***

Title 14 of the CFR Part 77, Objects Affecting Navigable Airspace, establishes imaginary surfaces for airports and runways as a means to identify objects that are obstructions to air navigation. The Federal Aviation Administration (FAA) uses Part 77 and Terminal Instrument Procedures obstruction standards as elevations above which structures may constitute a safety problem. Part 77 regulations require that

anyone proposing to construct an object, which could affect the navigable airspace around an airport that meets Part 77 notification criteria, submit information about the proposed construction to the FAA. Notification criteria includes projects that exceed an imaginary 100:1 surface within 20,000 feet of a civilian or military airport or have a height exceeding 200 feet above ground level.

When notified, the FAA then conducts an aeronautical study, the outcome of which is a determination as to whether the object would be a potential hazard to air navigation. The FAA examines the Terminal Instrument Procedures surfaces for obstructions and safety issues as part of the obstruction evaluation for a proposed project. If the proposed object is concluded to pose a hazard, the FAA may object to its construction and issue a determination of a hazard to air navigation, examine possible revisions of the proposal to eliminate the problem, require that the project be appropriately marked and lighted as an airspace obstruction, and/or initiate changes to the aircraft flight procedures for the airport so as to account for the object. In addition to structures that pose an airspace obstruction, land uses that create wildlife hazards, particularly related to birds, and land use characteristics that create visual or electronic interference with air navigation can create particular hazards to air navigation.

### ***U.S. Department of Defense Air Installations Compatible Use Zone Program***

Safety compatibility criteria for military air bases are established through the Air Installations Compatible Use Zone (AICUZ) Program administered by the U.S. Department of Defense. This program applies to military air installations located within the United States, its territories, trusts, and possessions. The AICUZ Program has the following four purposes: (1) to set forth Department of Defense policy on achieving compatible use of public and private lands in the vicinity of military airfields, (2) to define height and land use compatibility restrictions, (3) to define procedures by which AICUZ may be defined, and (4) to provide policy on the extent of government interest in real property within these zones that may be retained or acquired to protect the operational capability of active military airfields.

#### **5.9.3.2 State**

##### **Hazardous Materials Use**

At the state level, agencies such as the DTSC, California Occupational Safety and Health Administration (Cal/OSHA), and the Office of Emergency Services regulate the use of hazardous materials.

### ***Senate Bill 1802 Certified Unified Program***

The California Environmental Protection Agency implements and enforces a statewide hazardous materials program known as the Certified Unified Program established by Senate Bill 1802 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs for hazardous materials:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention Program
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control, and Countermeasure Plans
- Hazardous Waste Generator and On-Site Hazardous Waste Treatment Programs
- California Uniform Fire Code, Hazardous Materials Management Plans, and Hazardous Material Inventory Statements

### ***California Hazardous Waste Control Law***

The California Hazardous Waste Control Law is administered by the California Environmental Protection Agency to regulate hazardous wastes. While the Hazardous Waste Control Law is generally more stringent than the Resource Conservation and Recovery Act, until the federal EPA approves the California hazardous waste control program (which is charged with regulating the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The California Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

22 CCR Section 66261.10 provides the following definition for hazardous waste:

[a] (1) a waste that exhibits the characteristics may: (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or

environment when improperly treated, stored, transported, or disposed or otherwise managed.

According to 22 CCR, substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or that is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances (e.g., gasoline, hexane, and natural gas) are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric (battery) acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which react violently with water) may cause explosions or generate gases or fumes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as “mixed wastes.” Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses (22 CCR 66251.1 et seq.).

### ***California Accidental Release Prevention Program***

The California Accidental Release Prevention (CalARP) program was implemented on January 1, 1997, and replaced the California Risk Management and Prevention Program. The objectives of the CalARP program are to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handle more than a threshold quantity of a regulated substance listed in the regulations to develop a risk

management plan. A risk management plan is a detailed engineering analysis of the potential accident factors present at a business and the Mitigation Framework measures that can be implemented to reduce this accident potential. The CalARP program is implemented at the local government level by Certified Unified Program Agencies, also known as administering agencies. The CalARP program is designed so these agencies work directly with the regulated businesses. Certified Unified Program Agencies determine the level of detail in the risk management plans, review the risk management plans, and conduct facility inspections (CalOES 2011).

### ***California DTSC and California Highway Patrol Hazard Transportation Program***

The California DTSC administers the transportation of hazardous materials throughout the state. Regulations applicable to the transportation of hazardous waste include 22 CCR, Division 4.5, Chapters 13 and 29, and California Health and Safety Code, Division 20, Chapter 6.5, Articles 6.5, 6.6, and 13. The DTSC requires that drivers transporting hazardous wastes obtain a certificate of driver training that shows the driver has met the minimum requirements concerning the transport of hazardous materials, including proper labeling and marking procedures, loading/handling processes, incident reporting and emergency procedures, and appropriate driving and parking rules. The California Highway Patrol also requires shippers and carriers to complete hazardous materials employee training before transporting hazardous materials.

### ***California Health and Safety Code***

The handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a hazardous materials business plan, which provide basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Chapter 6.95 of the Health and Safety Code establishes minimum statewide standards for hazardous materials business plans. Each business shall prepare a hazardous materials business plan if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in disclosable quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid

- 200 cubic feet of compressed gas
- A hazardous compressed gas in any amount (highly toxic with a Threshold Limit Value of 10 parts per million or less)
- Extremely hazardous substances in threshold planning quantities

### ***Cal/OSHA Hazard Handling Procedures***

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the work place. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

### ***Emergency Services Act***

Under the Emergency Services Act, the State of California developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered by the Governor’s Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the EPA, California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices (Governor’s Office of Emergency Services 2006).

### ***The Emergency Planning Community Right-to-Know Act***

The Emergency Planning Community Right-to-Know Act requires facilities to disclose to the State and Local Emergency Planning Committee the quantities and type of toxic chemicals stored. In order to avoid multiple reports to various agencies, the California Health and Safety Code requires notification of chemical inventory to the Administering Agency (DTSC). Notification of chemical inventory shall be accomplished through completion of the Hazardous Materials Business Plan and inventory (EPA 2015).

### 5.9.3.3 Local

#### Wildfire Hazards

##### ***Section 142.0412 of the San Diego Municipal Code, Brush Management***

Section 142.0412 of the San Diego Municipal Code requires brush management in all base zones on publicly or privately owned premises that are within 100 feet of a structure and contain native or naturalized vegetation.

#### Hazardous Materials Use

At the local level, the County of San Diego regulates establishments that use hazardous materials, dispose of hazardous wastes, have USTs, and/or generate medical waste. The County of San Diego is also the designated Certified Unified Program Agency pursuant to California Health and Safety Code section 25404, et seq.

##### ***San Diego County Area Plan***

The County of San Diego DEH, Hazardous Materials Division established the San Diego County Area Plan (Area Plan) based on requirements of Chapter 6.95 of the California Health and Safety Code, Title 19 of the CCR, and the EPA Superfund Amendments and Reauthorization Act Title III for emergency response to a release or threatened release of a hazardous material within the County. The Hazardous Materials Program and Response Plan contained in the Area Plan serves the majority of the cities in San Diego County, including the City of San Diego.

As part of the Area Plan, the Federal Risk Management Plan, as incorporated and modified by the CalARP program, is designed to prevent harm to people and the surrounding environment by the use of various organized systems to identify and manage hazards. The goal of the CalARP program is to make all facilities that handle regulated substances free of catastrophic incidents.

If a hazardous materials emergency occurred within the City of San Diego, the first response would be from the San Diego Fire-Rescue Department and the County of San Diego Hazardous Incident Response Team.

##### ***The Whitebook: Standard Specifications for Public Works Construction***

The City of San Diego has created the Whitebook (City of San Diego 2015), a supplement which takes precedence over the specification language contained in *The "Greenbook": Standard Specifications for Public Works Construction* (Public Works

Standards Inc. 2015), and addresses the unique conditions in the City that are not addressed in the Greenbook. Part 1 – General Provisions (A), Section 7-22 addresses the potential release of a Hazardous Substance or petroleum product. Specifically, Part 1, Section 7-22.7 requires that a Hazardous Substances Management Plan be submitted prior to the start of work; the plan should provide a “description of how you shall store, manage, and inspect all Hazardous Materials brought to the Site including the management of all containers, drums, and tanks.” Section 7-22.10 provides standards for the storage and management of hazardous materials and wastes, and Section 7-22.13 provides requirements for transportation of hazardous waste.

### **Existing Hazardous Materials Sites**

#### ***The Whitebook: Standard Specifications for Public Works Construction***

The City of San Diego Whitebook (City of San Diego 2015), Part 1 – General Provisions (A), Section 7-22 also addresses the requirements for when a hazardous substance or petroleum product is encountered. Specifically, Section 7-8.6.6 discusses dewatering procedures, including steps to be taken when contaminated groundwater is encountered. Sections 7-22.16 through 7-22.19 specify the steps that must be undertaken when contaminated soil is encountered, including monitoring, stockpiling and disposal.

### **Hazardous Materials Release**

#### ***Sewer System Management Plan***

The goal of the Sewer System Management Plan is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system to reduce, prevent, and mitigate any sanitary sewer overflow or spills (City of San Diego 2014). The Sewer System Management Plan contains the Sewer Overflow Response and Tracking Plan, which documents the processes and procedures that ensure that all sanitary sewer overflows/spill are identified, responded to, investigated, and reported in an effective and timely manner (City of San Diego 2014). This plan identifies receipt of notification; dispatch of appropriate crews and responsibilities; containment, correction, and clean up; public notification; reporting requirements; and overflow/spill tracking database.

## **Aircraft Hazards**

### ***Airport Land Use Compatibility Plans***

The San Diego Regional Airport Authority acts as the Airport Land Use Commission (ALUC) for the San Diego region as provided in Section 21670.3 of the California Public Utilities Code and is charged with developing ALUCPs for each airport in the County, including military air installations. ALUCPs provide guidance on appropriate land uses surrounding airports to protect the health and safety of people and property within the vicinity of an airport, as well as the public in general. An ALUCP focuses on a defined area around each airport known as the Airport Influence Area (AIA). The AIA is comprised of noise (Section 5.12, Noise of this EIR/EIS addresses aircraft noise), safety, airspace protection and overflight factors. ALUCPs have been adopted for 16 airports countywide, including rural airports, military installations, and urban airports, such as San Diego International Airport.

### **MCAS Miramar ALUCP**

The MCAS Miramar ALUCP was adopted in October 2008 and last amended November 2011. The ALUCP is based upon the AICUZ document prepared by the Department of Defense for MCAS Miramar (Public Utilities Code S21675(b,)) dated December 2004, and revised in March 2005. The ALCUP is consistent with the safety and noise standards in the AICUZ study.

The MCAS Miramar ALUCP divides the AIA into Review Area 1 and Review Area 2. The boundaries of Review Area 1 and Review Area 2 are shown on Figure 5.9-5, Miramar and San Vicente Reservoir Alternatives – Airport Compatibility Map. The composition of each area is determined as follows:

- Review Area 1 consists of locations where noise and/or safety concerns may necessitate limitations on the types of land uses. Specifically, Review Area 1 encompasses locations exposed to noise levels of Community Noise Level Equivalent (CNEL) 60 decibels (dB) or greater together with all of the safety zones depicted on the associated maps in this chapter. Within Review Area 1, all types of land use actions are to be submitted to the ALUC for review to the extent review is required by law. (See Policy 2.6.1.)
- Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and/or overflight areas depicted on the associated maps in this chapter. Limits on the heights of structures, particularly in areas of

high terrain, are the only restrictions on land uses within Review Area 2. The additional function of this area is to define where various mechanisms to alert prospective property owners about the nearby airport are appropriate. Within Review Area 2, only land use actions for which the height of objects is an issue are subject to ALUC review. (See Policy 2.6.2(a)(2).)

Applicable policies of the MCAS Miramar ALUCP (ALUC 2011) are provided below. Policies related to noise compatibility can be found in Section 5.12, Noise.

### **Safety Compatibility Policies**

**3.4.1 Evaluating Safety Compatibility for New Development:** The safety compatibility of proposed land uses within the AIA of MCAS Miramar shall be evaluated in accordance with the policies set forth in this section, including Table MIR-2 [see Table 5.9-4] and the safety zones depicted on Map MIR-2 [see Figure 5.9-5]. Table MIR-2 [see Table 5.9-4] shows each listed land use type as being either “incompatible,” “conditional,” or “compatible” within each safety zone. The meaning of these terms is as follows:

- (a) Incompatible: The use is not acceptable under any circumstances.
- (b) Conditional: The use is acceptable if the *floor area ratio (FAR)* criteria indicated, maximum intensity limits (people/acre) provided at the top of the table, and conditions listed in the column on the right and further described in the policies in this section are satisfied. If these conditions are not met, the use is incompatible.
- (c) Compatible: The use is acceptable without safety-related conditions. Noise, airspace protection, and/or overflight limitations may apply.

**3.4.2 Safety Zones:** For safety compatibility planning purposes around MCAS Miramar, the ALUC uses the safety zones defined in the AICUZ, with an additional zone created using low-altitude fixed-wing aircraft flight track location data, as further described below. Specifically:

- (a) The CZ, and APZ I and II are identical in location and dimensions to the CZ, APZ I, and APZ II, respectively, as depicted in Figure 4-1 of the AICUZ.
- (b) The TZ was created using low-altitude fixed-wing aircraft flight track location data presented in Figures 2-2 and 2-3 of the

*AICUZ*. Additional data from the military was used to identify locations where these aircraft fly at an altitude of less than 2,000 feet above MSL. Helicopter flight tracks are not considered in delineation of the *TZ*. The most critical areas of helicopter flight tracks from a safety standpoint are either over base property or overlap the fixed-wing aircraft tracks.

**3.4.3 Measures of Safety Compatibility:** To minimize risks to people and property on the ground and to people on board aircraft, the safety compatibility criteria set limits on:

- (a) The density of residential development, which is measured in terms of dwelling units per acre on the project site. The residential density limitations cannot be equated to the maximum intensity limits for nonresidential uses. Consistent with the *Handbook* guidelines, a greater degree of protection is warranted for residential uses. (See *Handbook*, page 9-3.)
- (b) The intensity of nonresidential development measured in terms of the number of people located in areas most susceptible to aircraft accidents (*i.e.*, *CZ*, *APZ I*, *APZ II* and *TZ*).
- (c) Development or expansion of certain *risk-sensitive land uses* that represent special safety concerns regardless of the number of people present.

**3.4.4 Factors Considered in Setting Safety Compatibility Criteria:** The principal factors considered in setting criteria applicable within each safety zone are:

- (a) Safety compatibility recommendations set forth in Appendix Table 3 of the *AICUZ*.
- (b) The California state law (Pub. Util. Code, §21675(b)) requirement that compatibility plans for military airports “shall be consistent with the safety and noise standards in the Air Installation Compatible Use Zone prepared for that military airport.”
- (c) The airport proximity within which aircraft accidents near military airports typically occur. The most stringent land use controls apply to the areas with the greatest potential risks.

(d) Characteristics of the fleet mix of the aircraft used at the *Airport* and aircraft operations at the *Airport*.

(1) The low-altitude, high-performance, and tactical maneuvering nature of many operations at MCAS Miramar represents a heightened risk to land uses beneath the primary flight routes of the base.

(2) Helicopter operations pose a smaller risk in that the size of the site that might be affected by an accident is relatively small. Helicopters, however, fly routes different from those of fixed-wing aircraft.

**3.4.6 Nonresidential Development Criteria:** The criteria in Paragraphs (a), (b) and (c), below apply to most proposed nonresidential uses. Additional or different criteria apply to the uses described in Paragraphs (d) through (i) and Policy 3.4.7.

...

(i) Agricultural and Other Uses: This category includes agricultural uses, recreational uses and wastewater treatment and related facilities.

...

(3) Mining and extraction, golf courses, tennis courts, parks, camp grounds, wastewater treatment and disposal facilities, solid waste transfer facilities and recycle centers are:

= Not compatible in the CZ and should not be permitted by the *local agency*.

= Conditionally compatible in APZ I and APZ II, provided the use complies with the conditions and maximum intensity limits as provided in Table MIR-2.

= Compatible in the TZ.

**3.4.8 Parcels Lying within Two or More Safety Zones:** For the purposes of evaluating consistency with the compatibility criteria set forth in Table MIR-2 [see Table 5.9-4], any parcel that is split by safety zone

boundaries shall be considered as if it were multiple parcels divided at the safety zone boundary line.

- (a) Where no part of the building(s) proposed on the parcel/site fall within the more restrictive safety zone, the criteria for the safety zone where the proposed building(s) are located shall apply for the purposes of evaluating the compatibility of the proposed uses and determining other conditions to be placed upon the proposed project.
- (b) Where the building(s) proposed on the parcel/site fall within multiple safety zones, the criteria for the most restrictive safety zone where the building(s) proposed are located shall apply for purposes of evaluating the compatibility of the proposed use and for determining other conditions to be placed upon the proposed project.

**Table 5.9-4  
Safety Compatibility Criteria - MCAS Miramar (Excerpt from Table MIR-2)**

Land Use Types / Typical Uses	CBC Group*	CZ	APZ I	APZ II	TZ	Criteria for Conditional (yellow) Uses
Multiple land use categories and compatibility criteria may apply to a project (see Policy 3.4.7) See Policy 3.4.7(c) for limits on ancillary uses <sup>1</sup>						Maximum intensity limits apply to all Conditional uses Abbreviations below refer to zones in which condition specified is applicable
<i>Agricultural and Other Uses</i>						
Wastewater Treatment and Disposal Facilities						APZ I, APZ II: No processing or utilization of hazardous materials; fuel storage must be underground; facilities must be designed and operated to avoid attracting birds <sup>1</sup>
<p><b>INSERT RED = Incompatible:</b> Use should not be permitted under any circumstances</p> <p><b>INSERT YELLOW = Conditional:</b> Use is acceptable if indicated Floor Area Ratio (FAR), Lot Coverage, and other listed conditions are met</p> <p><b>INSERT GREEN = Compatible:</b> Use is acceptable without safety-related conditions (noise, airspace protection, and/or overflight limitations may apply)</p> <p>* <b>CBC Group:</b> Refers to building occupancy types established by California Building Code (see Appendix D of this document for listing)</p> <p>** <b>Safety Zone:</b></p> <p style="padding-left: 20px;">CZ (Clear Zone)</p> <p style="padding-left: 20px;">APZ I (Accident Potential Zone I)</p> <p style="padding-left: 20px;">APZ II (Accident Potential Zone II)</p> <p style="padding-left: 20px;">TZ (Transition Zone)</p>						

**Notes:**

<sup>1</sup> For clarity as well as consistency with AICUZ criteria, the evaluation of land uses herein includes factors that the military considers germane to safe operation of their facilities including, but not limited to, airspace obstructions, bird attractants, and other hazards to flight (land uses that generate smoke, heat, or visibility hazards that can cause an accident) and factors that put more people at risk should an accident occur.

**Source:** ALUC 2011

### ***Airspace Protection Compatibility Policies***

**3.5.1 Evaluating Airspace Protection Compatibility for New Development:** The airspace protection compatibility of proposed land uses within the AIA of MCAS Miramar shall be evaluated in accordance with the policies in this section, including the *airspace protection surfaces* depicted on Map MIR-3 [see Figure 5.9-5], Compatibility Policy Map: Airspace Protection. The policies apply to all of the *airport influence area* (Review Area 1 and Review Area 2).

**3.5.2 Airspace Protection Surfaces:** For airspace protection compatibility planning purposes around MCAS Miramar, the ALUC shall use the *airspace protection surfaces* defined in accordance with the standards for military airports set forth in *Federal Aviation Regulations Part 77 (FAR Part 77)*. Specifically, the airspace protection compatibility area shall geographically consist of locations within the *FAR Part 77* primary surface and beneath the approach (to where it intersects the outer horizontal surface), transitional, horizontal, and conical surfaces together with locations within the Federal Aviation Administration notification area as described below, excluding the federally owned lands that comprise MCAS Miramar. This area and the surfaces that delineate it are depicted on Map MIR-4 [see Figure 5.9-5].

- (a) The *airspace protection surfaces* shown on Map MIR-3 [see Figure 5.9-5] are the same as the surfaces shown in Figure 5-1 of the AICUZ. These surfaces, as defined by Subpart C of *FAR Part 77*, establish the elevations above which any taller object or terrain is deemed to be an airspace obstruction. (See Policy 3.5.5 below and Section 77.28 in Appendix B of this *Compatibility Plan* for the text of the *FAR Part 77* standards for military airport *airspace protection surfaces*.)
- (b) In addition to the primary, approach, transitional, horizontal, and conical surfaces, the *FAR Part 77* standards for military airports define an outer horizontal surface. This surface extends 30,000 feet beyond the limits of the conical surface and a total of 44,500 feet (8.4 miles) from the runway and lies at an elevation of 500 feet above the *Airport* elevation. Because the

elevation of this surface is more than 200 feet above the ground level in most locations and also extends beyond the limits of the FAA notification area, locations beneath the outer horizontal surface that are outside the FAA notification area are excluded from the MCAS Miramar airspace protection compatibility area established for this *Compatibility Plan*.

- (c) The FAA notification area is an area within which project proponents must notify the Federal Aviation Administration regarding proposed construction. (See Policy 3.5.4 below and *FAR Part 77*, Subpart B, in Appendix B herein). For MCAS Miramar, this area uses a 100:1 surface that extends 20,000 feet from the runways. For the purposes of this *Compatibility Plan*, the area lying within the FAA notification area is considered part of the airspace protection compatibility area.

**3.5.3 Measures of Airspace Protection Compatibility:** In establishing airspace protection policies, the ALUC relies upon regulations enacted by the Federal Aviation Administration and the state of California. The ALUC policies are intended to help implement the federal and state regulations. Specific regulations are referenced in subsequent policies of this section.

- (a) With *FAR Part 77*, the FAA has well-defined standards by which potential hazards to flight can be assessed. However, the agency has no authority to prevent creation of such hazards. That authority rests with state and local government.
- (b) State airspace protection standards for the most part mirror those of the FAA. A key difference is that state law gives the California Department of Transportation, *Division of Aeronautics* and local agencies the authority to enforce the standards.

**3.5.4 Requirements for FAA Notification of Proposed Construction:** Proponents of a project containing structures or other objects that may meet the notification criteria or exceed the height standards defined in *FAR Part 77*, Subpart C, as applied to MCAS Miramar must submit notification of the proposal to the Federal Aviation Administration where required by the provisions of *FAR Part 77*,

Subpart B, and by the California Public Utilities Code, sections 21658 and 21659. (Notification to the FAA under *FAR Part 77*, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the regulations. See Appendix B of this *Compatibility Plan* for the complete text of *FAR Part 77*. The boundaries of the FAA notification area for MCAS Miramar are shown on Map MIR-3 [see Figure 5.9-5].) The FAA will conduct an “aeronautical study” of the object(s) and determine whether the object(s) would be of a height that would constitute a hazard to air navigation. These requirements apply to all objects including structures, antennas, trees, mobile objects, and temporary objects such as construction cranes.

- (a) Local agencies shall inform project proponents of the FAA notification requirements.
- (b) Any proposed development project that includes construction of a structure or other object and that is required to be submitted to the *ALUC* for a consistency review in accordance with Policy 2.6 of Chapter 2 shall include a copy of the completed *FAR Part 77* notification form to the FAA, if applicable, and of the resulting FAA findings from its aeronautical study (*i.e.*, notice of determination letter).
- (c) The requirements for notification to the FAA shall not trigger an airport compatibility review of an individual project by the *ALUC* unless the general plan of the local agency in which the project is to be located has not been determined by the *ALUC* to be consistent with this *Compatibility Plan*.

**3.5.5 *ALUC Airspace Obstruction Criteria:*** The *ALUC* criteria for determining the acceptability of a project with respect to height shall be based upon: the standards set forth in *FAR Part 77*, Subpart C; the *United States Standard for Terminal Instrument Procedures (TERPS)*; and applicable airport design standards published by the Federal Aviation Administration. Additionally, the *ALUC* shall, where an FAA aeronautical study of a proposed object has been required, take into account the results of that study.

- (a) Except as provided in Paragraphs (b) and (c) of this policy, no object, including mobile object such as a vehicle or temporary

object such as construction crane, shall have a height that would result in penetration of the airspace protection surface depicted for MCAS Miramar in Map MIR-3 [see Figure 5.9-5], Compatibility Policy Map: Airspace Protection. By FAA definition, any object that penetrates one of these surfaces is deemed an *obstruction*.

- (b) Within the primary surface and beneath the approach or transitional surface, objects shall be limited in height consistent with the airspace protection surfaces defined by *FAR Part 77* and *TERPs* criteria. Elsewhere within the airspace protection area, no object would penetrate *FAR Part 77* or *TERPs* and thus constitute an obstruction. *TERPs* is evaluated in the *AICUZ* through the *FAR Part 77* process.
- (c) A proposed object having a height that exceeds the *Airport's* airspace protection surface is compatible with the airspace protection only if *all* of the following apply:
  - (1) As the result of an aeronautical study, the FAA determines that the object would not be a hazard to air navigation; and
  - (2) FAA or other expert analysis conducted under the auspices of the ALUC or the airport operator concludes that, despite being an airspace obstruction (not necessarily a hazard), the object that would not cause any of the following:
    - = An increase in the ceiling or visibility minimums of the airport for an existing or planned instrument procedure (a planned procedure is one that is formally on file with the FAA);
    - = A diminution of the established operational efficiency and capacity of the airport, such as by causing the usable length of the runway to be reduced; or
    - = Conflict with the visual flight rules (VFR) airspace used for the airport traffic pattern or en route navigation to and from the airport; and
  - (3) Marking and lighting of the object will be installed as directed by the FAA aeronautical study or the Division of Aeronautics, and in a manner consistent with FAA

standards in effect at the time the construction is proposed (Advisory Circular 70/7460-1J, Obstruction Marking and Lighting, or any later guidance); and

- (4) The land use project/plan complies with all policies of this Compatibility Plan.

**3.5.6 Other Flight Hazards:** Land uses that may cause visual, electronic, or wildlife hazards, particularly bird strike hazards, to aircraft in flight or taking off or landing at the airport shall be allowed within the *airport influence area* only if the uses are consistent with FAA rules and regulations.

(a) Specific characteristics to be avoided include:

- (1) Sources of glare (such as from mirrored or other highly reflective buildings or building features) or bright lights (including search lights and laser light displays);
- (2) Distracting lights that could be mistaken for airport lights;
- (3) Certain colors of neon lights—especially red and white—that can interfere with night vision goggles used by military pilots;
- (4) Sources of dust, steam, or smoke that may impair pilot visibility;
- (5) Sources of electrical interference with aircraft communications or navigation; and
- (6) Any proposed use that creates an increased attraction for wildlife and that is inconsistent with FAA rules and regulations including, but not limited to, FAA Order 5200.5A, Waste Disposal Sites on or Near Airports, and Advisory Circular 150/5200-33, Hazardous Wildlife Attractants On or Near Airports. Of particular concern are landfills and certain recreational or agricultural uses that attract large flocks of birds which pose bird strike hazards to aircraft in flight.

(b) To resolve any uncertainties with regard to the significance of the above types of flight hazards, local agencies should consult with FAA and MCAS Miramar.

### **Montgomery Field ALUCP**

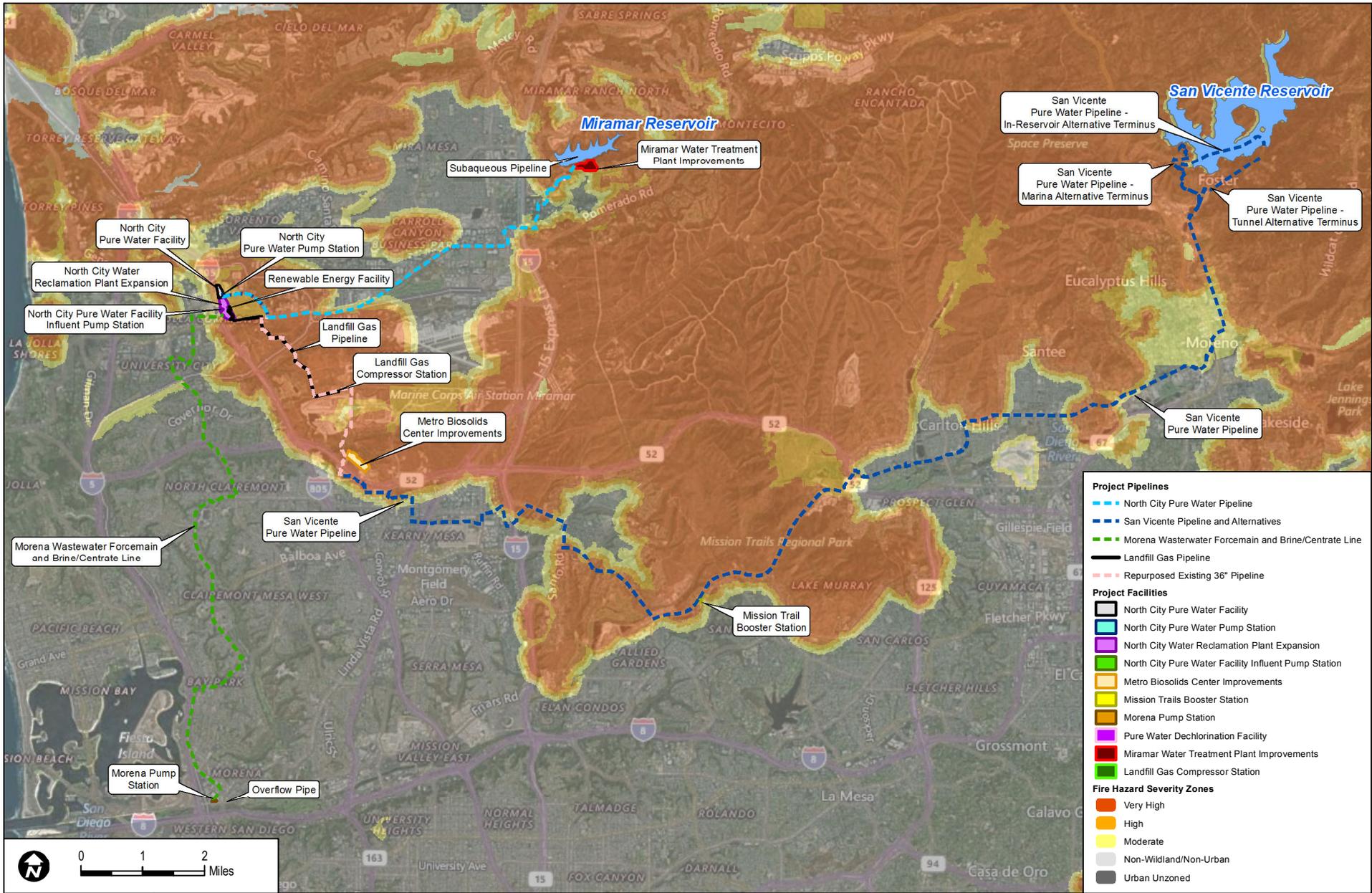
The Montgomery Field ALUCP was adopted January 25, 2010, and last amended December 20, 2010. The Montgomery Field ALUCP is the fundamental tool used by the San Diego County Regional Airport Authority to determine compatibility of future land uses with the airport. The Montgomery Field ALUCP contains policies and criteria applicable to the four major factors considered in airport land use compatibility: noise, safety, airspace protection and overflight compatibility. The Montgomery Field's AIA and Safety Zones are shown on Figure 5.9-5.

### **San Diego International ALUCP**

The SDIA ALUCP was adopted April 3, 2014, and last amended May 1, 2014. The SDIA ALUCP is the fundamental tool used by the San Diego County Regional Airport Authority to determine compatibility of future land uses with the airport. The SDIA ALUCP contains policies and criteria applicable to the four major factors considered in airport land use compatibility: noise, safety, airspace protection, and overflight compatibility. The SDIA's AIA is shown on Figure 5.9-5.

### **Gillespie Field ALUCP**

The Gillespie Field ALUCP was adopted January 25, 2010, and last amended December 20, 2010. The Gillespie Field ALUCP is the fundamental tool used by the San Diego County Regional Airport Authority to determine compatibility of future land uses with the airport. The Gillespie Field ALUCP contains policies and criteria applicable to the four major factors considered in airport land use compatibility: noise, safety, airspace protection, and overflight compatibility. Gillespie Field's AIA and Safety Zones are shown on Figure 5.9-5.



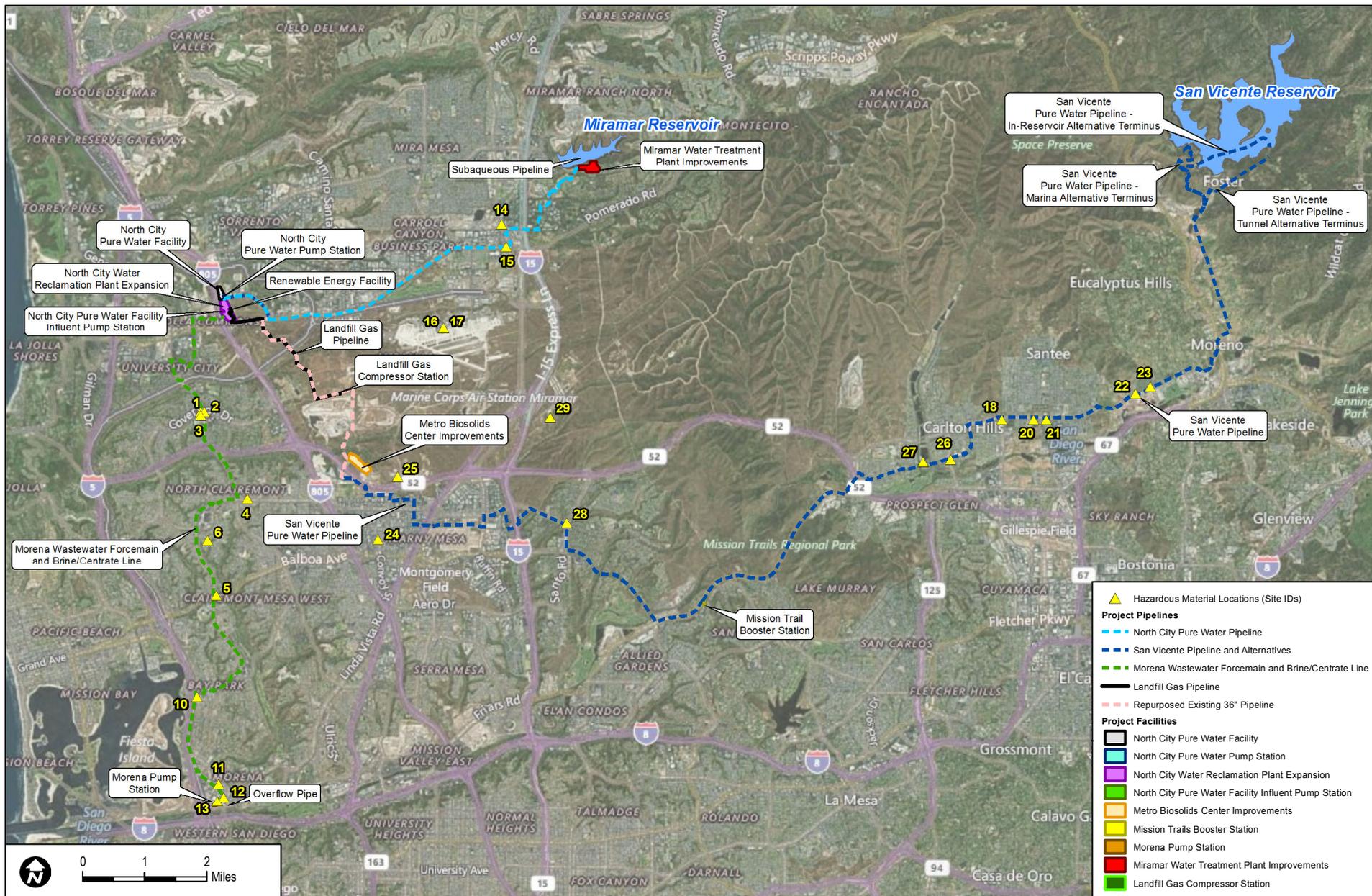
SOURCE: City of San Diego, 2015, 2016; SanGIS 2016; Bing Maps 2016

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.9-1**  
**Miramar and San Vicente Reservoir Alternatives - Fire Hazard Areas**

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SOURCE: City of San Diego, 2015, 2016; SanGIS 2016; Bing Maps 2016

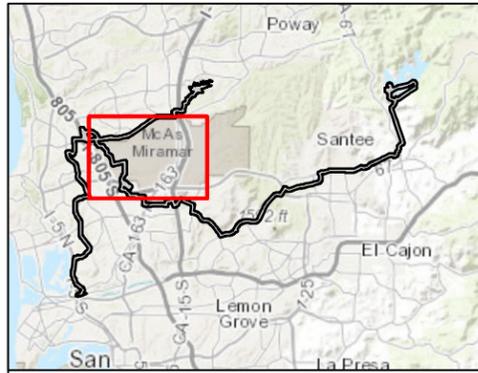
**FIGURE 5.9-2**

**Miramar and San Vicente Reservoir Alternatives - Hazardous Materials Sites**



Pure Water San Diego Program North City Project EIR/EIS

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**Project Pipeline Alternatives**

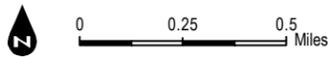
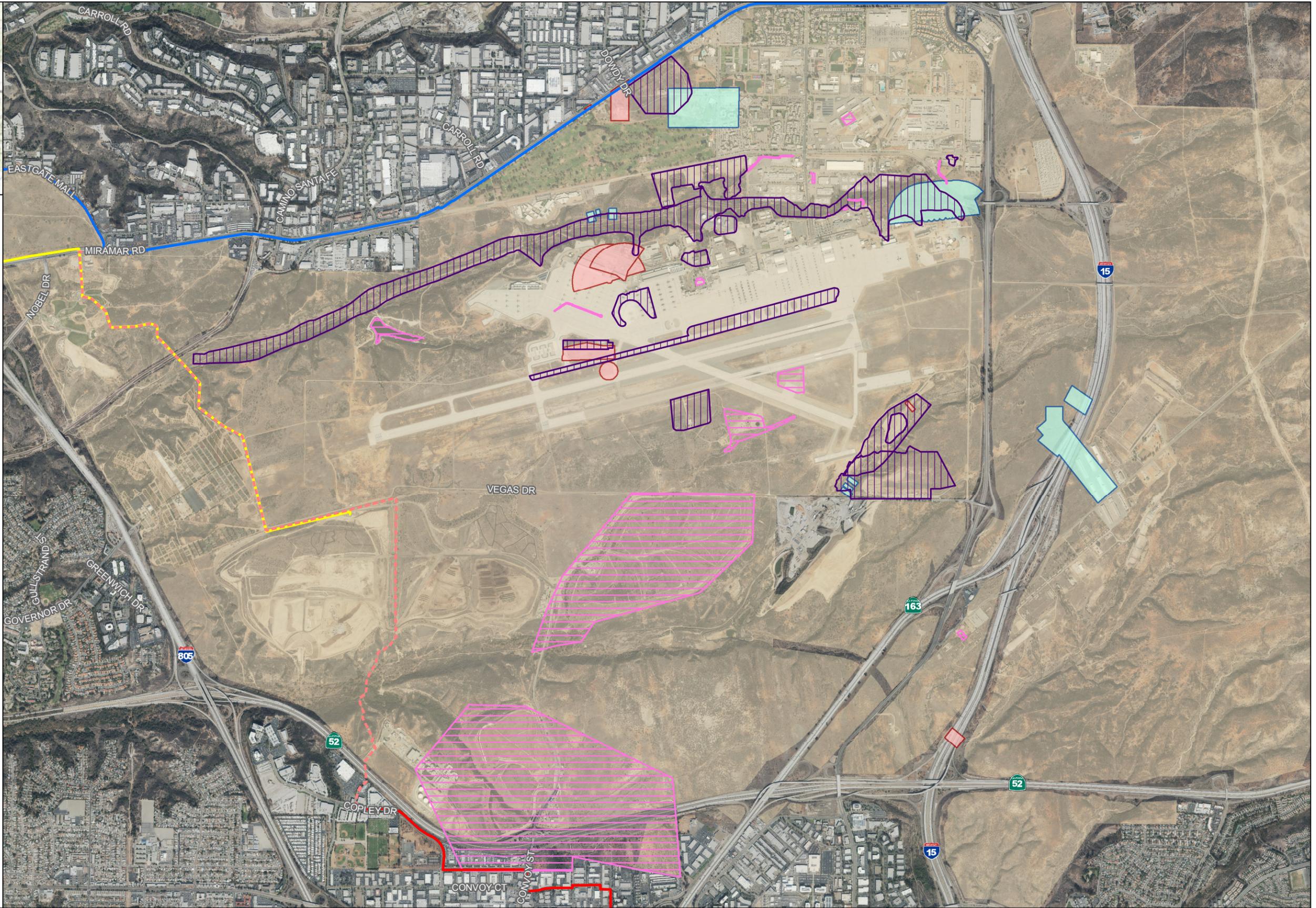
- North City Pure Water Pipeline
- San Vicente Pure Water Pipeline
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- MCAS Miramar

**Installation Restoration (IR) Sites**

- Active Site
- Closed Site

**Munitions Response Program (MRP) Sites**

- Active Site
- Closed Site



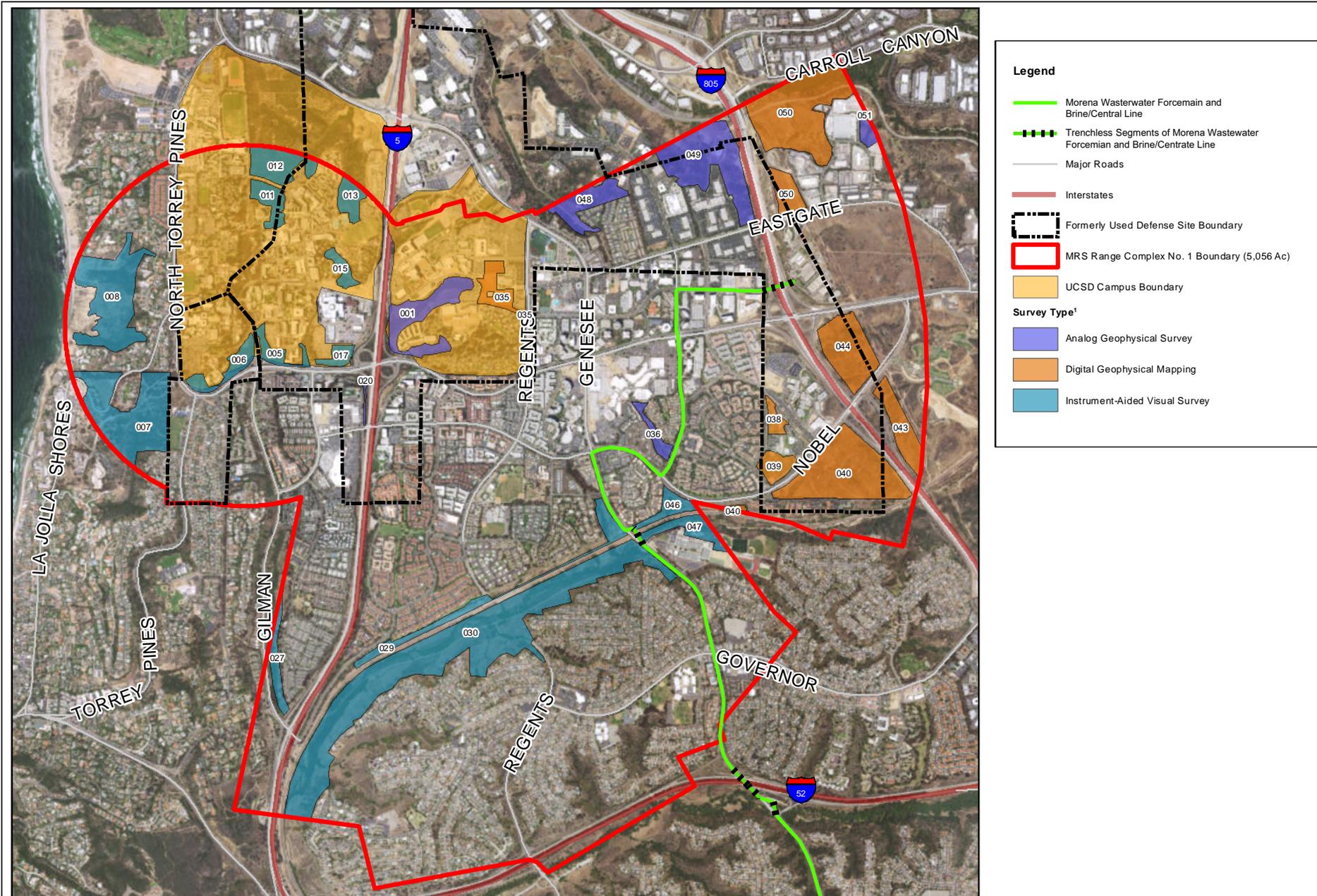
SOURCE: MCAS Miramar Environmental Mangement Department, 2017; SanGIS 2017; SANDAG 2014



Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.9-3**  
MCAS Miramar Installation Restoration Program and Munitions Response Program Sites

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**Legend**

- Morena Wastewater Forcemain and Brine/Central Line
- - - Trenchless Segments of Morena Wastewater Forcemain and Brine/Central Line
- Major Roads
- Interstates
- Formerly Used Defense Site Boundary
- MRS Range Complex No. 1 Boundary (5,056 Ac)
- UCSD Campus Boundary

**Survey Type<sup>1</sup>**

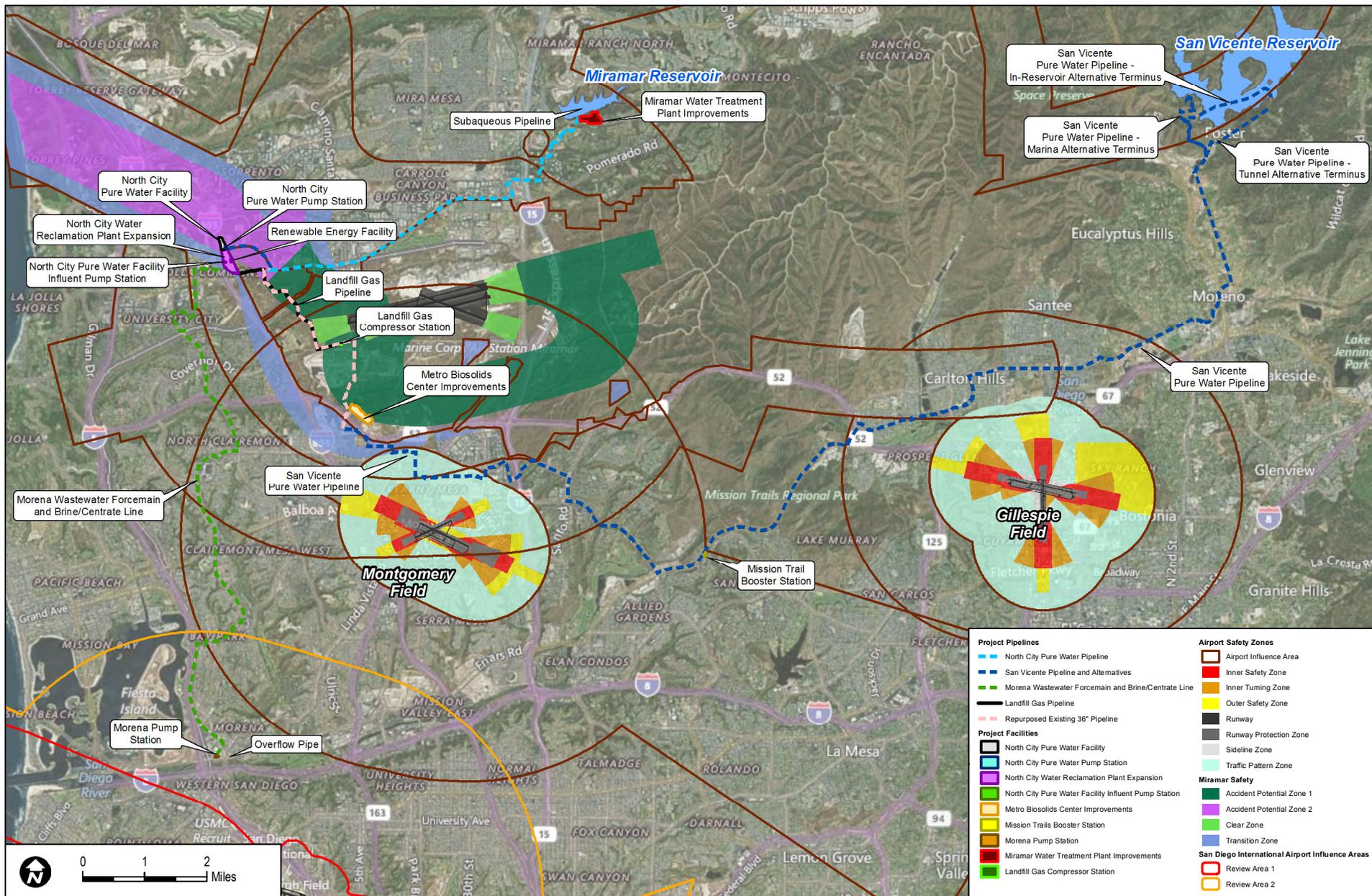
- Analog Geophysical Survey
- Digital Geophysical Mapping
- Instrument-Aided Visual Survey

SOURCE: USACE, 2013; 2016; Bristol, 2016

**DUDEK**

**FIGURE 5.9-4**  
Formerly Used Defense Site – Camp Matthews, Range Complex No. 1

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SOURCE: City of San Diego, 2015, 2016; SanGIS 2016; Bing Maps 2016

FIGURE 5.9-5

### Miramar and San Vicente Reservoir Alternative - Airport Compatibility Map



Pure Water San Diego Program North City Project EIR/EIS

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## **5.10 HISTORICAL RESOURCES**

### **5.10.1 INTRODUCTION**

The following section describes the existing environmental and regulatory setting of the North City Project area of potential effect (APE) as it relates to Historical Resources and Cultural Resources. Historical resources are the physical features that reflect past human existence and are of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance. These resources may be natural or constructed and can include archaeological sites and artifacts, buildings, groups of buildings, structures, districts, street furniture, signs, and landscapes. Traditional cultural properties, tribal cultural resources, and distinguishing architectural characteristics are also considered historical resources. The North City Project involves the construction of new water and sewer facilities and upgrades to existing facilities which, depending on their location and related construction methods, could potentially result in impacts to historical resources.

The historical resources information provided in this section is based on the Historical Resources Technical Report for the North City Project, San Diego County, California prepared by Dudek in ~~September 2017~~ February 2018 (Dotter, Murray, and DeCarlo; see Appendix F1). The Historical Resources Technical Report was based on a records search of the California Historical Resources Information System cultural resources database for relevant previously recorded historic resources or properties. Also reviewed were the properties listed on/as the California Points of Historical Interest, California Historical Landmarks, California Historical Resources Inventory, local registries of historic properties, California Register of Historical Resources (CRHR), and National Register of Historic Places (NRHP). In addition, an architectural history survey of the North City Project's APE was conducted and potentially historic resources were recorded for evaluation on appropriate Department of Parks and Recreation forms according to instructions by the California Office of Historic Preservation.

The cultural resources information provided in this section is based on the Cultural Resources Inventory Report for the North City Project, City of San Diego, San Diego County, California, prepared by Dudek in September 2017 (DeCarlo, Comeau, Dotter, and Hale; see Appendix F2). The Cultural Resources Inventory Report was based on records search information provided by the South Coastal Information Center, surveys of the North City Project APE and site evaluation and excavation (i.e., Phase I Inventory and Phase II Evaluation), laboratory and

cataloguing, and curation. A review of the cultural resources records housed at Marine Corps Air Station (MCAS) Miramar was conducted and assured that all resources located within the boundary of MCAS Miramar were represented in the South Coastal Information Center records search.

## **5.10.2 ENVIRONMENTAL SETTING**

### **Cultural and Historical Resources**

#### ***Natural Setting***

The North City Project area (Project area) extends from its southwestern boundary at the Morena Pump Station near the outlet of the San Diego River to its northeastern boundary at the San Vicente Reservoir. The elevation of the Project area ranges from approximately 14 feet above mean sea level at the Morena Pump Station to 1,080 feet above mean sea level at the San Vicente Reservoir (see Appendix C, Biological Resources Report). The topography of the Project area varies greatly, ranging from the generally flat mesa terraces that support the North City Water Reclamation Plant to the steep canyons and mountainous terrain surrounding San Vicente Reservoir. Large segments of the North City Project are planned within existing developed areas and paved roads, but some segments traverse undeveloped habitats with native habitat communities (see Appendix C, Biological Resources Report).

#### ***Cultural Setting***

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC.–AD 500), Late Prehistoric (AD 500–1769), and Ethnohistoric (post-AD 1769). Additional information concerning the historic period is presented later in this section.

### ***Paleoindian (pre-550 BC)***

Evidence for Paleoindian occupation in coastal Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2007; Hale 2010). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basin Stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 BP) that submerged as much as 1.8 kilometers (1.1 miles) of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1993). SDI-210 yielded one corrected radiocarbon date of 8520–9520 BP (Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San

Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1993).

### ***Archaic (8000 BC–AD 500)***

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong

desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

### ***Late Prehistoric (AD 500–1769)***

The period of time following the Archaic and prior to Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (True 1980), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from AD 500 until Ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after AD 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to Ethnohistoric times, and that when it did occur, a major shift in social organization followed.

### ***Ethnohistoric (post-AD 1769)***

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the San Diego region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the San Diego region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as “salvage ethnography,” was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his “memory culture” approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the San Diego region. Kroeber’s

1925 assessment of the impacts of Spanish missionization on local Native American populations supported Kumeyaay traditional cultural continuity:

San Diego was the first mission founded in upper California; but the geographical limits of its influence were the narrowest of any, and its effects on the natives comparatively light. There seem to be two reasons for this: first, the stubbornly resisting temper of the natives; and second, a failure of the rigorous concentration policy enforced elsewhere (Kroeber 1925, p. 711).

In some ways this interpretation led to the belief that many California Native American groups simply escaped the harmful effects of contact and colonization all together. This, of course, is untrue. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions which made San Diego County the location of more federally recognized tribes than anywhere else in the United States: 18 tribes on 18 reservations that cover more than 116,000 acres (CSP 2009).

The traditional cultural boundaries between the Luiseño and Kumeyaay Native American tribal groups have been well defined by anthropologist Florence C. Shipek:

In 1769, the Kumeyaay national territory started at the coast about 100 miles south of the Mexican border (below Santo Tomas), thence north to the coast at the drainage divide south of the San Luis Rey River including its tributaries. Using the U.S. Geological Survey topographic maps, the boundary with the Luiseño then follows that divide inland. The boundary continues on the divide separating Valley Center from Escondido and then up along Bear Ridge to the 2240 contour line and then north across the divide between Valley Center and Woods Valley up to the 1880-foot peak, then curving around east along the divide above Woods Valley (Shipek 1993, as summarized in County of San Diego 2007, p. 6).

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across

California through six primary language families (Golla 2007, p. 71). Based on the North City Project location, the Native American inhabitants of the region would have likely spoken both the Ipai and Tipai language subgroup of the Yuman language group. Ipai and Tipai, spoken respectively by the northern and southern Kumeyaay communities, are mutually intelligible. For this reason, these two are often treated as dialects of a larger Kumeyaay tribal group rather than as distinctive languages, though this has been debated (Luomala 1978; Laylander 2010).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative “time depth” of the speaking populations (Golla 2007, p. 80). A large amount of variation within the language of a group represents a greater time depth than a group’s language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla has observed that the “absolute chronology of the internal diversification within a language family” can be correlated with archaeological dates (Golla 2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Golla suggested that there are two language families associated with Native American groups who traditionally lived throughout the San Diego County region. The northern San Diego tribes have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Luiseño, Cupeño, and Cahuilla. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking San Diego tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2010). The majority of Native American tribal groups in southern San Diego region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum. Golla has suggested that the time depth of Hokan is approximately 8,000 years (Golla 2007, p. 74). The Kumeyaay tribal communities share a common language group with the Cocopa, Quechan, Maricopa, Mojave, and others to east, and the Kiliwa to the south. The time depth for both the Ipai (north of the San Diego River, from Escondido to Lake Henshaw) and the Tipai (south of the San Diego River, the Laguna Mountains through Ensenada) is approximated to be 2,000 years at the most. Laylander has contended that previous research indicates a divergence between Ipai and Tipai to have occurred approximately AD 600–1200 (Laylander 1985). Despite the distinct

linguistic differences between the Takic-speaking tribes to the north, the Ipai-speaking communities in central San Diego, and the Tipai southern Kumeyaay, attempts to illustrate the distinctions between these groups based solely on cultural material alone have had only limited success (Pigniolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982; Shipek 1985; Spier 1923). Each autonomous triplet was internally socially stratified, commonly including higher status individuals such as a tribal head (Kwaaypay), shaman (Kuseyaay), and general members with various responsibilities and skills (Shipek 1982). Higher-status individuals tended to have greater rights to land resources, and owned more goods, such as shell money and beads, decorative items, and clothing. To some degree, titles were passed along family lines; however, tangible goods were generally ceremonially burned or destroyed following the deaths of their owners (Luomala 1978). Remains were cremated over a pyre and then relocated to a cremation ceramic vessel that was placed in a removed or hidden location. A broken metate was commonly placed at the location of the cremated remains, with the intent of providing aid and further use after death. At maturity, tribal members often left to other bands in order to find a partner. The families formed networks of communication and exchange around such partnerships.

Areas or regions, identified by known physical landmarks, could be recognized as band-specific territories that might be violently defended against use by other members of the Kumeyaay. Other areas or resources, such as water sources and other locations that were rich in natural resources, were generally understood as communal land to be shared amongst all the Kumeyaay (Luomala 1978). The coastal Kumeyaay exchanged a number of local goods, such as seafood, coastal plants, and various types of shell for items including acorns, agave, mesquite beans, gourds, and other more interior plants of use (Luomala 1978). Shellfish would have been procured from three primary environments, including the sandy open coast, bay and lagoon, and rocky open coast. The availability of these marine resources changed with the rising sea levels, siltation of lagoon and bay environments, changing climatic conditions, and intensity of use by humans and animals (Gallegos and Kyle 1988; Pigniolo 2005; Warren 1964). Shellfish from sandy environments included *Donax*, *Saxidomus*, *Tivela*, and others. Rocky coast shellfish dietary contributions consisted of *Pseudochama*, *Megastraea*, *Saxidomus*, *Protothaca*, *Megathura*, *Mytilus*, and others. Lastly, the bay environment would have provided

*Argopecten*, *Chione*, *Ostrea*, *Neverita*, *Macoma*, *Tagelus*, and others. Although marine resources were obviously consumed, terrestrial animals and other resources likely provided a large portion of sustenance. Game animals consisted of rabbits, hares (Leporidae), birds, ground squirrels, woodrats (*Neotoma* sp.), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), coyotes (*Canis latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed.

A number of local plants were used for food and medicine. These were exploited seasonally, and were both traded between regional groups and gathered as a single triblet moved between habitation areas. Some of the more common of these that might have been procured locally or as higher elevation varieties would have included buckwheat (*Eriogonum fasciculatum*), *Agave*, *Yucca*, lemonade sumac (*Rhus integrifolia*), sugarbush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon* sp.), sage (*Salvia* sp.), *Ephedra*, prickly pear (*Opuntia* sp.), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus* sp.), willow (*Salix* sp.), and *Juncus* grass among many others (Wilken 2012).

### ***Historic Period (post-AD 1542)***

San Diego history can be divided into the Spanish Period (1769–1821), Mexican Period (1821–1846) and American Period (1846–Present). European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

The Spanish colonization of Alta California began in 1769 with the founding of Mission San Diego de Alcalá by Father Junípero Serra. Concerns over Russian and English interests in California motivated the Spanish government to send an expedition of soldiers, settlers and missionaries to occupy and secure the northwestern borderlands of New Spain through the establishment of a Presidio, Mission, and Pueblo. The Spanish explorers first camped on the shore of the bay in the area that is now downtown San Diego. Lack of water at this location, however,

led to moving the camp on May 14, 1769, to a small hill closer to the San Diego River and near the Kumeyaay village of Cosoy. Father Junípero Serra arrived in July of the same year to find the Presidio serving mostly as a hospital. The Spanish built a primitive mission and presidio structure on the hill near the river.

Bad feelings soon developed between the native Kumeyaay and the soldiers, resulting in construction of a stockade which, by 1772, included barracks for the soldiers, a storehouse for supplies, a house for the missionaries and the chapel, which had been improved. The log and brush huts were gradually replaced with buildings made of adobe bricks. Flat earthen roofs were eventually replaced by pitched roofs with rounded roof tiles. Clay floors were eventually lined with fired brick.

In August, 1774 the Spanish missionaries moved the Mission San Diego de Alcalá to its present location 6 miles up the San Diego River valley (modern Mission Valley) near the Kumeyaay village of Nipaguay. Begun as a thatched chapel and compound built of willow poles, logs, and tules, the new Mission was sacked and burned in the Kumeyaay uprising of November 5, 1775. The first adobe chapel was completed in October 1776 and the present church was begun the following year. A succession of building programs through 1813 resulted in the final rectilinear plan that included the church, bell tower, sacristy, courtyard, residential complex, workshops, corrals, gardens and cemetery. Orchards, reservoirs and other agricultural installations were built to the south on the lower San Diego River alluvial terrace and were irrigated by a dam and aqueduct system. The initial Spanish occupation and mission system brought about profound changes in the lives of the Kumeyaay people. Substantial numbers of the coastal Kumeyaay were forcibly brought into the mission or died from introduced diseases.

As early as 1791, presidio commandants in California were given the authority to grant small house lots and garden plots to soldiers and their families and sometime after 1800, soldiers and their families began to move down the hill near the San Diego River. Historian William Smythe noted that Don Blas Aguilar, who was born in 1811, remembered at least 15 such grants below Presidio Hill by 1821, of which only five of these grant lands within the boundaries of what would become Old Town had houses in 1821. These included the retired commandant Francisco Ruiz Adobe (now known as the Carrillo Adobe), another building later owned by Henry Fitch on Calhoun Street, the Ybanes and Serrano houses on Juan Street near Washington Street, and a small adobe house on the main plaza owned by Juan Jose Maria Marron.

In 1822 the political situation changed as Mexico won its independence from Spain and San Diego became part of the Mexican Republic. The Mexican Government opened California to foreign trade; began issuing private land grants in the early 1820s, creating the rancho system of large agricultural estates; secularized the Spanish missions in 1833; and oversaw the rise of the civilian pueblo. By 1827, as many as 30 homes existed around the central plaza and in 1835, Mexico granted San Diego official pueblo (town) status. At this time the town had a population of nearly 500 residents, later reaching a peak of roughly 600. By 1835 the presidio, once the center of life in Spanish San Diego, had been abandoned and lay in ruins. Mission San Diego de Alcalá fared little better. The town and the ship landing area at La Playa were now the centers of activity in Mexican San Diego. However, the new Pueblo of San Diego did not prosper as did some other California towns during the Mexican Period.

The secularization in San Diego County triggered increased Native American hostilities against the Californios during the late 1830s. The attacks on outlying ranchos, along with unstable political and economic factors helped San Diego's population decline to around 150 permanent residents by 1840. San Diego's official Pueblo status was removed by 1838 and it was made a subprefecture of the Los Angeles Pueblo. When the Americans took over after 1846, the situation had stabilized somewhat, and the population had increased to roughly 350 non-Native American residents. The Native American population continued to decline, as Mexican occupation brought about continued displacement and acculturation of Native American populations.

The American Period began in 1846 when United States military forces occupied San Diego and this period continues today. When United States military forces occupied San Diego in July 1846, the town's residents split on their course of action. Many of the town's leaders sided with the Americans, while other prominent families opposed the United States invasion. In December 1846, a group of Californios under Andres Pico engaged United States Army forces under General Stephen Kearney at the Battle of San Pasqual and inflicted many casualties. However, the Californio resistance was defeated in two small battles near Los Angeles and effectively ended by January 1847. The Americans assumed formal control with the Treaty of Guadalupe-Hidalgo in 1848 and introduced Anglo culture and society, American political institutions and especially American entrepreneurial commerce. In 1850, the Americanization of San Diego began to develop rapidly.

On February 18, 1850, the California State Legislature formally organized San Diego County. The first elections were held at San Diego and La Playa on April 1, 1850, for county officers. San Diego grew slowly during the next decade. San Diegans attempted to develop the town's interests through a transcontinental railroad plan and the development of a new town closer to the bay. The failure of these plans, added to a severe drought which crippled ranching and the onset of the Civil War, left San Diego as a remote frontier town. The troubles led to an actual drop in the town's population from 650 in 1850 to 539 in 1860. Not until land speculator and developer Alonzo Horton arrived in 1867 did San Diego begin to develop fully into an active American town.

Alonzo Horton's development of a New San Diego (modern downtown) in 1867 began to swing the community focus away from Old Town and began the urbanization of San Diego. Expansion of trade brought an increase in the availability of building materials. Wood buildings gradually replaced adobe structures. Some of the earliest buildings to be erected in the American Period were "pre-fab" houses that were built on the east coast of the United States and shipped in sections around Cape Horn and reassembled in San Diego. Development spread from downtown based on a variety of factors, including the availability of potable water and transportation corridors. Factors such as views and access to public facilities affected land values, which in turn affected the character of neighborhoods that developed. During the Victorian Era of the late 1800s and early 1900s, the areas of Golden Hill, Uptown, Banker's Hill and Sherman Heights were developed. Examples of the Victorian Era architectural styles remain in these communities, as well as in Little Italy, which developed at the same time. At the time downtown was being built, there began to be summer cottage/retreat development in what are now the Beach communities and La Jolla area. The early structures in these areas were not of substantial construction; they were primarily for temporary vacation housing.

Development also spread to the Greater North Park and Mission Hills areas during the early 1900s. The neighborhoods were built as small lots, a single lot at a time; there was not large tract housing development of those neighborhoods. It provided affordable housing away from the downtown area, and development expanded as transportation improved. Barrio Logan began as a residential area, but because of proximity to rail freight and shipping freight docks, the area became more mixed with conversion to industrial uses. This area was more suitable to industrial uses because land values were not as high; topographically the area is more level, and it is not as interesting in terms of views as are the areas north of downtown. Various ethnic groups settled in the area because of the availability of land ownership.

San Ysidro began to be developed at about the turn of the twentieth century. The early settlers were followers of the Littlelanders movement. There, the pattern of development was designed to accommodate small plots of land for each homeowner to farm as part of a farming-residential cooperative community. Nearby Otay Mesa–Nestor began to be developed by farmers of Germanic and Swiss background. Some of the prime citrus groves in California were in the Otay Mesa–Nestor area; in addition, there were grape growers of Italian heritage who settled in the Otay River Valley and tributary canyons and produced wine for commercial purposes.

San Diego State University was established in the 1920s; development of the state college area began then and the development of the Navajo community was outgrowth from the college area and from the west. There was farming and ranching in Mission Valley until the middle portion of the twentieth century, when the uses were converted to commercial and residential. There were dairy farms and chicken ranches adjacent to the San Diego River where now there are motels, restaurants, office complexes and regional shopping malls. There was little development north of the San Diego River until Linda Vista was developed as military housing in the 1940s. The federal government improved public facilities and extended water and sewer pipelines to the area. From Linda Vista, development spread north of Mission Valley to the Clairemont Mesa and Kearny Mesa areas. Development in these communities was mixed use and residential on moderate-size lots.

Tierrasanta, previously owned by the U.S. Navy, was developed in the 1970s. It was one of the first planned unit developments with segregation of uses. Tierrasanta and many of the communities that have developed since, such as Rancho Peñasquitos and Rancho Bernardo, represent the typical development pattern in San Diego in the last 25 to 30 years: uses are well segregated, with commercial uses located along the main thoroughfares and the residential uses located in between. Industrial uses are located in planned industrial parks. Examples of every major period and style remain. Among the recognized styles in San Diego are Spanish Colonial, Pre-Railroad New England, National Vernacular, Victorian Italianate, Stick, Queen Anne, Colonial Revival, Neoclassical, Shingle, Folk Victorian, Mission, Craftsman, Prairie, French Eclectic, Italian Renaissance, Spanish Eclectic, Egyptian Revival, Tudor Revival, Modernistic, and International.

## **Religious and/or Sacred Use Areas**

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was conducted for the North City Project APE on July 25, 2016 (Appendix C in Appendix F2). A search of this type requires NAHC staff to review their list for the presence of Native American sites, which are organized spatially based on a Public Land Survey System section grid (measuring 1 square mile). The NAHC results letter indicated the presence of Native American resources within the North City Project APE, although specific locations and details on the type of resources were not provided. Additionally, the NAHC response letter included a list of Native American group representatives who should be contacted for information about these sites.

Outreach letters were mailed on August 16, 2016, to all Native American group representatives included on the NAHC contact list (Appendix C in Appendix F2). These letters attempt to solicit additional information relating to Native American resources that may be affected by the North City Project. Native American representatives were requested to define a general area where known resources intersect the North City Project APE. This will help guide communications with tribal groups and representatives that maintain specific traditional associations with particular sectional of the North City Project APE. To date, there have been no responses to these outreach letters. However, in response to tribal outreach conducted in support of the SANDER Site Vernal Pool Mitigation Project, one letter was received. The City has proposed the SANDER Site as a possible mitigation site for permanent impacts to sensitive upland vegetation communities and vernal pools associated with development of the North City Project. The largely undeveloped site is located approximately 0.70 mile southeast of the Metro Biosolids Center (MBC) in Kearny Mesa. Outreach letters were mailed on April 20, 2017, to all Native American group representatives included on the NAHC contact list. To date, only the Viejas Band of Kumeyaay Indians has responded to the outreach letter. The Viejas Band requested that a Kumeyaay cultural monitor be present for future ground-disturbing activities associated with the SANDER Site Vernal Pool Mitigation Project.

## **Native American Consultation**

Three tribal entities have previously requested to be included on the City's Assembly Bill 52 (AB 52) Notice List for Project consultation: the Iipay Nation of Santa Ysabel (Santa Ysabel), the Jamul Indian Village of Kumeyaay Nation (Jamul), and Mesa Grande Band of Mission Indians (Mesa Grande). The City sent initial

consultation letters to representatives of these tribal entities via certified mail on June 29, 2017 (see Appendix C of Appendix F2). Representatives from Santa Ysabel and Jamul responded positively to the consultation request, while no response was received from Mesa Grande.

City representatives met with representatives from Santa Ysabel and Jamul on July 14, 2017. The City described the North City Project and presented the results of this inventory to the tribal representatives. After reviewing the proposed mitigation measures (Section 6.10.3.3), both Santa Ysabel and Jamul representatives agreed that the required archaeological and Native American monitoring would reduce possible impacts to Tribal Cultural Resources to a non-significant level. At the conclusion of this meeting, Santa Ysabel and Jamul representatives agreed that no further consultation under AB 52 review is required.

### **5.10.3 METHODOLOGIES**

#### **Survey**

The survey of the North City Project APE was conducted between July 25 and 29, August 27, and October 18, 2016. The APE is located in a highly developed area, and it was determined prior to field work that survey of the entire APE would be unproductive. Large portions of the APE surface are covered by buildings, pavement, and landscaping, obscuring any remnants of archaeological sites. The survey team first conducted a reconnaissance survey of the entire APE in a motor vehicle. This vehicle survey allowed the survey team to assess the APE and identify undeveloped, or at least less developed, portions of the APE where ground surface was visible and archaeological resources could be identified.

Linear portions of the APE, such as proposed pipeline routes, were surveyed using transects parallel to the route at 10-meter (33-foot) intervals. Larger, more open portions of the APE, such as proposed facility footprints, were surveyed using a combination of north/south and east/west transects at 15-meter (50-foot) intervals. In this manner, all portions of traversable land were subject to pedestrian survey. Portions of the APE that were so steep that they presented a safety risk or were so densely vegetated that ground visibility was completely obscured were not surveyed. Likewise, portions of the APE that were located on private property were not subject to pedestrian survey unless the City was granted access. This study relied on previous inventories of MCAS Miramar property, and no pedestrian survey of MCAS Miramar was performed.

An iPad Air with georeferenced Project maps and Global Positioning System (GPS) capabilities was used to aid surveying and site recordation. Records of sites previously identified within the APE were loaded onto the iPad for field reference. Field work was conducted under the supervision of Dudek archaeologist Matthew DeCarlo. Victor Herrera participated in the survey as a field crew member, and Justin Linton of Red Tail Monitoring and Research Inc. participated in the survey as the Native American monitor.

The intent of the survey was to identify the presence and status of both previously recorded and unrecorded resources within the North City Project APE to determine the possible impacts the North City Project might have on cultural resources. By being aware of their presence, the City can implement avoidance measures when possible to avoid impacts to the cultural resources in the APE. Because avoidance of cultural resources is the preferred method of mitigation, this study focused on the avoidability of cultural resources within the APE. Thus, resources that were difficult or unsafe to access, such as those located on private property or beyond some natural barrier such as a hillside or drainage, were not always surveyed as their avoidability was evident.

Documentation of cultural resources complied with the Office of Historic Preservation and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-44740) and the California Office of Historic Preservation Planning Bulletin Number 4(a). All sites identified during this inventory were recorded on California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the Instructions for Recording Cultural Resources (Office of Historic Preservation 1995). New and updated site forms for each resource encountered are included in Confidential Appendix D of Appendix F2 and will be submitted to the South Coastal Information Center.

Visibility throughout the North City Project APE varied greatly. The areas immediately adjacent to paved and developed land often showed signs of previous grading. This often provided excellent ground visibility but the grading would have disturbed any cultural resource that may have been present. Other portions of the APE such as Mission Gorge Road passed through less-developed areas. The terrain in these areas was dominated by hillsides that were covered with grasses and dense chaparral. This reduced ground visibility to less than 5%. The weather was optimal during the survey with no cloud cover to cast shadows and obscure surface artifacts.

## Excavation

While the evaluation strategy varied slightly based on the conditions encountered at each evaluated site, the same basic methods were employed. Sites were evaluated using close-interval survey, shovel test pits (STPs), and shovel test units (STUs). STPs are 0.5 × 0.3 meter (1.6 × 1 foot), excavated in 20-centimeter (8-inch) levels. STUs are 1 × 0.5 meter (3.3 × 1.6 feet), excavated in decimeter (4-inch) levels. All hand-excavated soils were screened through 1/8-inch (3-millimeter) mesh. All excavated units were backfilled at the conclusion of the unit's excavation.

Photographs of each unit profile were recorded to document soils and disturbances. An iPad Air with georeferenced project maps and GPS capabilities was used to record the locations of excavation units and surface artifacts. Field notes were recorded on standardized forms to log artifact recovery, soil descriptions, disturbances, and any other pertinent information.

## Laboratory and Cataloging Procedures

Initial laboratory procedures included cleaning (as appropriate), sorting, and cataloging of all artifacts and ecofacts. Each item was individually examined and cataloged according to class, subclass, and material; counted; and weighed on a digital scale. All coded data were entered into a Microsoft Access database. Data manipulation of a coded master catalog combining all sites was performed in Microsoft Excel.

The cultural material was sorted during cataloging into the following potential categories: 13 classes of prehistoric artifacts; 2 classes of ecofacts; ethnohistoric items, historic items, and modern items; and organic samples. The prehistoric artifact classes potentially included debitage, cores, utilized core tools, modified core tools, utilized flakes, retouched flakes, bifaces, percussing tools, groundstone, ceramics, bone artifacts, shell artifacts, and miscellaneous items.

Debitage, including both flakes and debris, was sorted by material type and cortical variation (primary, secondary, and interior) during cataloging. Maximum length, width, and thickness measurements were taken for all tools and cores using a sliding caliper.

Groundstone artifacts were classified by type, including millings and handstones. Maximum length, width, and thickness measurements were taken on complete groundstone items. Organic artifact classes (ecofacts) consisted of vertebrate specimens.

Once preliminary cataloging of the material was completed, more detailed attribute analysis of lithics and groundstone was performed. Stone artifacts (both flaked and ground) were individually analyzed for selected morphological and technological attributes, as well as material and condition, in an attempt to gain insight into the period of occupation and the range of activities undertaken. Ceramic artifacts were initially sorted by traditional ware (brown or buff) and sherd fragment types (body, rim, or modified). They were then inspected in order to identify other modifications. Specific analytical methods are described in the analytical results section. All artifacts, ecofacts, and samples were subject to appropriate conservation in the field and laboratory, including proper packaging and handling. Vertebrate remains were highly fragmented and could not be identified to family level so they were sorted by class and size.

### **Curation**

All artifacts collected during archaeological testing for this study will be curated at the San Diego Archaeological Center. Any artifacts collected as part of future archaeological studies, or confiscated from looters, should also be curated so that the materials are preserved for the benefit of the general public and for archaeologists for future study. Proper curation of collected artifacts (and other materials, including documentation) can contribute to any mitigation to offset impacts to archaeological sites. ~~Curation could also consist of interpretive displays as part of any public awareness activities.~~

#### **5.10.4 SURVEY RESULTS**

Using a combination of vehicular and pedestrian survey, the entire North City Project APE was inventoried. The North City Project APE consists of multiple components, and several of these components consist of alternative routes. The inventory identified 38 previously identified cultural resources (prehistoric and historic-period sites) and 1 (one) newly identified resource (i.e., P-37-036497) within the Project APE (Table 5.10-1). The prehistoric sites include 14 artifact scatters, 5 milling stations, 3 possible temporary camps, and 9 isolated artifact locations. The historic-period sites include railroad features, a road, remnants of a water flume, a cistern, two refuse scatters, and a WWII training camp. P-37-036497 is a bedrock milling station that was evaluated by Dudek (Dudek recommends the site not eligible for listing on the NRHP or the CRHR). To date, 3 of the previously identified resources have previously been evaluated and recommended not eligible for listing

on the CRHR or NRHP, 1 is listed on the San Diego Register of Historic Resources (SDRHR), and the remaining 34 resources have not yet been evaluated.

The condition and project proximity of each of these 39 resources (i.e., 38 previously identified and 1 newly identified resource) are described below, categorized by the Project component in which they were identified. Resource location maps showing the resource proximity to the APE can be found in Confidential Appendix E to Appendix F2.

**Table 5.10-1**  
**Cultural Resources within the North City Project APE**

<b>Site Number</b>	<b>Era</b>	<b>Description</b>	<b>NRHP/CRHR Eligibility</b>	<b>North City Project Component</b>	<b>Project Proximity</b>
CR 450 (HRB 450)	Historic	Scripps Meanley Stables and House Complex	SDRHR	North City Pure Water Pipeline	Within 100 feet
NCAWPF-IF-1	Prehistoric	Isolated quartzite core	No formal evaluation	North City Pure Water Facility (NCPWF)	Intersects
NCAWPF-IF-2	Prehistoric	Isolated metavolcanic flake	No formal evaluation	NCPWF	Intersects
NCAWPF-IF-3	Prehistoric	Isolated quartzite flake	No formal evaluation	NCPWF	Intersects
P-37-004505	Prehistoric	Pictograph panel, lithic scatter, and rock pile	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-006660	Historic	San Diego Mission Flume segment	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-009117	Historic	WWII training camp remnants	No formal evaluation	Landfill Gas (LFG) Pipeline; San Vicente Pipeline	Within 100 feet
P-37-011077	Prehistoric	Bedrock milling feature	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-011459	Prehistoric	Lithic and groundstone scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet

**Table 5.10-1**  
**Cultural Resources within the North City Project APE**

<b>Site Number</b>	<b>Era</b>	<b>Description</b>	<b>NRHP/CRHR Eligibility</b>	<b>North City Project Component</b>	<b>Project Proximity</b>
P-37-011611	Prehistoric	Lithic quarry	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-011612	Prehistoric	Lithic artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-011761	Historic	Concrete cistern	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-012138	Prehistoric	Shell midden and fire affected rock	No formal evaluation	MBC	Intersects
P-37-012139	Prehistoric	Lithic scatter	No formal evaluation	MBC	Intersects
P-37-012408	Prehistoric	Lithic scatter	6Y	LFG Pipeline; San Vicente Pipeline	Intersects
P-37-012439	Prehistoric	Artifact scatter	6Y	LFG Pipeline; San Vicente Pipeline	Intersects
P-37-012453	Multicomponent	Shell, lithics, and historic glass scatter	No formal evaluation	Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	Within 100 feet
P-37-013629	Historic	Foster rail depot	No formal evaluation	San Vicente Pipeline Tunnel Alternative Terminus (TAT)	Intersects
P-37-013630	Prehistoric	Bedrock milling and a rock art panel	Recommended eligible CRHR	San Vicente Pipeline – TAT	Intersects
P-37-013651	Prehistoric	Milling and artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	San Vicente Pipeline – In-Reservoir Alternative Terminus (IRAT); San Vicente Pipeline Marina Alternative Terminus (MAT)	Within 100 feet

**Table 5.10-1**  
**Cultural Resources within the North City Project APE**

<b>Site Number</b>	<b>Era</b>	<b>Description</b>	<b>NRHP/CRHR Eligibility</b>	<b>North City Project Component</b>	<b>Project Proximity</b>
P-37-014119	Prehistoric	Isolated core	No formal evaluation	San Vicente Pipeline – (MAT	Within 100 feet
P-37-014654	Multicomponent	Marine shell scatter and rock retaining wall	No formal evaluation	San Vicente Pipeline	Intersects
P-37-014655	Prehistoric	Milling artifact scatter	No formal evaluation	San Vicente Pipeline	Intersects
P-37-014656	Prehistoric	Milling artifact scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-014657	Prehistoric	Artifact and marine shell scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-014658	Prehistoric	Lithic and groundstone scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-014660	Prehistoric	Lithic and marine shell scatter	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-014661	Prehistoric	Marine shell and flake scatter	No formal evaluation	San Vicente Pipeline	Intersects
P-37-014961	Prehistoric	Isolated flake	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-014981	Prehistoric	Isolated flake and core	No formal evaluation	LFG Pipeline	Intersects
P-37-015477	Prehistoric	Quartzite cobble tool	No formal evaluation	San Vicente Pipeline– IRAT	Within 100 feet
P-37-018327	Prehistoric	Shell and lithic scatter	No formal evaluation	Miramar Water Treatment Plant	Intersects
P-37-026967	Prehistoric	Bedrock milling	No formal evaluation	San Vicente Pipeline	Within 100 feet
P-37-026969	Historic	Glass scatter	No formal evaluation	San Vicente Pipeline – TAT	Within 100 feet
P-37-026974	Historic	Concrete road	6Z	San Vicente Pipeline	Intersects

**Table 5.10-1  
Cultural Resources within the North City Project APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	North City Project Component	Project Proximity
P-37-035477	Prehistoric	Isolated lithic flake	No formal evaluation	Morena Pipelines	Intersects
P-37-035478	Prehistoric	Isolated lithic flake	No formal evaluation	Morena Pipelines	Within 100 feet
P-37-036497	Prehistoric	Bedrock milling	Recommended not eligible	San Vicente Pipeline – TAT	Within 100 feet

#### 5.10.4.1 North City Pure Water Program Components

##### Morena Pump Station

No cultural resources have been identified within the Morena Pump Station APE.

Although not listed in Table 5.10-1, one potential historic resource was identified within the Morena Pump Station APE: 877 Sherman Street (APN 436-451-06), the original site of the San Diego Humane Society. Originally a milk plant, the property was adapted in 1951 to house the San Diego Humane Society, which was founded March 10, 1880, by George W. Marston and George W. Hazard. New kennels were added along the southwestern boundary of the property between 1953 and 1964. In 1958, a new garage was designed by John S. M. Daniels and built by R. E. Hazard. A house at the southeastern side of the property was on the site prior to 1966. In 1974, a thrift store opened on the property to raise funds for operating costs, as well as construction of a new two-story building. Several modern modular temporary buildings also exist on the site. Investigation (see Appendix F1) revealed that the property was not eligible for listing at the national, state, or local level.

##### Morena Wastewater Forcemain and Brine/Centrates Line

Cultural resources within the Morena Wastewater Forcemain and Brine/Centrates Line (Morena Pipelines) APE are presented in Table 5.10-1a and are discussed below.

**Table 5.10-1a  
Cultural Resources within the Morena Pipelines APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-012453	Multicomponent	Shell, lithics, and historic glass scatter	No formal evaluation	Within 100 feet
P-37-035477	Prehistoric	Isolated lithic flake	No formal evaluation	Intersects
P-37-035478	Prehistoric	Isolated lithic flake	No formal evaluation	Within 100 feet

***P-37-012453; CA-SDI-12453***

This multicomponent artifact scatter was identified in 1991 and included historical glass fragments, prehistoric lithics with possibly associated marine shell. The assemblage consisted of a volcanic rock core, volcanic flakes, and cobalt blue glass sherds. The record noted that a railroad line bisected the scatter and greatly disturbed the site. A site record update in 2011 could not relocate any cultural material and postulated that the scatter was destroyed during the construction of the second rail line in 2002.

The current study revisited the site and, like the 2002 survey, was unable to identify any remnants of the P-37-012453 scatter. In observation of railway safety protocol, the current survey maintained a 25-foot buffer from the railway. Extensive earthmoving is evident and a large portion of the original site boundary is now covered by rock ballast, dirt roads, and leveled roadside.

***P-37-035477***

This prehistoric isolate was recorded in 2016 as two metavolcanic and one quartzite flake. The flakes were recovered during potholing activities within Genesee Avenue.

***P-37-035478***

This prehistoric isolate was recorded in 2016 and consists of one quartzite flake. The flake was recovered from back dirt from a trench excavated during sewer work.

While not listed in Tables 5.10-1 or 5.10-1a, one historic-era structure (i.e., the Tecolote Creek concrete channel) was identified within the Morena Pipelines section of the APE. More specifically, the Morena Pipelines alignment intersects

the channel north of Sea World Drive. The concrete channel through which the western portion of Tecolote Creek flows is U-shaped and shallow, with a broad, flat bottom and angled sides. Roughly 1 mile in length, the width of the channel gradually increases downstream. The City of San Diego built the concrete channel between 1953 and 1958 and in doing so, shifted the stream course a few hundred feet south of its then unconfined location. Repositioning the stream and controlling its location by creating the mile-long concrete channel enabled development of the area for commercial, light industrial and residential uses. The structure is recommended as not eligible for listing in the NRHP or the CRHR.

**North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility**

No cultural resources or built environmental resources have been identified within the North City Water Reclamation Plant, Influent Pump Station, or North City Renewable Energy Facility APE.

**North City Pure Water Facility and Pump Station**

Cultural resources within the North City Pure Water Facility (NCPWF) and Pump Station APE are identified in Table 5.10-1b and are discussed below. No built environment resources were identified within the North City Pure Water Facility section of the APE.

**Table 5.10-1b**  
**Cultural Resources within the NCPWF APE**

<b>Site Number</b>	<b>Era</b>	<b>Description</b>	<b>NRHP/CRHR Eligibility</b>	<b>Project Proximity</b>
NCAWPF-IF-1	Prehistoric	Isolated quartzite core	No formal evaluation	Intersects
NCAWPF-IF-2	Prehistoric	Isolated metavolcanic flake	No formal evaluation	Intersects
NCAWPF-IF-3	Prehistoric	Isolated quartzite flake	No formal evaluation	Intersects

***NCAWPF-IF-1***

This prehistoric isolate was recorded in 2016 as a tan, medium-grained, quartzite core fragment. The current survey relocated the isolate within the NCPWF APE.

**NCAWPF-IF-2**

This prehistoric isolate was recorded in 2016 as a brown, metavolcanic flake isolate. The current survey relocated the isolate within the NCPWF APE.

**NCAWPF-IF-3**

This prehistoric isolate was recorded in 2016 as a grey, medium-grained, quartzite flake isolate. The current survey was unable to relocate the isolate within the dense vegetation that covers the NCPWF APE.

**Landfill Gas Pipeline**

Cultural resources within the Landfill Gas (LFG) Pipeline APE are presented in Table 5.10-1c and are discussed below. No built environment resources were identified within the LFG Pipeline APE.

**Table 5.10-1c  
Cultural Resources within the LFG Pipeline APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-009117	Historic	WWII training camp remnants	No formal evaluation	Within 100 feet
P-37-012408	Prehistoric	Lithic scatter	6Y	Intersects
P-37-012439	Prehistoric	Artifact scatter	6Y	Intersects
P-37-014981	Prehistoric	Isolated flake and core	No formal evaluation	Intersects

***P-37-009117; CA-SDI-009117***

This site was originally recorded in 1981 as a possible World War II training camp. The site contained several concrete slabs, refuse scatters, and demolished building materials. A possible prehistoric lithic scrapper was also identified and collected. A site record update in 1992 found the site to be 90% destroyed by grading activities associated with the Miramar Landfill. Most of the concrete slabs and debris had been pushed into a ravine and were difficult to observe. Metal, glass, and concrete fragments have been scattered across the site boundary. The 1992 update did note that several slabs were still in situ in the southern portion of the mesa top site, one measuring 25 × 50 feet. Another site record update in 2014 identified only three elements associated with P-37-009117, including two piles of broken concrete and a

scatter of roughly 25 church-key opened soldered cans. The original site boundaries measured 1,000 by 800 feet.

The current survey was not granted permission to revisit P-37-009117. The proposed LFG Pipeline APE crosses the originally recorded boundary of P-37-009117 but is nearly 300 feet east of any of the extant features of the resource recorded in 2014.

***P-37-012408; CA-RIVSDI-12408***

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25–35 specimens including scrapers, flakes, debitage, a mano, and a core. The initial recordation noted that the site had been disturbed by grading and vegetation-clearing activities. The site was revisited in 1995 for archaeological testing. The study collected 73 stone tools and flakes from the surface. Ten shovel test probes and ten test units were excavated that produced 69 similar artifacts. The 1995 study recommended that the site was not eligible for listing on the NRHP. A later visit to the site in 1995 was unable to relocate the site.

The current study did not revisit the site as it was located on MCAS Miramar; however, aerial photographs show that the location of P-37-012408 was completely developed between 2010 and 2012.

***P-37-012439; CA-RIVSDI-12439***

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25–30 specimens including flakes, scrapers, and a mano. The site was revisited and tested in 2006. The study only found one isolated quartz flake on the surface within the site boundaries. Four shovel test probes and one test unit produced no subsurface component. The 2006 study recommended the resource not eligible for listing on the NRHP.

The current study did not revisit the P-37-012439 as it is located on MCAS Miramar.

***P-37-014981***

This prehistoric isolate was recorded in 1990 as a quartzite flake and core. The original site record map suggests that the resource was discovered within the roadbed of Miramar Road. Because this portion of Miramar Road was constructed as early as 1972, it is unclear how this could be.

### Metro Biosolids Center

Cultural resources within the MBC APE are presented in Table 5.10-1d and are discussed below. No built environment resources were identified within the MBC APE.

**Table 5.10-1d  
Cultural Resources within the MBC APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-012138	Prehistoric	Shell midden and fire-affected rock	No formal evaluation	Intersects
P-37-012139	Prehistoric	Lithic scatter	No formal evaluation	Intersects

#### ***P-37-012138; CA-SDI-12138***

This prehistoric scatter was identified in 1992 as a shell midden with a scatter of fire-affected rock and artifact scatter. The artifacts included one granitic mano, a granitic mano fragment, and more than 30 volcanic and quartzite flakes. The site was revisited in 1995 but the survey could not relocate the scatter. That study postulated that the site was destroyed by activities at Miramar Landfill.

The current study revisited the P-37-012138 location and found that it has been completely developed into the MBC.

#### ***P-37-012139; CA-SDI-12139***

This prehistoric artifact scatter was originally recorded in 1992 and included three lithic cores and more than 40 flakes of fine-grained volcanic materials. The light scatter covered a low knoll and measured 50 × 150 meters (165 × 490 feet). The site was revisited in 1995 but the survey could not relocate the scatter. That study postulated that the site was destroyed by activities at Miramar Landfill.

The current study revisited the P-37-012139 location and found that it has been completely developed into the MBC.

### North City Pure Water Pipeline

Cultural resources within the North City Pure Water Pipeline (North City Pipeline) APE are identified in Table 5.10-1e and are discussed below.

**Table 5.10-1e**  
**Cultural Resources within the North City Pipeline APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
CR 450	Historic	Scripps Meanley Stables and House Complex	SDRHR	Within 100 feet

**CR 450**

This cultural resource was originally recorded in 1986 as the T.M. Meanley House, a ranch complex constructed during 1934–1935 for Thomas Meanley and Nackey Scripps Meanley, daughter of prominent newspaper publisher Edward Willis Scripps. At the time of initial recordation, the complex consisted of a Mission Revival architectural style home, stables and workshops, a stone wall, a eucalyptus-tree-lined dirt drive, and Evan’s Pond, which originally provided irrigation water for the property. Nackey Scripps Meanley passed in 1981 and her husband, Thomas, in 1985. In June 1985 the property, including the ranch and stable complex as well as the acreage, was sold to Currie/Samuelson Development Co. for \$11,505,000 for commercial/industrial development (Ryon 1985). The 1986 recordation of the complex served as mitigation for proposed demolition of the house and outbuildings, which aerial photographs show was completed prior to 1989.

In 2000, the site was revisited, and three of the original features were found to be extant: the stone wall, the segment of eucalyptus-tree-lined dirt drive adjacent to the wall, and Evan’s Pond. The extant features were then nominated and listed in the local SDRHR as CR 450. The stone wall, segment of tree-lined dirt drive, and Evan’s Pond are still recognizable today and are used as public space adjacent to the Scripps Miramar Ranch Library Center.

The current survey revisited CR 450 (also identified as HRB 450 in the Historical Resources Technical Report; see Appendix F1) and found it to be in relatively the same condition as recorded in 2000. A site survey conducted on August 27, 2016, documented the existing conditions of the three remaining built historic resources. The tree-lined dirt drive and Evan’s Pond are intact and in good condition. However, the stone wall is in fair to poor condition. Sections along the top edge and sporadic cobbles are missing and, despite evidence of previous mortar repair campaigns, numerous cracks (some quite large) are evident.

One historic resource was identified within the North City Pipeline APE: the parcel located between 10256 and 10301 Meanley Drive, adjacent to and south of the Scripps Miramar Ranch Library Center. Investigation revealed that the property was listed locally in the SDRHR as HRB 450 (see above).

**Miramar Water Treatment Plant**

Cultural resources within the Miramar Water Treatment Plant (WTP) APE are presented in Table 5.10-1f and are discussed below. No built environment resources were identified within the Miramar WTP APE.

**Table 5.10-1f  
Cultural Resources within the Miramar WTP APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-018327	Prehistoric	Shell and lithic scatter	No Formal Evaluation	Intersects

***P-37-018327; CA-SDI-15556***

This low-density scatter of marine shell and three possible metavolcanic flakes was originally recorded in 1999. The scatter is located on the premises of the Miramar WTP and was likely disturbed by the construction of the facility. Shell and the possible lithic flakes were exposed in the landscaped and less developed areas of the plant. The site was revisited in 2009 and found to be in the same condition as originally recorded.

**San Vicente Pure Water Pipeline**

Cultural resources within the San Vicente Pipeline APE are presented in Table 5.10-1g, and are discussed following the table. No built environment resources were identified within the San Vicente Pipeline APE.

**Table 5.10-1g  
Cultural Resources within the San Vicente Pipeline APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-004505	Prehistoric	Pictograph panel, lithic scatter, and rock pile	No formal evaluation	Within 100 feet
P-37-006660	Historic	San Diego Mission Flume segment	No formal evaluation	Within 100 feet

**Table 5.10-1g**  
**Cultural Resources within the San Vicente Pipeline APE**

<b>Site Number</b>	<b>Era</b>	<b>Description</b>	<b>NRHP/CRHR Eligibility</b>	<b>Project Proximity</b>
P-37-009117	Historic	WWII training camp remnants	No formal evaluation	Within 100 feet
P-37-011077	Prehistoric	Bedrock milling feature	No formal evaluation	Within 100 feet
P-37-011459	Prehistoric	Lithic and groundstone scatter	No formal evaluation	Within 100 feet
P-37-011611	Prehistoric	Lithic quarry	No formal evaluation	Within 100 feet
P-37-011612	Prehistoric	Lithic artifact scatter	No formal evaluation	Within 100 feet
P-37-011761	Historic	Concrete cistern	No formal evaluation	Within 100 feet
P-37-012408	Prehistoric	Lithic scatter	6Y	Intersects
P-37-012439	Prehistoric	Artifact scatter	6Y	Intersects
P-37-013651	Prehistoric	Milling and artifact scatter	No formal evaluation	Within 100 feet
P-37-014654	Multicomponent	Marine shell scatter and rock retaining wall	No formal evaluation	Intersects
P-37-014655	Prehistoric	Milling artifact scatter	No formal evaluation	Intersects
P-37-014656	Prehistoric	Milling artifact scatter	No formal evaluation	Within 100 feet
P-37-014657	Prehistoric	Artifact and marine shell scatter	No formal evaluation	Within 100 feet
P-37-014658	Prehistoric	Lithic and groundstone scatter	No formal evaluation	Within 100 feet
P-37-014660	Prehistoric	Lithic and marine shell scatter	No formal evaluation	Within 100 feet
P-37-014661	Prehistoric	Marine shell and flake scatter	No formal evaluation	Intersects
P-37-014961	Prehistoric	Isolated flake	No formal evaluation	Within 100 feet
P-37-026967	Prehistoric	Bedrock milling	No formal evaluation	Within 100 feet
P-37-026974	Historic	Concrete road	6Z	Intersects

***P-37-004505; CA-SDI-004505***

This prehistoric temporary camp site was originally recorded in 1978 as a large area, low-density lithic scatter that included milling features and a single pictograph panel. The site boundaries encompass a depression and distant hillside north of Mission Gorge Road. Nine loci were identified throughout the 0.5-mile-wide site. A 1995 update consisted of a pictograph analysis only. Three pictograph panels were identified, consisting of anthropomorphic and geometric shapes painted in red on a southeast-facing granitic boulder.

Locus A of P-37-004505, consisting of a basalt flaked scraping tool and four additional flakes, is located immediately north of Mission Gorge Road. The San Vicente Pipeline component proposes that the pipeline be installed along the southern side of the road. The APE extends roughly 20 feet north of Mission Gorge Road into the site boundary of P-37-004505. The current survey found the terrain immediately north of the road to be steep and heavily vegetated presenting a safety risk and poor visibility. The hillside and vegetation act as natural barriers between any proposed San Vicente Pipeline activities and the resource.

***P-37-006660; CA-SDI-006660***

These segments of the San Diego Mission Flume was originally recorded in 1978 as a water conveyance system constructed of earth, stone, brick, and tile. A trench was excavated into the hillside along the San Diego River and local rocks were piled on the downhill edge to create a short wall. Wide bricks and stones were placed at the base of the trench to support a mission-made tile on which the water flowed. By 1978, the flume was greatly disturbed and only the stone retaining wall and trench were evident in many sections. A 2008 site record update identified eight previously unrecorded flume segments running parallel to Mission Gorge Road.

The current survey was unable to revisit P-37-006660 due to access restrictions. The 2008 site record update suggests that segments 7 and 8 fall within the San Vicente Pipeline APE.

***P-37-009117; CA-SDI-009117***

This site was originally recorded in 1981 as a possible World War II training camp. The site contained several concrete slabs, refuse scatters, and demolished building materials. A possible prehistoric lithic scrapper was also identified and collected. A site record update in 1992 found the site to be 90% destroyed by grading activities

associated with the Miramar Landfill. Most of the concrete slabs and debris had been pushed into a ravine and were difficult to observe. Metal, glass, and concrete fragments have been scattered across the site boundary. The 1992 update did note that several slabs were still in situ in the southern portion of the mesa top site, one measuring 25 × 50 feet. Another site record update in 2014 identified only three elements associated with P-37-009117, including two piles of broken concrete and a scatter of roughly 25 church-key opened soldered cans. The original site boundaries measured 1,000 by 800 feet.

The current survey was not granted permission to revisit P-37-009117. The proposed San Vicente Pipeline APE encroaches on the originally recorded boundary of P-37-009117 but is nearly 300 feet east of any of the extant features of the resource recorded in 2014. Also, this portion of the San Vicente Pipeline consists of an extant pipeline that will be repurposed for the Project.

***P-37-011077; CA-SDI-11077***

This prehistoric milling station was originally recorded in 1989 as consisting of one bedrock outcrop that included three lightly worn slicks. Ground visibility was high and a single bifacial mano was identified adjacent to the milling station. The resource was located on a hillside overlooking an ephemeral drainage and described as remote and unlikely to be disturbed by humans. A 1990 site record update described the site as containing only two boulders, each with one milling slick.

The current survey revisited P-37-011077 and found the milling station to be in the same condition as previously recorded. Though located within the APE, the 10-meter × 10-meter (33-foot × 33-foot) resource is located 70 feet east of Mission Gorge Road.

***P-37-011459; CA-SDI-11459***

This prehistoric artifact scatter was recorded in 1989 and consisted of three mano fragments, two cores, and four quartzite flakes. The light scatter covered an area of 125 meters × 120 meters (410 feet × 394 feet), and five STPs determined that the site had no depth. The site was located north of Mission Gorge Road in an undeveloped field in 1989.

During the current survey, the recorded location P-37-011459 was revisited; however, the location has been completely developed. The area now consists of a residential development and the previous site boundaries are covered by a home, pavement,

and landscaping. Historical aerial photographs suggest that the residential development was constructed between 1989 and 1995.

***P-37-011611; CA-SDI-11611***

This prehistoric quarry was recorded in 1990 as an exposure of white metavolcanic material with red-stained fractures. The low-lying material exposure is located on a hillside with materials and flakes eroding down the hillside. The original record noted 400+ flakes and angular assayed cobbles.

P-37-011611 is located 40 feet north of Mission Gorge Road. A hillside slopes steeply upward from Mission Gorge Road towards the resource. Due to the steep slope and poor visibility, only the southernmost extent of the resource, the 30-foot-wide section that fell within the APE, was surveyed during the current study. The current survey found no lithic flakes within this section of the site.

***P-37-011612; CA-SDI-11612***

This prehistoric artifact scatter was originally recorded in 1990 and consisted of three manos, a core, a hammerstone, and five fine-grained green metavolcanic flakes. The site was identified on a knoll near a large hillside, adjacent to Mission Gorge Road. The original recordation noted that there was extensive grading in areas adjacent to the resource and postulated that the original extent of the site might have been impacted. Intensive survey in 2004 was unable to relocate any artifacts and noted that the site area appears to have been subject to ground-disturbing activities.

The current survey revisited P-37-011612 and, like the 2004 survey, could not relocate the artifacts. The area shows signs of ground-disturbing activities likely associated with the construction of Mission Gorge Road to the south and the trailhead parking area to the west. The dense vegetation obscured ground visibility and may have hidden artifacts. Regardless, the resource boundary is 50 feet north of Mission Gorge Road where Project activities are proposed. Additionally, the hillside acts as a natural barrier between the San Vicente Pipeline activities and the resource boundary.

***P-37-011761; CA-SDI-11761***

This historic feature was recorded in 1990 and consists of a possible cistern with round, steel-reinforced concrete walls. The possible cistern was in good condition but its age was undetermined.

During the current survey, the recorded location P-37-011761 was revisited; however, the location has been completely developed. The area now consists of a residential development and the previous site boundaries are covered by a home, pavement, and landscaping. Historical aerial photographs suggest that the residential development was constructed between 1989 and 1995.

***P-37-012408; CA-RIVSDI-12408***

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25–35 specimens including scrapers, flakes, debitage, a mano, and a core. The initial recordation noted that the site had been disturbed by grading and vegetation clearing activities. The site was revisited in 1995 for archaeological testing. The study collected 73 stone tools and flakes from the surface. Ten shovel test probes and ten test units were excavated that produced 69 similar artifacts. The 1995 study recommended that the site was not eligible for listing on the NRHP. A later visit to the site in 1995 was unable to relocate the site.

The current study did not revisit the site, because it was located on MCAS Miramar; however, aerial photographs show that the location of P-37-012408 was completely developed between 2010 and 2012.

***P-37-012439; CA-RIVSDI-12439***

This prehistoric artifact scatter was first identified in 1991 and described as a lithic scatter of 25–30 specimens, including flakes, scrapers, and a mano. The site was revisited and tested in 2006. The study only found one isolated quartz flake on the surface within the site boundaries. Four shovel test probes and one test unit produced no subsurface component. The 2006 study recommended the resource not eligible for listing on the NRHP.

The current study did not revisit the P-37-012439, because it is located on MCAS Miramar.

***P-37-13651; CA-SDI-13651***

This prehistoric habitation site was originally recorded in 1993 as containing five milling features with over 30 elements, lithic tools, debitage, ceramic fragments, fire-affected rock, and midden. A 2009 site record update found the resources to be in the same condition as 1993 but expanded the resource boundary to include an additional milling feature.

The current survey revisited P-37-13651 and found it to be in the same condition as previously recorded in 2009. The resource is located 50 feet east of the San Vicente Pipeline APE centerline; however, the resource is located atop a hillside. The steep hillside acts as a natural barrier between the proposed San Vicente Pipeline activities and the resource boundary.

***P-37-014654; CA-SDI-014267***

This multicomponent resource was originally recorded in 1996 as a prehistoric marine shell scatter and a historic rock retaining wall. The marine shells included *Chione*, *Pecten*, *Ostrea*, limpet, and gastropod. The rock retaining wall was 20 meters (66 feet) long and three courses high. A site record update in 2002 could not gain access to the private property due to a fence. From Moreno Avenue, the surveyors were able to confirm that the retaining wall was still present and that the shell scatter area had recently been brushed.

The current survey revisited P-37-014654 but could not gain access to the private property. The current survey could not relocate the rock retaining wall by looking through the fence. Recent earthmoving activities have taken place within the private property, and it is possible that the resource has been destroyed. This cannot be confirmed unless access to the property is granted. Regardless, although the site falls within the San Vicente Pipeline APE, the private fence protects the recorded location of the resource from San Vicente Pipeline activities.

***P-37-014655; CA-SDI-14268***

This prehistoric artifact scatter was originally recorded in 1996 as four metate fragments, seven pieces of debitage, one bifacial mano fragment, and one pestle fragment. The resource was recorded on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences. An update in 1997 found that a large portion of the site had been graded. Subsurface testing produced no prehistoric artifacts and confirmed that road fill or cobble was introduced into the area during the construction of Moreno Avenue.

The current survey revisited P-37-014655 but was unable to relocate any artifacts. The area between the private property and Moreno Avenue has been completely leveled and is used by the adjacent residence for vehicle parking. Any remnants of the resource may have been destroyed by roadside maintenance or collected by the local residences.

***P-37-014656; CA-SDI-14269***

This prehistoric artifact scatter was recorded in 1996 as two pestles, a groundstone fragment, and a truncated metate fragment. The resource was recorded on the east side of Moreno Avenue but the surveyors could not explore the resource farther east due to private property fences.

The current survey revisited P-37-014656 but was unable to relocate any artifacts. The area between the private property and Moreno Avenue has been completely leveled and is used by the adjacent residence for vehicle parking. Any remnants of the resource may have been destroyed by roadside maintenance or collected by the local residences.

***P-37-014657; CA-SDI-14270***

This prehistoric scatter was recorded in 1996 and included marine shell, two manos, and one piece of debitage. The resource was identified on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences.

The current survey attempted to revisit P-37-014656 but was separated from the resource by a private fence. The area within the fence has been completely graded with several buildings. Although the resource is located within the San Vicente Pipeline APE, the private fence will protect the site from the proposed trenching within or immediately adjacent to Moreno Avenue.

***P-37-014658; CA-SDI-14271***

This prehistoric artifact scatter was recorded in 1996 as two pieces of debitage, a mano, a pestle, and a possible metate fragment. The resource was recorded on the east side of Moreno Avenue but the surveyors could not explore the resource further east due to private property fences.

The current survey revisited P-37-014658 but was unable to relocate any artifacts. The area between the private property and Moreno Avenue has been completely leveled and is used by the adjacent residence for vehicle parking. A manhole cover within the site boundary suggests that the subsurface has been completely disturbed. The remnants of the resource may have been destroyed by roadside maintenance or collected by the local residences.

**P-37-014660; CA-SDI-14273**

This prehistoric scatter was recorded in 1996 and contained *Chione* and *Pecten* shell, four lithic flakes, and one core. At the time of recordation, the surveyors noted that the site was subject to considerable river erosion, grading, and excavation for installation of a pipeline. The site measured 50 feet × 50 feet and was located in a depression between Lakeside Avenue and State Route 67.

The current survey revisited P-37-014660 but was unable to access the site due to a private fence. Through the fence, the current surveyors could see that the area has been greatly disturbed. The resource location is located within the San Vicente Pipeline APE but is 40 feet east of Lakeside Avenue where the pipeline trench is proposed. Review of an aerial photograph shows that the portion of the resource that falls within the APE was graded between 2010 and 2012. The resource was likely destroyed in this section of the APE at this time.

**P-37-014661; CA-SDI-14274**

This resource was originally recorded in 1996 as a prehistoric shell scatter and five lithic flakes. A site record update from 2000, however, determined that the shell was not the result of prehistoric subsistence but rather a recent product of imported bay sediments. The update also concluded that the reported flakes were the result of heavy equipment passing over rock.

**P-37-014961**

This prehistoric isolate was recorded in 1990 and consists of a single volcanic flake. The resource is located within fenced military land and the current survey was not able to access the flake. The resource is located within the San Vicente Pipeline APE but it is protected from San Vicente Pipeline activities by the well-maintained fence. Additionally, isolated finds have limited data potential and are not considered eligible for listing in the NRHP or the CRHR.

**P-37-026967; CA-SDI-17652**

This prehistoric resource was originally recorded in 2005 as a single milling station feature. Photographs of the single boulder suggest that the feature possessed six conical mortars. The original recorded stated that the feature appears to have been relocated to its recorded position. A 2009 site record update found the resource in

the same location as originally recorded but noted extensive disturbance to the area due to construction of a park entrance.

The current survey revisited the recorded location of P-37-026967 but could not relocate the feature. It is possible that this feature was removed during the continued construction mentioned in the 2009 site record update.

***P-37-026974; CA-SDI-17656***

This historic resource is the concrete road that ran through the railroad depot and the Town of Foster in the early twentieth century. This half-mile segment of concrete highway used to connect Julian, California, to San Diego, California, but the route was discontinued with the construction of the San Vicente Dam. This site is associated with the P-37-013629; CA-SDI-13629, the remnants of the Town of Foster. A site record update in 2009 evaluated the site and stated that the condition of the road had worsened, likely from its use by heavy machinery. Due to its diminished integrity to convey its significance, the resource was recommended not significant for listing in the NRHP or the CRHR.

The current survey revisited P-37-026974 and found the road to be in diminishing condition. The original light-colored concrete road with large dark rock inclusions had been cracked and repaired in many areas. Potholes and entire sections have been covered with asphalt. If the easternmost route of the proposed San Vicente Pipeline is chosen, a trench would be excavated in the historical concrete road.

**San Vicente Pipeline – In-Reservoir Alternative Terminus**

Cultural resources within the San Vicente Pipeline – In-Reservoir Alternative Terminus (IRAT) APE are presented in Table 5.10-1h, and are discussed following the table. No built environment resources were identified within the San Vicente Pipeline – IRAT APE.

**Table 5.10-1h**  
**Cultural Resources within the San Vicente Pipeline – IRAT APE**

<b>Site Number</b>	<b>Era</b>	<b>Description</b>	<b>NRHP/CRHR Eligibility</b>	<b>Project Proximity</b>
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	Within 100 feet
P-37-015477	Prehistoric	Quartzite cobble tool	No formal evaluation	Within 100 feet

***P-37-013846; CA-SDI-13846***

This prehistoric milling station was originally recorded in 1993 and consists of three bedrock milling features containing ten milling slicks and an associated handstone. The site was revisited 2009 and found to be in the same condition as originally recorded.

The current survey revisited P-37-013846 and found it to be in the same condition as previously recorded in 2009. The resource is located on a hillside overlooking a paved road. This paved road is the route for the San Vicente Pipeline – IRAT trench.

***P-37-015477***

This prehistoric isolate was recorded in 1993 as a quartzite cobble tool. Since the time of its discovery, the area in which it was located has been completely developed and graded. The current survey was unable to relocate the isolate.

**San Vicente Pipeline – Marina Alternative Terminus**

Cultural resources within the San Vicente Pipeline – Marina Alternative Terminus (MAT) APE are presented in Table 5.10-1i and are discussed following the table. No built environment resources were identified within the San Vicente Pipeline – MAT APE.

**Table 5.10-1i  
Cultural Resources within the San Vicente Pipeline – MAT APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-013846	Prehistoric	Bedrock milling site	No formal evaluation	Within 100 feet
P-37-014119	Prehistoric	Isolated core	No formal evaluation	Within 100 feet

***P-37-013846; CA-SDI-13846***

This prehistoric milling station was originally recorded in 1993 and consists of three bedrock milling features containing ten milling slicks and an associated handstone. The site was revisited 2009 and found to be in the same condition as originally recorded.

The current survey revisited P-37-013846 and found it to be in the same condition as previously recorded in 2009. The resource is located on a hillside overlooking a paved road. This paved road is one possible route for the San Vicente Pipeline – MAT trench.

**P-37-014119**

This prehistoric isolate was recorded in 1994 as a purple, brown aphanitic volcanic core. Since the time of its discovery, the area in which it was located has been completely developed and graded. The current survey was unable to relocate the isolate. The resource was located within the San Vicente Pipeline – MAT APE, but it has been completely destroyed, so no avoidance measures will be required during adjacent construction activities.

**San Vicente Pipeline – Tunnel Alternative Terminus**

Cultural resources within the San Vicente Pipeline – Tunnel Alternative Terminus (TAT) APE are presented in Table 5.10-1j and are discussed following the table.

**Table 5.10-1j  
Cultural Resources within the San Vicente Pipeline –TAT APE**

Site Number	Era	Description	NRHP/CRHR Eligibility	Project Proximity
P-37-013629	Historic	Foster rail depot	No formal evaluation	Intersects
P-37-013630	Prehistoric	Bedrock milling and a rock art panel	Recommended eligible CRHR	Intersects
P-37-026969	Historic	Glass scatter	No formal evaluation	Within 100 feet
P-37-036497	Prehistoric	Bedrock milling	Recommended not eligible	Within 100 feet

**P-37-013629; CA-SDI-13629**

This resource consists of the remnants of the railroad depot and city of Foster. The site was originally recorded in 1993 and three historical refuse scatters loci were identified. Additionally, the original concrete road was also recorded and was still in use at the time of recordation. A 1997 site record update relocated the three artifact loci but only identified diagnostic refuse at Locus C. Subsurface investigations including post-hole and test unit excavations identified segments of the original San Diego Cuyamaca and Eastern railroad track.

The current survey revisited P-37-013629 but was only able to relocate remnants of Locus C and the concrete road. The proposed trench for the San Vicente Pipeline – TAT is within the historical concrete road. The historic road segment of P-37-013629 has been recorded separately as P-37-026974. For a further discussion of the possible impacts to the road, please see P-37-026974.

***P-37-013630; CA-SDI-13630***

This prehistoric temporary camp was originally recorded in 1993 and consisted of a granite outcrop with milling features, two possible rock walled rooms, a possible pictograph of red pigment, and artifacts. The three milling features contained more than 10 slicks and the artifacts consisted of more than 100 lithic flakes, 5 ceramic fragments, and 1 mano. A 1996 site record update relocated and mapped the milling features and identified 20 brownware ceramic sherds, a pestle tip, a core, and debitage. No mention was made of the rock art, but a rock wall was included on the sketch map. The site was again updated in 2000, but this time the survey identified the three milling features and the rock art panel. The rock walled shelters and artifacts were not relocated.

The recorded site boundary of P-37-013630 measures roughly 30 meters × 12.5 meters (100 feet × 40 feet). This area encompasses a terrace of earth and granite outcrops on a steep knoll. The terrace overlooks a leveled area which has been developed and contains a house and outbuildings. A large portion of this recorded site boundary falls within the San Vicente Pipeline – TAT APE. The proposed pipeline trench is located 80 feet south of the site; however, a proposed work area encompasses the southern portion of the resource.

The current survey revisited P-37-013630 on July 29, 2016. The resource was identified on top of the hillside terrace which is located at least 12 feet above the ground surface. The milling features, over 100 lithic flakes, several brownware ceramic sherds, and midden soil were identified. The rock wall was not relocated during the current survey. A granite rock face was identified with red staining; however, the staining appeared to be natural and not a pictograph.

Because it is an unevaluated cultural resource, P-37-013630 was evaluated by Dudek through additional close-interval survey and excavation of four STPs and a STU. The excavations demonstrated a continuation of midden soil to bedrock and produced 224 pieces of debitage, 4 lithic bifaces, 29 ceramic sherds, 86 vertebrate remains, and a handstone fragment. Considering the high yield compared to the low volume (0.2 cubic meters) of the excavation units, archaeological testing demonstrated that P-37-013630 has a significant subsurface deposit. Further research of P-37-013630 is likely to yield information important in prehistory and, as such, Dudek recommends P-37-013630 eligible for listing on the NRHP and the CRHR under criteria D and 4, respectively. Please refer to Appendix F2 for additional analysis regarding site P-37-013630.

***P-37-026969; CA-SDI-17654***

This historical refuse scatter was recorded in 2005 and consists of broken glass whiskey and beer bottles concentrated at the base of a rock. The glass bottles exhibit hand finished crown lips and are now purple due to exposure by the sun. These qualities would date the materials to the early twentieth century.

This resource is located on a steep and densely vegetated hillside. Although it is located within the San Vicente Pipeline – TAT APE, P-37-026969 is located in a section of the alignment that will be directionally drilled.

P-37-036497; CA-SDI-22092 This newly discovered site was identified during the current survey and contains three prehistoric milling features and an associated artifact cache. The milling features consist of three granite bedrock boulders with six milling slicks ranging in dimensions from 24 centimeters to 70 centimeters (9 inches to 28 inches). The cache of lithic artifacts was located along the northern base of the northernmost granite boulder and appears to have been recently deposited. The cache includes three unidirectional cores, three manos, one granite hammerstone, and one metavolcanic flake. This resource was given the temporary identifier PWP-01.

P-37-036497 is located on a slight hillside overlooking a saddle between two hills that was leveled for the construction of a single-family residence. P-37-013630, another prehistoric milling site, is located 215 feet west of P-37-036497 on the other side of the leveled saddle. The leveling of this saddle may have disturbed a larger site that may have prehistorically linked these two milling sites.

P-37-036497 is located within the San Vicente Pipeline – TAT APE. P-37-036497 is located in a section of the possible alignment that will be directionally drilled and the underground tunnel will have no impact on the surface resource.

Because it is an unevaluated cultural resource, P-37-036497 was evaluated through additional close-interval survey and excavation of four STPs. Excavation of the STPs produced three pieces of debitage and one groundstone fragment. Further excavations at P-37-036497 are unlikely to yield information important to prehistory. Dudek recommends the P-37-036497 not eligible for listing on the NRHP or the CRHR. Please refer to Appendix F2 for additional analysis of site P-37-036497.

Also, although not listed in Table 5.10-1 or Table 5.10-1j, one potential historic resource was identified within the San Vicente Pipeline – TAT APE. The subject

property is located in the community of Lakeside, California, in unincorporated San Diego County, on a parcel identified with APN 329-121-0300. The property is situated on the east side of the 13500 block of Moreno Avenue, approximately 1,200 feet south of where Moreno Avenue reaches a dead end at the San Vicente Reservoir dam at the reservoir's southern bank. An address above the door on the property reads "5111" but the associated street is simply noted as "Private Road" on maps. For purposes of this analysis, the potential resource is identified as 5111 Private Road.

The house is a one-story, single-family residence likely constructed between 1947 and 1953 (NETR 2012), and is a heavily altered example of the Minimal Traditional style. The building is roughly rectangular in-plan with a front-facing, moderately pitched gable roof clad in composition shingles, and a slight eave overhang with exposed rafters. Turbine roof vents and a brick chimney project from roof. The exterior of the building is clad in textured stucco. Windows throughout the property consist of various sized horizontal sliding aluminum sash windows. The west elevation contains a large screened-in porch addition set atop a concrete block foundation, and accessed via a set of concrete block steps with a metal pipe hand railing. The porch has a flat, shed roof extension supported by a series of beams that align with the base of the main gable. Once inside the porch, the residence is accessed via a sliding glass door with an aluminum frame. The southwest elevation contains a simple wooden door with a single-hung aluminum sash window set atop a set of concrete steps and set beneath a shed roof extension supported by simple wooden posts with attached porch railings. The southeast elevation contains a dilapidated shade structure supported by metal posts with a wood panel awning. The northeast elevation contains a large concrete pad that connects to a concrete walkway in front of the northwest elevation. The grounds surrounding the property contain two wooden pergola structures, a series of picnic tables and benches, metal storage containers, a water tank, a small outhouse, utility boxes, and a scatter of debris consisting of building materials and crates. Investigation revealed that the property was not eligible for listing at the national, state, or local level.

### **Mission Trails Booster Station**

No cultural resources have been identified within the Mission Trails Booster Station APE.

#### **5.10.4.2 Archaeological Testing Results**

The current survey identified two previously unevaluated cultural resources, both of which were located within the San Vicente Pipeline – TAT APE, that could have been

potentially impacted by Project activities: P-37-013630 and P-37-036497. Archaeological testing was conducted to gather information to determine the eligibility of these sites for listing on the NRHP or the CRHR. Since these excavations, the City has committed to avoiding impacts to these resources.

### **P-37-013630**

Dudek archaeologists revisited P-37-013630 and conducted excavations on September 29, 2016. The entire terrace was surveyed using transects at less than 1-meter intervals. Over 100 lithic flakes were identified on the surface. Identified materials included quartz, cryptocrystalline silicates (CCS), volcanic, and obsidian. Ten brownware sherds were also identified on the surface of the terrace. To determine the presence of a subsurface deposit, four STPs were excavated along the terrace and one 1 meter × 0.5 meter test unit (TU-1) was excavated within the highest concentration of surface artifacts, as shown on the DPR form in Appendix F1. The four STPs were excavated to a depth ranging from 20 to 30 centimeters. Heavy granite boulders or bedrock prevented continued excavation in STPs 1, 3, and 4 (see Appendix F1). STP-2 was the most productive of the STPs and was still productive when it was abandoned at 30 centimeters depth. STP-4 was located furthest from the ground surface concentration and only produced two pieces of debitage. Dark midden soil was observed to depth in all excavation units except STP-4. TU-1 did show signs of ground disturbance in the form of modern ceramics and rusted metal found subsurface. Due to the high artifact content recovered from the first 10 centimeters excavated level of TU-1 was so productive and demonstrated a significant subsurface deposit, TU-1 was abandoned at 10 centimeters depth.

P-37-036497Dudek archaeologists revisited and conducted excavations as P-37-036497 on September 29, 2016. A 20-meter buffer surrounding the three bedrock milling features was resurveyed by Dudek archaeologists using transects at less than 1-meter intervals. Ground visibility was less than 30% due to dense grass and brush; however, one groundstone fragment was identified during the close-interval survey near Feature 1. The groundstone fragments prompted the location of STP-2. STP-3 and STP-4 were excavated 3 meters and 8 meters south of Feature 3, respectively (refer to DPR form in Appendix F1). All STPs were excavated to a depth of 30 centimeters below surface. STP-2 produced one groundstone fragment and two pieces of debitage. All three artifacts were identified in the first 20 centimeters. STP-1, STP-3, and STP-4 produced no cultural materials and no midden soil was noted in any of the four STPs.

### **5.10.5 APPLICABLE REGIONAL PLANS AND POLICIES REGULATORY FRAMEWORK**

#### **Federal**

#### ***Executive Order 13751, Consultation and Coordination with Indian Tribal Governments, 63 FR 96***

Executive Order 13175 was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications. When implementing such policies, agencies shall consult with tribal officials as to the need for federal standards and any alternatives that limits their scope or otherwise preserves the prerogatives and authority of Indian tribes.

#### ***Secretarial Order No. 3206 – American Indian Tribal Rights, Federal – Tribal Trust Responsibilities, and the Endangered Species Act***

This order clarifies the responsibilities of the Department of the Interior agencies with regard to how federal Endangered Species Act compliance actions affect, or may affect, Indian lands, tribal trust resources, or the exercise of American Indian tribal rights. Interior agencies will carry out their responsibilities in a manner that harmonizes the federal trust responsibility to tribes, tribal sovereignty, and statutory missions of the departments, and that strives to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species.

#### ***Indian Policy of the Bureau of Reclamation***

As stated in the 2016 Reclamation Manual, “Reclamation will carry out its programs and projects in compliance with the letter and the spirit of laws and policies relating to Indians; acknowledge and affirm the special relationship between the United States and federally recognized Indian tribes; and actively seek partnerships with Indian tribes to ensure that tribes have the opportunity to participate fully in the Reclamation program as they develop and manage their water and related resources” (BOR 2016).

#### ***36 CFR 800 and Section 106 of the National Historic Preservation Act***

The National Historic Preservation Act (NHPA) established the NRHP and the President’s Advisory Council on Historic Preservation, and provided that states

may establish State Historic Preservation Officers to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that “[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP.” Section 106 also affords the President’s Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (16 U.S.C. 470f).

Title 36 of the Code of Federal Regulations, Part 800, implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and to outline the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historical significance in consultation with the California State Historic Preservation Office to determine whether the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria for determining eligibility are essentially the same in content and order as those outlined under the California Environmental Quality Act (CEQA), but the criteria under NHPA are labeled A through D (rather than 1–4 under CEQA).

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

- B. Are associated with the lives of persons significant in our past; or
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

The President’s Advisory Council on Historic Preservation provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include:

- Determine and document the APE (36 CFR 800.16(d)).
- Review existing information on historic properties within the APE, including preliminary data.
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these.
- Consult with Native American tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance.
- Conduct appropriate fieldwork (including phased identification and evaluation).
- Apply NRHP criteria to determine a resource eligibility for NRHP listing (36 CFR 800.4).

Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when:

...an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to

all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5(1)).

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, State Historic Preservation Office, and Native American tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

### ***National Environmental Policy Act of 1969***

The National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.) establishes national policies and goals for the protection, maintenance, and enhancement of the environment and provides a framework for implementing these goals within the federal agencies. Section 102 of NEPA requires federal agencies to address environmental effects in their planning and decision-making documents. Specifically, all agencies are required to prepare detailed statements or reports that analyze and assess the environmental impacts of and alternatives to major federal action which could potentially affect the environment. Coordination efforts between NEPA and NHPA (Section 106) are established in 36 CFR 800.8(c). This section also established the process through which a federal agency can use the

NEPA process and documentation to comply with Section 106. These are being coordinated for this project. NEPA establishes the federal government's responsibility to preserve and protect significant historic, cultural, and natural resources of the United States.

## **State**

### ***California Register of Historical Resources***

In California, the term “cultural resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code, Section 5020.1(j)). In 1992, the California legislature established CRHR “to be used by state and local agencies, private groups, and citizens to identify the state's cultural resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code, Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Cultural Resources Commission determines that it is a significant resource and that it meets any of the following NRHP criteria:

1. Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history (California Public Resources Code, Section 5024.1(c)).

Resources less than 50 years old are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (see 14 CCR, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local cultural resource surveys. The State Historic Preservation Office maintains the CRHR.

### ***Native American Historic Cultural Sites***

The Native American Historic Resources Protection Act (California Public Resources Code, Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

### ***California Native American Graves Protection and Repatriation Act***

The California Native American Graves Protection and Repatriation Act, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The act also provides a process for the identification and repatriation of these items to the appropriate tribes.

### ***California Environmental Quality Act***

As described further below, the following CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological and historic resources:

1. California Public Resources Code, Section 21083.2(g): Defines “unique archaeological resource.”
2. California Public Resources Code, Section 21084.1, and CEQA Guidelines, Section 15064.5(a): Defines cultural resources. In addition, CEQA Guidelines, Section 15064.5(b), defines the phrase “substantial adverse change” in the

significance of a cultural resource. It also defines the circumstances when a project would materially impair the significance of a cultural resource.

3. California Public Resources Code, Section 21074(a): defines “Tribal cultural resources” and Section 21074(b): defines a “cultural landscape.”
4. California Public Resources Code, Section 5097.98, and CEQA Guidelines, Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
5. California Public Resources Code, Sections 21083.2(b)–21083.2(c), and CEQA Guidelines, Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation-in-place as the preferred manner of mitigating impacts to significant archaeological sites.

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an [sic] cultural resource” (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(b)). A “cultural resource” is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question: (a) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in pre-history or history.

The term “cultural resource” also includes any site described in a local register of historic resources, or identified as significant in a cultural resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)).

CEQA also applies to “unique archaeological resources.” California Public Resources Code, Section 21083.2(g), defines a “unique archaeological resource” as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person (California Public Resources Code, Section 21083.2(g)).

In 2014, CEQA was amended through AB 52 to apply to “tribal culture resources” as well. Specifically, California Public Resources Code, Section 21074, provides guidance for defining tribal cultural resources as either of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) Included or determined to be eligible for inclusion in the California Register of Cultural Resources. (B) Included in a local register of cultural resources as defined in subdivision (k) of §5020.1.
- 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 §5024.1. In applying the criteria set forth in subdivision (c) of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe. (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape (California Public Resources Code, Section 21074).

All cultural resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code, Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a cultural resource even if it does not fall within this presumption (California Public Resources Code, Section 21084.1; 14 CCR 15064.5(a)). A site or resource that does not meet the definition of “cultural resource” or “unique archaeological resource” is not considered significant

under CEQA and need not be analyzed further (California Public Resources Code, Section 21083.2(a); 14 CCR 15064.5(c)(4)).

Under CEQA a significant cultural impact results from a “substantial adverse change in the significance of an [sic] cultural resource [including a unique archaeological resource]” due to the “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an cultural resource would be materially impaired” (14 CCR 15064.5(b)(1); California Public Resources Code, Section 5020.1(q)). In turn, the significance of a cultural resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an cultural resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of cultural resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an cultural resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (14 CCR 15064.5(b)(2)).

Pursuant to these sections, CEQA first evaluates evaluating whether a project site contains any “cultural resources,” then assesses whether that project will cause a substantial adverse change in the significance of a cultural resource such that the resource’s historical significance is materially impaired.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements. Specifically:

[i]f it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require

reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

1. Planning construction to avoid archaeological sites.
2. Deeding archaeological sites into permanent conservation easements.
3. Capping or covering archaeological sites with a layer of soil before building on the sites.
4. Planning parks, greenspace, or other open space to incorporate archaeological sites (California Public Resources Code, Sections 21083.2(b)(1)–21083.2(b)(4)).

If these “preservation in place” options are not feasible, mitigation may be accomplished through data recovery (California Public Resources Code, Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). California Public Resources Code, Section 21083.2(d), states that:

[e]xcavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report (California Public Resources Code, Section 21083.2(d)).

These same requirements are set forth in slightly greater detail in CEQA Guidelines, Section 15126.4(b)(3), as follows:

- A. Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
- B. Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
  2. Incorporation of sites within parks, greenspace, or other open space;
  3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]
  4. Deeding the site into a permanent conservation easement.
- C. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the cultural resource, shall be prepared and adopted prior to any excavation being undertaken (14 CCR 15126.4(b)(3)).

Note that, when conducting data recovery, “[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation” (14 CCR 15126.4(b)(3)). However, “[d]ata recovery shall not be required for an cultural resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Cultural Resources Regional Information Center” (14 CCR 15126.4(b)(3)(D)).

Finally, CEQA Guidelines, Section 15064.5, assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are set forth in California Public Resources Code, Section 5097.98.

### ***California Health and Safety Code Section 7050.5***

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code, Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code, Section 7050.5c). The NAHC will notify

the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

## **Local**

### **County of San Diego Ordinance No. 9493**

The purpose and intent of the County's Ordinance No. 9493 is to create a local register of historical resources located within unincorporated areas of the County of San Diego by the addition of Section 396.7 to the San Diego County Administrative Code. Section 1 of the Ordinance states that:

The Local Register is an authoritative listing and guide to be used by local agencies, private groups, and citizens in identifying historical resources in the County of San Diego. In addition, the listing shall also be used as a management tool for planning, and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change.

Section IV of the Ordinance defines what historical resources are eligible for listing in the San Diego County Local Register of Historical Resources as follows:

(a) Historical resources to be listed automatically in the Local Register include the following:

(1) Historical resources listed on the National Register of Historic Places or California Register of Historical Resources. Normally, sites that are determined as eligible for listing on the National Register of Historic Places or California Register of Historical Resources or sites previously designated as Historic/Archaeological Landmarks or Districts through the application of the "H" or "J" special area designator are eligible for listing in the Local Register.

(b) Historical resources that require nomination to be listed in the Local Register may be nominated by individuals, organizations, or governmental agencies. Resources that are to be listed in the Local

Register must have owner approval prior to consideration for listing. These resources include:

- (1) Local historical resources identified as significant during CEQA environmental review.
- (2) An historical resource or historic district.
- (3) An historical resource contributing to the significance of a nominated historic district.
- (4) A group of historical resources identified in historic resource surveys, if the survey meets the criteria and standards of documentation as identified in Section V(e) below.
- (5) An historical resource, a group of historical resources, or historic districts designated or listed as County landmarks or historical resources or districts pursuant to any County ordinance, if the criteria for designation or listing under the ordinance have been reviewed by the Historic Site Board as meeting the Local Register criteria.
- (6) Historic Landmarks or Districts designated through the application of the "H" or "J" special area designator.

Section V(b) of the Ordinance specifies the criteria for evaluating the significance of historical resources. An historical resource must be significant at the local level under one or more of the following four criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;
- (2) Is associated with the lives of persons important to the history of San Diego County or its communities;
- (3) Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- (4) Has yielded or may be likely to yield, information important in prehistory or history.

The historical resource must also retain sufficient integrity. Integrity is the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Historical resources eligible for listing in the Local Register must meet one of the criteria of significance described in Section V(b), above, and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Historical resources that have been preserved, rehabilitated, or restored according to the guidelines approved by the Secretary of Interior may also be evaluated for listing.

Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is proposed for eligibility. Alterations over time to a resource or changes in its use may themselves have historical, cultural, or architectural significance.

### ***City of San Diego Cultural Resources Guidelines***

The City of San Diego Cultural Resources Guidelines outlines its purpose as follows:

To provide property owners, the development community, consultants and the general public with explicit guidelines for the management of cultural resources located within the jurisdiction of the City of San Diego. These guidelines are designed to implement the City’s Cultural Resources Regulations contained in the Land Development Code (Chapter 14, Division 3, Article 2) in compliance with the applicable local, state, and federal policies and mandates (City of San Diego 2001).

The City of San Diego Cultural Resources Guidelines observe that “cultural resource” means:

Site improvements, buildings, structures, historic districts, signs, features (including trees or other landscaping), places, place names, interior elements and fixtures designated in conjunction with a property, or other objects of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance to citizens of the city. They include buildings, structures, objects, archaeological sites, districts, or landscapes possessing physical evidence of human activities that are

typically over 45 years old, regardless of whether they have been altered or continue to be used (City of San Diego 2001).

The purpose and intent of the Cultural Resources Regulation of the Land Development Code (Chapter 14, Division 3, Article 2) is outlined as follows:

To protect, preserve and, where, damaged, restore the cultural resources of San Diego. The regulations apply to all development within the City of San Diego when cultural resources are present within the premises regardless of the requirement to obtain Neighborhood Development Permit or Site Development Permit (City of San Diego 2001).

The City of San Diego General Plan Program Environmental Impact Report states the following:

The Cultural Resources Regulations require that designated cultural resources and traditional cultural properties be preserved unless deviation findings can be made by the decision maker as part of a discretionary permit. Minor alterations consistent with the U.S. Secretary of the Interior's Standards are exempt from the requirement to obtain a separate permit but must comply with the regulations and associated cultural resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.

Cultural Resources Guidelines, located in the Land Development Manual, provide property owners, the development community, consultants and the general public explicit guidance for the management of cultural resources located within the City's jurisdiction. These guidelines are designed to implement the cultural resources regulations and guide the development review process from the need for a survey and how impacts are assessed to available mitigation strategies and report requirements and include appropriate methodologies for treating cultural resources located in the City (City of San Diego 2008a).

In order to assess the significance of the Pure Water Program's effects on cultural resources, the City of San Diego's Scoping Letter for the Pure Water Program (City of San Diego 2014), as well as the City's Significance Determination Thresholds (City of San Diego 2016), identify the following thresholds:

- Result in the alteration or destruction of a prehistoric or historic archaeological site, or adverse physical or aesthetic effects to a prehistoric building, structure, object, or site.
- Result in any impact to existing religious or sacred uses or result in the disturbance of any human remains within the potential impact area.

In general, the City's cultural resources regulations build on federal and state cultural resources laws and guidelines in an attempt to streamline the process of considering impacts to cultural resources within the City's jurisdiction, while maintaining that some resources not significant under federal or state law may be considered historical under the City's guidelines. In order to apply the criteria and determine the significance of potential project impacts to a cultural resource, the APE of the project must be defined for both direct impacts and indirect impacts. Indirect impacts can include increased public access to an archaeological site, or visual impairment of a historically significant view shed related to a historic building or structure.

### ***City of San Diego Comprehensive Historic Preservation Plan***

The Comprehensive Historic Preservation Plan was prepared by the Historical Site Board and the San Diego Planning Department in order to direct and focus the City's efforts to deal with increasingly complex historic preservation issues. There are four elements to this plan, which are the Inventory Element, the Incentives Element, the Education Element, and the Draft Historic Resource Board Ordinance. The first three elements were adopted by the City Council in February 1992; the final element was incorporated into Chapter 14, Article 3, Division 2 of the Land Development Code.

### ***City of San Diego Historical Resource Board***

The Historical Resources Board is established by the City Council as an advisory board to identify, designate and preserve the historical resources of the City; to review and make a recommendation to the appropriate decision making authority on applications for permits and other matters relating to the demolition, destruction, substantial alteration, removal or relocation of designated historical

resources; to establish criteria and provide for a Historical Resources Inventory of properties within the boundaries of the City; and to recommend to the City Council and Planning Commission procedures to facilitate the use of the Historical Resources Inventory results in the City's planning process in accordance with Section 111.0206 of the Land Development Code.

***City of San Diego Historical Resources Board Design Criteria***

The Historical Resources Guidelines of the City of San Diego's Land Development Manual (City of San Diego 2001) identifies the criteria under which a resource may be historically designated. It states that any improvement, building, structure, sign, interior element and fixture, site, place, district, area, or object may be designated a historical resource by the City of San Diego Historical Resources Board if it meets one or more of the following designation criteria:

- a. Exemplifies or reflects special elements of the City's, a community's or a neighborhood's historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development;
- b. Is identified with persons or events significant in local, state or national history;
- c. Embodies distinctive characteristics of a style, type, period or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
- d. Is representative of the notable work of a master builder, designer, architect, engineer, landscape architect, interior designer, artist or craftsman;
- e. Is listed or has been determined eligible by National Park Service for listing on the National Register of Historic Places or is listed or has been determined eligible by the State Historical Preservation Office for listing on the State Register of Historical Resources; or
- f. Is a finite group of resources related to one another in a clearly distinguishable way or is a geographically definable area or neighborhood containing improvements which have a special character, historical interest or aesthetic value or which represent one or more architectural periods or styles in the history and development of the City.

### ***City of San Diego Process Guide and General Plan***

The Historic Preservation Element offers a general guide for preserving, protecting, restoring, and rehabilitating historical and cultural resources within the City in order to maintain and encourage appreciation of its history and culture, improve the quality of the City's built environment, maintain the character and identity of its communities, and enhance the local economy through historic preservation. The primary goals of the Historic Preservation Element are outlined below:

- A. Identification and Preservation of Historical Resources
  - Identification of the historical resources of the City.
  - Preservation of the City's important historical resources.
  - Integration of historic preservation planning in the larger planning process.
- B. Historic Preservation, Education, Benefits, and Incentives
  - Public education about the importance of historical resources.
  - Provision of incentives supporting historic preservation.
  - Cultural heritage tourism promoted to the tourist industry (City of San Diego 2008b).

The detailed policies associated with items A and B above can be found in the Historic Preservation Element (City of San Diego 2008b), available on the City's website at <http://www.sandiego.gov/planning/genplan/>.

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## **5.11 HYDROLOGY AND WATER QUALITY**

### **5.11.1 INTRODUCTION**

The purpose of this section is to describe the surface water hydrology and water quality conditions of the North City Project area. The relevant study area consists of the watersheds crossed by the North City Project Alternatives (Project Alternatives), including all drainages and receiving waters into which stormwater and non-stormwater discharges from the Project Alternatives would occur. This chapter is based on review of the Water Quality Control Plan for the San Diego Basin (Basin Plan; San Diego RWQCB 2016a) and maps and data from Project Clean Water (2016), the City of San Diego (City) and County of San Diego (County) online geographical database (SanGIS 2016), and the State Water Resources Control Board (SWRCB 2016). In addition, the water quality conditions of the Miramar Reservoir are based on the Water Quality Modeling of Miramar Reservoir in Support of Assessment of Nutrients and Productivity, included as Appendix G. A complete listing of these references is included in Chapter 11.

### **5.11.2 ENVIRONMENTAL SETTING**

The North City Project components (project components) are located within the San Diego Hydrologic Region, which is defined by all areas in the region that drain west into the Pacific Ocean. The San Diego Hydrologic Region encompasses approximately 3,900 square miles and is further subdivided into 11 major watersheds (San Diego RWQCB 2016a; Project Clean Water 2016).

#### **Watersheds**

A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The word *watershed* is sometimes used interchangeably with *drainage basin* or *catchment*, and can often be identified differently for the same site, depending on the scale of interest.

Regionally, watersheds within the North City Project Area (Project Area) can be characterized as “hydrologic units” that are defined in the Basin Plan for the purpose of water quality planning (San Diego RWQCB 2016a). These hydrologic units are made up of one or more watersheds as defined in the U.S. Geological Survey Watershed Boundary Dataset (USGS 2016). The project components intersect 2 of the 11 hydrologic units within the San Diego Hydrologic Region: the

Los Peñasquitos Hydrologic Unit and the San Diego River Hydrologic Unit (Figure 5.11-1, Regional Hydrology). The Miramar Reservoir Alternative—with the exception of the southern end of the Morena Wastewater Forcemain and Brine/Centrated Line (Morena Pipelines) and the Morena Pump Station (and overflow pipes)—is within the Los Peñasquitos Hydrologic Unit. The San Vicente Reservoir Alternative crosses both hydrologic units, with the majority of the San Vicente Pure Water Pipeline (San Vicente Pipeline) within the San Diego River Hydrologic Unit.

Project Clean Water (2016), which provides a centralized point of access to water quality information and resources for San Diego region, describes each of these hydrologic units as follows:

- **The Los Peñasquitos Hydrologic Unit** comprises the Poway Creek watershed, the Mission Beach–Frontal Pacific Ocean watershed, and the Mission Bay watershed. These watersheds drain a highly urbanized region located mostly west of Interstate 15 in coastal San Diego County. Collectively and individually, the watersheds support a variety of water supply, economic, recreational, and habitat-related beneficial uses. The major receiving waters, Los Peñasquitos Lagoon and Mission Bay, are both fragile systems that support diverse native wildlife and plant species. Both water bodies are especially sensitive to the effects of pollutants due to restricted or intermittent tidal flushing. Combined, the watersheds contributing to Mission Bay, Los Peñasquitos Lagoon, and the coastal areas between the two drain 161 square miles.
- **The San Diego River Hydrologic Unit** is the second largest hydrologic unit in San Diego County, with a land area of 440 square miles. The Project Alternatives cross the 162-square-mile Lower San Diego River watershed and the 82-square-mile San Vicente Creek watershed. The San Diego River Hydrologic Unit has the highest population of the County's watersheds and contains portions of the cities of San Diego, El Cajon, La Mesa, Poway, and Santee, as well as several unincorporated communities. Important hydrologic resources in the hydrologic unit include five water storage reservoirs, a large groundwater aquifer, extensive riparian habitat, coastal wetlands, and tide pools. Approximately 58.4% of the San Diego River Hydrologic Unit is currently undeveloped. The majority of this undeveloped land is in the upper, eastern portion of the watershed, whereas the lower reaches are more highly urbanized, with residential (14.9%), freeways and roads (5.5%), and commercial/ industrial (4.2%) land uses predominating.

Figure 5.11-1 shows the main rivers in the region and their associated watersheds (USGS 2016). Rivers crossed or closely paralleled by the Project Alternatives include tributaries to Soledad Canyon Creek (North City Pure Water Pipeline), Rose Creek (Morena Pipelines, San Vicente Pipeline (repurposed 36-inch-diameter segment), and Landfill Gas Pipeline), San Clemente Creek (Morena Pipelines and San Vicente Pipeline (repurposed 36-inch pipeline)), Tecolote Creek (Morena Pipelines), Murphy Canyon Creek (San Vicente Pipeline), the San Diego River (San Vicente Pipeline), Forrester Creek (San Vicente Pipeline), and San Vicente Creek (San Vicente Pipeline). The Project Alternatives cross a number of unnamed ephemeral drainages as well.

The proposed Project Alternatives affect Miramar Reservoir and San Vicente Reservoir, respectively. Both reservoirs are municipal water reservoirs that receive imported water from the State Water Project and the Colorado River Aqueduct, but they differ in terms of both their physical size and the degree to which they are interconnected with the natural drainage network. The Miramar Reservoir holds 6,680 acre-feet of water at full capacity, has a surface area of 183 acres, and has a maximum depth of 114 feet. The San Vicente Reservoir holds 242,000 acre-feet of water at full capacity, has a surface area of 1,600 acres, and has a maximum depth of 306 feet. The watershed draining into the San Vicente Reservoir covers a 74.2-square-mile area, and the reservoir was created by constructing a large dam on the San Vicente Creek. In contrast, the watershed draining into Miramar Reservoir is limited to the immediate area that surrounds it (approximately 1 square mile), and the reservoir is largely a constructed feature that does not intersect a major drainage. The reservoir itself occupies 21% of this watershed area, and all of the surface runoff from the urban portions of the watershed (primarily consisting of single-family residential subdivisions) is collected in storm drain facilities serving those areas and diverted to adjoining watersheds (i.e., diverted away from the reservoir). As a result, the existing watershed draining to the reservoir is limited to the upland open space area that immediately surrounds it. The storage capacity and the watershed size of the Miramar Reservoir are 2.7% and 1.3% that of the San Vicente Reservoir, respectively. San Vicente Reservoir receives a greater amount of local runoff due to its larger watershed size, about 4,000 acre-feet per year, though this amount approximately equals yearly evaporative losses (City of San Diego 2016). With respect to factors affecting water quality, both the San Vicente Reservoir and Miramar Reservoir are influenced to a greater degree by the quality of raw imported water supplies than by local runoff.

## **Floodplains**

A 100-year flood event is a flood that has a 1% chance of being equaled or exceeded in any given year. The 100-year flood is the standard used by most federal and state agencies and the National Flood Insurance Program for floodplain management. Several project components would cross areas located within a 100-year floodplain or a 100-year floodway (Figure 5.11-1). The proposed conveyance facilities crossing 100-year flood zones are planned to use trenchless drilling methods, with the exception of a 2.3-mile portion of the San Vicente Pipeline below the San Vicente Reservoir. The Morena Pump Station overflow pipeline would be located within Panel 1614G of the federal Flood Insurance Rate Map. There are no aboveground facilities within or partially within a 100-year flood zone. Flood hazard areas are generally coincident with the courses of rivers and streams, and also include some coastal areas.

## **Tsunami and Seiches**

A tsunami is a sea wave generated by submarine earthquakes, landslides, or volcanic activity that displaces a relatively large volume of water in a very short period. Seiches are defined as oscillations in a semi-confined body of water due to seismic shaking. The Morena Pump Station may be subject to tsunami hazards due to its proximity to the tidal section of the San Diego River. In addition, project components near Miramar Reservoir or San Vicente Reservoir are at risk of seiche.

## **Water Quality**

The San Diego region has 13 stream systems that flow to the Pacific Ocean. Most of the streams of the San Diego region are interrupted and have both perennial<sup>1</sup> and ephemeral<sup>2</sup> components due to the rainfall pattern and the development of surface water impoundments.

The Project Area falls within the geographic area addressed within the San Diego Basin Plan. The Basin Plan, in part, designates beneficial uses of surface water and groundwater within each watershed of the San Diego Region. Beneficial uses are defined as “the uses of water necessary for the survival or well-being of man, plants, and wildlife.” These uses of water serve to promote the tangible and intangible economic, social and environmental goals of mankind. Examples include drinking,

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<sup>1</sup> A perennial stream or river (channel) has continuous flow in parts of its streambed all year round during years of normal rainfall.

<sup>2</sup> An ephemeral stream or river flows for only hours or days following rainfall.

swimming, industrial and agricultural water supply and the support of fresh and saline aquatic habitats” (San Diego RWQCB 2016a). Designated beneficial uses for water bodies the North City Project would potentially impact are presented in Table 5.11-1. In recognition that multiple beneficial uses may have competing water quality goals, the San Diego RWQCB passed a resolution clarifying their policy on beneficial uses (Resolution No. R9-2017-0030) in February 2017 indicating that the key (highest) beneficial use for drinking water reservoirs, including Miramar Reservoir, is for drinking water supply (MUN). Beneficial uses associated with habitats and ecosystems (e.g., WARM and WILD) are prioritized for ocean waters, bays and estuaries, and stream systems, but are not considered as a “key” beneficial uses for drinking water reservoirs (Resolution R9-2017-0030; San Diego RWQCB 2017).

**Table 5.11-1**  
**Beneficial Uses of Inland Surface Waters, Lakes, and Reservoirs**  
**Applicable to the North City Project**

Beneficial Use	Miramar Reservoir	Rose Canyon	San Clemente Canyon	Tecolote	San Vicente Reservoir	San Vicente Creek and Lower San Diego River	
<i>Hydrologic Basin Number</i>	6.10	6.40	6.40	6.50	7.21	7.11	7.12
Municipal and domestic supply (MUN)	X	+	+	+	X	+	P
Agricultural supply (AGR)					X	X	
Industrial service supply (IND)	X	P	P		X	X	X
Industrial process supply (PROC)					X		
Water contact recreation (REC 1)	X <sup>1</sup>	X	X	X	X <sup>1</sup>	X	X
Non-contact water recreation (REC 2)	X	X	X	X	X	X	X
Preservation of biological habitats of special significance (BIOL)						X	
Warm freshwater habitat (WARM)	X	X	X	X	X	X	X
Cold freshwater habitat (COLD)			X		X		
Wildlife habitat (WILD)	X	X	X	X	X	X	X

**Table 5.11-1  
Beneficial Uses of Inland Surface Waters, Lakes, and Reservoirs  
Applicable to the North City Project**

Beneficial Use	Miramar Reservoir	Rose Canyon	San Clemente Canyon	Tecolote	San Vicente Reservoir	San Vicente Creek and Lower San Diego River	
<i>Hydrologic Basin Number</i>	6.10	6.40	6.40	6.50	7.21	7.11	7.12
Rare, threatened or endangered species (RARE)			X			X	X
Spawning, reproduction, and/or early development (SPWN)			X				
Hydropower generation (POW)	X						

**Source:** San Diego RWQCB 2016a.

X = existing beneficial use; P = potential beneficial use; + = excepted from MUN; X<sup>1</sup> = fishing from boats allowed but no swimming.

Water quality in receiving waters adjacent to urbanized areas can be impacted by pollutants in stormwater runoff. Pollutants generated from human activities settle on impervious surfaces until precipitation events wash them into the municipal separate storm sewer system (MS4). Common pollutants found in urban runoff include metals, pesticides, fertilizers, bacteria, litter, and sediment. Stormwater runoff picks up and transports these pollutants, non-native vegetation, and other components and then discharges them to waterways via the MS4. MS4 discharges are regulated under a suite of National Pollutant Discharge Elimination System (NPDES) permits, further described in Section 5.11.3, Applicable Regional Plans and Policies. Water quality in non-urban areas and downstream can be adversely affected by current and historical agricultural and resource extraction activities.

Under Section 303(d) of the Clean Water Act (CWA), the SWRCB is required to develop a list of water quality limited segments for jurisdictional waters of the United States. The waters on the list do not meet water quality standards and therefore the RWQCB is required to establish priority rankings and develop total maximum daily loads (TMDLs) to improve water quality. The list includes pollutants causing impairment to receiving waters or, in some cases, the condition leading to

impairment. The CWA Section 303(d) impairments associated with receiving waters for the North City Project are listed below by water body (SWRCB 2016):

- **Lower San Diego River:** Enterococcus, fecal coliform, low dissolved oxygen, manganese, nitrogen, phosphorus, toxicity.
- **Rose Creek:** Selenium, toxicity.
- **Tecolote Creek:** Cadmium, copper, indicator bacteria, nitrogen, phosphorus, selenium, turbidity, zinc.
- **San Vicente Reservoir:** Chloride, color, pH (high), sulfates, total nitrogen as N.
- **Mission Bay:** Eutrophic, lead, enterococcus, fecal coliform, total coliform.
- **Los Peñasquitos Lagoon:** Sedimentation/siltation.

Figure 5.11-2, Water Quality Sensitive Areas, shows locations where proposed conveyance facilities cross streams identified as impaired under CWA Section 303(d), as well as those waters identified as having the beneficial use of RARE (i.e., uses of waters that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered). In addition, Figure 5.11-2 shows multiple habitat planning areas. Collectively, these areas indicate areas that are particularly sensitive from a water quality perspective. All of the pipeline facilities cross water quality sensitive areas at one or multiple points. Besides the pipelines, project components within or partially within a water quality sensitive area are the North City Water Reclamation Plant Expansion and the Miramar Water Treatment Plant Improvements. None of the other project components cross a water quality sensitive area.

Much of Los Peñasquitos Lagoon is adversely affected by coliform bacteria inputted by urban runoff and sewage spills and sediment, which are discharged by the main tributaries and smaller conveyances draining the watershed. Much of Mission Bay is adversely affected by coliform bacteria inputted by urban runoff and sewage spills, which are discharged by the main tributaries and smaller conveyances draining the watershed. The San Diego RWQCB has adopted a TMDL for indicator bacteria on the Lower San Diego River and Tecolote Creek (and all other bacteria-impaired waterbodies), and for sediment in the Los Peñasquitos Lagoon.

### **Miramar Reservoir Water Quality**

Virtually 100% of the water within Miramar Reservoir is imported water provided by the San Diego County Water Authority and the Metropolitan Water District of Southern

California. The imported water supplies provided to the City are derived from the Colorado River Basin and State Water Project, with the Colorado River basin supply typically representing the dominant portion (sometimes 100%) of the imported water supply. Water quality within Miramar Reservoir is dependent on the blend and quality of quality of imported supplies provided to the City by the San Diego County Water Authority and Metropolitan Water District of Southern California.

The reservoir's primary water quality monitoring station (Station A) is located within the deepest part of the reservoir roughly 300 feet northwest of the outlet tower. The reservoir is normally kept at approximately 80% full, but has 4 outlet ports at depths of 52 feet (Port #1), 66 feet (Port #2), 81 feet (Port #3), and 96 feet (Port #2) below the normal operating surface, in addition to an emergency outlet. General physical and biochemical parameters within the reservoir, including temperature, conductivity, total dissolved solids, pH, dissolved oxygen, chlorophyll and blue-green algae, are monitored weekly at Station A at 24 vertical intervals throughout the water column. General mineral parameters, including nitrogen and phosphorus, are monitored monthly at the reservoir's water surface, bottom, at depths corresponding to the reservoir's outlet ports, and at the middle of the hypolimnion.<sup>3</sup>

Water quality monitoring of Miramar Reservoir indicates a high variability in certain water quality parameters, depending primarily on the source of imported water supply at any one time, seasonal stratification of the lake, and the depth at which samples are taken. Imports from the Colorado River, for example, have been historically high in total dissolved solids (TDS), and low in nutrients (i.e., nitrogen and phosphorus); whereas State Water Project supplies have significantly higher nutrient levels and lower salinity levels compared to the Colorado River supplies (SDCWA 2016). Water delivered to the Miramar Reservoir comes from Lake Skinner via the Second San Diego Aqueduct, and is typically dominated by water from the Colorado River, with a low percentage of water coming from the State Water Project (i.e., California Aqueduct). In 2016 the percentage varied between 0% and 31%, with an average of 8% (Metropolitan 2017). Because of the low nutrient levels within Colorado River supplies, Miramar Reservoir is phosphorus-limited, meaning growth of primary producers (e.g., phytoplankton/algae and zooplankton) is largely a function of phosphorus inputs to the reservoir. The low nutrient levels in Miramar Reservoir mean algae growth events are rare and short-lived, but have been observed in cases where the Skinner Plant output has high nutrient concentrations. This can occur at times when a greater percentage of State Water Project water is being delivered from Lake Skinner via the

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<sup>3</sup> The cold, anoxic layer of water in a thermally stratified lake that lies below the thermocline.

Second San Diego Aqueduct. Algae blooms are undesirable from both a public health perspective and a wildlife perspective due to the potential for toxins to be produced, taste and odor impacts, because they lower the levels of dissolved oxygen, and can produce localized eutrophic conditions harmful to aquatic biota.

As part of the Water Quality Modeling of Miramar Reservoir in Support of Assessment of Nutrients and Productivity (Appendix G), Water Quality Solutions Inc. used existing water quality monitoring data over a 2-year period to calibrate the model. The reservoir is thermally stratified for much of the year, undergoing mixing/turnover in the winter months. The data show dissolved oxygen within the reservoir ranges seasonally from approximately 7 to 10 milligrams per liter (mg/L) at the surface and from 0.0 to 10 mg/L at the bottom. Low minimum dissolved oxygen levels at the bottom of the reservoir correspond to the expected anoxic conditions that develop in the summer and fall months as the reservoir thermally stratifies. Chlorophyll-*a*, which is a proxy measurement of primary productivity (i.e., presence of algae), ranges from 0.21 micrograms per liter (µg/L) to 2.72 µg/L at the surface (Appendix G). In general, chlorophyll-*a* concentrations are very low in Miramar Reservoir, but tend to peak in the spring, since the reservoir is replenished with nutrients released from sediments during turnover in late December, and when temperatures and increased sunlight become sufficient to initiate algal growth. Based on City of San Diego Secchi depth data for 2012 through 2014, water column clarity is generally good, with visibility ranging from 3.9 meters to 14.3 meters (12.8 feet to 46.9 feet) with a mean value of 9.5 meters (31 feet). A decade of data for total nitrogen (TN) and total phosphorus (TP), two key biological nutrients in aquatic systems, shows median concentrations from surface samples of 0.24 mg/L and <0.078 mg/L, respectively (City of San Diego 2017). Because TP was not detected in 90% of the samples taken, the median can only be expressed as being less than the laboratory method detection limit for TP, which is 0.078 mg/L.

Given the high number of non-detects and the long period of record for TP, it is likely that the concentrations that were measured above the laboratory method detection limit in the reservoir represent outliers (i.e., anomalies) or the extreme tail end of the distribution of TP concentrations. Nutrient concentrations, when placed on a probability distribution plot, typically have a positive skew,<sup>4</sup> which means that the median concentration of TP in Miramar Reservoir is likely to be less than half the

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<sup>4</sup> A distribution that is positively skewed (or skewed to the right) has a mean that is greater than the median, and a higher concentration of measured values on the lower end of a probability distribution plot.

method detection limit, or <0.039 mg/L. The high water clarity and the low chlorophyll-*a* concentrations, despite a median TN concentration of 0.24 mg/L, provide further evidence that the primary productivity in the reservoir is limited by low TP levels.

Up until 2016, Miramar Reservoir was listed as impaired for nitrogen under CWA Section 303(d) is based on data collected by the City of San Diego from January 2005 to December 2006 showing that 26 of the 28 samples collected exceeded a concentration of 0.25 mg/L (SWRCB 2016). However, as part of the 2014 Integrated Report, finalized in 2016 and per San Diego RWQCB Resolution R9-2016-0196, Miramar Reservoir was delisted from the 303(d) list (i.e., the impairment for nitrogen was removed) (San Diego RWQCB 2016b). The decision was based on review of monitoring data over a longer period of record that supported the decision to remove nitrogen as an impairment. There is no numeric objective for nitrogen contained in the San Diego RWQCB Basin Plan. The overarching objective in the Basin Plan is that inland surface waters shall not contain biostimulatory substances (e.g., TN and TP) in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses (San Diego RWQCB 2016a). Previously, in determining the CWA Section 303(d) impairment for nitrogen, a threshold value of 0.25 mg/L for nitrogen was used, based on the Basin Plan threshold total phosphorus concentration of <0.025 mg/L, and the provision that a 10:1 N:P ratio (on a weight to weight basis) be used in the absence of data establishing natural ratios of N:P (see Table 6.11-2). As further described in Chapter 6.11 (Section 6.11.4.1), “natural” ratios of N:P do not exist because Miramar Reservoir is a constructed reservoir primarily managed for the purpose of municipal water supply. In addition, historical water quality data indicates that TP is the nutrient currently limiting aquatic growths, with typical N:P ratios much higher than 10:1 (City of San Diego 2016c).

## **Groundwater**

Groundwater is subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated. Aquifers are groundwater-bearing formations sufficiently permeable to transmit and yield significant quantities of water. Areas of high groundwater may result in excavation problems. All major drainage basins in the San Diego region contain groundwater basins. The basins are relatively small in area and usually shallow. Although these groundwater basins are limited in size, the groundwater yield from the basins has been historically important to the development of the region.

### 5.11.3 REGULATORY FRAMEWORK

#### Federal

##### *Clean Water Act*

Increasing public awareness and concern for controlling water pollution led to enactment of the federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA). The CWA established basic guidelines for regulating discharges of pollutants into the waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA.

- **Section 401.** Section 401 of the CWA requires an applicant for a federal permit, such as the construction or operation of a facility that may result in the discharge of a pollutant, to obtain certification of those activities from the state in which the discharge originates. This process is known as the Water Quality Certification for the project. For projects in San Diego County, the San Diego RWQCB issues Section 401 permits.
- **Section 402.** Section 402 of the CWA established the NPDES to control water pollution by regulating point sources that discharge pollutants into waters of the United States. In California, the U.S. Environmental Protection Agency (EPA) has authorized the SWRCB permitting authority to implement the NPDES program. In general, the SWRCB issues two baseline general permits: one for industrial discharges and one for construction activities. The Phase II Rule that became final on December 8, 1999, expanded the existing NPDES program to address stormwater discharges from construction sites that disturb land equal to or greater than 1 acre, and to address “small municipal separate storm sewer systems.”
- **Section 404.** Section 404 of the CWA established a permitting program to regulate the discharge of dredged or filled material into waters of the United States. The definition of waters of the United States includes wetlands adjacent to national waters. This permitting program is administered by the U.S. Army Corps of Engineers and is enforced by the EPA.
- **Section 303(d).** Under Section 303(d) of the CWA, the SWRCB is required to develop a list of water quality limited segments for jurisdictional waters of the United States. The RWQCBs are responsible for establishing priority

rankings and developing action plans, referred to as TMDLs, to improve water quality of water bodies included in the 303(d) list. The most recent 303(d) List of Water Quality Limited Segments approved by the EPA is from 2010. The list includes pollutants causing impairment to receiving waters or, in some cases, the condition leading to impairment. Alternative pathways to traditional TMDLs may be considered by the RWQCB for pollutants listed on the 303(d) list. A pollutant may be addressed in ways other than creating a TMDL, such as by incorporation into NPDES permits.

## **State**

### ***Porter–Cologne Water Quality Control Act***

State of California regulation of water quality predates the CWA by more than two decades, and California’s nine RWQCBs were established by the Dickey Water Pollution Control Act in 1949. The Porter–Cologne Water Quality Control Act (Porter–Cologne Act, Division 7 of the California Water Code) was implemented in 1969, and (as amended) remains the basic water quality control law for California. The Porter–Cologne Act established the State Water Resources Control Board (SWRCB) and created a regulatory program to protect water quality and beneficial uses of the state’s waters. After the subsequent establishment of the EPA and implementation of the CWA, EPA delegated authority to the SWRCB and RWQCBs to implement and enforce the CWA and state-adopted water quality control plans. Most of San Diego County falls within the jurisdiction of the San Diego RWQCB (Region 9). Each RWQCB is responsible for water quality control planning within its region, including adopting and implementing a Basin Plan.

### ***Water Quality Control Plan for the San Diego Basin (Region 9)***

The federal CWA, NPDES program, California Water Code, and Porter–Cologne Act require that the RWQCB adopt a water quality control plan to guide and coordinate the management of water quality in the region. The San Diego Basin Plan (1) designates beneficial uses of surface water and groundwater within each watershed of the San Diego Region, (2) establishes water quality objectives to protect the designated beneficial uses, and (3) establishes implementation policies to achieve the objectives.

The current version of the Basin Plan was adopted in 1994, but this 1994 version has been amended and updated on numerous occasions. Table 5.11-2 presents Basin Plan water quality objectives for the receiving waters applicable to the North City Project.

Surface water quality objectives established within the Basin Plan have been approved by the EPA as federal water quality standards that are subject to the protections and enforcement provisions established under the CWA.

**Table 5.11-2  
Water Quality Objectives for the North City Project’s Receiving Waters**

Receiving Waters	Total Dissolved Solids	Chloride	Sulfate	Sodium	Nitrogen and Phosphorus	Methylene Blue-Activated Substances	Turbidity
	mg/L			%	mg/L		NTU
Miramar Reservoir	500	250	250	60	*	0.5	20
Lower San Diego River	1,000	400	500	60	*	0.5	20
San Vicente Reservoir	300	50	65	60	*	0.5	20
Pacific Ocean	—	—	—	—	*	—	—

**Source:** San Diego RWQCB 2016a.

**Notes:** Concentrations not to be exceeded more than 10% of the time during any 1-year period.

\* Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus concentrations shall not exceed 0.05 mg/L in any stream at the point where it enters any standing body of water, nor 0.025 mg/L in any standing body of water. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 , on a weight to weight basis shall be used. These values are not to be exceeded more than 10% of the time unless studies of the specific body in question clearly show that water quality objective changes are permissible and changes are approved by the RWQCB.

In addition to the objective in Table 5.11-2, at no time or place shall the temperature of any cold freshwater habitat water be increased more than 5°F above the natural receiving water temperature. Water designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in Table 64449-A of Section 64449 of Title 22 of the California Code of Regulations (Secondary Maximum Contaminant Levels, Consumer Acceptance Limits). Finally, dissolved oxygen levels shall not be less than 5.0 mg/L in inland surface waters with designated marine habitat (MAR) or warm freshwater habitat beneficial uses or less than 6.0 mg/L in waters with designated cold freshwater habitat beneficial uses.

The annual mean dissolved oxygen concentration shall not be less than 7 mg/L more than 10% of the time. The Basin Plan contains numerous additional narrative and numeric water quality objectives that apply to particular receiving waters or beneficial uses, and serve as one of the benchmarks considered in the development of both individual and general NPDES permits and waste discharge requirements (WDRs).

### ***California Toxics Rule and State Implementation Policy***

In 2000, the EPA promulgated statewide numerical water quality standards for toxic constituents that apply to California’s inland surface waters, enclosed bays, and estuaries (California Toxics Rule, 40 CFR 131.38). The Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy, or SIP) was adopted by the SWRCB on March 2, 2000, and amended in February 2005 (SWRCB 2005). The SIP, as amended:

- Establishes a standardized approach for permitting discharges of priority toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency
- Applies to discharges of priority toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the state’s Porter-Cologne (California Water Code, Division 7) and the federal CWA
- Implements priority pollutant criteria (federally established through the California Toxic Rule) through NPDES permits as required by the CWA, Section 402, for point-source discharges to surface waters
- Does not apply to regulation of stormwater discharges

The requirements in the SIP are implemented through SWRCB or RWQCB activities such as the issuance of NPDES permits or other relevant regulatory approaches to ensure achievement of water quality standards (i.e., water quality criteria or objectives, the beneficial uses being protected, and corresponding state and federal antidegradation policies).

Exceptions to the SIP may be granted to address certain discharges and factors that conflict with other existing federal and state regulations and/or policies. The RWQCBs may grant an exception from complying with a SIP requirement if it is determined that the discharge is necessary to implement control measures regarding drinking water conducted to fulfill statutory requirements under the federal Safe Drinking Water Act

or the California Health and Safety Code for protection of public health and safety. Such exceptions may also be granted for draining water supply reservoirs, canals, and pipelines for maintenance; for draining municipal storm water conveyances for cleaning or maintenance; or for draining water treatment facilities for cleaning or maintenance. The exceptions are not to TMDL-related requirements and thus do not modify any waste load allocations or other TMDL-related requirements. The exceptions do not apply to discharges from new systems into a water body that is impaired for a constituent that exists in the new discharge at a concentration greater than the criteria the impairment is based on. Finally, the exception does not apply to direct discharges into Areas of Special Biological Significance.

### ***Ocean Plan and Thermal Plan***

The SWRCB has established objectives for the protection of marine water quality in the Water Quality Control Plan for the Ocean Waters of California (Ocean Plan; SWRCB 2015) and the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan; SWRCB 1975). The Ocean Plan:

- Establishes receiving water quality standards and discharge prohibitions to protect designated beneficial uses of ocean waters
- Establishes technology-based effluent standards applicable to all discharges of wastewater to the ocean
- Establishes implementation policies and procedures for point source and non-point source discharges to ensure compliance with the water quality standards and to protect beneficial uses.

The Ocean Plan establishes water quality objectives for protection of marine aquatic life, human health-noncancerogens, and human health-carcinogens. These receiving water standards are listed in Table 1 of the Ocean Plan. The requirements in the Ocean Plan are implemented through SWRCB or RWQCB activities, such as the issuance of NPDES permits, or other relevant regulatory approaches to ensure achievement of water quality standards (i.e., water quality criteria or objectives, the beneficial uses being protected, and corresponding state and federal antidegradation policies).

Some of the objectives and standards from the Ocean Plan and Thermal Plan include the following:

### **Thermal Plan**

- **Thermal Water Quality Objectives:** Water quality objectives for existing discharge into coastal waters require that elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance. Water quality objectives for new discharges to coastal waters require that: (1) elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column; (2) elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas; (3) the maximum temperature of thermal waste discharges shall not exceed the natural temperature of receiving waters by more than 20° Fahrenheit (°F); (4) the discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50% of the duration of any complete tidal cycle; and (5) additional limitations shall be imposed when necessary to assure protection of beneficial uses.

### **Ocean Plan**

- **Bacterial Characteristics:** Samples of water from each sampling station shall have a density of total coliform less than 1,000 per 100 milliliter (10 per ml), provided that not more than 20% of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml). In addition, the fecal coliform density, based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10% of the total samples during any 60-day period exceed 400 per 100 ml. For all areas where shellfish may be harvested for human consumption, as determined by the RWQCB, the median total coliform density shall not exceed 70 per 100 ml, and not more than 10% of the samples shall exceed 230 per 100 ml. The SWRCB is in the process of

amending the Ocean Plan to incorporate additional EPA water quality criteria for the protection of recreational use.

- **Physical Characteristics:** Ocean waters shall be free of visible floating particulates, grease, oil, and discoloration. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste. In addition, the rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.
- **Chemical Characteristics:** The dissolved oxygen concentration shall not at any time be depressed more than 10% from that which occurs naturally as a result of the discharge of oxygen-demanding waste materials, while the pH shall not be changed at any time more than 0.2 units from that which occurs naturally. In addition, the amounts of dissolved sulfide, nutrient materials, and harmful substances in marine sediments shall be limited so as not to negatively impact marine life.
- **Biological Characteristics:** Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded (i.e., significant differences in major biotic groups shall not be caused). In addition, the natural taste, odor, and color of marine resources used for human consumption shall not be altered, nor shall the concentration of organic materials bioaccumulate to levels that are harmful to human health.
- **Radioactivity:** Discharge of radioactive waste shall not degrade marine life.
- **General Requirements:** Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community. Waste discharged to the ocean must be essentially free of substances that will accumulate to toxic levels in marine waters, sediments, or biota.

Wastewater treatment plants and water reclamation plants involving discharge to the ocean must meet these objectives, which are enforced through requirements to apply for and maintain valid NPDES permits and WDRs.

### ***Waste Discharge Requirements***

Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under Section 401 of the CWA (e.g., if a federal permit is being sought or granted) and/or WDRs under the Porter–Cologne Act. Chapter 4,

Article 4 of the Porter–Cologne Act (California Water Code, Sections 13260–13274) states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a report of waste discharge with the applicable RWQCB. For discharges to surface water (i.e., waters of the United States), an NPDES permit is required, which is issued by the RWQCB pursuant to authority delegated by the EPA. The RWQCB regulates discharges to state waters through the issuance of WDRs, including discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, and discharges to isolated (non-federal) wetlands, WDRs are issued exclusively under state law. WDRs typically include many of the same best management practices (BMPs) and pollution control technologies as those required by NPDES-derived permits. Further, the WDR application process is generally the same as for CWA Section 401 water quality certification, although in the case of WDRs, it does not matter whether the particular project is subject to federal regulation.

Due to the broad scope of state and federal water quality regulations, the SWRCB and RWQCBs have developed general WDRs specific to activities that involve similar types of discharges and thus also require similar types of pollution control. This is the focus of the various stormwater programs administered by the SWRCB and RWQCB, such as the construction stormwater program, the industrial stormwater program, and the municipal stormwater program. RWQCBs, including the San Diego RWQCB, also have the authority to implement general permits to multiple permittees, and to provide for waivers of WDRs. These are listed in the following section.

### **Statewide General NPDES/WDRs**

- **Construction General Permit (SWRCB Order No. 2009-0009-DWQ, as amended):** For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) in order to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil. Construction activity subject to this permit includes clearing, grading, grubbing and other disturbances to the ground such as stockpiling and excavation. The Construction General Permit requires the development and implementation of a stormwater pollution prevention plan (SWPPP), which would include and specify BMPs designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site

into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the Section 303(d) list for sediment. SWPPPs must be developed and implemented by qualified individuals with appropriate credentials and training, as defined by the SWRCB.

- **Industrial General Permit for Storm Water (SWRCB Order No. 2014-0057-DWQ):** The SWRCB adopted the Industrial General Permit applicable to certain categories of industrial activity, which includes facilities that store, treat, recycle, and reclaim sewage. The Industrial General Permit is not applicable to advanced water purification facilities and pump stations. The Industrial General Permit requires stormwater dischargers to eliminate unauthorized non-stormwater discharges, develop and implement SWPPPs, implement BMPs, conduct monitoring, compare monitoring results to numeric action levels, perform appropriate exceedance response actions when numeric action levels are exceeded, and certify and submit all permit registration documents. Changes under the new Industrial General Permit (in effect as of June 30, 2015) compared to the Industrial General Permit issued in 1997 are that stormwater dischargers are required to implement minimum BMPs; electronically file all permit registration documents via the SWRCB's Storm Water Multiple Application and Report Tracking System; comply with new training expectations and roles for qualified industrial stormwater practitioners; sample to detect exceedance of annual and instantaneous numeric action levels; develop and implement exceedance response actions if annual or instantaneous numeric action levels are exceeded; monitor for parameters listed under CWA Section 303(d); design treatment control BMPs for flow- and volume-based criteria; and understand new criteria, sampling protocols, and sampling frequency for qualifying storm events. The new general order also defines design storm standards for treatment control BMPs, qualifying storm events, and sampling protocols to follow during a design storm event.
- **General Waste Discharge Requirements for Discharges from Drinking Water Systems to Surface Waters (SWRCB Order No. 2014-0194-DWQ, NPDES No. CAG140001):** This order provides regulatory coverage for short-term or seasonal planned and emergency (unplanned) discharges resulting from a water purveyor's essential operations and maintenance activities undertaken to comply with the federal Safe Drinking Water Act, the California

Health and Safety Code, and the SWRCB's Division of Drinking Water permitting requirements for providing reliable delivery of safe drinking water. To obtain coverage under this permit, a water purveyor must submit to the RWQCB a Notice of Intent, including information on the locations, frequency, and duration of planned discharges; must comply with standard provisions (which includes BMPs to address dechlorination and copper and zinc management); must implement a monitoring and reporting program; and must agree to notify the RWQCB and MS4 operator immediately of unplanned/emergency discharges and describe the corrective measures taken.

- **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SWRCB Order No. 2006-0003-DWQ):** This order establishes minimum requirements to prevent sanitary sewer overflows from publicly owner/operated sanitary sewer systems. The SWRCB adopted the order on May 3, 2006, and it is the primary regulatory mechanism for sanitary sewer systems statewide, but allows each RWQCB to issue more stringent or more prescriptive WDRs for sanitary sewer systems within their respective jurisdiction. Accordingly, the San Diego RWQCB regulates sanitary sewer overflows using a region-specific order (Order R9-2007-0005) that includes a strict prohibition on all discharges from the sanitary sewer system upstream of the treatment works. The San Diego RWQCB enforces these prohibitions by requiring the City to implement a Monitoring and Reporting Program to document any instances of sanitary sewer overflows and report it promptly to the RWQCB and other appropriate agencies so that appropriate responses can be identified and coordinated.
- **Water Reclamation Requirements for Recycled Water Use (Order WQ 2016-0068-DDW):** This general order establishes standard conditions for recycled water use and conditionally delegates authority to an administrator to manage a water recycling program and issue water recycling permits to recycled water users. Only treated municipal wastewater for non-potable uses can be permitted, such as landscape irrigation, crop irrigation, dust control, industrial/commercial cooling, decorative fountains, etc. Potable reuse activities are not authorized under this general order.

### **Regional NPDES/WDRs and Conditional Waivers**

- **Municipal Storm Water Permit (San Diego RWQCB Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100):** Municipalities in San Diego County, including all municipalities in the

program area, collect and discharge stormwater and urban runoff containing pollutants through their stormwater conveyance systems. The San Diego RWQCB adopted a NPDES Municipal Storm Water Permit on May 8, 2013 (Order No. R9-2013-0001, amended by Order No. R9-2015-0001 and Order No. R9-2015-0100). The permit requires the development and implementation of BMPs in planning and construction of private and public development projects. Development projects are also required to include BMPs to reduce pollutant discharges from the project site in the permanent design. BMPs associated with the final design are described in the Regional Best Management Practices (BMP) Design Manual. Regional BMP design practices and associated standards are incorporated into the City of San Diego Storm Water Standards manual, which is periodically updated to reflect the currently adopted MS4 permit. The RWQCB's Municipal Permit also requires each co-permittee in the region to develop a jurisdictional runoff management plan. In addition, new multi-jurisdictional water quality improvement plans (WQIPs) are required by watershed management area (note that watershed management areas differ in some cases from the hydrologic units and "watersheds" described earlier in this section). WQIPs that include parts of the City of San Diego within their respective watershed management areas and highest-priority water quality conditions include the San Dieguito River WQIP (bacteria); Los Peñasquitos WQIP (sediment, bacteria, and freshwater discharges during dry weather); Mission Bay and La Jolla WQIP, covering the southern part of the Los Peñasquitos watershed as described earlier in this section (bacteria and erosion and transport of soil and sediment); and the San Diego River WQIP (bacteria). The WQIPs, among other things, assess watershed management areas to prioritize water quality conditions of concern and develop and implement strategies through jurisdictional runoff management programs to protect, preserve, enhance, and restore water quality and beneficial uses. An adaptive planning and management process is emphasized.

- **Conditional Waivers of Waste Discharge Requirements for Low-Threat Discharges in the San Diego Region (San Diego RWQCB Order No. R9-2014-0041):** This order authorizes several categories of discharges within the San Diego region that have a low threat to water quality, provided certain conditions are met to ensure compliance with water quality standards and Basin Plan objectives. Included among waiver categories are short-term construction dewatering operations (Waiver No. 3). Construction dewatering is generally authorized so long as the discharge is made to land and not

directly (or indirectly) to a receiving water body, including an MS4, and it does not adversely affect the quality or the beneficial uses of the waters of the state. If the construction dewatering discharge would exceed 5,000 gallons per day for any continuous 180-day period, or if it is in or near an area with soil and/or groundwater contamination or an investigation or corrective action in effect, the discharger must submit to the San Diego RWQCB a Notice of Intent, applicable fees, monitoring data, and BMPs, as required, to demonstrate that adequate measures will be taken to prevent adverse effects on water quality.

### **Individual (Discharger-Specific) NPDES/WDRs**

Treated wastewater discharges to the Pacific Ocean through wastewater outfalls require compliance with WDRs (under the Porter–Cologne Act) and NPDES permits (under the CWA). The North City Water Reclamation Plant does not have an ocean outfall, and thus is governed under a WDR. The two ocean outfalls used by the City of San Diego are the Point Loma Ocean Outfall (PLOO) and the South Bay Ocean Outfall (SBOO).

- **Waste Discharge and Water Recycling Requirements for the Production and Purveyance of Recycled Water for the City of San Diego North City Water Reclamation Plant (Order No. R9-2015-0091):** Order No. R9-2015-0091 regulates the City’s treatment and purveyance of recycled water to qualified customers in the northern part of the City of San Diego for appropriate uses of tertiary-treated recycled water, including landscape irrigation, agricultural irrigation, industrial processes, construction, landscape impoundments, and other uses. The WDR sets discharge specifications for the North City Water Reclamation Plant that limits constituents of concern to concentrations that avoid exceedance of Basin Plan objectives for groundwater. Numeric discharge specifications are set for turbidity, total coliform, pH, total suspended solids (TSS), biochemical oxygen demand, TDS, and a number of metals and organic and inorganic minerals. It also establishes reporting and compliance measures to ensure the water purveyed is used only as authorized and complies with recycled water rules and regulations (e.g., avoiding backflow or cross-connections with the potable water system). The City complies with the monitoring and reporting program attached to the WDR, which requires monthly and annual reports that show the analytical results of effluent for a wide range of constituents, so that compliance with the discharge specifications can be verified by the San Diego RWQCB.

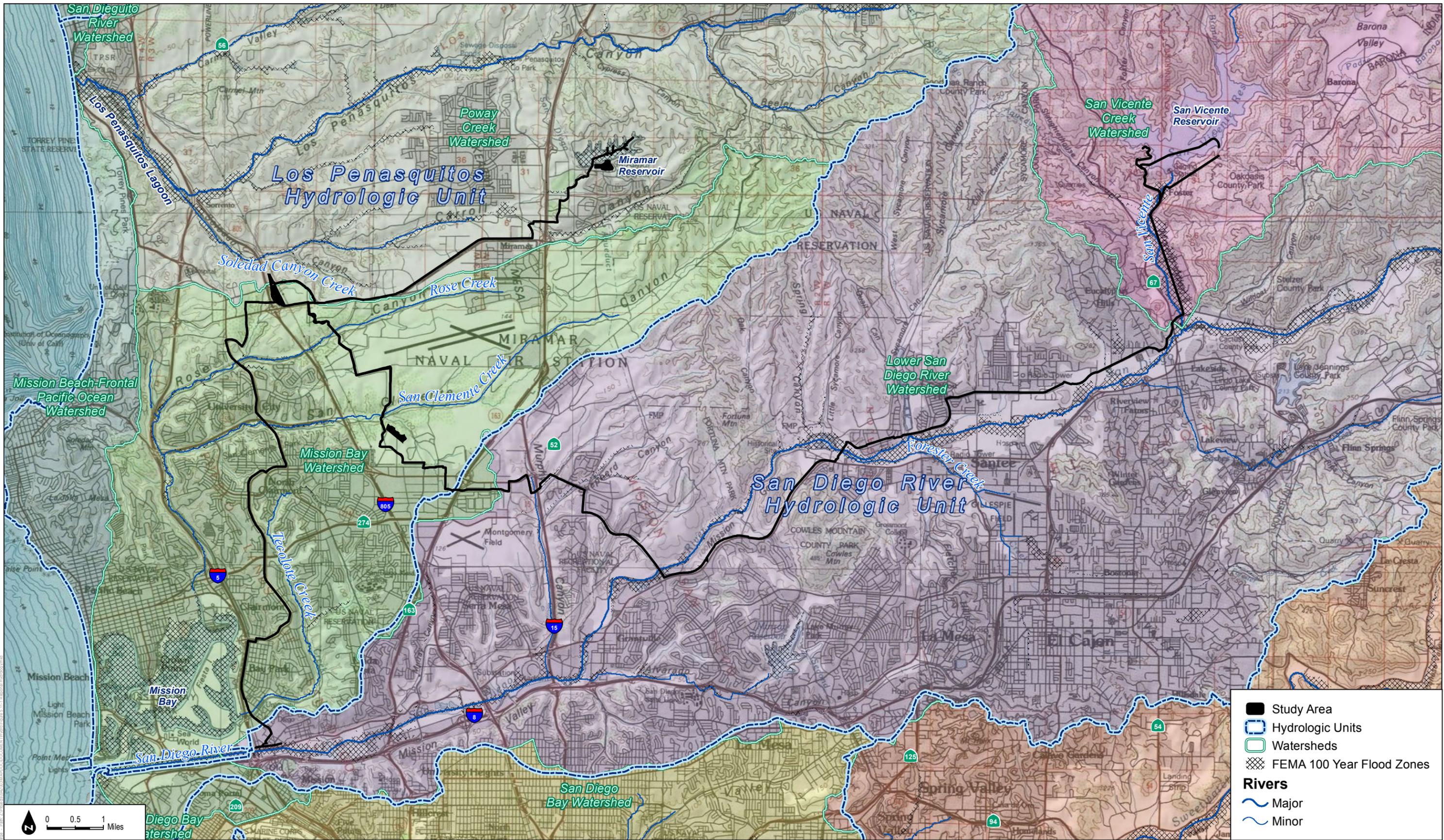
- **Waste Discharge Requirements for the Point Loma Wastewater Treatment Plant (Point Loma WWTP; San Diego RWQCB Order No. R9-2017-0007, EPA NPDES CA0107409):** The discharge of treated wastewater from the Point Loma WWTP to the Pacific Ocean via the PLOO is regulated by a joint permit issued by the EPA and the San Diego RWQCB. RWQCB Order No. R9-2009-0001 establishes effluent limitations, discharge specifications, receiving water limitations, and monitoring and reporting program requirements, among other elements, to allow the discharge up to 240 million gallons per day (MGD) of secondary treated wastewater from the Point Loma WWTP to the Pacific Ocean through the PLOO. EPA developed secondary treatment regulations specified in Title 40 of the Code of Federal Regulations, Section 133, that apply to all publicly owned treatment works. The regulations identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand, TSS, and pH unless EPA grants a Secondary Treatment Waiver pursuant to CWA Section 301(h). This variance was originally granted to the Point Loma WWTP in 1995 in accordance with Sections 301(h) and 301(j)(5) of the CWA, allowing variance from secondary requirements for the discharge of TSS and biochemical oxygen demand. Order No. R9-2017-0007 extends this renewable waiver to year 2022. The City of San Diego's comprehensive effluent and receiving water monitoring program has documented that the combination of enhanced source control, flow diversion to recycled water use, chemically enhanced primary treatment at the Point Loma WWTP, and a deep and efficient ocean outfall ensures that the PLOO discharge complies with all NPDES permit limits and all applicable state and federal water quality-based standards.
- **Waste Discharge Requirements for the South Bay Water Reclamation Plant (RWQCB Order No. R9-2013-0006, EPA NPDES CA0109045):** The discharge of secondary treated wastewater from the South Bay Water Reclamation Plant to the Pacific Ocean via the SBOO is currently regulated by a joint permit issued by the San Diego RWQCB and EPA. RWQCB Order No. R9-2013-0006 establishes effluent limitations, discharge specifications, receiving water limitations, monitoring and reporting program requirements, among other elements, to allow the discharge up to 15 MGD of secondary treated wastewater from the South Bay Water Reclamation Plant to the Pacific Ocean through the SBOO. The SBOO is shared with the International Wastewater Treatment Plant operated by the U.S. Section of the International Boundary and Water Commission. Discharges of secondary

treated wastewater from the SBOO is only required during periods when the demand for non-potable recycled water is low.

San Diego RWQCB Order No. R9-2017-0007 (NPDES No. CA0107409) recognizes the City's phased implementation of a proprietary technology called Peroxide Regenerated Iron Sulfide Control, which has contributed to a significant increase in TSS removal. Findings within Order No. R9-2017-0007 also document the incremental decreases in PLOO discharges and TSS annual mass emission rates that would occur with successful implementation of the Pure Water Program, of which the Project Alternatives are an initial phase.

As noted within the Fact Sheet (Attachment F) to Order No. R9-2017-0007, wastewater flows and associated loads to the PLOO will be offloaded as each new advanced water purification facility and associated facilities become operational. This will reduce wastewater flows and pollutant loads discharged from the facility to the Pacific Ocean, resulting in TSS annual mass emission rates that are less than or equivalent to the 9,942 metric tons per year (MT/yr) that would have occurred if the 240 MGD facility were to achieve TSS concentration standards consistent with secondary treatment regulations. This concept is referred to by the City as "secondary treatment equivalency." The TSS average annual mass emission rate for 2015 was less than 6,000 MT/yr (San Diego RWQCB 2016c). Based on an increase in TSS due to water conservation and on historic TSS removal rates, the City is conservatively projecting TSS average annual mass emission rates of 9,678 MT/yr or less in 2023, 9,433 MT/yr or less in 2027, and 7,832 MT/yr or less in 2035 (San Diego RWQCB 2016c). Based on upstream recycled water production and use; diversion of flows to the South Bay Water Reclamation Plant; and production and use of purified water, the City is projecting annual flow rates of 172 MGD in 2023, 160 MGD in 2027, and 139 MGD in 2035 (San Diego RWQCB 2016c).

As a condition of the Secondary Treatment Waiver, Order No. R9-2017-0007 incorporates in Section VI.C.7 a detailed compliance schedule of enforceable tasks covering the 5-year term of the order that focus on the initial 30 MGD potable reuse component of the Pure Water Program. As a condition of the renewable Secondary Treatment Waiver, Order No. R9-2017-0007 also notes that: "The Discharger has committed to implementing the Pure Water San Diego Program, and thus the 2035 goal that post-dates the term of this Order/Permit is included, with the expectation that details associated with the 2035 goal and necessary additional or final implementation goals will be provided and described in subsequent Permits/Orders" (San Diego RWQCB 2017).



- Study Area
  - Hydrologic Units
  - Watersheds
  - FEMA 100 Year Flood Zones
- Rivers**
- Major
  - Minor



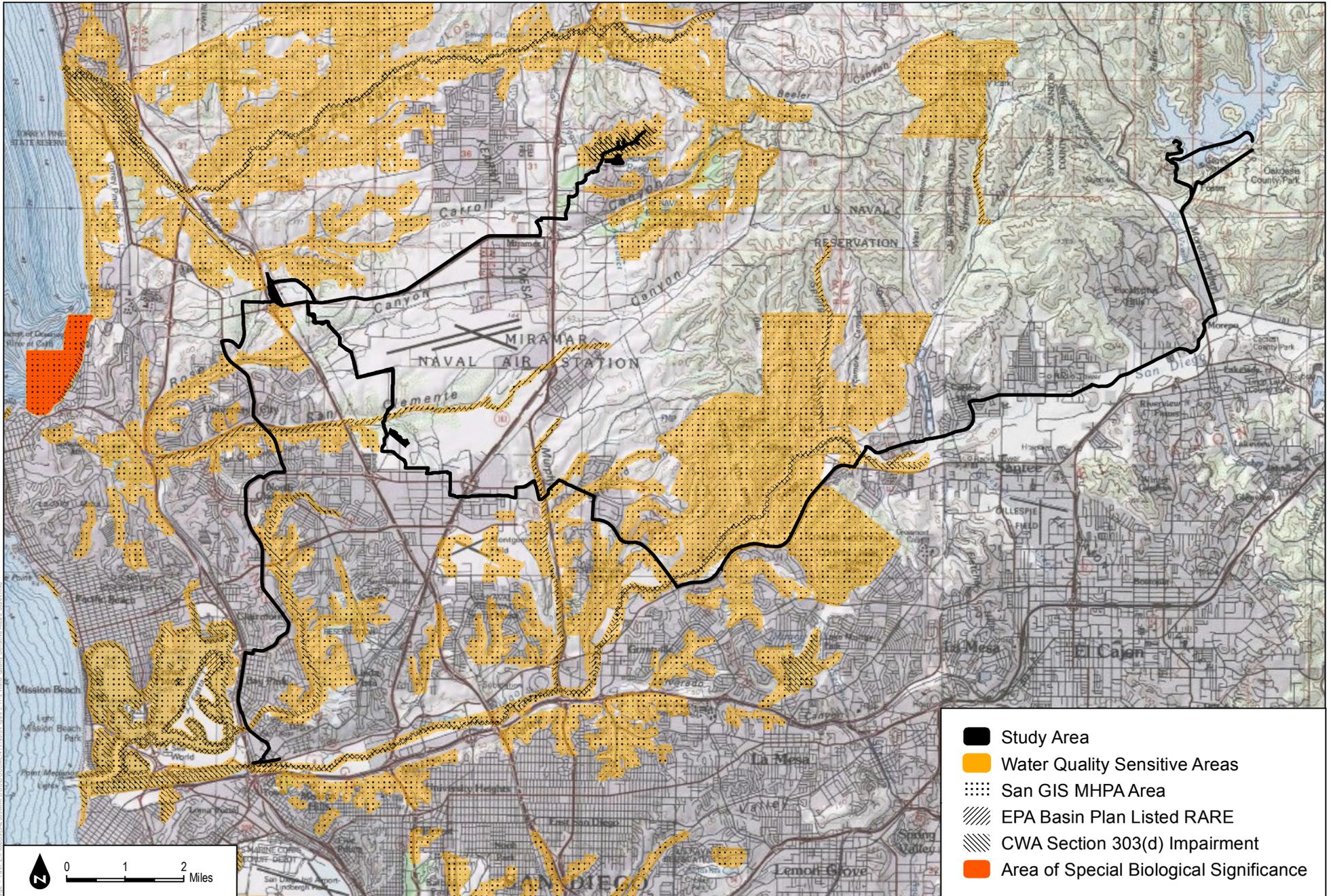
SOURCE: USGS, 2016; California Dept. of Water Resources 2014; SANDAG, 2016

**DUDEK**

North City Pure Water Project

**FIGURE 5.11-1**  
Regional Hydrology

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SOURCE: USGS, 2016; California Dept. of Water Resources 2014; SANDAG, 2016

**DUDEK**

North City Project EIR/EIS

**FIGURE 5.11-2**  
Water Quality Sensitive Areas

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## **5.12 NOISE**

### **5.12.1 INTRODUCTION**

The following section identifies the noise setting for the North City Project and applicable regulations. Information in this section is from the Noise Technical Report for the North City Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS), City of San Diego, prepared by Dudek (September 2017) and included as Appendix H.

### **5.12.2 ENVIRONMENTAL SETTING**

#### **5.12.2.1 Fundamentals of Noise and Vibration**

The following is a brief discussion of fundamental noise concepts and terminology.

#### **Sound, Noise, and Acoustics**

Sound is actually a process that consists of three components: the sound source, the sound path, and the sound receiver. All three components must be present for sound to exist. Without a source to produce sound, there is no sound. Similarly, without a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

#### **Sound Pressure Levels and Decibels**

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micronewton per square meter, also called micropascal. One micropascal is approximately one-hundred billionth (0.0000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micropascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micropascal would be very cumbersome, sound pressure level in logarithmic units is used instead to describe the ratio of actual sound pressure to a reference pressure squared. These units are called Bels. To provide a finer resolution, a Bel is subdivided into 10 decibels (dB).

### **A-Weighted Sound Level**

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness, or human response, is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies, but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 hertz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency-dependent.

The A-scale weighting network approximates the frequency response of the average young ear when listening to ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this report are A-weighted decibels (dBA). Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 5.12-1.

**Table 5.12-1**  
**Typical Sound Levels in the Environment and Industry**

<b>Common Outdoor Activities</b>	<b>Noise Level (dB)</b>	<b>Common Indoor Activities</b>
Jet fly over at 300 meters (1,000 feet)	110	Rock band
Gas lawn mower at 1 meter (3 feet)	100	Food blender at 1 meter (3 feet)
Diesel truck at 15 meters (50 feet), at 80 kilometers per hour (50 miles per hour)	90	Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime	80	Vacuum cleaner at 3 meters (10 feet);
Gas lawn mower at 30 meters (100 feet)	70	Normal speech at 1 meter (3 feet)
Commercial area;	60	Large business office
Heavy traffic at 90 meters (300 feet)	50	Dishwasher next room
Quiet urban, daytime	40	Theater; large conference room (background)

**Table 5.12-1  
Typical Sound Levels in the Environment and Industry**

Common Outdoor Activities	Noise Level (dB)	Common Indoor Activities
Quiet urban, nighttime	30	Library
Quiet suburban, nighttime	20	Bedroom at night; concert hall (background)
Quiet rural, nighttime	10	Broadcast/Recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

**Source:** Caltrans 2009.

### Human Response to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dBA when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as twice or half as loud. A doubling of sound energy results in a 3 dBA increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level).

### Noise Descriptors

Additional units of measure have been developed to evaluate the long-term characteristics of sound. The equivalent sound level ( $L_{eq}$ ) is also referred to as the time-average sound level. It is the equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. The 1-hour A-weighted equivalent sound level,  $L_{eq}(h)$ , is the energy average of the A-weighted sound levels occurring during a 1-hour period, and is the basis for the City of San Diego’s noise ordinance criteria, as well as the basis for the County of San Diego and the other cities in which the Project would be constructed.

People are generally more sensitive and annoyed by noise occurring during the evening and nighttime hours. Thus, another noise descriptor used in community noise assessments—the community noise equivalent level (CNEL)—was introduced. The CNEL scale represents a time-weighted, 24-hour average noise

level based on the A-weighted sound level. The CNEL accounts for the increased noise sensitivity during the evening hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) by adding 5 dBA and 10 dBA, respectively, to the average sound levels occurring during the evening and nighttime hours.

### **Sound Propagation**

Sound propagation (i.e., the passage of sound from a noise source to a receiver) is influenced by geometric spreading, ground absorption, atmospheric effects, and shielding by natural and/or built features.

Sound levels attenuate (or diminish) at a rate of approximately 6 dBA per doubling of distance from an outdoor point source due to the geometric spreading of the sound waves. Atmospheric conditions such as humidity, temperature, and wind gradients can also temporarily either increase or decrease sound levels. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects. Additional sound attenuation can result from built features such as intervening walls and buildings, and by natural features such as hills and dense woods.

### **Groundborne Vibration Fundamentals**

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground. The strength of groundborne vibration attenuates fairly rapidly over distance. Some soil types transmit vibration quite efficiently; other types (primarily sandy soils) do not. Several basic measurement units are commonly used to describe the intensity of ground vibration. The descriptors used by the Federal Transit Administration are peak particle velocity (PPV), in units of inches per second, and velocity decibel (VdB). The calculation to determine PPV at a given distance is as follows:

$$PPV_{dist} = PPV_{ref} * (25/D)^{1.5}$$

*Where:*

*PPV<sub>dist</sub> = the peak particle velocity in inches per second of the equipment adjusted for distance*

*PPV<sub>ref</sub> = the reference vibration level in inches per second at 25 feet*

*D = the distance from the equipment to the receiver*

The velocity parameter (instead of acceleration or displacement) best correlates with human perception of vibration. Thus, the response of humans, buildings, and sensitive equipment to vibration is described in this section in terms of the root-mean square velocity level in VdB units relative to 1 micro-inch per second. As a point of reference, the average person can just barely perceive vibration velocity levels below 70 VdB (typically in the vertical direction). The calculation to determine the root-mean square at a given distance is as follows:

$$L_v(D) = L_v(25 \text{ feet}) - 30 \cdot \log(D/25)$$

Where:

$L_v(D)$  = the vibration level at the receiver

$L_v(25 \text{ feet})$  = the reference source vibration level

$D$  = the distance from the vibration activity to the receiver

Typical background vibration levels are between 50 and 60 VdB, and the level for minor cosmetic damage to fragile buildings or blasting generally begins at 100 VdB.

### 5.12.2.2 Existing Conditions

Given the wide geographical area encompassed by the North City Project, the existing noise environments are varied. In general, the Project area mainly consists of suburban land uses. The noise environments through most of the North City Project area are characterized by a background or “ambient” noise level generated by vehicular traffic. Typical secondary noise sources include distant aircraft, rustling leaves, landscaping maintenance, construction noise, birds, children playing, and passing conversations. Noise-sensitive receptors are locations where human activity may be adversely affected by noise. Examples of noise sensitive receptors are residences, hotels and motels, educational institutions, libraries and hospitals and clinics. The locations of noise-sensitive receptors within 1,000 feet of the proposed project area is shown in Figure 5.12-1 and Figures 5.12-2A through 5.12-2D.

### Ambient Noise Monitoring

Noise measurements were made using a Rion NL-52 integrating sound-level meter equipped with a 0.5-inch pre-polarized condenser microphone with pre-amplifier. The sound-level meter meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound-level meter. The sound-level meter was calibrated before and after the measurements, and the

measurements were conducted with the microphone positioned 5 feet above the ground and covered with a windscreen.

Short-term noise measurements were conducted at 16 locations in the North City Project vicinity on April 16 and 17, 2015, and October 6 and 7, 2016, as depicted on Figure 5.12-1, Noise Measurement Locations. A brief description of where each noise measurement was conducted as well as the measured time-average sound level and maximum sound level during the measurement interval are summarized in Table 5.12-2. Detailed noise measurement data are included as Appendix H.

**Table 5.12-2**  
**Measured Noise Levels**

Receptors	Description	L <sub>eq</sub> (dBA)	L <sub>max</sub> (dBA)
M1	Vacant parcel adjacent to industrial uses on Eastgate Mall San Diego, California; east of San Vicente Pure Water Pipeline and southeast of the North City Pure Water Facility.	51.2	61.6
M2	Multi-family residential complex on Genesee Avenue San Diego, California; west of Morena Wastewater Forcemain and Brine Pipeline	68.0	82.9
M3	MCAS Miramar north entrance on Miramar Road San Diego, California; south of North City Pure Water Pipeline	72.8	89.7
M4	Villa Pacific Apartments Clairemont Drive San Diego, California; east of Morena Wastewater Forcemain and Brine Pipeline	65.8	87.2
M5	Junipero Serra High School on Santo Road San Diego, California; west of San Vicente Pure Water Pipeline	54.8	60.6
M6	Multi-family residential complex on Rancho Mission Road San Diego, California; south of San Vicente Pure Water Pipeline and northeast of Mission Trails Booster Station	56.7	74.7
M7	Single family residential home on Moreno Avenue Lakeside, California; west of San Vicente Pure Water Pipeline	64.3	81.1
M8	Scripps Ranch Library on Scripps Lake Drive San Diego, California; west of the North City Pipeline alignment	56.1	59.8
M9	Multi-family residential complex on Scripps Lake Drive San Diego, California; southeast of North City Pipeline alignment	53.7	79.2
M10	Willowbrook RV Storage on Riverside Drive Lakeside, California; south of San Vicente Pure Water Pipeline	53.2	75.5
M11	Single family residential home on Mast Boulevard Santee, California; west of San Vicente Pure Water Pipeline	68.3	81.1
M12	Multi-family residential complex on Tecolote Road San Diego, California; east of Morena Wastewater Forcemain and Brine Pipeline	60.0	68.8
M13	Multi-family residential complex on Caminito Velasquez San Diego, California; south of San Vicente Pure Water Pipeline	66.1	77.5

**Table 5.12-2  
Measured Noise Levels**

Receptors	Description	L <sub>eq</sub> (dBA)	L <sub>max</sub> (dBA)
M14	Cul-de-sac on Tierrasanta Boulevard San Diego, California; south of San Vicente Pure Water Pipeline	50.3	85.5
M15	Multi-family residential complex on W Hills Parkway Santee, California; east of San Vicente Pure Water Pipeline	64.6	74.1
M16	A & B Saw and Lawnmowers on Highway 67 Lakeside, California; north and west of San Vicente Pure Water Pipeline	70.3	81.3

**Source:** Appendix H.

**Note:** L<sub>eq</sub> = equivalent continuous sound level (time-averaged sound level); L<sub>max</sub> = maximum sound level during the measurement interval

### 5.12.3 REGULATORY FRAMEWORK

Environmental noise is typically regulated by local governments. The following discussion summarizes the federal, state, and local requirements as they relate to environmental noise.

#### 5.12.3.1 Federal

The U.S. Environmental Protection Agency (EPA) has indicated that residential noise exposure of 55 dBA to 65 dBA is acceptable when analyzing land use compatibility (EPA 1981); however, these guidelines are not regulatory. With regard to noise exposure and workers, the federal Occupational Safety and Health Administration (OSHA) establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR 1910.95). OSHA specifies that sustained noise over 85 dBA (8-hour time-weighted average) can be a threat to workers' hearing, and if worker exposure exceeds this amount, the employer shall develop and implement a monitoring plan (29 CFR 1910.95(d)(1)).

#### 5.12.3.2 State

##### **Government Code Section 65302(g)**

California Government Code Section 65302(g) requires the preparation of a Noise Element, which shall identify and appraise the noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise

Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight on-line railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

**5.12.3.3 Local**

Because the North City Project components would be located in a number of municipal and unincorporated areas in addition to the City of San Diego, the applicable regulatory provisions of those agencies are described in this section.

**City of San Diego**

***City of San Diego Municipal Code 59.5.0401 (Noise Ordinance)***

Section 59.5.0401 of the City of San Diego’s Municipal Code sets forth sound level limits. It is unlawful for any person to cause noise by any means to the extent that the 1-hour average sound level exceeds the applicable limit given in the following table (Table 5.12-3) at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is the part of the total noise at the specified location that is due solely to the action of said person/event.

**Table 5.12-3**  
**City of San Diego Applicable Limits**

Land Use	Time of Day	1-Hour Average Sound Level (dBA)
Single-family residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40

**Table 5.12-3  
City of San Diego Applicable Limits**

Land Use	Time of Day	1-Hour Average Sound Level (dBA)
Multi-family residential (up to a maximum density of 1/2,000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
All other residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
Industrial or agricultural	Any time	75

**Source:** City of San Diego 2010.

***City of San Diego Municipal Code 59.5.0404 (Noise Ordinance)***

**Construction Noise**

Section 59.5.0404 of the City of San Diego’s Municipal Code sets forth limitations related to construction noise (City of San Diego 2010).

- A. It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter, or repair any building or structure in such a manner as to create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; and whether proposed night work is in the general public interest; and

he/she shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he/she deems to be required in the public interest.

- B. Except as provided in Subsection C hereof, it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- C. The provisions of Subsection B of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

**City of Santee Municipal Code**

**8.12.040 Sound Level Limits**

Section 8.12.040 of the City of Santee’s Municipal Code sets forth sound level limits, as described below.

- A. Unless a variance has been applied for and granted pursuant to Title 8 of the City of Santee’s Municipal Code, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below except that construction noise level limits shall be governed by Section 8.12.290 of City of Santee’s Municipal Code.

Table 5.12-4 outlines the sound levels within each zoning designations.

**Table 5.12-4**  
**City of Santee One-Hour Average Sound Level**

Zone	Time of Day	Applicable Limit One-Hour Average Sound Level (Decibels)
A-70, A-72, R-S, R-V, R-R, R-MH, S-87, S-88, S-90	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
R-U, R-C, and C-31	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45

**Table 5.12-4  
City of Santee One-Hour Average Sound Level**

Zone	Time of Day	Applicable Limit One-Hour Average Sound Level (Decibels)
All other commercial zones	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
M-50, M-52	Anytime	70
All other industrial zones	Anytime	75
The sound level at the location on a boundary between an industrial zone and a residential zone	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50

**Source:** City of Santee 1984.

- B. For all other zones the sound level limit on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts; provided, however, that the noise level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be the noise level limit applicable to the M-52 zone, or other standard as required for industrial uses adjacent to a residential zone.
- C. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located (City of Santee 1984).

**8.12.290 Construction Equipment**

Section 8.12.290 of the City of Santee’s Municipal Code sets forth noise limitations on construction equipment.

- A. Except for emergency work, it is unlawful for any person, including the city, to operate any single or combination of powered construction equipment at any construction site, except as outlined as follows:
  - 1. It shall be unlawful for any person, including the city, to operate any single or combination of powered construction equipment at any construction site on Sundays, January 1st, the last Monday in May, known as “Memorial Day,” July 4th, the first Monday in September, December 25th, and every day appointed by the President, Governor, or the city council for a public fast, thanksgiving, or holiday. When January

1st, July 4th, or December 25th falls on a Sunday, it shall be unlawful for any person to operate any single or combination of powered construction equipment at any construction site on the following Monday. Notwithstanding the above, a person may operate powered construction equipment on the above-specified days between the hours of ten a.m. and five p.m. in compliance with the requirements of subdivision 2 of this subsection at his residence for himself, provided such operation of powered construction equipment is not carried on for profit or livelihood. In addition, it shall be unlawful for any person to operate any single or combination of powered construction equipment at any construction site on Mondays through Saturdays except between the hours of seven a.m. and seven p.m.

2. No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five decibels for more than eight hours during any twenty-four-hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes. These sound levels shall be corrected for time duration in accordance with the following table [Table 5.12-5]:

**Table 5.12-5**  
**City of Santee Construction Noise Allowance**

Total Duration in 24 Hours	Decibel Level Allowance	Total Decibel Level
Up to 15 minutes	+15	90
Up to 30 minutes	+12	87
Up to 1 hour	+9	84
Up to 2 hours	+6	81
Up to 4 hours	+3	78
Up to 8 hours	0	75

**Source:** City of Santee n.d.

- B. In the event that lower noise limit standards are established for construction equipment pursuant to state or federal law, the lower limits shall be used as a basis for revising and amending the noise level limits specified in subsection A2 of this section.

**17.30.030 Performance Standards**

The conduct and operation of all uses in all districts shall comply with the minimum standards of performance set forth in Section 17.30.030 of the City of Santee’s Municipal Code (City of Santee 1985).

A. Noise.

\*\*\*

2. Commercial/Industrial. All commercial and industrial uses shall be established and operated in compliance with the city noise ordinance, commencing with Section 8.12.010 of the Santee Municipal Code, or as may be hereafter amended.

\*\*\*

- E. Vibration. No operation or activity is permitted which will create vibration noticeable without instruments at the perimeter of the subject property.

**County of San Diego**

**36.404. General Sound Level Limits**

Section 36.404 of the County of San Diego’s Municipal Code sets forth general sound level limitations.

- a. Except as provided in section 36.409 of the County of San Diego’s Municipal Code, it shall be unlawful for any person to cause or allow the creation of any noise, which exceeds the one-hour average sound level limits in [Table 5.12-6], when the one-hour average sound level is measured at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise.

**Table 5.12-6**  
**Sound Level Limits In Decibels (dBA)**

Zone	Time	1-Hour Average Sound Level Limits (Dba)
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S90, S92, RV, and RU with a General Plan Land Use Designation density of less than 10.9 dwelling units per acre.	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45

**Table 5.12-6  
Sound Level Limits In Decibels (dBA)**

Zone	Time	1-Hour Average Sound Level Limits (Dba)
(2) RRO, RC, RM, S86, FB-V5, RV and RU with a General Plan Land Use Designation density of 10.9 or more dwelling units per acre.	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
(3) S94, FB-V4, AL-V2, AL-V1, AL-CD, RM-V5, RM-V4, RM-V3, RM-CD and all commercial zones.	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
(4) FB-V1, FB-V2, RM-V1, RM-V2	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
FB-V1, RM-V2	10 p.m. to 7 a.m.	55
FB-V2, RM-V1	10 p.m. to 7 a.m.	50
FB-V3	7 a.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
(5) M50, M52, and M54	Anytime	70
		70
(6) S82, M56, and M58.	Anytime	75
(7) S88 (see subsection (c) below)		

**Source:** County of San Diego 2014.

- b. Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.
- c. S88 zones are Specific Planning Areas which allow different uses. The sound level limits in [Table 5.12-6] that apply in an S88 zone depend on the use being made of the property. The limits in [Table 5.12-6], subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.
- d. If the measured ambient noise level exceeds the applicable limit in [Table 5.12-6], the allowable one-hour average sound level shall be the one-hour

average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.

- e. The sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. The one-hour average sound level limit applicable to extractive industries, however, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone in which the extractive industry is located.
- f. A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section measured at or beyond six feet from the boundary of the easement upon which the facility is located.

### ***36.408. Hours of Operation of Construction Equipment***

Section 36.408 of the County of San Diego's Municipal Code sets forth limitations on hours of operation of construction equipment. Except for emergency work, it shall be unlawful for any person to operate or cause to be operated, construction equipment:

- a. Between 7 p.m. and 7 a.m.
- b. On a Sunday or a holiday. For purposes of this section, a holiday means January 1st, the last Monday in May, July 4th, the first Monday in September, the fourth Thursday in November and December 25th. A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10 a.m. and 5 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in sections 36.409 and 36.410 of the County of San Diego's Municipal Code.

### ***36.409. Sound Level Limitations on Construction Equipment***

Section 36.409 of the County of San Diego's Municipal Code sets forth sound level limitations on construction equipment. Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 decibels for an 8-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line

of the property where the noise source is located or on any occupied property where the noise is being received.

**36.410. Sound Level Limitations on Impulsive Noise**

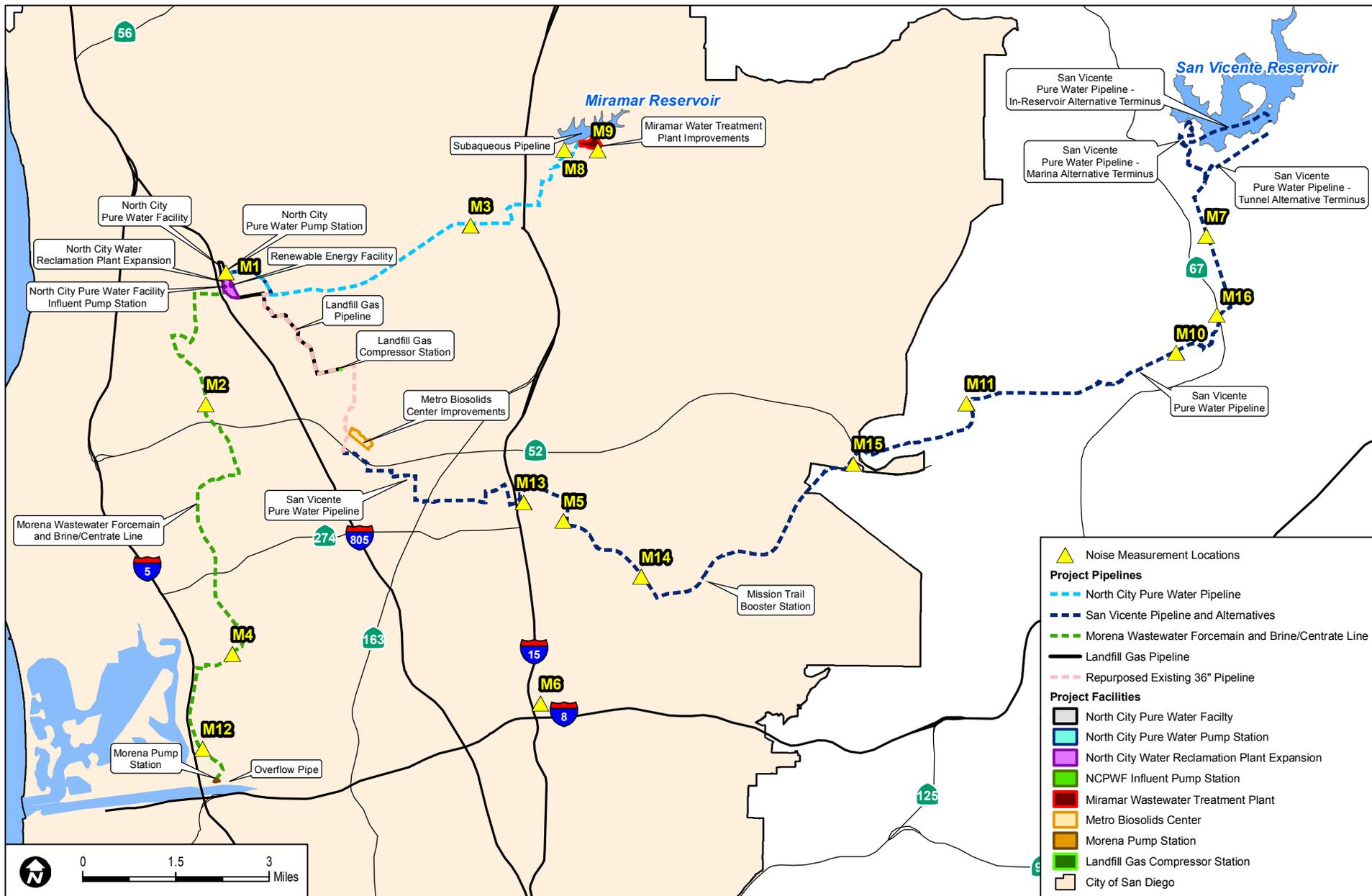
Section 36. 410 of the County of San Diego’s Municipal Code sets forth sound level limitations on impulsive noise (County of San Diego 2009). In addition to the general limitations on sound levels in section 36.404 of the County of San Diego’s Municipal Code and the limitations on construction equipment in section 36.409 of the County of San Diego’s Municipal Code, the following additional sound level limitations shall apply:

- a. Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in [Table 5.12-7], when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25% of the minutes in the measurement period. The maximum sound level depends on the use being made of the occupied property.

**Table 5.12-7  
Maximum Sound Level (Impulsive) Measured at  
Occupied Property In Decibels (Dba)**

<b>Occupied Property Use</b>	<b>Decibels (Dba)</b>
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

**Source:** County of San Diego 2009.



SOURCE: City of San Diego, 2015, 2016; SanGIS 2016

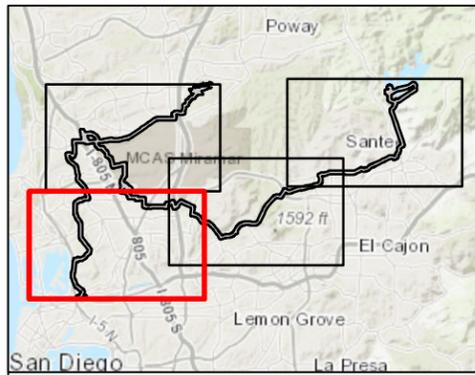
**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

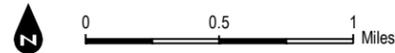
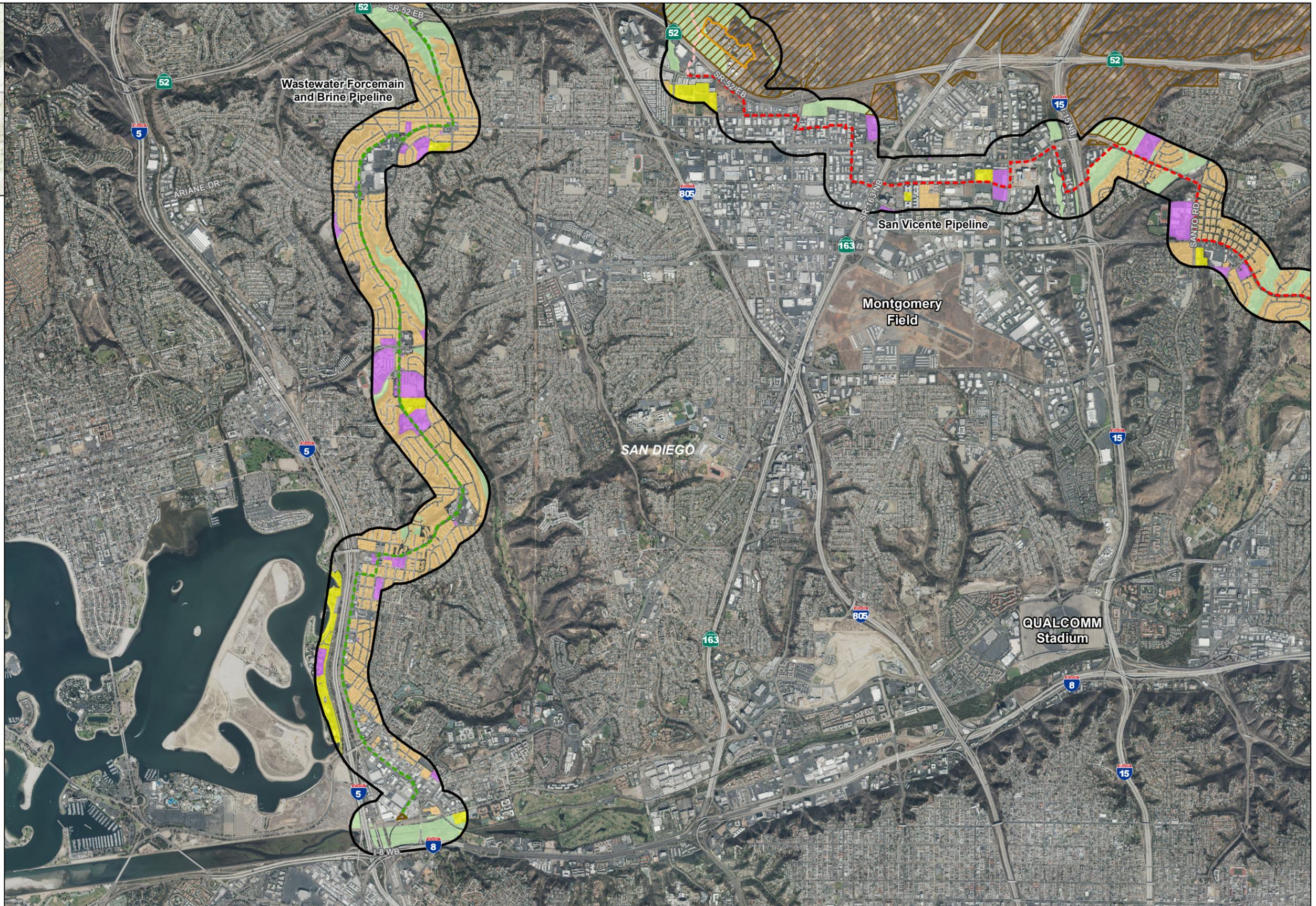
**FIGURE 5.12-1**

**Noise Measurement Locations**

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- Study Area
- Sensitive Receptor Location**
- Residential
- Recreation
- Public Institution
- Open Space
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
- San Vicente Pure Water Pipeline and Alternatives
- Morena Wastewater Forcemain and Brine/Centrates Line
- Repurposed Existing 36" Pipeline
- Project Facilities**
- Metro Biosolids Center Improvements
- Morena Pump Station



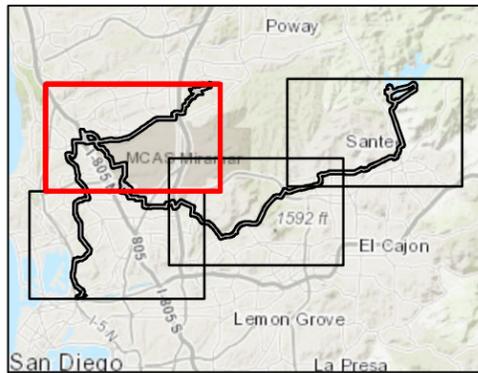
SOURCE: SanGIS 2016; SANDAG 2016

**DUDEK**

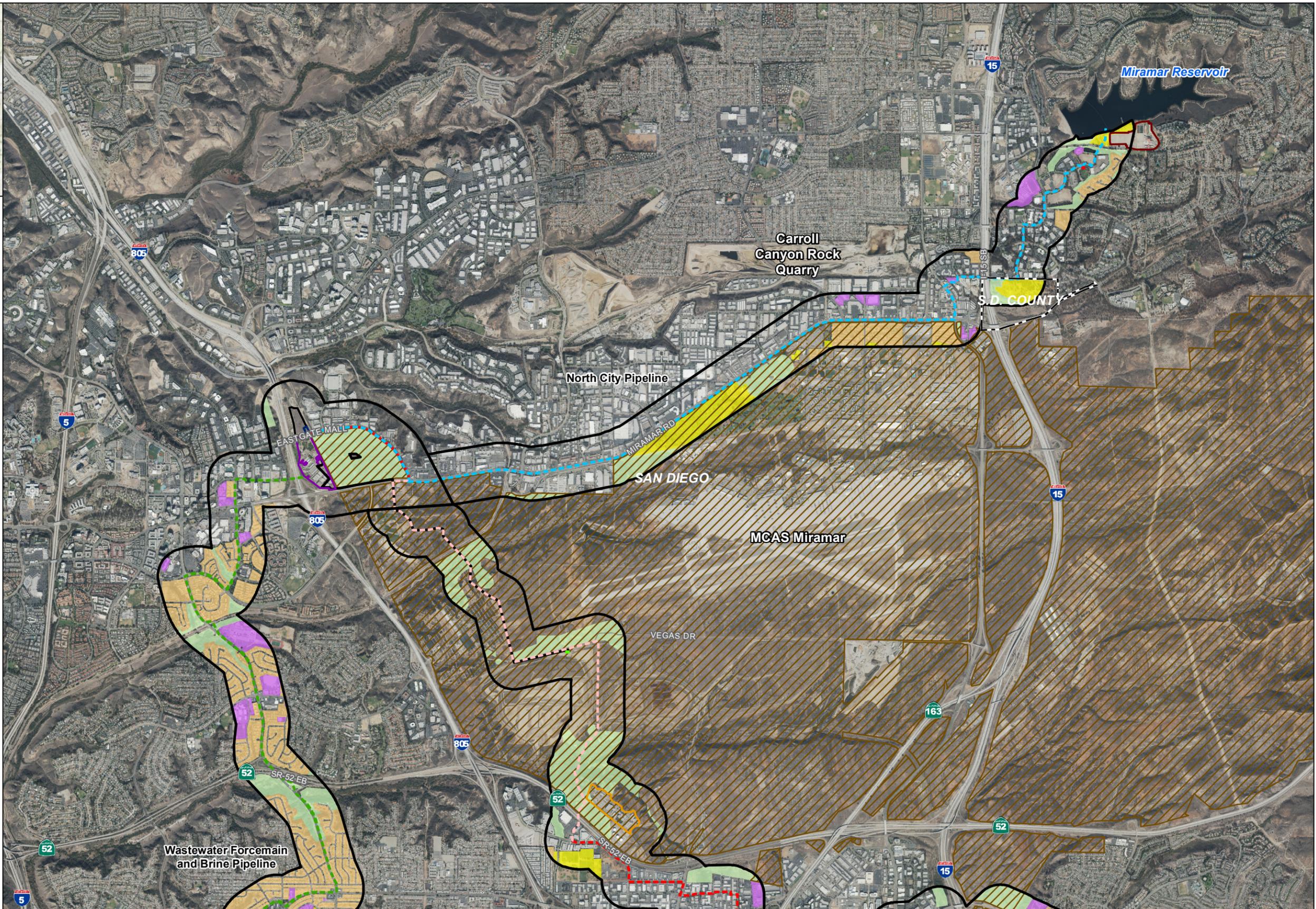
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.12-2A**  
Noise Sensitive Receptor Locations

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- Study Area
- Sensitive Receptor Location**
- Residential
- Recreation
- Public Institution
- Open Space
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
- North City Pure Water Pipeline
- San Vicente Pure Water Pipeline and Alternatives
- Morena Wastewater Forcemain and Brine/Centrates Line
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- Project Facilities**
- North City Pure Water Facility
- North City Pure Water Pump Station
- North City Water Reclamation Plant Expansion
- Metro Biosolids Center Improvements
- Pure Water Dechlorination Facility
- Miramar Water Treatment Plant Improvements
- Landfill Gas Compressor Station



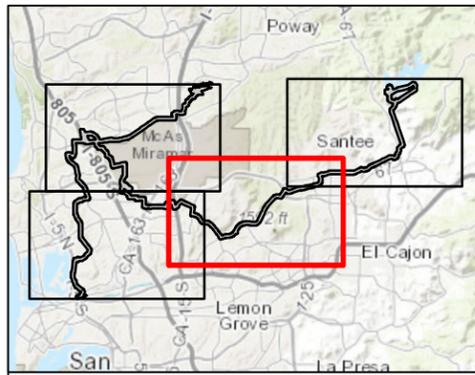
SOURCE: SanGIS 2016; SANDAG 2016

**DUDEK**

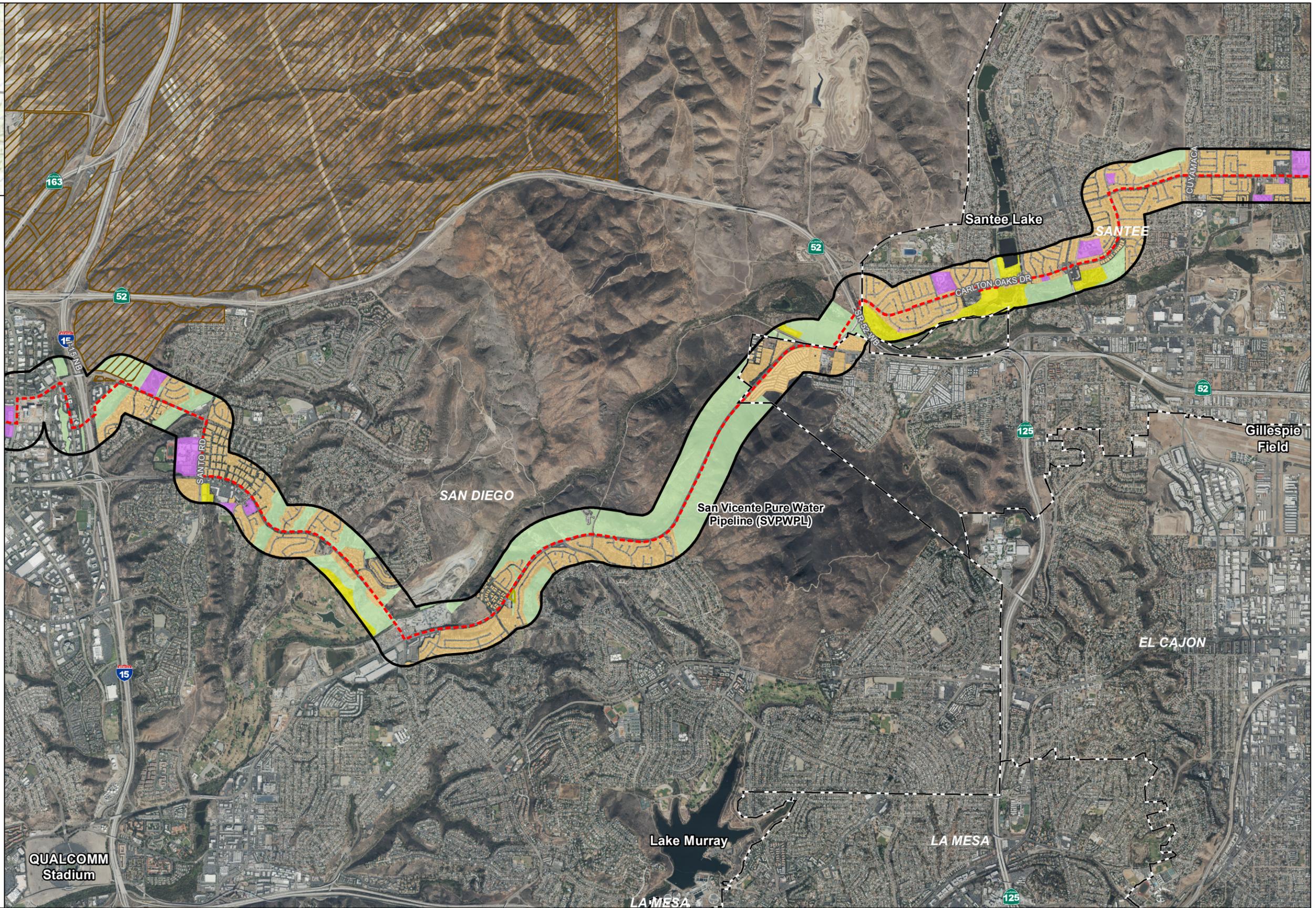
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.12-2B**  
Noise Sensitive Receptor Locations

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- Study Area
- Sensitive Receptor Location**
- Residential
- Recreation
- Public Institution
- Open Space
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
- San Vicente Pure Water Pipeline and Alternatives
- Project Facilities**
- Mission Trails Booster Station



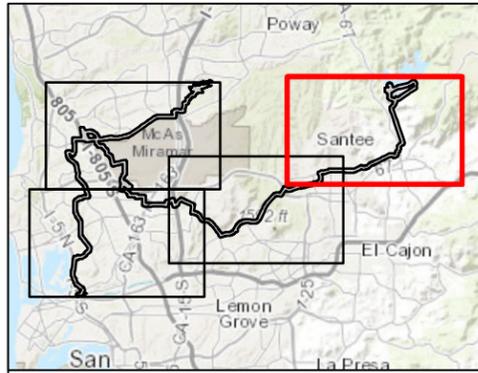
SOURCE: SanGIS 2016; SANDAG 2016

**DUDEK**

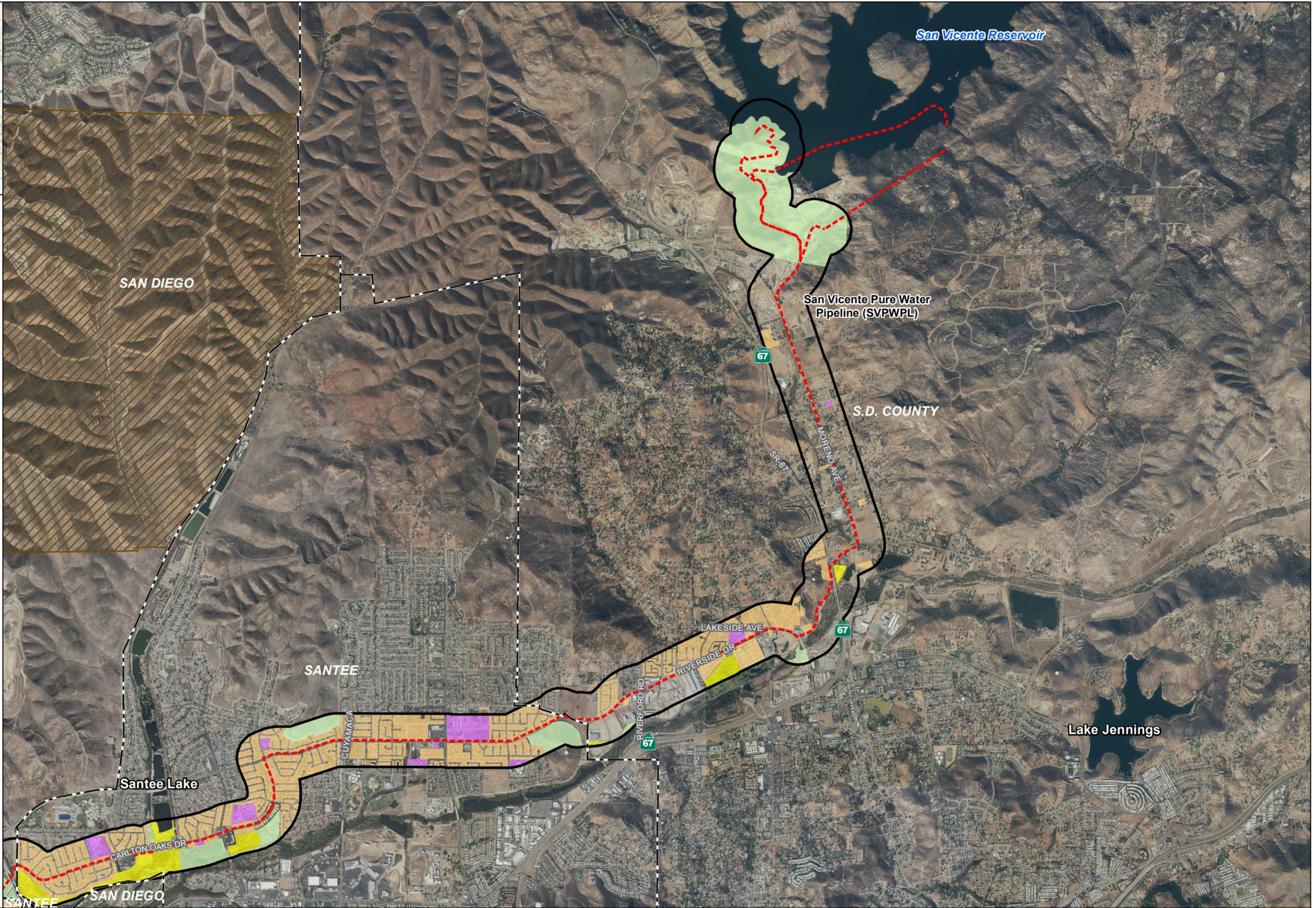
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.12-2C**  
Noise Sensitive Receptor Locations

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- Study Area
- Sensitive Receptor Location**
- Residential
- Recreation
- Public Institution
- Open Space
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
- San Vicente Pure Water Pipeline and Alternatives



SOURCE: SanGIS 2016; SANDAG 2016

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.12-2D**  
Noise Sensitive Receptor Locations

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## **5.13 PALEONTOLOGICAL RESOURCES**

### **5.13.1 INTRODUCTION**

This section discusses the environmental setting and applicable regulations with regards to paleontological resources.

Paleontological resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life. Fossil remains, such as bones, teeth, shells, and leaves, are found in the geologic deposits within which they were originally buried. For the purposes of this discussion, paleontological resources can be thought of as including not only the actual fossil remains, but also the areas and geologic formations likely to contain those fossils.

The paleontological resources information provided in this section is based on review of published geological maps covering the project area and a Paleontological Records Search for the North City Project conducted by the San Diego Natural History Museum (SDNHM) (SDNHM 2016).

### **5.13.2 ENVIRONMENTAL SETTING**

Geologic rock units that underlie the North City Project Area of Potential Effect (APE) are listed in Table 5.13-1. As shown Table 5.13-1, geologic rock units that underlie the North City Project APE include the following: Ardath Shale, Artificial fill, Quaternary younger alluvium (Recent, of Holocene alluvium), Quaternary landslide deposits, Pleistocene old alluvial flood plain deposits (Qoa), Bay Point Formation, Lindavista Formation, Stadium Conglomerate, Friars Formation, Scripps Formation, Cretaceous intrusive igneous rocks, and Mesozoic metasedimentary and metavolcanic rocks, undivided. Following the City of San Diego and County of San Diego Guidelines for Paleontological Resources, each rock unit underlying the APE was subsequently assigned a paleontological resource sensitivity rating by the SDNHM during the records search conducted for the North City Project. The sensitivity of these rock units is listed in Table 5.13-1.

**Table 5.13-1  
Paleontological Sensitivity of Geological Rock Units  
Underlying the North City Project APE**

<b>Geological Rock Units</b>	<b>Paleontological Resources Sensitivity Rating</b>
Ardath Shale (Ta)	High
Artificial fill (Af)	Low

**Table 5.13-1  
Paleontological Sensitivity of Geological Rock Units  
Underlying the North City Project APE**

Geological Rock Units	Paleontological Resources Sensitivity Rating
Quaternary younger alluvium (Recent or Holocene alluvium) (Qya)	Low
Quaternary landslide deposits (Qls)	Low
Pleistocene old alluvial flood plain deposits (Qoa)	High
Bay Point Formation (Obp)	High
Lindavista Formation (Oln)	Moderate <sup>1</sup>
Stadium Conglomerate (Tst)	High <sup>2</sup>
Friars Formation (Tf)	High
Scripps Formation (Tsd)	High
Cretaceous intrusive igneous rocks (Kgu)	Zero <sup>3</sup>
Mesozoic metasedimentary and metavolcanic rocks, undivided (Mzu)	Moderate

**Source:** SDNHM 2016.

**Notes:**

- <sup>1</sup> This formation is elevated to high sensitivity in Mira Mesa and Tierrasanta.
- <sup>2</sup> See discussion of Stadium Conglomerate below for sensitivity rating discrepancies.
- <sup>3</sup> Plutonic igneous rocks do not preserve fossils because they crystallize at extremely high temperatures and pressures several miles below the Earth's surface, so these rocks are assigned no paleontological sensitivity.

**Ardath Shale.** Ardath Shale has yielded diverse and well-preserved assemblages of marine microfossils, macroinvertebrates, and vertebrates. This formation occurs in the western extent of the APE in the community of Clairemont. Because of its production of diverse and well-preserved assemblages of fossils, high resource sensitivity is given to this formation.

**Artificial fill.** Because artificial fill has been previously disturbed, any contained fossil remains have lost their original stratigraphic contextual data and are thus of little scientific value. For these reasons, artificial fill is assigned low paleontological sensitivity.

**Holocene alluvial deposits.** Holocene alluvial deposits (mapped by Kennedy and Tan 2008, and Todd 2004 et al., as Qya) occur in modern canyons and floodplains. Holocene alluvial deposits are generally less than 10,000 years old, and are assigned a low paleontological sensitivity based on their young geologic age and the lack of known fossil localities; however, these deposits may overlie sensitive units that could be impacted where the contact is relatively shallow.

**Quaternary landslide deposits.** The landslide deposits underlying the North City Project APE appear to be derived from the Lindavista Formation (moderate paleontological sensitivity, see below) and the Friars Formation (high paleontological sensitivity, see below); thus it is possible that fossils originally contained within these units may have been redeposited within the landslide deposits. However, without associated stratigraphic contextual data, fossil remains within Quaternary landslide deposits may be of little scientific value. Accordingly, landslide deposits are assigned a low paleontological sensitivity.

**Pleistocene old alluvial flood plain deposits.** Pleistocene-age (approximately 10,000 to 2.6 million years old) old alluvial flood plain deposits (mapped by Kennedy and Tan 2008, and Todd et al. 2004, as Qoa) underlie portions of the North City Project APE. Recovered fossils from these deposits include scientifically significant terrestrial vertebrate fossils (e.g., reptiles, birds, small mammals, and large-bodied “Ice-Age” mammals such as mammoth, bison, horse, and camel) (Deméré and Walsh 1993). Therefore, these deposits are assigned a high paleontological sensitivity.

**Bay Point Formation.** The nearshore marine deposits of the Pleistocene-age (approximately 10,000 to 750,000 years old) Bay Point Formation within the North City Project APE rest on the Nestor terrace (approximately 120,000 years old) of Kern and Rockwell (1992), and are equivalent to Unit 6, old paralic deposits of Kennedy and Tan (2008). Recorded fossil localities from the Bay Point have yielded fossilized impressions or remains of plants (e.g., angiosperms), marine invertebrates (e.g., chitons, snails, clams, mussels, oysters, decapods, barnacles, and sea urchins), marine vertebrates (e.g., sharks, rays, and bony fish), and terrestrial vertebrates (e.g., birds, rodents, and mammoths). The Bay Point Formation has been assigned a high paleontological sensitivity for the diverse and well-preserved fossils of marine invertebrates and marine vertebrates that have been recovered from these deposits.

**Lindavista Formation.** The western portion of the North City Project APE is underlain throughout by the marine and/or non-marine terrace deposits of the early to middle Pleistocene age (approximately 0.5 to 1.5 million years old) Lindavista Formation (mapped by Kennedy and Tan 2008, as Quaternary Very Old Paralic deposits, various units). Recorded fossil localities from the Lindavista Formation have produced trace fossils (e.g., burrows), and fossilized impressions or remains of plants (e.g., vascular plants), marine invertebrates (e.g., snails, clams, mussels, and sand dollars), and marine vertebrates (e.g., rays). Fossil localities are somewhat rare within the Lindavista Formation, so it is generally assigned a moderate paleontological sensitivity.

**Stadium Conglomerate.** Non-marine deposits of the middle Eocene-age (approximately 42 to 44 million years old) Stadium Conglomerate underlie the San Vicente Reservoir and along the upper slopes of modern drainages across the central portion of the North City Project APE. Recorded fossil localities from the Stadium Conglomerate have produced fossilized impressions and remains of plants (e.g., willows and other vascular plants). The strata that yielded the localities (which directly underlies the project alignment near the southwest edge of the San Vicente Reservoir) could not be correlated with the upper or lower member due to the distance between these and other exposures of the Stadium Conglomerate in Mission Valley. While the upper and lower members of the Stadium Conglomerate have been assigned distinct paleontological resource sensitivities (high to moderate, and high, respectively), these deposits should be treated as having a high fossil potential when it is not possible to distinguish the two members.

**Friars Formation.** The fluvial deposits of the middle Eocene-age (approximately 46 to 47 million years old) Friars Formation underlie the North City Project APE in the central portion of the City of Santee and sporadically along the upper slopes of modern drainages across the central portion of the project area in the City of San Diego. The SDNHM has 46 recorded fossil localities from the Friars Formation within a 1-mile radius of the project alignment. These localities yielded trace fossils (e.g., insect pupae, egg shells, coprolites), and fossilized impressions or remains of plants (e.g., green algae, ferns, water lilies, willows, and horsetails), marine invertebrates (e.g., sea snails, clams, and ostracods), terrestrial or nonmarine invertebrates (e.g., land snails), and terrestrial vertebrates (e.g., frogs, turtles, lizards, snakes, crocodiles, marsupials, assorted insectivorous mammals, bats, primates, carnivorous mammals, rodents, artiodactyls, and perissodactyls). The Friars Formation is assigned a high paleontological sensitivity on the basis of the recovery of diverse and well-preserved assemblages of both marine invertebrates and terrestrial vertebrates from these deposits.

**Scripps Formation.** The marine continental shelf deposits of the early middle Eoceneage (approximately 47 million years old) Scripps Formation is exposed along the western portion of the North City Project APE. Recorded fossil localities from the Scripps Formation have produced trace fossils (e.g., worm burrows, clam and sponge borings, and coprolites), and fossilized impressions or remains of plants (e.g., green algae, ferns, horsetails, and flowering plants), marine invertebrates (e.g., foraminifers, sponges, corals, bryozoans, polychaete worms, snails, clams, mussels, oysters, tusk shells, nautiloids, crabs, and heart urchins), marine vertebrates (e.g., sharks, rays, and bony fish), and terrestrial vertebrates

(e.g., crocodiles). Based on the diverse fossil assemblages known from this unit, as well as the co-occurrence of marine invertebrate and terrestrial vertebrate fossils, the Scripps Formation has been assigned a high paleontological sensitivity.

**Cretaceous intrusive igneous rocks.** The Cretaceous intrusive igneous rocks of San Diego County comprise part of the northern end of the Peninsular Ranges Batholith, and includes units mapped as granitoid rocks, granodiorite and tonalite, undivided, and tonalite, undivided, by Kennedy and Tan (2008) and Todd (2004). North of Cowles Mountain and in patches at the east end of the North City Project APE, these geological rock units underlie the North City Project APE. Plutonic igneous rocks do not preserve fossils because they crystallize at extremely high temperatures and pressures several miles below the earth's surface, so these rocks are assigned no paleontological sensitivity.

**Mesozoic metasedimentary and metavolcanic rocks, undivided.** Crystalline basement rocks of late Jurassic to early Cretaceous age (approximately 125 to 140 million years old), mapped as Mesozoic metasedimentary and metavolcanic rocks, undivided, by Kennedy and Tan (2008) and as the Santiago Peak Volcanics by Todd et al. (2004), underlie the North City Project APE near the San Vicente and Miramar reservoirs, west of Cowles Mountain, and at the east edge of the City of Santee. The metavolcanic portions of this unit rarely preserve fossils due to the high temperatures associated with their formation; some of the volcanic breccias, however, have produced petrified wood, and are assigned a marginal sensitivity (Deméré and Walsh 1993). The metasedimentary portions have the potential to yield fossils, including siliceous microfossils (e.g., radiolarians) and marine macroinvertebrates (e.g., clams and belemnites), the rock unit exposed along the project alignment are mapped as "undivided," specific paleontological sensitivity determinations should be made by a qualified paleontologist during monitoring of the areas mentioned above.

Table 5.13-2 identifies the geologic rock units that underlie components common to Project Alternatives and components specific to the Miramar Reservoir Alternative and the San Vicente Reservoir Alternative. For linear project components, the general location of where geologic rock units occur along the alignment is typically described. Figures 5.13-1A through 5.13-1D illustrate the paleontological sensitivity of geologic units underlying the project components.

**Table 5.13-2  
Paleontological Sensitivity of Geological Rock Units  
Underlying Project Components**

Project Component	Geological Rock Units	Location	Sensitivity Rating
<i>Components Common to Project Alternatives</i>			
Morena Pump Station	Bay Formation	—	High
Morena Wastewater Forcemain and Brine/Centrates Line (Morena Pipelines)	Ardath Shale	Western portion of project alignment	High
	Scripps Formation	Western portion of project alignment	High
	Stadium Conglomerate	North of Rose Canyon crossing	High
	Pleistocene old alluvial flood plain deposits	Rose Canyon crossing	High
	Lindavista Formation	Western portion of project alignment	Moderate
	Bay Point Formation	Near southern terminus of alignment	High
	Artificial fill	Along Interstate 5, east of Mission Bay, near the southwest termination of the alignment	Low
North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility	Scripps Formation	—	High
	Lindavista Formation	—	Moderate
North City Pure Water Facility and Influent Pump Station	Scripps Formation	—	High
	Lindavista Formation	—	Moderate
Landfill Gas Pipeline	Scripps Formation	—	High
	Stadium Conglomerate		High
	Friars Formation		High
	Lindavista Formation		Moderate
Metro Biosolids Center Improvements	Friars Formation	—	High
	Stadium Conglomerate	—	High
	Lindavista Formation	—	Moderate

**Table 5.13-2  
Paleontological Sensitivity of Geological Rock Units  
Underlying Project Components**

Project Component	Geological Rock Units	Location	Sensitivity Rating
<i>Miramar Reservoir Alternative</i>			
North City Pure Water Pipeline	Lindavista Formation	Along the western portion of the alignment	High*
	Stadium Conglomerate	Along the upper slopes of modern drainages across the central portion of the alignment	High
	Quaternary alluvium	—	Low
	Mesozoic metasedimentary and metavolcanic rocks, undivided	Near the Miramar Reservoir	Moderate
Dechlorination Facility	Stadium Conglomerate	—	High
Miramar Water Treatment Plant Improvements	Stadium Conglomerate	—	High
<i>San Vicente Reservoir Alternative</i>			
San Vicente Pure Water Pipeline	Pleistocene older alluvial deposits	Along the north side of the San Diego River Valley	High
	Mesozoic metasedimentary and metavolcanic rocks, undivided	Near the San Vicente, west of Cowles Mountain, and at the east edge of the City of Santee.	Moderate
	Quaternary younger alluvium (Recent, or Holocene alluvium)	Along drainages associated with the San Diego River Valley	Low
	Cretaceous intrusive igneous rocks (granite)	North of Cowles Mountain and in patches at the east end of the alignment	Zero
	Quaternary landslide deposits	Tierrasanta and area east of Murphy Canyon and north of Mission Valley	Low

**Table 5.13-2  
Paleontological Sensitivity of Geological Rock Units  
Underlying Project Components**

Project Component	Geological Rock Units	Location	Sensitivity Rating
	Friars Formation	Central portion of alignment along the upper slopes of modern drainages across the City of San Diego; central portion of the City of Santee	High
	Stadium Conglomerate	Along the upper slopes of modern drainages across the central portion of the alignment; San Vicente Reservoir	High
Mission Trails Booster Station	Friars Formation	—	High

**Note:**

\* This formation is elevated to high sensitivity in Mira Mesa and Tierrasanta.

**Paleontological Records Search**

A search of the paleontological records at the SDNHM was conducted in order to determine if any documented fossil collection localities occur along the project alignment or within the immediate surrounding area. The SDNHM has 216 recorded fossil localities within a 1-mile radius of the North City Project APE (see SDNHM 2016, Appendix 2). Sixty-seven of these localities are from geologic units that are not anticipated to be impacted by construction: the late Pliocene to early Pleistocene-age San Diego Formation; the middle Eocene-age Pomerado Conglomerate, Mission Valley Formation, and Ardath Shale; and an “unnamed formation” of early Eocene age. The remaining 149 localities are from the Pleistocene-age Bay Point Formation, the early to middle Pleistocene-age Lindavista Formation, and the middle Eocene-age Stadium Conglomerate, Friars Formation, and Scripps Formation, and are described in greater detail above.

### 5.13.3 REGULATORY FRAMEWORK

#### Federal

##### ***Paleontological Resources Preservation Act***

The Paleontological Resources Preservation Act requires the secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using scientific principles and expertise. The Omnibus Public Lands Act–Paleontological Resources Preservation (OPLA–PRP) includes specific provisions addressing management of these resources by the Bureau of Land Management (BLM), the National Park Service, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, all of the Department of the Interior, and the U.S. Forest Service of the Department of Agriculture.

The OPLA–PRP affirms the authority for many of the policies that the federal land-managing agencies already have in place for the management of paleontological resources such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The OPLA–PRP only applies to federal lands and does not affect private lands. It provides authority for the protection of paleontological resources on federal lands, including criminal and civil penalties for fossil theft and vandalism. As directed by the act, the federal agencies are in the process of developing regulations, establishing public awareness and education programs, and inventorying and monitoring federal lands.

#### Bureau of Land Management

##### ***Manual H-8270-1 – General Procedural Guidance for Paleontological Resource Management and IM 2009-11: Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources***

While not identified as a lead or responsible agency for the North City Project, the paleontological resources procedural guidance (BLM 1998) and guidelines for assessment and mitigation (BLM 2009) developed by the BLM to address fossils at the federal level have been mirrored by other federal agencies including the Bureau of Reclamation. The BLM established the Potential Fossil Yield Classification (PFYC) system for categorizing the probability of geologic units to contain scientifically significant paleontological resources or noteworthy fossil occurrences. The PFYC has five levels or Classes, with Class 1 (Very Low) applied to geologic units that are not likely to contain significant fossils, through Class 5 (Very High) for geologic

formations that have a high potential to yield scientifically significant fossils on a regular basis. If analysis of a proposed project determines that there is the potential to disturb PFYC Class 3 (Moderate), 4 (High), or 5 (Very High) formations or potentially fossil-bearing alluvium, or known significant localities, field surveys and/or other mitigation measures may be required to ensure the protection of paleontological resources.

The BLM guidelines also contain procedures for conducting a paleontological field survey, field monitoring, and determination of further mitigation requirements.

**State**

State guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources are recognized as part of the environment under these guidelines.

**County of San Diego Guidelines for Determining Significance:  
Paleontological Resources**

As it is the underlying formation and geologic rock units that contain the fossil remains, resource sensitivity/potential levels are rated for individual geologic formations. The resource sensitivity levels and potential ratings are described in Table 5.13-3 and are adapted from the resource sensitivity levels and potential ratings described in the County of San Diego Guidelines for Determining Significance: Paleontological Resources.

**Table 5.13-3  
Paleontological Resource Sensitivity Criteria**

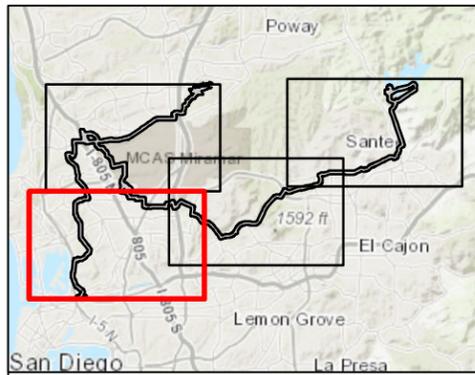
<b>Resource Sensitivity/ Potential</b>	<b>Definition</b>
High	High resource potential and high sensitivity are assigned to geologic formations known to contain paleontological localities with rare, well preserved, critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleoclimatic, paleobiological and/or evolutionary history (phylogeny) of animal and plant groups. In general, formations with high resource potential are considered to have the highest potential to produce unique invertebrate fossil assemblages or unique vertebrate fossil remains and are, therefore, highly sensitive.

**Table 5.13-3  
Paleontological Resource Sensitivity Criteria**

Resource Sensitivity/ Potential	Definition
Moderate	Moderate resource potential and moderate sensitivity are assigned to geologic formations known to contain paleontological localities. These geologic formations are judged to have a strong, but often unproven, potential for producing unique fossil remains (Deméré and Walsh 1993).
Low	Low resource potential and low sensitivity are assigned to geologic formations that, based on their relatively young age and/or high-energy depositional history, are judged unlikely to produce unique fossil remains. Low resource potential formations rarely produce fossil remains of scientific significance and are considered to have low sensitivity. However, when fossils are found in these formations, they are often very significant additions to our geologic understanding of the area.
Marginal	Marginal resource potential and marginal sensitivity are assigned to geologic formations that are composed either of volcanoclastic (derived from volcanic sources) or metasedimentary rocks, but that nevertheless have a limited probability for producing fossils from certain formations at localized outcrops. Volcanoclastic rock can contain organisms that were fossilized by being covered by ash, dust, mud, or other debris from volcanoes. Sedimentary rocks that have been metamorphosed by heat and/or pressure caused by volcanoes or plutons are called metasedimentary. If the sedimentary rocks had paleontological resources within them, those resources may have survived the metamorphism and still be identifiable within the metasedimentary rock, but since the probability of this occurring is so limited, these formations are considered marginally sensitive.
No Potential	No resource potential is assigned to geologic formations that are composed entirely of volcanic or plutonic igneous rock, such as basalt or granite, and therefore do not have any potential for producing fossil remains. These formations have no paleontological resource potential, i.e. they are not sensitive.

**Source:** County of San Diego 2009.

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- Study Area
- Project Pipelines**
- San Vicente Pipeline and Alternatives
- Morena Wastewater Forcemain and Brine/Centrate Line
- Repurposed Existing 36" Pipeline
- Project Facilities**
- Metro Biosolids Center Improvements
- Morena Pump Station
- Paleontological Sensitivity**
- High
- Low
- Moderate



SOURCE: California Geological Society/Department of Water Resources; SANDAG 2014

**DUDEK**

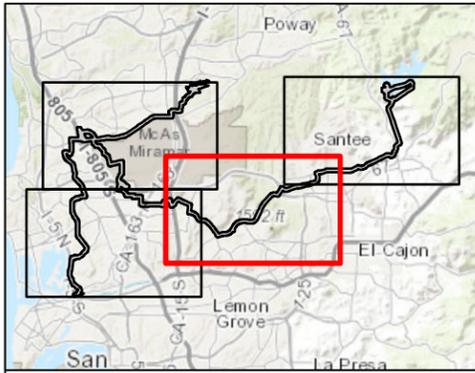
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.13-1A**  
Paleontological Resources Sensitivity

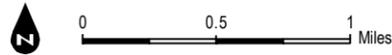
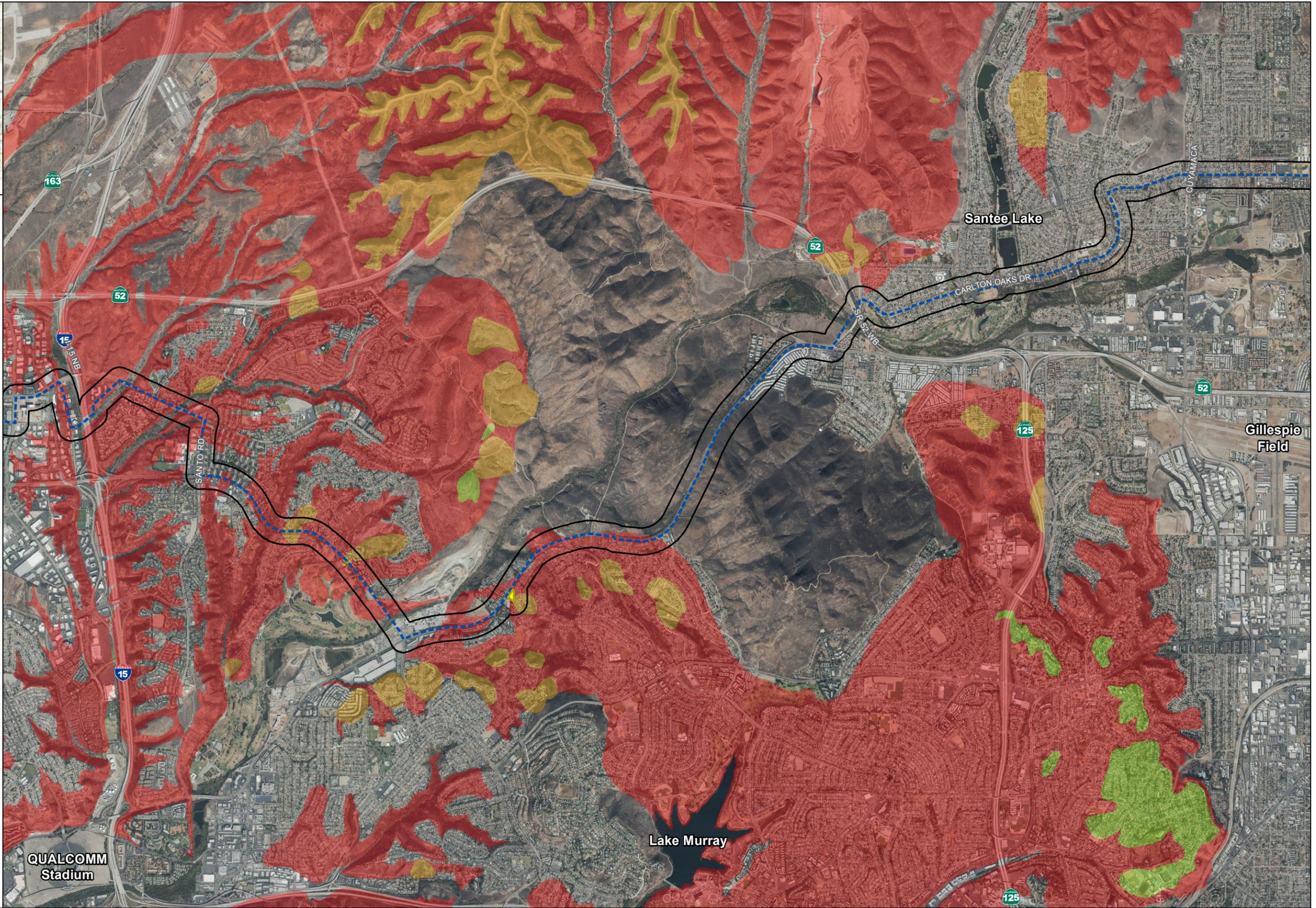
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- Study Area
- Project Pipelines**
- San Vicente Pipeline and Alternatives
- Project Facilities**
- Mission Trails Booster Station
- Paleontological Sensitivity**
- High
- Low
- Moderate



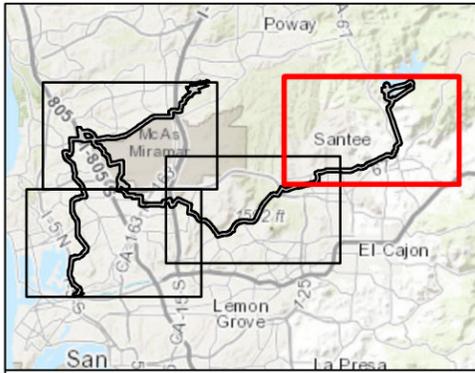
SOURCE: California Geological Society/Department of Water Resources; SANDAG 2014

**DUDEK**

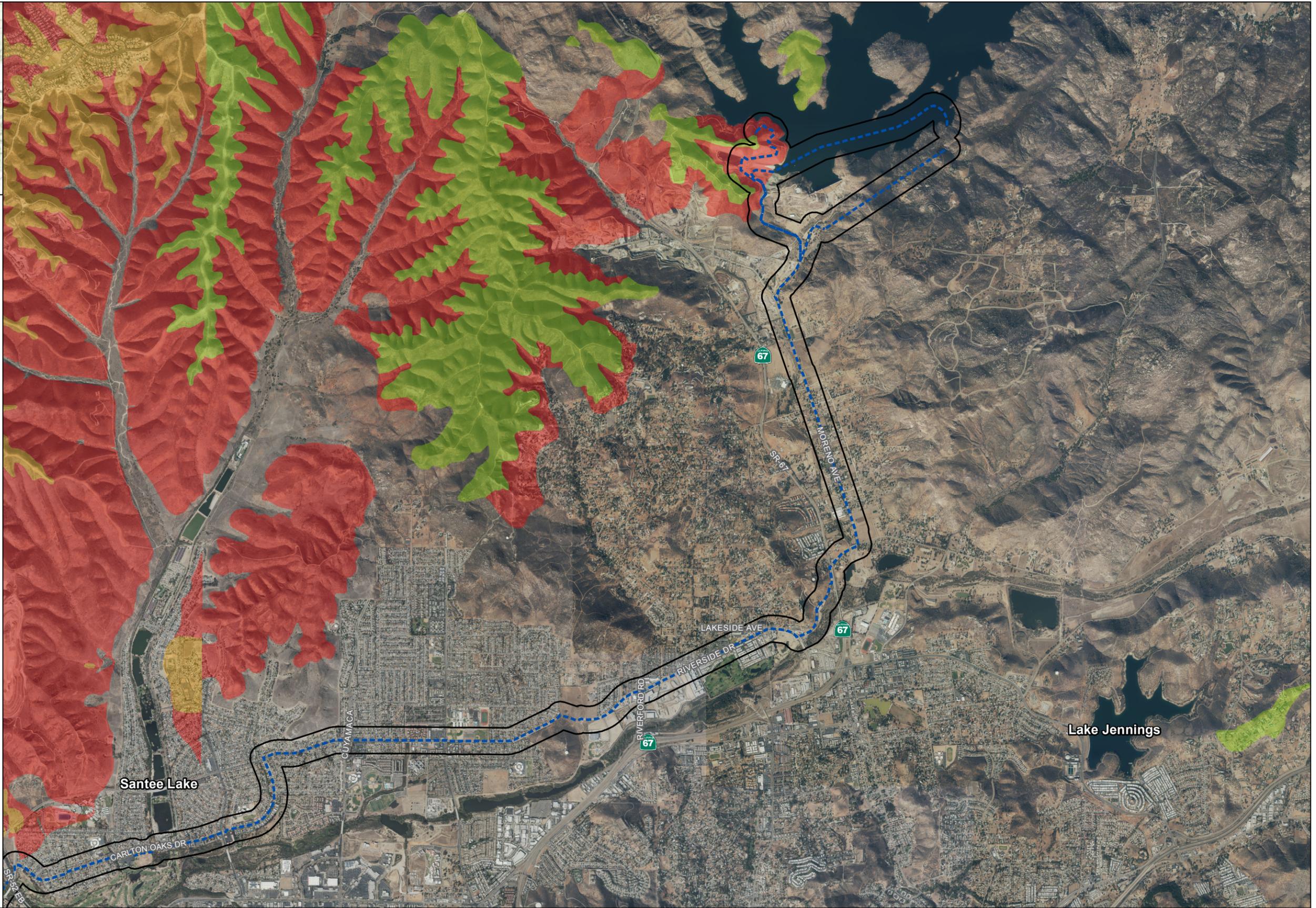
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.13-1C**  
Paleontological Resources Sensitivity

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- Study Area
- Project Pipelines**
- San Vicente Pipeline and Alternatives
- Paleontological Sensitivity**
- High
- Low
- Moderate



SOURCE: California Geological Society/Department of Water Resources; SANDAG 2014

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.13-1D**  
Paleontological Resources Sensitivity

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## **5.14 PUBLIC SERVICES**

### **5.14.1 INTRODUCTION**

This section addresses the environmental setting and applicable regulations with regards to public facilities and services, which include functions that serve residents on a community-wide basis. These functions include fire and police protection, public parks and recreation facilities, schools, and libraries. The information contained in this section was obtained from various sources, including the *City of San Diego General Plan* (City of San Diego 2008) and the different public service providers with jurisdiction over the locations of the various components of the Project Alternatives.

### **5.14.2 ENVIRONMENTAL SETTING**

This section describes the existing public services and facilities for each component of the North City Project. It should be noted that all of the facilities that would be staffed would be located within the City of San Diego. The Miramar Reservoir Alternative would be located within the City of San Diego and Marine Corps Air Station (MCAS) Miramar. The San Vicente Reservoir Alternative would be located within the City of San Diego, MCAS Miramar, City of Santee, the community of Lakeside (County of San Diego), and other unincorporated portions of the County of San Diego. The description of each public service is separated by jurisdiction.

#### **Police**

##### ***City of San Diego***

The City of San Diego General Plan Public Facilities, Services, and Safety Element includes goals, policies, and other information regarding police protection services. The City of San Diego Police Department (SDPD) focuses on providing police protection services with a goal for safe, peaceful, and orderly communities through a neighborhood policing philosophy that engages a responsibility between police officers and residents (City of San Diego 2008). The SDPD divides its jurisdiction into multiple neighborhood divisions, which are discussed in the following paragraphs.

Across the Project Alternatives, improvements and construction of the North City Water Reclamation Plant (NCWRP), North City Renewable Energy Facility, North City Pure Water Facility (NCPWF), all pump stations, portions of the pipelines, Miramar Water Treatment Plant (WTP), portions of the Landfill Gas Pipeline, and Metro Biosolids Center (MBC), would be located within the City of San Diego and the jurisdiction of the SDPD. The

NCWRP and NCPWF would be located within the Northwestern Division of the SDPD, which is headquartered at 12592 El Camino Real, approximately 3.5 miles northwest. The Northern Division headquarters is located in the vicinity of the NCPWF, approximately 1 mile to the west at 4175 Eastgate Mall. The MBC is located within the Eastern Division of the SDPD, which is headquartered at 9225 Aero Drive, approximately 2.7 miles to the southeast. The Miramar WTP is located within the Northeastern Division of the SDPD, which is headquartered at 13396 Salmon River Road, approximately 3.5 miles to the north. All unmanned components (pump stations, pipelines, and portions of the Landfill Gas Pipeline) would traverse several divisions of the SDPD, including Northern, Northwestern, Eastern, and Northeastern (SDPD 2013).

### ***City of Santee***

Portions of the San Vicente Reservoir Alternative pipelines would be located within the City of Santee. The San Diego County Sheriff's Department is contracted by the City of Santee and provides law enforcement services within its boundaries. The City of Santee Sheriff's Station is located at 8811 Cuyamaca Street.

### ***County of San Diego***

Portions of the San Vicente Reservoir Alternative pipelines as well as the San Vicente Inlet Structure would be located within unincorporated areas of the County of San Diego and the community of Lakeside (County of San Diego). These areas are located within the law enforcement service jurisdiction of the San Diego County Sheriff. The Lakeside Substation is located at 12365 Parkside Street.

### ***MCAS Miramar***

The majority of the Landfill Gas Pipeline and the repurposing of the existing 36-inch-diameter recycled water pipeline would be located within MCAS Miramar. MCAS Miramar provides law enforcement services within its boundaries through the operation of Military Police.

## **Fire**

### ***City of San Diego***

The City of San Diego General Plan Public Facilities, Services, and Safety Element includes goals, policies, and other information regarding fire protection services. City of San Diego Fire-Rescue Department (SDFD) provides traditional fire protection services as well as emergency medical services, water rescue, hazardous material response, confined space rescue, cliff rescue, high angle rescue, mass

casualty incidents, and response to terrorism (City of San Diego 2008). The SDFD employs 801 fire personnel, 338, lifeguard personnel, and 161 civilian personnel across 48 fire stations and 9 permanent lifeguard stations (City of San Diego 2016a).

Across the Project Alternatives, improvements and construction of the NCWRP, North City Renewable Energy Facility, NCPWF, all pump stations, portions of the pipelines, Miramar WTP, portions of the Landfil Gas Pipeline, and MBC, would be located within the City of San Diego and the jurisdiction of the SDFD. The nearest fire station to NCWRP and proposed NCPWF (and Influent Pump Station and North City Pure Water Pump Station) is SDFD Fire Station 35, located at 4285 Eastgate Mall, San Diego, California 92037, approximately 1 mile to the west. Fire Station 35 houses the following apparatus: battalion vehicle, fire engine, aerial truck, brush engine, and chemical truck rig. SDFD Fire Station 36, located at 5855 Chateau Drive, San Diego, California 92117, is the nearest station to the MBC; this station is approximately 1.5 miles to the south and houses a fire engine and paramedic unit. The nearest fire station to the Miramar WTP is SDFD Fire Station 37, located at 11640 Spring Canyon Road, San Diego, California 92131, approximately 1.4 miles to the northeast. SDFD Fire Station 37 houses the following apparatus: fire engine, brush engine, and paramedic units (City of San Diego 2016b).

While unmanned, the nearest fire station to the Morena Pump Station is the SDFD Fire Station 20, located at 3305 Kemper Street, San Diego, California 92110. The nearest fire station to the Mission Trails Booster Station is the SDFD Fire Station 31, located at 6002 Camino Rico, San Diego, California 92120. The portions of the pipelines and Landfill Gas Pipeline would traverse across the jurisdiction of SDFD with several other fire stations located nearby along the alignments.

### ***City of Santee***

Portions of the San Vicente Reservoir Alternative pipelines would be located within the City of Santee. The Santee Fire Department provides full service fire suppression, paramedic ambulance service, search and rescue, fire prevention, public education, and emergency preparedness services to the City of Santee. The Santee Fire Department operates two fire stations: Fire Station 4, located at 8950 Cottonwood Avenue, and Fire Station 5, located at 9130 Carlton Oaks Drive. The Santee Fire Department employs 54 fire personel and 3 administrative personel (City of Santee 2015).

### ***County of San Diego***

Portions of the San Vicente Reservoir Alternative pipelines as well as the San Vicente Inlet Structure would be located within unincorporated areas of the County of San Diego and the community of Lakeside (County of San Diego). Project

components would specifically be located within the jurisdiction of the Lakeside Fire Protection District comprised of 56 personnel across 4 fire stations and 2 administration buildings. The nearest fire station to the proposed pipeline alignment is Lakeside Fire Protection District Fire Station 2, located at 12216 Lakeside Avenue.

### **MCAS Miramar**

The majority of the Landfill Gas Pipeline and the repurposing of the existing 36-inch-diameter recycled water pipeline would be located within MCAS Miramar. MCAS Miramar operates the Miramar Fire Department within its boundaries. The Miramar Fire Department provides full service fire protection and emergency medical services within MCAS Miramar. The Miramar Fire Department employs 69 personnel and operates 2 fire stations with 3 fire engines, 2 ambulance units, 2 brush trucks, and a hazardous materials truck (Miramar Fire Department 2016).

### **Schools**

The staffed facilities of the Project Alternatives would be located within the San Diego Unified School District (City of San Diego 2008). The San Diego Unified School District serves more than 130,000 students and employs approximately 13,500 personnel across 226 educational facilities (San Diego Unified School District 2016). Portions of the Project Alternatives would also be located within the Santee School District, Lakeside Union School District, and Grossmont Union High School District.

### **Parks**

The primary facilities of the Project Alternatives would be located within the City of San Diego where the City of San Diego Park and Recreation Department is responsible for managing more than 340 parks, 26 miles of shoreline, 13 pools, 3 public golf courses, and 56 recreation centers (City of San Diego 2016c). The *City of San Diego General Plan Recreation Element* establishes a population-based park standard of 2.8 useable acres per 1,000 residents (City of San Diego 2008). Portions of the Project Alternatives would also be located within the service area of the City of Santee Recreation Services Division and County of San Diego Parks and Recreation Department.

Parks and recreational facilities/opportunities in the North City Project area are described in greater detail in Section 5.18, Recreation.

### **Libraries**

The primary facilities of the Project Alternatives would be located within the City of San Diego and within the San Diego Public Library system. The San Diego Public

Library consists of the Central Library and 35 branch libraries throughout the City of San Diego (City of San Diego 2016d). Portions of the Project Alternatives would also be located within the service area of the San Diego County Library system.

### 5.14.3 REGULATORY FRAMEWORK

#### City of San Diego General Plan

The City of San Diego General Plan Public Facilities, Services, and Safety Element contains goals and policies related to the provision of public services within its city limits. Applicable policies include:

##### *Fire*

**PF-D.1.** Locate, staff, and equip fire stations to meet established response times as follows:

- a) To treat medical patients and control small fires, the first-due unit should arrive within 7.5 minutes, 90% of the time from the receipt of the 911 call in fire dispatch. This equates to 1-minute dispatch time, 1.5 minutes company turnout time and 5 minutes drive time in the most populated areas.
- b) To provide an effective response force for serious emergencies, a multiple-unit response of at least 17 personnel should arrive within 10.5 minutes from the time of 911-call receipt in fire dispatch, 90% of the time.
  - a. This response is designed to confine fires near the room of origin, to stop wildland fires to under 3 acres when noticed promptly, and to treat up to 5 medical patients at once.
  - b. This equates to 1-minute dispatch time, 1.5 minutes company turnout time and 8 minutes drive time spacing for multiple units in the most populated areas.

**PF-D.2.** Determine fire station needs, location, crew size and timing of implementation as the community grows.

- a) Use the fire unit development performance measures (based on population density per square mile) shown in Table PF-D.1 [of the General Plan] to plan for needed facilities. Where more than one square mile is not populated at similar densities, and/or a contiguous

area with different density types aggregates into a population cluster area, use the measures provided in Table PF-D.2 [of the General Plan].

- b) Reflected needed fire-rescue facilities in community plans and associated facilities financing plans as a part of community plan updates and amendments.

**PF-D.5.** Maintain service levels to meet the demands of continued growth and development, tourism, and other events requiring fire-rescue services.

- Provide additional response units, and related capital improvements as necessary, whenever the yearly emergency incident volume of a single unit providing coverage for an area increases to the extent that availability of that unit for additional emergency responses and/or non-emergency training and maintenance activities is compromised. An excess of 2,500 responses annually requires analysis to determine the need for additional services or facilities.

### ***Police***

**PF-E.1.** Provide a sufficient level of police services to all areas of the City by enforcing the law, investigating crimes, and working with the community to prevent crime.

**PF-E.2.** Maintain average response time goals as development and population growth occurs. Average response time guidelines are as follows:

- Priority E Calls (imminent threat to life) within seven minutes.
- Priority 1 Calls (serious crimes in progress) within 12 minutes.
- Priority 2 Calls (less serious crimes with no threat to life) within 30 minutes.
- Priority 3 Calls (minor crimes/requests that are not urgent) within 90 minutes.
- Priority 4 Calls (minor requests for police service) within 90 minutes.

## **5.15 PUBLIC UTILITIES**

### **5.15.1 INTRODUCTION**

Public utilities are public or private facilities that provide the public with necessary services, such as water, wastewater, electricity, communication systems, solid waste disposal, and storm drains. The North City Project involves the construction of new water and sewer facilities and upgrades to existing facilities as addressed throughout this Environmental Impact Report/Environmental Impact Statement (EIR/EIS). This section introduces existing conditions and applicable regulations related to communication systems and solid waste disposal. Existing conditions related to stormwater drainage are discussed in Section 5.11, Hydrology and Water Quality. Existing conditions related to energy (natural gas and electrical power) are discussed in Section 5.6, Energy. Existing conditions related to water supply are discussed in Section 5.17, Water Supply.

Information in this section is incorporated from the Task Order 24: Metropolitan Biosolids Center, Biosolids Technology Evaluation (MWH Americas et al. 2017).

### **5.15.2 ENVIRONMENTAL SETTING**

#### **5.15.2.1 Communication Systems**

AT&T is the nation's largest telecommunications company, providing local residents with integrated communications and entertainment services including IP-based network capabilities that integrate voice, data, and video. The dominant providers of communications networks and cable television programs throughout San Diego County (the County) are Cox Communications and Time Warner Cable, providing cable, high-speed internet, and digital telephone services (City of San Diego 2008).

#### **5.15.2.2 Solid Waste**

The City of San Diego (City) implements integrated solid waste management strategies that emphasize waste reduction and recycling, composting, and environmentally sound landfill management to meet the City's long-term disposal needs. The primary focus of the City's solid waste management planning is preventing materials from entering the waste stream through City-wide source reduction, recycling, and composting programs (City of San Diego 2008). This emphasis is consistent with federal law under the Resource Conservation and Recovery Act, Subtitle D, and the California's Integrated Waste Management Act.

These waste reduction programs are detailed in the City's Source Reduction and Recycling Element planning document, which is updated annually.

The City operates the Miramar Landfill, located on Marine Corps Air Station Miramar. More than 900,000 tons of waste is disposed at the Miramar Landfill every year (City of San Diego 2015a). Operation of the facility requires a Solid Waste Facility Permit, issued by the City's Local Enforcement Agency, which reports to the California Department of Resources Recycling and Recovery (CalRecycle). The Miramar Landfill has a current permitted site capacity of 87,760,000 cubic yards. The landfill is permitted for a daily throughput of 8,000 tons and the estimated life for the Miramar Landfill is 2025 (CalRecycle 2014).

Currently, only two other landfills provide disposal capacity within the urbanized region: Sycamore and Otay Landfills. The Sycamore Landfill is located to the east of the Miramar Landfill, within the City's jurisdictional boundaries; an expansion was approved in 2012. The Otay Landfill is located within an unincorporated island within the City of Chula Vista. The Otay Landfill has a maximum permitted throughput for non-hazardous municipal solid waste of 5,830 tons per day and a maximum permitted throughput for non-hazardous material for alternative daily cover (ADC)/beneficial reuse of 1,167 tons per day. The Otay Landfill has a total capacity of approximately 61 million cubic yards and an estimated remaining capacity of 24.5 million cubic yards (CalRecycle 2012).

### **Biosolids**

The Metro Biosolids Center (MBC), located adjacent to the Miramar Landfill, is the City's central biosolids processing facility. Combined primary sludge and waste activated sludge pumped from the North City Water Reclamation Plant are received into receiving tanks at the MBC. The combined sludge is dewatered and then thickened in five centrifuges before being digested in three anaerobic digesters. Grit is dried and disposed of off site. Digested sludge produced at the MBC is a Class B product and is combined with the digested sludge pumped from the Point Loma Wastewater Treatment Plant (also a Class B product) in a digested biosolids storage tank. The combined Class B biosolids are then dewatered in eight dewatering centrifuges. The thickening and dewatering centrate streams are returned to the sanitary sewer for eventual conveyance to the Point Loma Wastewater Treatment Plant. Dewatered biosolids are stored in silos and periodically trucked off site. A majority of the MBC biosolids are used as ADC in area landfills (mainly Otay Landfill). Most of the remaining biosolids are land applied, mainly in Arizona.

In 2015 the MBC produced 131,208 wet tons (35,659 dry tons) of digested biosolids. Approximately 96.9% of this quantity was beneficially reused as ADC at the Otay Landfill; about 3.1% was beneficially reused via land application at multiple locations in Yuma, Arizona; and Otay Landfill was available as an emergency disposal measure. Although quantities and mix of beneficial reuse and disposal modes varies from year to year, the basic biosolids management scheme today (2016) remains essentially similar to that described for 2015 (MWH Americas et al. 2017).

### **5.15.3 REGULATORY FRAMEWORK**

#### **5.15.3.1 Federal**

##### **Standards for the Use and Disposal of Sewage Sludge, 1993**

The Standards for the Use and Disposal of Sewage Sludge establishes standards for the final use or disposal of sewage sludge when the sewage sludge is applied to agricultural and nonagricultural land, placed in or on surface disposal sites, or incinerated (40 CFR 257, 403, and 503). The rule does not apply to the processing of sewage sludge before its ultimate use or disposal, does not specify process operating methods or requirements for sludge entering or leaving a particular treatment process, and does not establish standards for sewage sludge that is disposed of with municipal solid waste. Under the Standards for the Use and Disposal of Sewage Sludge, the U.S. Environmental Protection Agency has established ceiling concentrations for metals and pathogen and vector attraction reduction standards (Table 5.15-1); management criteria for the protection of water quality and public health; and annual and cumulative discharge limitations of persistent pollutants to land for the protection of livestock, crop, and human health and water quality protection (40 CFR 503).

**Table 5.15-1**  
**Pollutant Limits for Land-Applied Biosolids**

<b>Constituent</b>	<b>Ceiling Concentration<sup>a</sup> (mg/kg dry weight)</b>	<b>Pollution Concentration<sup>b</sup> (mg/kg dry weight)</b>
Arsenic	75	41
Cadmium	85	39
Copper	4,300	1,500
Lead	840	300
Mercury	57	17
Molybdenum	75	— <sup>c</sup>
Nickel	420	420

**Table 5.15-1  
Pollutant Limits for Land-Applied Biosolids**

Constituent	Ceiling Concentration <sup>a</sup> (mg/kg dry weight)	Pollution Concentration <sup>b</sup> (mg/kg dry weight)
Selenium	100	100
Zinc	7,500	2,800

**Source:** 40 CFR 503.

**Notes:**

mg/kg = milligram/kilogram

<sup>a</sup> Land-applied biosolids cannot exceed the listed concentrations.

<sup>b</sup> Biosolids below the listed concentrations do not need a permit if other regulatory requirements are met.

<sup>c</sup> The February 25, 1994, Part 503 Rule Amendment deleted the molybdenum pollution concentration limits but retained the molybdenum ceiling concentration limits.

### 5.15.3.2 State

#### California Integrated Waste Management Act (AB 939)

The California Integrated Waste Management Act was enacted by the California Legislature in 1989 with the goal of reducing dependence on landfills for the disposal of solid waste and to ensure an effective and coordinated system for the safe management of all solid waste generated within the state. Assembly Bill (AB) 939 mandated a reduction in the amount of solid waste disposed of by jurisdictions and required diversion goals of 25% by 1995 and 50% by the year 2000. The Integrated Waste Management Act established a hierarchy of preferred waste management practices, which include (1) source reduction, (2) recycling and composting, and (3) environmentally safe disposal by transformation or landfilling. It addresses all aspects related to solid waste regulation, including the details regarding the lead enforcement agency's requirements and responsibilities; the permit process, including inspections and denials of permits; enforcement; and site clean-up and maintenance. It requires that each county prepare a countywide integrated waste management plan that is reviewed at least once every 5 years to assure that waste management practices remain consistent with the practices defined in the California Public Resources Code. In 2013, AB 341 increased the waste diversion target to 75%.

#### Waste Management (AB 1594)

"Alternative daily cover" (ADC) is cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of

each operating day to control vectors, fires, odors, blowing litter, and scavenging. CalRecycle has approved 11 ADC material types that can currently be reported as diversion: ash and cement kiln dust, treated auto shredder waste, construction and demolition waste, compost, green material, contaminated sediment, sludge, and shredded tires. Generally, these materials must be processed so that they do not allow gaps in the exposed landfill face (CalRecycle 2015a).

Pursuant to California Public Resources Code Section 41781.3 and AB 1594, beginning January 1, 2020, the use of green material as ADC will not constitute diversion through recycling and will be considered disposal. Commencing August 1, 2018, local jurisdictions will be required to include information in an annual report on how the local jurisdiction intends to address the diversion requirements and divert green material that is being used as ADC. A jurisdiction that does not meet certain diversion requirements as a result of not being able to claim diversion for the use of green material as ADC would be required to identify and address, in an annual report, barriers to recycling green material and, if sufficient capacity at facilities that recycle green material is not expected to be operational before a certain date, to include a plan to address those barriers.

### **Mandatory Commercial Organics Recycling (AB 1826)**

In October 2014, AB 1826 was signed into law requiring businesses to recycle their organic waste (e.g., food waste, green waste, landscape and pruning waste, food-soiled paper) on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that beginning January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units (CalRecycle 2015b).

Mandatory recycling of organic waste is the next step toward achieving California's aggressive recycling and greenhouse gas emission goals. California disposes approximately 30 million tons of waste in landfills each year, more than 30% of which could be used for compost or mulch. Organic waste such as green materials and food materials are recyclable through composting and mulching, and through anaerobic digestion, which can produce renewable energy and fuel. Greenhouse gas emissions resulting from the decomposition of organic wastes in landfills have been identified as a significant source of emissions contributing to global climate change. Reducing the amount of organic materials sent to landfills and increasing the production of compost and mulch are part of the AB 32 (California Global Warming Solutions Act of 2006) Scoping Plan (CalRecycle 2015b).

### **California Solid Waste: Diversion (AB 341)**

AB 341, adopted in 2011, amended AB 939 by making a legislative declaration that it is the policy goal of the State of California that not less than 75% of solid waste generated be reduced, recycled, or composted by the year 2020. While a policy goal may not be legally enforceable, city and/or county ordinances and other mechanisms make AB 341 provisions enforceable within their jurisdictions. AB 341 also required a business (defined to include a commercial or public entity) that generates more than 8 cubic yards of commercial solid waste per week or is a multifamily residential dwelling of 5 units or more to arrange for recycling services, starting July 1, 2012.

Similar to AB 939, AB 341 impacts MBC biosolids because biosolids are a component of solid waste by definition.

### **California Solid Waste: Organic Waste (AB 1826)**

AB 1826, adopted in 2014, amended AB 939—specifically, the portion of AB 939 added by the AB 341 amendment. AB 1826 decreases the threshold quantity of organic waste above which a business would be required to arrange for recycling services from 8 cubic yards or more to 4 cubic yards or more. AB 1826 also requires a business that generates 4 cubic yards or more of commercial solid waste per week to arrange for organic waste recycling services.

Under a strict interpretation, AB 1826 does not currently apply to MBC biosolids because biosolids are currently not included in the definition of organic waste. “Organic waste” is defined as “food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste” (CalRecycle 2015b). However, general industry consensus is that biosolids will eventually be included in the definition of organic waste and will be subject to AB 1826 requirements.

### **California Solid Waste: Green Waste (AB 1594)**

AB 1594, adopted in 2014, is an amendment to AB 939 mandating that as of January 1, 2020, the use of green material as ADC at landfills will no longer constitute diversion through recycling and will instead be considered disposal for purposes of determining a jurisdiction’s compliance with maximum allowable disposal targets.

“Green material” is defined as any plant material that is either separated at the point of generation, or separated at a centralized facility that employs methods to

minimize contamination. Green material includes, but is not limited to, yard trimmings, untreated wood wastes, paper products, and natural fiber products. Green material does not include treated wood waste, mixed demolition or mixed construction debris, or manure and plant waste from the food processing industry, alone or blended with soil. Processed green material may include varying proportions of wood waste from urban and other sources and shall be ground, shredded, screened, source separated for grain size, or otherwise processed.

AB 1594 does not directly impact MBC biosolids because biosolids are not included in the definition of green material. However, because biosolids are also currently used as ADC at area landfills and because use of biosolids as ADC typically requires blending with green material to provide appropriate texture and consistency, any regulations that impact use of green material as ADC will likely indirectly impact the use of MBC biosolids as ADC.

### **5.15.3.3 Local**

#### **City of San Diego Zero Waste Plan: Road to Zero Waste, Next Stop 75%**

State of California regulations for solid waste (California Public Resources Code, Section 41700 et seq.) require that each region have a plan with adequate capacity to manage or dispose of solid waste for at least 15 years into the future. The City of San Diego's Zero Waste Plan (City of San Diego 2015b) establishes goals to target 75% diversion by 2020, 90% diversion by 2035, and "zero" by 2040 and outlines potential diversion strategies to help the City achieve these goals.

#### **The Whitebook: Standard Specifications for Public Works Construction**

The City of San Diego has created the Whitebook (City of San Diego 2015c), a supplement which takes precedence over the specification language contained in The "Greenbook": Standard Specifications for Public Works Construction (Public Works Standards 2015), and addresses the unique conditions in the City that are not addressed in the Greenbook. Specifically, Part 1 – General Provisions (A), Section 7-21 addresses construction and demolition waste management.

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## **5.16 TRANSPORTATION, CIRCULATION, AND PARKING**

### **5.16.1 INTRODUCTION**

The following section describes the environmental setting and regulatory framework related to transportation, circulation, and parking for the North City Project. The information provided in this section is based on the North City Project Traffic Impact Study, prepared by Chen Ryan, dated July 2017, and memorandum prepared in February 2018 (provided as Appendix I).

### **5.16.2 ENVIRONMENTAL SETTING**

This section describes the existing transportation, circulation, and parking conditions within the North City Project area and defines the study area and study scenarios.

#### **Study Area**

The North City Project will generate different numbers and types of vehicle trips associated with the operations of the facilities versus the construction of those facilities. The study areas for each analysis, operations and construction, are presented below.

#### ***Operations Study Area***

Both the Miramar Reservoir Alternative and San Vicente Reservoir Alternative will result in the same operational traffic since the operations analysis is limited to the North City Pure Water Facility (NCPWF) and the North City Water Reclamation Plant (NCWRP), which are applicable to both Project Alternatives.

The City of San Diego (City) Traffic Impact Study Manual (City of San Diego 1998) requires that the defined study area include all regionally significant arterial system segments and intersections where a project would add 50 or more peak hour trips in either direction and mainline freeway locations where a project will add 150 or more peak hour trips in either direction. Additionally, it provides a methodology for determining potentially affected roadway segments using Average Daily Traffic (ADT) and roadway capacity.

Based on the City of San Diego Traffic Impact Study Manual requirements and the North City Project trip assignment, the following key study area roadway segments were analyzed to identify potential impacts related to the daily operations of the North City Project:

- Eastgate Mall between:
  - Towne Center Drive and Judicial Drive

- Judicial Drive and 280 feet west of Interstate 805 (I-805) Overpass
- 280 feet west of I-805 overpass and NCWRP driveway
- NCWRP driveway and Eastgate Drive
- Eastgate Drive and Miramar Road
- Towne Center Drive between:
  - Eastgate Mall and Executive Drive
  - Executive Drive and La Jolla Village Drive
- La Jolla Village Drive between Towne Center Drive and I-805 southbound ramps
- Miramar Road between:
  - I-805 southbound ramps and I-805 northbound ramps
  - I-805 northbound ramps and Nobel Drive
  - Nobel Drive and Eastgate Mall

The proposed work shifts for the employees at these facilities is from 6:00 a.m. to 3:00 p.m. and 3:00 p.m. to 6:00 a.m., which does not coincide with the regular commute hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Therefore, an intersection analysis was not conducted.

The North City Project is not anticipated to contribute more than 50 peak hour trips on I-805 in either direction; therefore, a freeway impact analysis was not conducted. Figure 5.16-1 illustrates the study area. The North City Project trip generation, trip distribution, and trip assignment are discussed in more detail in Section 6.16.

### ***Construction Study Area***

Construction traffic would be located along different alignments based on the specific pipeline under construction. For this reason, the construction of the North City Project Alternatives are analyzed separately. The construction analysis includes traffic related to the construction of buildings, pipelines, and all other associated infrastructure.

### **Common Project Components**

The Morena Wastewater Forcemain and Brine/Centrates Line (Morena Pipelines) would be constructed under both the Miramar Reservoir Alternative and San Vicente Reservoir Alternative.

The Morena Pipelines will connect the Morena Pump Station to the NCWRP via Sherman Street, Morena Boulevard, West Morena Boulevard, Ingle Jellert Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, Genesee Avenue, Nobel Drive, Towne Centre Drive, and Executive Drive, traversing the communities of Linda Vista, Clairemont Mesa, and University. The Morena Pipelines are included in both the Miramar Reservoir and San Vicente Reservoir Alternatives.

Pipeline construction is proposed to be largely open-trench, covering approximately 50,890 linear feet, or 93% of the total alignment, while the tunneling sections cover approximately 4,105 linear feet, or 7% of the total alignment. Based on information provided by City of San Diego Public Utilities Department and Construction Management and Field Services, the majority of the construction is proposed to take place during the nighttime, between 9:00 p.m. and 5:00 a.m., with daytime construction along some segments of the pipeline alignment. Table 5.16-1 provides the work hours proposed for the roadway segments analyzed for the Morena Pipelines construction. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**Table 5.16-1  
Roadway Segments Work Hours Morena Pipelines**

Roadway	Segment	Work Hours
Executive Drive	End of cul-de-sac and Judicial Drive	9:00 p.m. to 5:00 a.m.
Executive Drive	Judicial Drive and Towne Centre Drive	9:00 p.m. to 5:00 a.m.
Towne Centre Drive	Executive Drive and La Jolla Village Drive	9:00 p.m. to 5:00 a.m.
Towne Centre Drive	La Jolla Village Drive and Golden Haven Drive	8:30 a.m. to 3:30 p.m.
Towne Centre Drive	Golden Haven Drive and Nobel Drive	8:30 a.m. to 3:30 p.m.
Nobel Drive	Towne Centre Drive and Genesee Avenue	7:30 a.m. to 4:30 p.m.
Genesee Avenue	Nobel Drive to Governor Drive	9:00 p.m. to 5:00 a.m.
Genesee Avenue	Governor Drive and SR-52 WB Ramps	9:00 p.m. to 5:00 a.m.
Genesee Avenue	SR-52 WB Ramps and SR-52 EB Ramps	9:00 p.m. to 5:00 a.m.
Genesee Avenue	SR-52 EB Ramps and Appleton Street	9:00 p.m. to 5:00 a.m.
Genesee Avenue	Appleton Street and Clairemont Mesa Blvd	NB) 9:00 PM to 5:00 AM, (SB) 7:30 a.m. to 2:30 p.m.
Clairemont Mesa Boulevard	Genesee Avenue and Clairemont Drive	8:30 a.m. to 3:30 p.m.
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	7:30 a.m. to 4:30 p.m.
Clairemont Drive	Lakehurst Avenue and Clairemont Mesa Boulevard	7:30 a.m. to 4:30 p.m.

**Table 5.16-1  
Roadway Segments Work Hours Morena Pipelines**

Roadway	Segment	Work Hours
Clairemont Drive	Clairemont Mesa Boulevard and Balboa Avenue	7:30 a.m. to 4:30 p.m.
Clairemont Drive	Balboa Avenue to Rappahannock Avenue	7:30 a.m. to 4:30 p.m.
Clairemont Drive	Rappahannock Avenue to Iroquois Avenue	7:30 a.m. to 4:30 p.m.
Clairemont Drive	Iroquois Avenue to Burgener Drive	9:00 p.m. to 5:00 a.m.
Clairemont Drive	Burgener Drive to Denver Street	9:00 p.m. to 5:00 a.m.
Denver Street	Clairemont Drive and Ingulfjellett Street	9:00 p.m. to 5:00 a.m.
Ingulfjellett Street	Denver Street and West Morena Boulevard	9:00 p.m. to 5:00 a.m.
West Morena Boulevard	Ingulfjellett Street to Littlefield Street	9:00 p.m. to 5:00 a.m.
West Morena Boulevard	Littlefield Street to Morena Blvd	9:00 p.m. to 5:00 a.m.
West Morena Boulevard	Morena Boulevard and Tecolote Road Overpass	9:00 p.m. to 5:00 a.m.
West Morena Boulevard	Tecolote Road Overpass and Vega Street	9:00 p.m. to 5:00 a.m.
West Morena Boulevard	Vega Street and Morena Boulevard	9:00 p.m. to 5:00 a.m.

**Notes:** SR = State Route; WB = westbound; EB = eastbound

**Source:** Appendix I.

The construction of the pipelines will also require closure to through traffic of two roadways—Ingulfjellett Street and Denver Street. The closure of the aforementioned roadways segments will result in the following traffic detours:

- Closure of Ingulfjellett Street between West Morena Boulevard and Denver Street: Detour signs shall be placed redirecting traffic to travel on an alternative route along Milton Street, Lister Street, ~~Jellett Street~~, and Galveston Street.
- Closure of Denver Street between Ingulfjellett Street and Clairemont Drive: Detour signs shall be placed redirecting traffic to travel on an alternative route along along Milton Street, Lister Street, ~~Jellett Street~~, and Galveston Street.

Pipeline staging areas are proposed to be located within developed parking lots or other developed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. No new access roads would be needed. Staging areas for open cut construction would range from 30 feet to 60 feet wide and would occupy half the roadway width. Staging areas for trenchless construction would range from 20 feet by 50 feet up to 100 feet by 150 feet. A jacking pit would be constructed at the beginning of each trenchless pipeline segment, and a receiving pit would be constructed at the end. The Miramar Landfill

would be the main site as the origin and destination of material disposal trucks and State Route 52 (SR-52) would be the main route.

Both daily roadway segment and peak hour intersection analyses were conducted to analyze all potential construction traffic impacts associated with the Morena Pipelines, since daytime construction is proposed. Based on the location of construction, detours, and staging areas, the following roadways are included in the construction analysis:

- Executive Drive between:
  - End of cul-de-sac and Judicial Drive
  - Judicial Drive and Town Centre Drive
- Town Centre Drive between:
  - Executive Drive and La Jolla Village Drive
  - La Jolla Village Drive and Golden Haven Drive
  - Golden Haven Drive and Nobel Drive
- Nobel Drive between Town Centre Drive and Genessee Avenue
- Genessee Avenue between:
  - Nobel Drive and Governor Drive
  - Governor Drive and SR-52 westbound ramps
  - SR-52 westbound ramps and SR-52 eastbound ramps
  - SR-52 eastbound ramps and Appleton Street
  - Appleton Street and Clairemont Mesa Boulevard
- Clairemont Mesa Boulevard between Genessee Avenue and Clairemont Drive
- Clairemont Drive between:
  - Clairemont Mesa Boulevard and Lakehurst Avenue
  - Lakehurst Avenue and Clairemont Mesa Boulevard
  - Clairemont Mesa Boulevard and Balboa Avenue
  - Balboa Avenue and Rappahannock Avenue
  - Rappahannock Avenue and Iroquois Avenue
  - Iroquois Avenue and Burgener Drive

- Burgener Drive and Denver Street
- Denver Street between Clairemont Drive and Ingulfjellett Street
- Ingulfjellett Street between Denver Street and West Morena Boulevard
- West Morena Boulevard between:
  - Ingulfjellett Street and Littlefield Street
  - Littlefield Street to Morena Boulevard
  - Morena Boulevard and Tecolote Road Overpass
  - Tecolote Road Overpass and Vega Street
  - Vega Street and Morena Boulevard

Table 5.16-2 shows the intersections that are included in the construction analysis for the Morena Pipelines based on the location of daytime construction, detours, and staging areas.

**Table 5.16-2  
Morena Pump Station and Pipelines Construction Study Intersections**

ID	Intersection	Control Type	Jurisdiction
1	Towne Centre Drive and Golden Haven Drive	Signalized	City of San Diego
2	Towne Centre Drive and Nobel Drive	Signalized	City of San Diego
3	Genesee Avenue and Nobel Drive	Signalized	City of San Diego
4	Genesee Avenue and Appleton Street/Lehrer Drive	Signalized	City of San Diego
5	Genesee Avenue and Clairemont Mesa Boulevard	Signalized	City of San Diego
6	Clairemont Mesa Boulevard and Clairemont Drive/Kleefeld Avenue	Signalized	City of San Diego
7	Clairemont Drive and Clairemont Mesa Boulevard	Signalized	City of San Diego
8	Clairemont Drive and Balboa Avenue	Signalized	City of San Diego

**Source:** Appendix I.

**Notes:** EB = eastbound; WB = westbound.

**Miramar Reservoir Alternative**

Under the Miramar Reservoir Alternative, the Morena Pipelines (discussed above) and the North City Pure Water Pipeline (North City Pipeline) would be constructed primarily within roadway right-of-way (ROW) and are the only facilities that affect roadway operations. The Landfill Gas Pipeline would be primarily constructed in open space areas on Marine Corps Air Station (MCAS) Miramar, and therefore, is not included in the construction analysis.

The North City Pipeline connects the NCPWF site at I-805 and Eastgate Mall to the Miramar Reservoir via Eastgate Mall, Miramar Road, Kearny Villa Road, Candida Street, Via Pasar, Via Excelencia, under I-15 to Businesspark Avenue, Carroll Canyon Road, Hoyt Park Drive, and Meanley Drive.

Construction staging areas were assumed to be located at the NCWRP site off Eastgate Mall, Scripps Technology Ranch property, Miramar Water Treatment Plant (near tunnel shaft opening west of clearwells), and Miramar Reservoir (near the boat dock). Vulcan in Mira Mesa will be the main site used as the origin and destination of construction materials.

Pipeline construction is proposed largely to be open-trench and during nighttime (between 9:00 p.m. and 5:00 a.m.), with trenches backfilled and steel plated in order to open travel lanes during the day. As a result, typical commute AM and PM peak hour (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) trips are not anticipated to be generated during the construction of the North City Pipeline, and no peak hour intersection analysis was conducted. Table 5.16-3 shows the proposed work hours for the roadway segments analyzed for the North City Pipeline construction. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**Table 5.16-3  
Roadway Segments Work Hours North City Pipeline**

Roadway	Segment	Work Hours
Eastgate Mall	NCPWF and NCWRP Driveway and Miramar Road	9:00 p.m. to 5:00 a.m.
Miramar Road	Eastgate Mall and Camino Santa Fe	9:00 p.m. to 5:00 a.m.
	Camino Santa Fe and Carroll Road	9:00 p.m. to 5:00 a.m.
	Carroll Road and Camino Ruiz	9:00 p.m. to 5:00 a.m.
	Camino Ruiz and Black Mountain Road	9:00 p.m. to 5:00 a.m.
	Black Mountain Road and Kearny Villa Road	9:00 p.m. to 5:00 a.m.
Kearny Villa Road	Black Mountain Road/Carroll Centre Road and Miramar Road	9:00 p.m. to 5:00 a.m.
Candida Street	Kearny Villa Road and Via Pasar	9:00 p.m. to 5:00 a.m.
Via Pasar	Via Excelencia and Candida Street	9:00 p.m. to 5:00 a.m.
Via Excelencia	east of Via Pasar	9:00 p.m. to 5:00 a.m.
Businesspark Avenue	south of Willow Creek Road	9:00 p.m. to 5:00 a.m.
	Carroll Canyon Road and Willow Creek Road	9:00 p.m. to 5:00 a.m.
Carroll Canyon Road	Businesspark Avenue and Scripps Ranch Boulevard	9:00 p.m. to 5:00 a.m.

**Table 5.16-3  
Roadway Segments Work Hours North City Pipeline**

Roadway	Segment	Work Hours
Scripps Ranch Boulevard	Carroll Canyon Road Hoyt Park Drive	9:00 p.m. to 5:00 a.m.
Hoyt Park Drive	Scripps Ranch Boulevard and Meanley Drive	9:00 p.m. to 5:00 a.m.

**Notes:** SR = State Route; WB = westbound; EB = eastbound

**Source:** Appendix I.

Based on the location of construction and staging areas, the following roadways are included in the North City Pipeline construction analysis:

- Eastgate Mall between NCPWF and NCWRP driveway and Miramar Road
- Miramar Road between:
  - Eastgate Mall and Camino Santa Fe
  - Camino Santa Fe and Carroll Road
  - Carroll Road and Camino Ruiz
  - Camino Ruiz and Black Mountain Road
  - Black Mountain Road and Kearny Villa Road
- Kearny Villa Road between Black Mountain Road/Carroll Centre Road and Miramar Road
- Candida Street between Kearny Villa Road and Via Pasar
- Via Pasar between Via Excelencia and Candida Street
- Via Excelencia east of Via Pasar
- Businesspark Avenue south of Willow Creek Road
- Businesspark Avenue between Carroll Canyon Road and Willow Creek Road
- Carroll Canyon Road between Businesspark Avenue and Scripps Ranch Boulevard
- Scripps Ranch Boulevard between Carroll Canyon Road and Hoyt Park Drive
- Hoyt Park Drive between Scripps Ranch Boulevard and Meanley Drive

### **Key Roadways**

Four key roadways traverse the study area. Each of them are described below.

**Towne Center Drive**—Within the study area, Towne Center Drive is a four-lane roadway with a raised median and a posted speed limit of 40 miles per hour (mph) between Eastgate Mall and La Jolla Village Drive. Parallel parking is generally permitted on both sides of the roadway between Eastgate Mall and Executive Drive, while between Executive Drive and La Jolla Village Drive, parallel parking is prohibited on both sides of the roadway. Within the study area, sidewalks are present on both sides of the roadway. Bicycle facilities are not present on either side of the roadway between Eastgate Mall and Executive Drive, while a Class II bicycle lane is present on both sides of the roadway between Executive Drive and La Jolla Village Drive. Towne Center Drive is classified as a four-lane Major Arterial roadway in the currently adopted University Community Plan (City of San Diego 2016).

**Eastgate Mall**—Within the study area, Eastgate Mall is a four-lane roadway with a raised median between Towne Center Drive and just west (approximately 280 feet) of the I-805 overpass. Sidewalks and Class II bicycle lanes are present on both sides of the roadway. Between 280 feet west of the I-805 freeway overpass and the NCWRP driveway, the roadway transitions from a four-lane roadway with a raised median into a two-lane roadway. Just east of the I-805 overpass, unpaved shoulders are present, providing space for potential roadway widening in the event that this roadway needs to be widened and restriped to include left-turn pockets. Sidewalks are generally present on the south side of the roadway, while Class II bicycle lanes are present on both sides. East of the NCWRP driveway, Eastgate Mall is a two-lane roadway with a center left-turn lane between Eastgate Drive and Miramar Road with a posted limit of 45 mph. Parallel parking is allowed in some segments with a sidewalk on the westbound side and parallel and perpendicular parking in the dirt shoulder on the eastbound side. Eastgate Mall is classified as a four-lane Collector roadway between Towne Centre Drive and and Miramar Road in the currently adopted University Community Plan (City of San Diego 2016).

**La Jolla Village Drive**—Within the study area, La Jolla Village Drive is an eight-lane roadway with a landscape raised median and a posted speed limit of 50 mph between Towne Center Drive and the I-805 southbound (SB) ramps. Sidewalks are present on both sides and a Class II bicycle lane is present in the north side of the roadway. Parking is prohibited on both sides of the roadway. La Jolla Village Drive is classified as an eight-lane Primary Arterial roadway between Towne Center Drive and the I-805 SB ramps, in the currently adopted University Community Plan (City of San Diego 2016).

**Miramar Road**—Within the study area, Miramar Road is a six-lane roadway with a raised median and a posted speed limit of 50 mph between the I-805 SB ramps and the I-805 NB ramps. East of the I-805 NB Ramps, Miramar Road transitions from a six-lane roadway into an eight-lane roadway until reaching Nobel Drive, where it drops a lane and becomes a seven-lane roadway until reaching Eastgate Mall. Sidewalks and Class II bicycle lanes are present on both sides along the entire roadway, with the exception of approximately 300 feet of sidewalk on the south side of the roadway between the I-805 northbound (NB) ramps and Nobel Drive. Parking is prohibited on both sides of the roadway. Miramar Road is classified as a six-lane Primary Arterial between the I-805 SB ramps and Eastgate Mall, in the currently adopted University Community Plan (City of San Diego 2016).

### **San Vicente Reservoir Alternative**

Under the San Vicente Reservoir Alternative, the Morena Pipelines (discussed above) and the San Vicente Pure Water Pipeline (San Vicente Pipeline) would be constructed primarily within roadway ROW and are the only facilities that affect roadway operations. The Landfill Gas Pipeline would be primarily constructed in open space areas on MCAS Miramar, and therefore, is not included in the construction analysis.

The San Vicente Pipeline connects the NCPWF site at I-805 and Eastgate Mall to the San Vicente Reservoir, traversing a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside in unincorporated San Diego County.

Pipeline construction is proposed largely to be open-trench and during nighttime (between 9:00 p.m. and 5:00 a.m.), with trenches backfilled and steel plated in order to open travel lanes during the day. As a result, typical commute AM and PM peak hour (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) trips are not anticipated to be generated during the construction of the San Vicente Pipeline, and no peak hour intersection analysis was conducted. Table 5.16-4 shows the proposed work hours for the roadway segments analyzed for the San Vicente Pipeline construction. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**Table 5.16-4  
Roadway Segments Work Hours San Vicente Pipeline**

<b>Roadway</b>	<b>Segment</b>	<b>Work hours</b>
<i>Section 1A</i>		
Eastgate Mall	NCPWF and NCWRP Driveway and Miramar Road	9:00 p.m. to 5:00 a.m.
Miramar Road	Nobel Drive and Eastgate Mall	9:00 p.m. to 5:00 a.m.
Copley Drive	Hickman Field Drive and Copley Park Place	9:00 p.m. to 5:00 a.m.
Copley Park Place	Copley Drive and Convoy Street	9:00 p.m. to 5:00 a.m.
Convoy Street	Copley Park Place and Convoy Court	9:00 p.m. to 5:00 a.m.
Convoy Court	East of Convoy Street	9:00 p.m. to 5:00 a.m.
<i>Section 1B</i>		
Ronson Road	Ronson Court and Kearny Mesa Road	9:00 p.m. to 5:00 a.m.
Lightwave Avenue	Kearny Villa Road and Ruffin Road	9:00 p.m. to 5:00 a.m.
Ruffin Road	Clairemont Mesa Boulevard and Lightwave Avenue	9:00 p.m. to 5:00 a.m.
Clairemont Mesa Boulevard	Ruffin Road and Murphy Canyon Road	9:00 p.m. to 5:00 a.m.
Murphy Canyon Road	Clairemont Mesa Boulevard and 1,650 feet South of Clairemont Mesa Boulevard	9:00 p.m. to 5:00 a.m.
Clairemont Mesa Boulevard	1,300 feet East of I-15 NB Ramps and Santo Road	9:00 p.m. to 5:00 a.m.
Santo Road	Clairemont Mesa Boulevard and Tierrasanta Boulevard	9:00 p.m. to 5:00 a.m.
Tierrasanta Boulevard	Santo Road and Copperleaf Lane	9:00 p.m. to 5:00 a.m.
Princess View Drive	North of Mission Gorge Road	9:00 p.m. to 5:00 a.m.
<i>Section 2</i>		
Mission Gorge Road	Princess View Drive and Golfcrest Drive	9:00 p.m. to 5:00 a.m.
	Golfcrest Drive and Rockyridge Road	9:00 p.m. to 5:00 a.m.
	Rockyridge Road and W Hills Parkway	9:00 p.m. to 5:00 a.m.
W Hills Parkway	Mission Gorge Road and Carlton Oaks Drive	9:00 p.m. to 5:00 a.m.
<i>Section 3</i>		
Carlton Oaks Drive	W Hills Parkwaay and Fanita Parkway	9:00 p.m. to 5:00 a.m.
	400 feet West of Fanita Parkway and Stoyer Drive	9:00 p.m. to 5:00 a.m.
Halberns Boulevard	Stoyer Drive and Mast Boulevard	9:00 p.m. to 5:00 a.m.
<i>Section 4</i>		
Mast Boulevard	Halberns Boulevard and Magnolia Avenue	9:00 p.m. to 5:00 a.m.
	Magnolia Avenue and Eastern Terminus	9:00 p.m. to 5:00 a.m.
Mast Boulevard	Western Terminus and Riverford Road	9:00 p.m. to 5:00 a.m.
Riverside Drive	Riverford Road and Valle Vista Road	9:00 p.m. to 5:00 a.m.

**Table 5.16-4  
Roadway Segments Work Hours San Vicente Pipeline**

Roadway	Segment	Work hours
Lakeside Avenue	Valle Vista Road and Lakeside Avenue/Channel Road	9:00 p.m. to 5:00 a.m.
	Lakeside Avenue/Channel Road and SR-67	9:00 p.m. to 5:00 a.m.
Willow Road	SR-67 and Moreno Avenue	9:00 p.m. to 5:00 a.m.
Moreno Avenue	San Vicente Reservoir and Willow Road	9:00 p.m. to 5:00 a.m.

**Notes:** SR = State Route; WB = westbound; EB = eastbound

**Source:** Appendix I.

Locations for staging for the San Vicente Pipeline have not yet been identified. Since the locations are unknown, a conservative approach to the trip assignment was taken by adding construction traffic to all roadways on the San Vicente Pipeline alignment. Based on the location of construction the following roadways are included in the San Vicente Pipeline construction analysis:

- Eastgate Mall between NCPWF and NCWRP driveway and Miramar Road
- Miramar Road between Nobel Drive and Eastgate Mall
- Copley Drive between Hickman Field Drive and Copley Park Place
- Copley Park Place between Copley Drive and Convoy Street
- Convoy Street between Copley Park Place and Convoy Court
- Convoy Court east of Convoy Street
- Ronson Road between Ronson Court and Kearny Mesa Road
- Lightwave Avenue between Kearny Villa Road and Ruffin Road
- Ruffin Road between Clairemont Mesa Boulevard and Lightwave Avenue
- Clairemont Mesa Boulevard between Ruffin Road and Murphy Canyon Road
- Murphy Canyon Road between Clairemont Mesa Boulevard and 1,650 feet south of Clairemont Mesa Boulevard
- Clairemont Mesa Boulevard between 1,300 feet east of I-15 NB ramps and Santo Road
- Santo Road between Clairemont Mesa Boulevard and Tierrasanta Boulevard
- Tierrasanta Boulevard between Santo Road and Copperleaf Lane
- Princess View Drive north of Mission Gorge Road

- Mission Gorge Road between:
  - Princess View Drive and Golfcrest Drive
  - Golfcrest Drive and Rockyridge Road
  - Rockyridge Road and W Hills Parkway
- W Hills Parkway between Mission Gorge Road and Carlton Oaks Drive
- Carlton Oaks Drive between:
  - W Hills Parkway and Fanita Parkway
  - 400 feet west of Fanita Parkway and Stoyer Drive
- Halberns Boulevard between Stoyer Drive and Mast Boulevard
- Mast Boulevard between:
  - Halberns Boulevard and Magnolia Avenue
  - Magnolia Avenue and Eastern Terminus
  - Western Terminus and Riverford Road
- Riverside Drive between Riverford Road and Valle Vista Road
- Lakeside Avenue between:
  - Valle Vista Road and Lakeside Avenue/Channel Road
  - Lakeside Avenue/Channel Road and SR-67
- Willow Road between SR-67 and Moreno Avenue
- Moreno Avenue between San Vicente Reservoir and Willow Road

### **Key Roadways**

The study area for the San Vicente Pipeline traverses a number of jurisdictions and includes a large number of roadways. A variety of interstate, state, county roads, and city arterials provide routes for vehicle travel through the study area.

### **Level of Service Analysis Methodology**

Level of Service (LOS) is a quantitative measure describing operational conditions of a traffic stream and the motorists' and/or passengers' perception of operations. LOS describes these conditions in terms of factors such as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and

convenience. Tables 5.16-5 and 15.16-6 provide definitions of the various LOS categories (A through F) as applied to intersection and roadway operations.

### ***Intersections***

The analysis of signalized intersections utilized the procedures outlined in the 2010 Highway Capacity Manual (HCM). This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time. This technique uses 1,900 vehicles per hour per lane as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks), and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in Table 5.16-5. The computerized analysis of intersection operations was performed utilizing Synchro 9.0 traffic analysis software. The following assumptions were utilized in conducting all intersection LOS analyses:

- Pedestrian Calls per Hour: 10 calls per hour for each pedestrian movement was assumed.
- Signal Timing: Based on existing signal timing plans as of November 2016, provided in Appendix I.
- Peak Hour Factor: Based on existing peak hour count data for Existing Conditions provided in Appendix I, and 0.92 for all Near Term Conditions.

**Table 5.16-5  
Signalized Intersection LOS Criteria**

Average Stopped Delay per Vehicle	LOS	Definition of Operation
< 10.0	A	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1–20.0	B	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

**Table 5.16-5  
Signalized Intersection LOS Criteria**

Average Stopped Delay per Vehicle	LOS	Definition of Operation
20.1–35.0	C	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1–55.0	D	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1–80.0	E	LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	F	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

**Source:** Appendix I.

### **Roadway Segments**

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecasted ADT volumes. Table 5.16-6 presents the roadway segment capacity and LOS standards used for this analysis, which are based on the Traffic Impact Study Manual (City of San Diego 1998). Consistent with City policy, LOS D was used as the minimum acceptable LOS for roadway operations.

**Table 5.16-6  
City of San Diego Roadway Classifications and LOS Standards**

Roadway Classification	LOS A ADT	LOS B ADT	LOS C ADT	LOS D ADT	LOS E ADT
Expressway (six lanes)	< 30,000	< 42,000	< 60,000	< <b>70,000</b>	< 80,000
Primary Arterial (six lanes)	< 25,000	< 35,000	< 50,000	< <b>55,000</b>	< 60,000
Major Arterial (six-lane, divided)	< 20,000	< 28,000	< 40,000	< <b>45,000</b>	< 50,000
Major Arterial (four-lane, divided)	< 15,000	< 21,000	< 30,000	< <b>35,000</b>	< 40,000

**Table 5.16-6  
City of San Diego Roadway Classifications and LOS Standards**

<b>Roadway Classification</b>	<b>LOS A ADT</b>	<b>LOS B ADT</b>	<b>LOS C ADT</b>	<b>LOS D ADT</b>	<b>LOS E ADT</b>
Collector (four-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< <b>25,000</b>	< 30,000
Collector (four-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< <b>13,000</b>	< 15,000
Collector (two-lane w/ continuous left-turn lane)	< 5,000	< 7,000	< 10,000	< <b>13,000</b>	< 15,000
Collector (two-lane no fronting property)	< 4,000	< 5,500	< 7,500	< <b>9,000</b>	< 10,000
Collector (two-lane commercial-industrial fronting)	< 2,500	< 3,500	< 5,000	< <b>6,500</b>	< 8,000
Collector (two-lane multi-family)	< 2,500	< 3,500	< 5,000	< <b>6,500</b>	< 8,000
Sub-Collector (two-lane single family)	—	—	< 2,200	—	—
Expressway (six lanes)	< 30,000	< 42,000	< 60,000	< <b>70,000</b>	< 80,000
Primary Arterial (six lanes)	< 25,000	< 35,000	< 50,000	< <b>55,000</b>	< 60,000
Major Arterial (six-lane, divided)	< 20,000	< 28,000	< 40,000	< <b>45,000</b>	< 50,000

**Source:** City of San Diego 1998.

**Note:** **Bold** numbers indicate the ADT thresholds for acceptable LOS.

These standards are used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of the intersections on the roadway to accommodate peak hour traffic volumes.

### **Existing Roadway LOS**

#### ***North City Project Operations***

Existing traffic volumes are displayed in Figure 5.16-1. Roadway segment traffic counts were obtained from the University Community Plan Amendment Transportation Impact Study (Kimley-Horn 2016). These counts were collected in April and May 2015 and are provided in Appendix I.

Using the traffic counts shown in Figure 5.16-1 and the ADT thresholds shown in Table 5.16-6, LOS was estimated for Existing Conditions.

As shown in Table 5.16-7, all the key study area roadway segments currently operate at acceptable LOS D or better with the following three exceptions:

- Eastgate Mall between Eastgate Drive and Miramar Road – LOS E

- Miramar Road between I-805 SB ramps and I-805 NB ramps – LOS F
- Miramar Road, between Nobel Drive and Eastgate Mall – LOS E

**Table 5.16-7  
North City Project Operations Existing Conditions  
Roadway Segment LOS Analysis**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Towne Center Drive	Eastgate Mall and Executive Drive	Four-lane Major Arterial	40,000	20,120	0.503	B
	Executive Drive and La Jolla Village Drive	Four-lane Major Arterial	40,000	20,120	0.503	B
Eastgate Mall	Towne Center Drive and Judicial Drive	Four-lane Major Arterial	40,000	11,120	0.278	A
	Judicial Drive and Driveway west of I-805 Overpass	Four-lane Major Arterial	40,000	10,100	0.253	A
	280 feet west of I-805 Overpass and NCWRP Driveway	Two-lane Collector w/ CLTL	15,000	10,100	0.673	D
	NCWRP Driveway and Eastgate Drive	Two-lane Collector w/ CLTL	15,000	10,100	0.673	D
	Eastgate Drive and Miramar Road	Two-lane Collector w/ CLTL	15,000	14,670	0.978	<b>E</b>
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	Eight-lane Prime Arterial	80,000	58,830	0.735	C
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	Six-lane Prime Arterial	60,000	66,140	1.102	<b>F</b>
	I-805 NB Ramps and Nobel Drive	Eight-lane Prime Arterial	80,000	47,990	0.600	C
	Nobel Drive and Eastgate Mall	Seven-lane Prime Arterial	70,000 <sup>1</sup>	64,560	0.922	<b>E</b>

**Source:** Appendix I.

**Notes:** ADT = Average Daily Traffic; V/C = Volume to Capacity Ratio; NB = northbound; SB = southbound; EB = eastbound; WB = westbound; CLTL = controlled left-turn lane.

**Bold** indicates substandard LOS E or F.

<sup>1</sup> Based on the Capacity of an eight-lane Prime Arterial, reduced to exclude a lane ( $7/8 \times 80,000 = 70,000$ ).

## Construction Study Areas

### Morena Pipelines

Roadway segment and intersection traffic counts were obtained from a number of sources including the University Community Plan Amendment Existing Conditions Summary (City of San Diego 2015, as cited in Appendix I), the Morena Boulevard Station Area Planning Study (City of San Diego 2014), and the Clairemont Mesa Community Plan Update (City of San Diego 2011a). Count worksheets are provided in Appendix I.

Figure 5.16-2 displays the existing traffic volumes and study area, and Table 5.16-8 displays the daily roadway segment LOS results under Existing Conditions.

As shown in Table 5.16-8, the following four roadway segments operate at substandard LOS E or F:

- Clairemont Mesa Boulevard, between Genesee Avenue and Clairemont Drive – LOS E
- Clairemont Drive, between Clairemont Mesa Boulevard and Balboa Avenue – LOS F
- Clairemont Drive, between Burgener Drive and Denver Street – LOS F
- Denver Street, between Clairemont Drive and Ingulf Street – LOS F

**Table 5.16-8  
Morena Pipelines Existing Conditions Roadway Segment LOS Analysis**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Executive Drive	End of cul-de-sac and Judicial Drive	Two-lane Collector	8,000	5,920	0.739	D
	Judicial Drive and Towne Centre Drive	Four-lane Major Arterial	40,000	5,920	0.148	A
Town Centre Drive	Executive Drive and La Jolla Village Drive	Four-lane Major Arterial	40,000	20,130	0.503	B
	La Jolla Village Drive and Golden Haven Drive	Four-lane Major Arterial	40,000	13,790	0.345	A
	Golden Haven Drive and Nobel Drive	Four-lane Major Arterial	40,000	13,790	0.345	A

**Table 5.16-8  
Morena Pipelines Existing Conditions Roadway Segment LOS Analysis**

<b>Roadway</b>	<b>Segment</b>	<b>Functional Classification</b>	<b>Threshold (LOS E)</b>	<b>ADT</b>	<b>V/C</b>	<b>LOS</b>
Nobel Drive	Towne Centre Drive and Genesee Avenue	Four-lane Major Arterial	40,000	18,490	0.462	B
Genesee Avenue	Nobel Drive and Governor Drive	Four-lane Major Arterial	40,000	30,920	0.773	D
	Governor Drive and SR-52 WB Ramps	Four-lane Major Arterial	40,000	30,920	0.773	D
	SR-52 WB Ramps and SR-52 EB Ramps	Four-lane Major Arterial	40,000	31,170	0.779	D
	SR-52 EB Ramps and Appleton Street	Four-lane Major Arterial	40,000	28,060	0.702	C
	Appleton Street and Clairemont Mesa Boulevard	Four-lane Major Arterial	40,000	28,060	0.702	C
Clairemont Mesa Boulevard	Genesee Avenue and Clairemont Drive	Four-lane Collector w/ CLTL	30,000	25,310	0.844	<b>E</b>
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	Four-lane Collector w/ CLTL	30,000	8,820	0.294	A
	Lakehurst Avenue and Clairemont Mesa Boulevard	Four-lane Collector / CLTL	30,000	8,820	0.294	A
	Clairemont Mesa Boulevard and Balboa Avenue	Two-lane Collector w/ CLTL	15,000	21,260	1.417	<b>F</b>
	Balboa Avenue and Rappahannock Avenue	Four-lane Major Arterial	40,000	19,330	0.483	B
	Rappahannock Avenue and Iroquois Avenue	Four-lane Collector w/ CLTL	30,000	19,330	0.644	C
	Iroquois Avenue and Burgener Drive	Four-lane Collector w/ CLTL	30,000	14,080	0.469	C
	Burgener Drive and Denver Street	Two-lane Collector w/ CLTL	15,000	23,290	1.553	<b>F</b>
Denver Street	Clairemont Drive and Ingulf Street	Two-lane Collector	8,000	10,060	1.258	<b>F</b>

**Table 5.16-8  
Morena Pipelines Existing Conditions Roadway Segment LOS Analysis**

<b>Roadway</b>	<b>Segment</b>	<b>Functional Classification</b>	<b>Threshold (LOS E)</b>	<b>ADT</b>	<b>V/C</b>	<b>LOS</b>
Ingulf Street	Denver Street and West Morena Boulevard	Two-lane Collector	8,000	5,190	0.648	D
West Morena Boulevard	Ingulf Street and Littlefield Street	Four-lane Major Arterial	40,000	15,960	0.399	B
	Littlefield Street to Morena Boulevard	Four-lane Major Arterial	40,000	15,960	0.399	B
	Morena Boulevard and Tecolote Road Overpass	Four-lane Major Arterial	40,000	10,150	0.254	A
	Tecolote Road Overpass	Four-lane Major Arterial	40,000	10,150	0.254	A
	Vega Street and Morena Boulevard	Five-lane Major Arterial	50,000	13,310	0.266	A

**Source:** Appendix I.

**Notes:** ADT = Average Daily Traffic; V/C = Volume to Capacity Ratio; EB = eastbound; WB = westbound; CLTL = controlled left-turn lane.

**Bold** indicates substandard LOS E or F.

Figure 5.16-3 shows the study area intersection geometries, and Figure 5.16-4 displays peak hour intersection volumes. Table 5.16-9 displays intersection LOS results and average delay results for study area intersections under Existing Conditions. LOS calculation worksheets for Existing Conditions are provided in Appendix I.

As shown in Table 5.16-9, the following six intersections currently operate under substandard LOS E or F during the peak hours:

- Genesee Avenue and Nobel Drive – LOS E during the AM peak hour
- Genesee Avenue and Appleton Street/Lehrer Drive – LOS F during the AM peak hour
- Genesee Avenue and Clairemont Mesa Boulevard – LOS E during the PM peak hour
- Clairemont Mesa Boulevard and Clairemont Drive/Kleefeld Avenue – LOS F during both the AM and PM peak hour
- Clairemont Drive and Clairemont Mesa Boulevard – LOS E during the AM peak hour
- Clairemont Drive and Balboa Avenue – LOS E during the PM peak hour

**Table 5.16-9  
Morena Pipelines Existing Conditions Intersection LOS Analysis**

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
Towne Centre Drive and Golden Haven Drive	Signalized	14.9	B	9.7	A
Towne Centre Drive and Nobel Drive	Signalized	34.2	C	28.2	C
Genesee Avenue and Nobel Drive	Signalized	69.4	<b>E</b>	33.5	C
Genesee Avenue and Appleton Street/Lehrer Drive	Signalized	84.8	<b>F</b>	34.9	C
Genesee Avenue and Clairemont Mesa Boulevard	Signalized	46.0	D	56.1	<b>E</b>
Clairemont Mesa Boulevard and Clairemont Drive/Kleefeld Avenue	Signalized	413.7	<b>F</b>	672.1	<b>F</b>
Clairemont Drive and Clairemont Mesa Boulevard	Signalized	78.7	<b>E</b>	53.8	D
Clairemont Drive and Balboa Avenue	Signalized	51.4	D	71.0	<b>E</b>

**Source:** Appendix I.

**Notes:** Avg. Delay (sec) = average delay (seconds); EB = eastbound; WB = westbound.

**Bold** indicates substandard LOS E or F.

### **North City Pipeline**

Roadway segment traffic counts were collected in November 2016 and are provided in Appendix I. Figure 5.16-5 displays the existing traffic volumes and study area, and Table 5.16-10 displays the daily roadway segment LOS results under Existing Conditions.

As shown in Table 5.16-10, the following five roadway segments are currently operating at a substandard LOS E or F:

- Eastgate Mall, between the NCPWF and NCWRP driveway and Miramar Road – LOS E
- Miramar Road, between Eastgate Mall and Camino Santa Fe – LOS F
- Miramar Road, between Carroll Road and Camino Ruiz – LOS E
- Miramar Road, between Camino Ruiz and Black Mountain Road – LOS F
- Miramar Road, between Black Mountain Road and Kearny Villa Road – LOS F

**Table 5.16-10  
North City Pipeline Existing Conditions Roadway Segment LOS Analysis**

<b>Roadway</b>	<b>Segment</b>	<b>Functional Classification</b>	<b>Threshold (LOS E)</b>	<b>ADT</b>	<b>V/C</b>	<b>LOS</b>
Eastgate Mall	NCPWF and NCWRP Driveway and Miramar Road	Two-lane Collector w/ CLTL	15,000	14,670	0.978	<b>E</b>
Miramar Road	Eastgate Mall and Camino Santa Fe	Six-lane Prime Arterial	60,000	67,750	1.129	<b>F</b>
	Camino Santa Fe and Carroll Road	Six-lane Prime Arterial	60,000	47,240	0.787	C
	Carroll Road and Camino Ruiz	Six-lane Prime Arterial	60,000	57,240	0.954	<b>E</b>
	Camino Ruiz and Black Mountain Road	Six-lane Prime Arterial	60,000	67,120	1.119	<b>F</b>
	Black Mountain Road and Kearny Villa Road	Six-lane Prime Arterial	60,000	65,780	1.096	<b>F</b>
Kearny Villa Road	Black Mountain Road/Carroll Centre Road and Miramar Road	Four-lane Collector w/ CLTL	30,000	17,860	0.595	C
Candida Street	Kearny Villa Road and Via Pasar	Two-lane Collector	8,000	1,520	0.190	A
Via Pasar	Via Excelencia and Candida Street	Two-lane Collector	8,000	1,130	0.141	A
Via Excelencia	east of Via Pasar	Two-lane Collector	8,000	930	0.117	A
Businesspark Avenue	south of Willow Creek Road	Two-lane Collector	8,000	2,630	0.329	B
	Carroll Canyon Road and Willow Creek Road	Three-lane Collector (1 SB and 2 NB)	12,000	7,490	0.624	C
Carroll Canyon Road	Businesspark Avenue and Scripps Ranch Boulevard	Four-lane Collector w/ CLTL	30,000	14,850	0.495	C
Scripps Ranch Boulevard	Carroll Canyon Road and Hoyt Park Drive	Four-lane Major Arterial	40,000	13,200	0.330	A
Hoyt Park Drive	Meanley Drive and Scripps Ranch Boulevard	Two-lane Collector (no fronting property)	10,000	2,600	0.260	A

**Source:** Appendix I.

**Note:** ADT = Average Daily Traffic; V/C = Volume to Capacity Ratio; NB = northbound; SB = southbound; CLTL = controlled left-turn lane.

**Bold** indicates substandard LOS E or F.

### San Vicente Pipeline

Roadway segment traffic counts were obtained from a number of sources including the City of Santee Circulation Element Update project (late 2014, City of Santee 2014), the Kearny Mesa Community Plan Update project (late 2016, City of San Diego 2011b), and the San Diego Association of Governments (SANDAG) Series 13 base year traffic volumes (SANDAG 2013). Count worksheets are provided in Appendix I. Figure 5.16-6 displays the existing traffic volumes and study area, and Table 5.16-11 displays the daily roadway segment LOS results under Existing Conditions.

As shown in Table 5.16-11, all the key study area roadway segments currently operate at acceptable LOS D or better with the following two exceptions:

- Eastgate Mall, between the NCPWF and NCWRP driveway and Miramar Road – LOS E
- Willow Road, between SR-67 and Moreno Avenue – LOS F

**Table 5.16-11**  
**San Vicente Pipeline Existing Conditions Roadway Segment LOS Analysis**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
<i>Section 1A</i>						
Eastgate Mall	NCPWF and NCWRP Driveway and Miramar Road	Two-lane Collector w/ CLTL	15,000	14,670	0.978	E
Miramar Road	Nobel Drive and Eastgate Mall	Eight-lane Prime Arterial	80,000	64,560	0.807	C
Copley Drive	Hickman Field Drive and Copley Park Place	Four-lane Collector	15,000	9,420	0.628	C
Copley Park Place	Copley Drive and Convoy Street	Four-lane Collector w/ CLTL	30,000	10,500	0.350	B
Convoy Street	Copley Park Place and Convoy Court	Four-lane Collector w/ CLTL	30,000	23,760	0.792	D
Convoy Court	east of Convoy Street	Two-lane Collector	8,000	1,710	0.214	A

**Table 5.16-11  
San Vicente Pipeline Existing Conditions Roadway Segment LOS Analysis**

<b>Roadway</b>	<b>Segment</b>	<b>Functional Classification</b>	<b>Threshold (LOS E)</b>	<b>ADT</b>	<b>V/C</b>	<b>LOS</b>
<i>Section 1B</i>						
Ronson Road	Ronson Court and Kearny Mesa Road	Two-lane Collector	8,000	3,790	0.474	C
Lightwave Avenue	Kearny Villa Road and Ruffin Road	Four-lane Collector w/ CLTL	30,000	6,140	0.205	A
Ruffin Road	Clairemont Mesa Boulevard and Lightwave Avenue	Four-lane Major Arterial	40,000	10,730	0.268	A
Clairemont Mesa Boulevard	Ruffin Road and Murphy Canyon Road	Four-lane Major Arterial	40,000	25,970	0.649	C
Murphy Canyon Road	Clairemont Mesa Boulevard and 1,650 feet south of Clairemont Mesa Boulevard	Two-lane Collector	8,000	5,860	0.733	D
Clairemont Mesa Boulevard	1,300 feet east of I-15 NB Ramps and Santo Road	Four-lane Major Arterial	40,000	20,190	0.505	B
Santo Road	Clairemont Mesa Boulevard and Tierrasanta Boulevard	Four-lane Major Arterial	40,000	11,200	0.280	A
Tierrasanta Boulevard	Santo Road and Copperleaf Lane	Four-lane Major Arterial	40,000	21,100	0.528	C
Princess View Drive	north of Mission Gorge Road	Two-lane Collector	8,000	2,900	0.363	B
<i>Section 2</i>						
Mission Gorge Road	Princess View Drive and Golfcrest Drive	Six-lane Prime Arterial	60,000	20,700	0.345	A
	Golfcrest Drive and Rockyridge Road	Five-lane Prime Arterial (2EB and 3WB)	50,000	13,200	0.264	A
	Rockyridge Road and W Hills Parkway	Four-lane Major Arterial	40,000	14,300	0.358	A
W Hills Parkway	Mission Gorge Road and Carlton Oaks Drive	Four-lane Major Arterial	40,000	12,100	0.303	A

**Table 5.16-11**  
**San Vicente Pipeline Existing Conditions Roadway Segment LOS Analysis**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
<i>Section 3</i>						
Carlton Oaks Drive	W Hills Parkway and Fanita Parkway	Two-lane Collector w/ CLTL	15,000	8,700	0.580	C
	400 feet west of Fanita Parkway and Stoyer Drive	Two-lane Collector w/ CLTL	15,000	10,300	0.687	D
Halberns Boulevard	Stoyer Drive and Mast Boulevard	Two-lane Collector w/ CLTL	15,000	7,100	0.473	C
<i>Section 4</i>						
Mast Boulevard	Halberns Boulevard and Magnolia Avenue	Four-lane Major Arterial	40,000	16,800	0.420	B
	Magnolia Avenue and Eastern Terminus	Two-lane Collector w/ CLTL	15,000	6,000	0.400	B
	Western Terminus and Riverford Road	Two-lane Collector	8,000	400	0.050	A
Riverside Drive	Riverford Road and Valle Vista Road	Two-lane Collector w/ CLTL	15,000	9,600	0.640	C
Lakeside Avenue	Valle Vista Road and Lakeside Avenue/Channel Road	Two-lane Collector w/ CLTL	15,000	7,800	0.520	C
	Lakeside Avenue/Channel Road and SR-67	Two-lane Collector	8,000	3,400	0.425	B
Willow Road	SR-67 and Moreno Avenue	Two-lane Collector	8,000	9,100	1.138	<b>F</b>
Moreno Avenue	San Vicente Reservoir and Willow Road	Two-lane Collector	8,000	3,900	0.488	C

**Source:** Appendix I.

**Note:** ADT = Average Daily Traffic; V/C = Volume to Capacity Ratio; NB = northbound; CLTL = controlled left-turn lane.

**Bold** indicates substandard LOS E or F.

### 5.16.3 REGULATORY FRAMEWORK

#### Federal

The Federal Highway Administration is an agency within the U.S. Department of Transportation that supports state and local governments in the design, construction, and maintenance of the nation’s highway system (Federal Aid Highway Program) and various federally and tribally owned lands (Federal Lands Highway Program). The Federal Highway Administration provides financial and technical assistance to improve and maintain road and highway infrastructure.

#### State

##### ***California Department of Transportation***

As the owner and operator of the State Highway System, the California Department of Transportation (Caltrans) implements established state planning priorities in all functional plans, programs, and activities. Caltrans has the responsibility to coordinate and consult with local jurisdictions when proposed local land use planning and development may impact state highway facilities. Pursuant to Section 21092.4 of the Public Resources Code, for projects of statewide, regional, or area-wide significance, the lead agency shall consult with transportation planning agencies and public agencies that have transportation facilities which could be affected by the project. Caltrans requires a traffic impact study when a project generates and assigns over 100 peak hour trips to a state highway facility; or if the project generates and assigns 50 to 100 peak hours trips to a state highway facility causing the facility to approach LOS C or D; or 1 to 49 peak hour trips are generated and assigned to a state highway facility causing it to experience significant congestion (LOS E or F), increased risk for traffic collisions, or affect access to the facility (Caltrans 2002).

##### ***Senate Bill 375: Sustainable Communities Strategy***

Senate Bill (SB) 375 provides a new planning process to coordinate land use planning and regional transportation plans and funding priorities in order to help California meet the greenhouse gas reduction goals established in Assembly Bill (AB) 32. SB 375 requires that regional transportation plans developed by metropolitan planning organizations (e.g., SANDAG) incorporate a “sustainable communities strategy” (SCS) in their regional transportation plans that will achieve regional greenhouse gas emission reduction targets set by the California Air Resources Board. The development of the SCS requires scenario planning that considers a range of alternative land use patterns

for the region, as well as transportation investments that achieve the regional target reduction in greenhouse gases. SB 375 also includes provisions for streamlined California Environmental Quality Act (CEQA) review for some infill projects, such as transit-oriented developments.

### ***Senate Bill 743: Transit Oriented Development and Vehicle Miles Traveled***

In September 2013, Governor Brown signed SB 743, which made significant changes to how transportation impacts are to be assessed under CEQA. SB 743 directs the Governor's Office of Planning and Research to develop a new metric and approach that replaces LOS analysis and suggests vehicle miles traveled as a metric. SB 743 also creates a new exemption for certain projects that are consistent with the regional SCS, and in some circumstances, eliminates the need to evaluate aesthetic and parking impacts of a project.

The Governor's Office of Planning and Research has released Draft CEQA Guidelines; however, at the time this analysis was completed, the CEQA Guidelines have not been finalized or adopted. It is anticipated that the revisions to the CEQA Guidelines will be finalized in 2017. According to the most recent Draft CEQA Guidelines released by the Governor's Office of Planning and Research, lead agencies would have a grace period of 2 years to update and adopt new thresholds once the new CEQA Guidelines have been adopted.

### **Regional**

SANDAG is the region's transportation and land use planning agency for the County of San Diego's 19 local governments. SANDAG is governed by a Board of Directors composed of mayors, councilmembers, and county supervisors from each of those local governments, including the City of San Diego. The City of San Diego also participates in the development and adoption of SANDAG documents and programs through staff participation on advisory committees and direct citizen participation. Key regional planning efforts include the following plans and programs.

### ***2050 Regional Transportation Plan and Sustainable Communities Strategy***

SANDAG adopted San Diego Forward: The Regional Plan in 2015 in compliance with state and federal regulations. The Regional Plan has a horizon year of 2050 and was developed as a blueprint for a regional transportation system that further enhances quality of life, promotes sustainability, and offers more mobility options for people and goods. The plan includes new and better connections to more efficiently move people on foot, bikes, buses, trolleys, trains, and cars. It establishes

the basis for state funding of local and regional transportation projects and is a prerequisite for federal funding. SANDAG prioritizes and allocates the expenditure of regional, state, and federal transportation funds to implement regional transportation plan projects.

### ***Congestion Management Process***

To address the increasing public concern that traffic congestion is impacting the quality of life and economic vitality of the State of California, Proposition 111 created the Congestion Management Program (CMP) in 1990. The intent of the CMP is to provide the analytical basis for transportation decisions through the State Transportation Improvement Program process. Included with the provision for additional transportation funding was a requirement to undertake a CMP within each county with an urbanized area having a population of 50,000 or more to be developed and adopted by a designated Congestion Management Agency. SANDAG was designated the Congestion Management Agency for San Diego County.

Implementation of the CMP was made voluntary by the passage of AB 2419 (Bowler 1996). However, Federal Highway Administration 23 CFR 450.320 requires that each transportation management area address congestion management through a process involving an analysis of multimodal metropolitan wide strategies that are cooperatively developed to foster safety and integrated management of new and existing transportation facilities eligible for federal funding. SANDAG has been designated as the transportation management area for the San Diego region.

In October 2009, the San Diego region elected to be exempt from the state CMP, and since this decision, SANDAG has been abiding by 23 CFR 450.320 to ensure the region's continued compliance with the federal congestion management process. San Diego Forward: The Regional Plan, the region's long-range transportation plan and SCS, meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-single occupancy vehicle analysis, land use impact analysis, the provision of congestion management tools, and integration with the Regional Transportation Improvement Program process.

### ***Regional Bicycle Plan: Riding to 2050***

The San Diego Regional Bicycle Plan was adopted to provide a regional strategy to make riding a bike a useful form of transportation for everyday travel. The Regional

Bicycle Plan supports the implementation of San Diego Forward: The Regional Plan, which calls for more transportation choices and a balanced regional transportation system that supports smart growth and a more sustainable region. The plan provides a critical component of that balanced system, as well as the programs that are necessary to support it.

## **Local**

### ***City of San Diego General Plan Mobility Element***

The City of San Diego Mobility Element provides policies to attain a balanced, multimodal transportation network where each mode, or type of transportation, is able to contribute to an efficient network of services meeting varied user needs (City of San Diego 2015). In addition to addressing walking, streets, and transit, the Mobility Element also includes policies related to regional collaboration, bicycling, parking, goods movement, and other components of our transportation system. Taken together, these policies advance a strategy for congestion relief and increased transportation choices in a manner that strengthens the City of Villages land use vision and helps achieve a clean and sustainable environment. The City's California Environmental Quality Act Significance Determination Thresholds (City of San Diego 2016) contain significance guidelines related to transportation.

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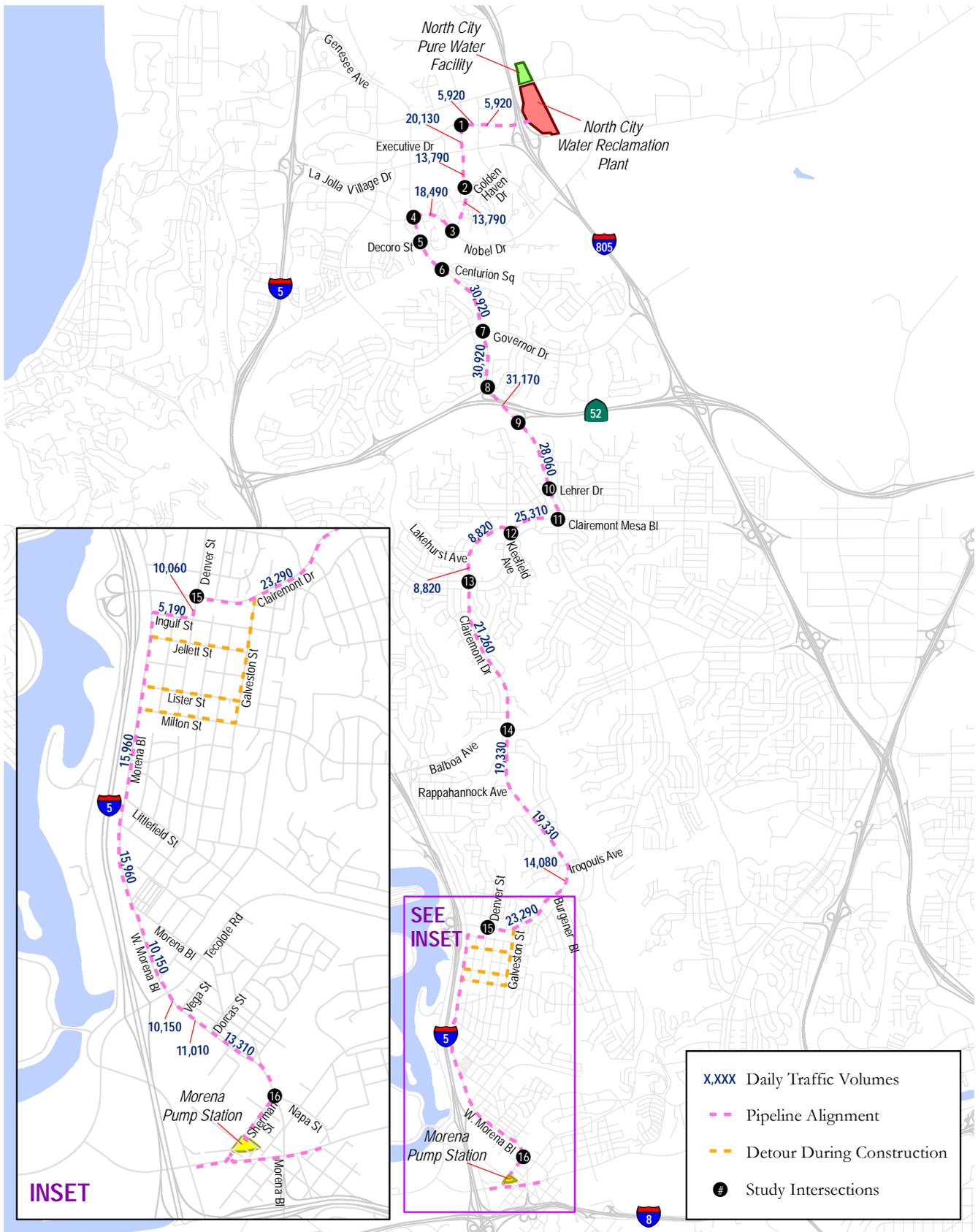
SOURCE: Chen Ryan, 2017

**DUDEK**

**FIGURE 5.16-1  
North City Project Operations Study Area and Existing Traffic Volumes**

Pure Water San Diego Program North City Project EIR/EIS

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SOURCE: Chen Ryan, 2017

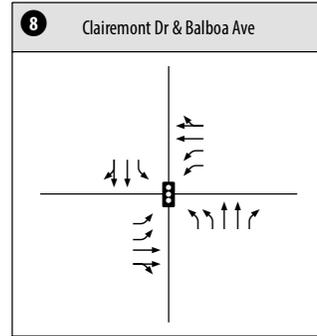
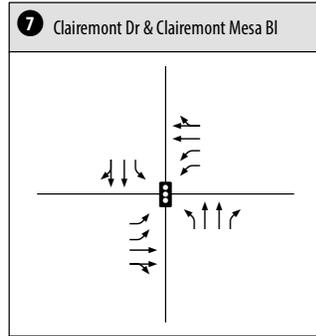
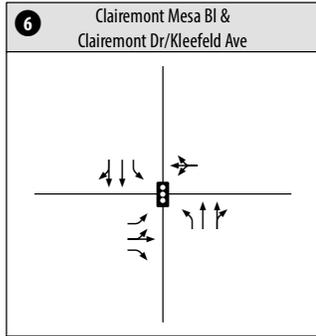
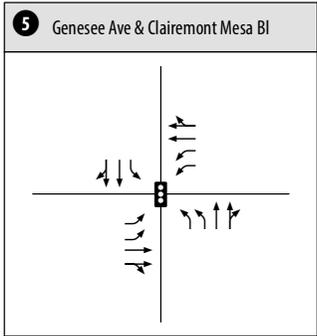
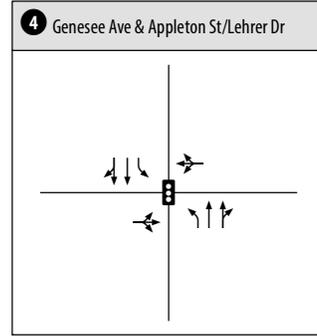
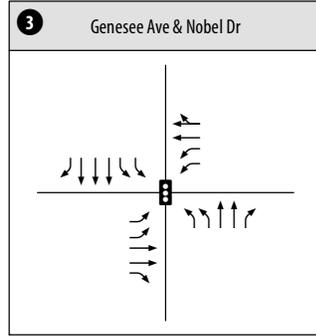
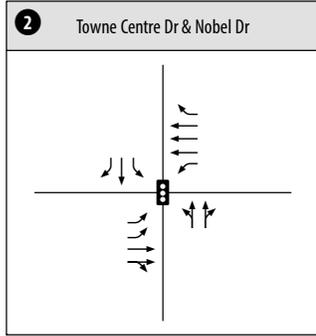
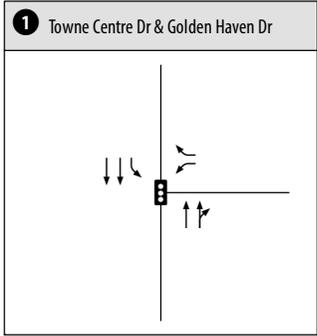
FIGURE 5.16-2



**Morena Pipelines Study Area and Existing Roadway Segment Traffic Volumes**

Pure Water San Diego Program North City Project EIR/EIS

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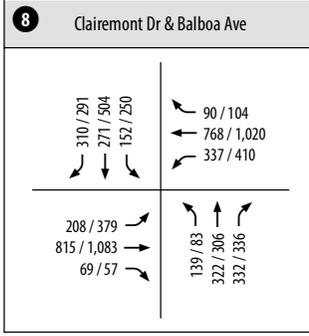
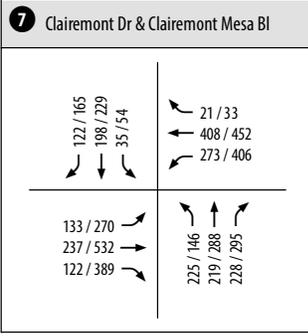
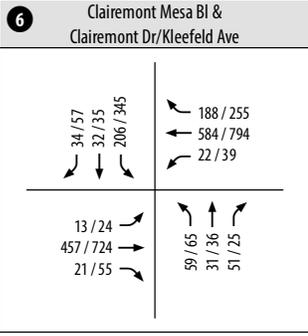
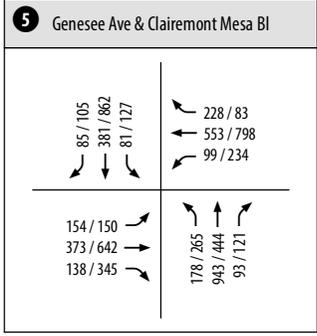
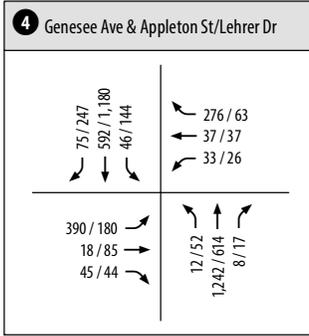
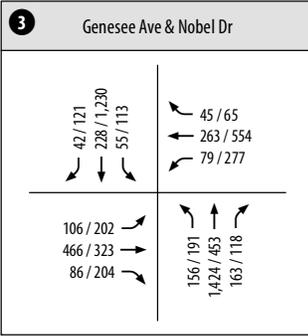
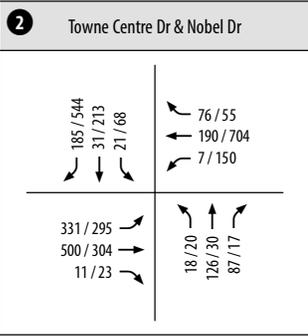
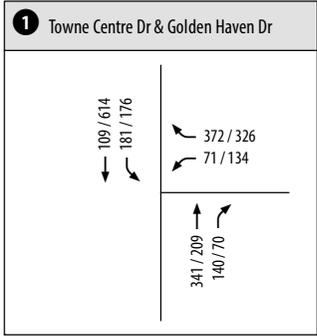


**Legend**

- Study Intersection
- Lane Geometry
- Signalized Intersection

\*Names of North-South cross-streets always listed first NORTH  
NOT TO SCALE

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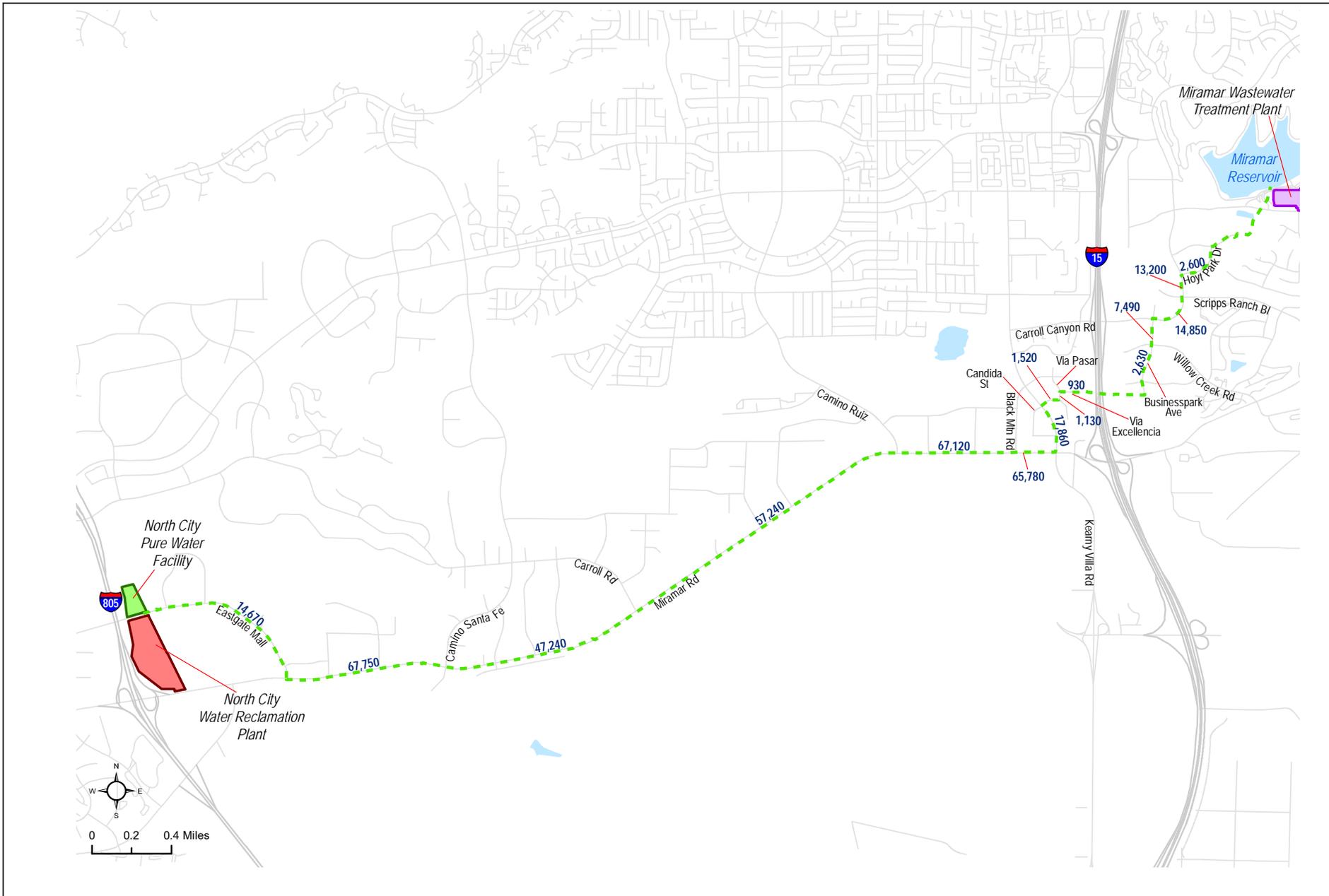
**Legend**

- Study Intersection
- Turn Movements
- AM / PM Peak Hour Volumes
- One-Way Roadway

\*Names of North-South cross-streets always listed first

NORTH  
NOT TO SCALE

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SOURCE: Chen Ryan, 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.16-5**  
**North City Pipeline Study Area and Existing Traffic Volumes**

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## **5.17 WATER SUPPLY**

### **5.17.1 INTRODUCTION**

The following section examines the impacts of the North City Project on existing and future water supply sources within the North City area. The information contained in this section was obtained from various sources, including the 2015 San Diego County Water Authority Urban Water Management Plan (UWMP; SDCWA 2016a) and the City of San Diego UWMP (City of San Diego 2016). Additional information is based on reports by the Metropolitan Water District of Southern California (Metropolitan), the San Diego County Water Authority (SDCWA), and City of San Diego Public Utilities Department.

### **5.17.2 ENVIRONMENTAL SETTING**

#### **Regional Water Supply**

##### ***Metropolitan Water District of Southern California***

Metropolitan is a consortium of 26 cities and water districts that can deliver 2.6 billion gallons of water per day to nearly 19 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino and Ventura counties. Metropolitan obtains imported water from two primary sources: the Colorado River and the State Water Project.

Metropolitan has 10-year average annual sales of 1.99 million acre-feet (AF). In the fiscal year 2014–2015, Metropolitan sold 2.06 million AF of water, with daily system deliveries as high as 7,150 AF per day (for reference, 1 AF will serve two households in and around their homes for a year). Treated and untreated water sales were each about 50% of total sales. The growing awareness of drought and retail conservation caused sales last year to fall below the 10-year average annual sales of 1.99 million AF. Metropolitan sold approximately 1.91 million AF of water, about 150,000 AF (7.3%) lower than the prior fiscal year. The final State Water Project allocation for calendar year 2014 was just 5%, or 96,000 AF, the lowest in history (Metropolitan 2015).

##### ***San Diego County Water Authority***

SDCWA is responsible for providing a safe and reliable supply of water to its 24 member agencies, including the City of San Diego (City). SDCWA serves 95% of San Diego County's (the County's) population over an area of 951,000 acres (1,486 square

miles). Up to 80% of the region’s water is imported from the Colorado River and Northern California via the State Water Project. Metropolitan is SDCWA’s largest supplier, providing almost half of the water used in 2015. The remaining water supply comes from SDCWA’s long-term water conservation and transfer agreement with the Imperial Irrigation District, conserved water resulting from lining of portions of the All-American and Coachella canals in Imperial Valley, and local supply sources including groundwater, local surface water, recycled water, and desalination (SDCWA 2016a). Potable reuse is also included in predicted future water supplies. Table 5.17-1 shows the most recent (2016) portfolio of SDCWA water supplies and predicted future (2020 and 2035) water supplies.

**Table 5.17-1**  
**SDCWA Water Supply**

<b>Water Source</b>	<b>2016</b>		<b>2020</b>		<b>2035</b>	
	<i>Amount (AF)</i>	<i>Percent of Total</i>	<i>Amount (AF)</i>	<i>Percent of Total</i>	<i>Amount (AF)</i>	<i>Percent of Total</i>
Metropolitan Water District	187,000	41%	126,000	21%	88,000	13%
Imperial Irrigation District transfer	100,000	22%	190,000	32%	200,000	29%
All American and Coachella canal lining	79,000	17%	80,000	14%	80,000	12%
Potable Reuse	—	—	8,000	1%	110,000	16%
Recycled water	23,000	5%	43,000	7%	57,000	8%
Seawater desalination	27,000	6%	56,000	10%	72,000	10%
Groundwater	21,000	5%	33,000	6%	36,000	5%
Local surface water	18,000	4%	52,000	9%	51,000	7%
<b>Total</b>	<b>455,000</b>		<b>588,000</b>		<b>694,000</b>	

**Sources:** SDCWA 2016a; SDCWA 2016b.

**Note:** AF = acre-feet.

### Water Use

Per capita (per person) water use in SDCWA’s service area has fallen from more than 200 gallons per capita per day to about 150 gallons per capita per day over the past decade. In 2015, total regional use of potable water was approximately 452,000 AF per year (AFY) – almost 21% less than it was in 1990, even with a population increase of approximately 30% over that period. Between 2007 and 2015, total regional potable water use was lowest in 2015 and highest in 2007 at over 700,000 AFY (SDCWA 2016c).

## City of San Diego

The City's current water supplies consist of (1) capture of local runoff from rainfall within seven of its nine surface reservoirs, (2) recycled water for non-potable water use, (3) limited local groundwater, and (4) water purchased from SDCWA.

### ***Potable Water Supply***

The City's Public Utilities Department serves more than 1.3 million people populating more than 340 square miles of developed land. In addition to supplying water within its own incorporated boundaries, the City conveys and sells water to the City of Del Mar, the Santa Fe Irrigation District, the San Dieguito Water District, and the California American Water Company, which in turn serves the cities of Coronado and Imperial Beach and portions of southern San Diego County. The City has agreements to sell surplus water to Otay Water District and exchange water to Ramona Municipal Water District. The City maintains several emergency connections to and from neighboring water agencies, including Santa Fe Irrigation District, Poway Municipal Water District, Otay Water District, California American Water Company, and Sweetwater Authority (City of San Diego 2016; City of San Diego 2017).

The City purchases imported water from SDCWA. The City's local water supplies consist of surface water obtained from local watersheds and recycled water. The City has nine local surface water reservoirs with more than 569,021 AF of capacity, which are connected directly or indirectly to three water treatment plants (WTPs). The largest reservoir is the San Vicente Reservoir, with a capacity of 242,000 AF since completion of the Emergency Storage Project. The Miramar WTP has a rated capacity of 144 million gallons per day (MGD) and generally serves the City's geographical area north of the San Diego River (north San Diego) (City of San Diego 2016). The Alvarado WTP recently underwent upgrades and improvements and has a current rated capacity of 120 MGD. The Alvarado WTP generally serves the geographical area from National City to La Jolla Village Drive/Miramar Road. The Otay WTP has a current rated capacity of 34 MGD and serves the geographical area bordering Mexico (south San Diego) and parts of the southeastern portion of central San Diego. The geographic areas served by the three WTPs are flexible such that areas of the City can be supplied by more than one of the treatment plants. The native water captured in these reservoirs provides approximately 19% of the City's total supply (based on average data from 2011 to 2015) (City of San Diego 2017).

The City maintains and operates more than 3,300 miles of water lines; 49 water pump stations; 32 standpipes, elevated tanks, and concrete and steel reservoirs with a potable water storage capacity of more than 200 million gallons; more than 24,000 fire hydrants; and approximately 290,000 water meters. The pipelines range in diameter size from 2-inch service lines to 96-inch transmission pipelines. Because of San Diego's diverse topography, including sea level beach communities, mesas, hills, valleys and canyons, the City maintains more than 120 pressure zones (City of San Diego 2017).

### ***City of San Diego Current and Projected Water Demand***

To prepare the City's water demand forecast, coordination with the San Diego Association of Governments (SANDAG) was necessary to obtain the most recent demographic projections. For the 2015 UWMP water demand forecast, demographic data for the City was based on SANDAG's latest projections made for the Series 13: 2050 Regional Growth Forecast, which used a 2013 population and housing estimate produced by the California Department of Finance. SANDAG's demographic forecast incorporates regional projections and local inputs gathered from the region's 18 incorporated cities and the County (City of San Diego 2016).

The City's actual water use declined between 2010 and 2015 from 188,860 AFY to 177,341 AFY, reflecting the City's conservation efforts. Single-family residential water use makes up the largest sector of demand within the City's retail service area (excluding wholesale deliveries), representing about 36% of the total use in 2015. In 2015, multifamily residential, commercial/institutional/industrial, and irrigation accounted for 23%, 28%, and 13% of total retail water use, respectively.

With the City's expected population growth in the future, water demands are projected to reach 264,840 AFY in 2030 and 273,408 AFY in 2040 (City of San Diego 2016), accounting for future water conservation. Cumulative sector demands are forecasted to increase by 37% between 2020 and 2040. Single-family residential water use is expected to peak in 2035 and begin to decline from 2035 to 2040. Overall single-family residential water use is projected to increase by 39% over the projection period of 2020 to 2040. Multifamily residential water use is forecasted to experience the greatest increase, at 69% over the projection period of 2020 to 2040; however, similar to single-family use, it is projected to experience a slight decline between 2035 and 2040. The declines in residential water use from 2035 to 2040 are attributed to a peak in single-family water use in 2035 and then a gradual decline in single-family housing thereafter.

### ***Non-potable Recycled Water***

Existing recycled water use in the City currently consists of non-potable reuse, which uses disinfected tertiary-treated recycled water that meets California water quality standards for uses that are not associated with drinking water, such as irrigation, industrial and construction purposes, ornamental fountains, and toilet and urinal flushing. The City owns and operates a recycled water system that supplies water to over 600 retail customers as well as several wholesale customers. The wholesale customers include the City of Poway, Olivenhain Municipal Water District, and Otay Water District.

Non-potable recycled water use is expected to remain relatively constant, with the North City Water Reclamation Plant providing an annual average of 7 MGD and South Bay Water Reclamation Plant providing 4 to 6 MGD. Between 2010 and 2015, recycled water use increased by approximately 3%, and meters increased by 38%. Recycled water demands for non-potable water use are estimated by the City's Public Utilities Department. These recycled water demands for non-potable use are expected to increase from the current 8,195 AFY to 13,650 AFY by 2020 and remain constant throughout 2040.

### **5.17.3 REGULATORY FRAMEWORK**

#### **Metropolitan Water District of Southern California**

##### ***Integrated Water Resources Plan***

In 1996 Metropolitan developed its first Integrated Water Resources Plan to address the complexity of developing, maintaining, and delivering a reliable supply of water to its member agencies. The plan established targets for a diversified portfolio of investments in water supply that have provided the foundation for continued water supply reliability during a period of prolonged drought and severe regulatory limitations. The plan established a long-term water resources strategy to fulfill Metropolitan's mission of providing a high-quality, reliable water supply for its service area by identifying a range of potential resource development needs, supply alternatives, adaptation measures, and program implementation blueprints.

An update in 2004 emphasized conservation and local resources development options and targets through 2025 and included the addition of a 10% planning buffer. The 2010 update manages current challenges including below-average precipitation conditions for the Colorado River and historic regulatory cutbacks

for the State Water Project. It has three main components: the core resources strategy, which is designed to maintain reliable water supplies; the uncertainty buffer, which activates a suite of buffer actions to mitigate short-term change; and foundational actions, which detail strategies for securing additional water resources. The 2015 update's focus was on developing approaches for how Metropolitan will advance their conservation and local resources development and maximize its storage reserves in the future (Metropolitan 2016).

## **San Diego County Water Authority**

### ***Urban Water Management Plan***

SDCWA's 2015 UWMP was prepared in accordance with the Urban Water Management Planning Act, which requires urban water suppliers to update their UWMP and submit a complete version to the California Department of Water Resources every 5 years. The UWMP serves as SDCWA's long-term planning document to ensure a reliable water supply for the region.

SDCWA's 2015 UWMP provides actual water use data for the year 2015 and projections through 2040 (SDCWA 2016a). The SDCWA projected water demands are based on the SANDAG 2050 Regional Growth Forecast population projections for the SDCWA service area.

SDCWA anticipates that the population in its service area will increase from approximately 3.3 million in 2020 to 3.8 million in 2040, which would translate into water demands increasing from 661,722 AFY in 2020 to approximately 849,995 AFY in 2040 under normal weather conditions.

### ***Regional Water Facilities Optimization and Master Plan Update***

The 2013 Regional Water Facilities Optimization and Master Plan Update (2013 Master Plan) is intended to serve as the San Diego region's roadmap for new infrastructure development through SDCWA's 2035 planning horizon. The 2013 Master Plan shifts from the previous 2003 Master Plan's emphasis on new infrastructure development to the operation and maintenance of a robust water production and delivery system. The 2013 Master Plan incorporates the latest supply and demand projections from the 2010 UWMP and places a greater emphasis on local supply development and conservation. Additionally, the 2013 Master Plan evaluates the emergence of new energy management and renewable

energy opportunities and investigates the need to safeguard the regional aqueduct system from potential vulnerabilities and natural hazards (SDCWA 2014).

### ***Water Shortage and Drought Response Plan***

The Water Shortage and Drought Response Plan (2012) addresses the uncertainty associated with maintaining and developing local and imported water supplies by providing a way to allocate water when supplies fall short of demand and avoiding rationing through supply enhancement. The plan also contains a strategy to communicate with SDCWA's stakeholders regarding water supplies and provides guidance to SDCWA and its member agencies to plan for water supply reliability within the San Diego region. The plan contains a drought response matrix that identifies potential actions that SDCWA can take to avoid an allocation of water supplies to the member agencies. When supply enhancement options have been exhausted, the plan also provides a methodology for allocation of supplies among member agencies in a fair and equitable manner (SDCWA 2012).

### **City of San Diego**

#### ***Urban Water Management Plan***

The City's 2015 UWMP, adopted in 2016, is the most recent iteration of the UWMP and provides actual water use data for the year 2015 and projections through 2040 (City of San Diego 2016). The City's 2015 UWMP describes historic and project water supply and demand scenarios, water supply reliability, water usage trends, current and planned facilities to support demand, current and planned demand management programs, water shortage contingency plans, water recycling efforts, groundwater use, and alternative sources of water that the City is considering. The City's water conservation efforts are an important component of the City's overall water supply strategy.

The City anticipates that its population will increase to over 1.67 million residents by 2035, which would translate into water demands increasing to approximately 273,748 AFY in 2035 under normal weather conditions. These projections assume the City continues with an aggressive water conservation program. SDCWA is planning to supply the City with 234,398 AF by 2035 (City of San Diego 2016).

#### ***Long-Range Water Resources Plan***

The City used an integrated water resources planning approach in developing its 2012 Long-Range Water Resources Plan (City of San Diego 2013). Integrated water

resources planning is a process by which demand-side and supply-side options are viewed together in order to meet multiple objectives, such as reliability, cost, water quality, environmental protection, and implementation risks. This process also addresses uncertainties such as droughts, climate change, and regulatory change.

Assuming ongoing drought conditions and climate change impacts through year 2035, if the City's status quo of heavy dependence on imported water were continued without implementation of the 2012 Long-Range Water Resources Plan, reliance on imported water supplies would be approximately 83% and potential shortages would approach approximately 32% of projected water demand. With the implementation of the Long-Range Water Resources Plan strategy, reliance on imported water would be reduced to 50% under drought and climate change conditions, and there would be no anticipated water shortages (City of San Diego 2016).

## **5.18 RECREATION**

### **5.18.1 INTRODUCTION**

The following discussion describes the environmental setting and regulatory framework related to recreation for the North City Project. Specifically, this section identifies and describes the existing recreational facilities and opportunities in the Project area, both at and near Project component locations.

The information provided in this section is based on a review of the City of San Diego (City) General Plan Recreation Element, the City's Park and Recreation website (<https://www.sandiego.gov/park-and-recreation>), data from the San Diego Geographic Information Source (SanGIS) database (SanGIS 2013), the Google Earth geographical information program, City of Santee General Plan, City of Santee Recreation Services Division website (<http://www.ci.santee.ca.us/Index.aspx?page=426>), and the County of San Diego Parks and Recreation website (<http://www.sandiegocounty.gov/parks/>). Further, for local area fishing facilities including Lake Miramar and San Vicente Reservoir, weekly fish reports are summarized to characterize use of facilities and the Lake Miramar Creel Report (2013-2014) prepared by the California Department of Fish and Wildlife (CDFW) was reviewed and summarized where determined to be appropriate.

### **5.18.2 ENVIRONMENTAL SETTING**

The North City Project includes a variety of facilities located throughout the corporate boundaries of the City and proposed pipelines that would traverse a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside in unincorporated San Diego County.

The City of San Diego Park and Recreation Department is responsible for the management of over 42,000 acres of developed and undeveloped park land, joint use, and open space that offer a diverse range of recreational opportunities (City of San Diego 2017a). The City's parks, beaches, open space, trails, lakes, reservoirs, and recreation centers annually serve millions of residents and visitors and play an important role in the physical, mental, social, and environmental health of the City and its residents.

Santee has eight public parks that are distributed throughout the city and provide a variety of recreational facilities and opportunities including athletic fields, open space, playgrounds and picnic areas, and aquatic programs for residents and the

public (City of Santee 2017). Santee’s park system and local recreational opportunities are augmented by the 107-acre Walker Preserve (owned by Santee), the Santee Lakes Recreation Preserve, Sycamore Canyon Open Space Preserve and Goodan Ranch, and Mission Trails Regional Park. While the majority of Mission Trails Regional Park is located within the City of San Diego’s boundary, a small section of the park is within the Santee city limits and the East Fortuna Staging Area is (located at the intersection of State Route 52 (SR-52) and Mast Boulevard) is located in close proximity to the western city limits.

In addition to local and county parks, trails, a County preserve, and reservoirs encompass the recreational opportunities available in the unincorporated County of San Diego community of Lakeside. While surrounded by unincorporated County lands, San Vicente Reservoir is owned by the City of San Diego.

Parks and recreational facilities within 0.5 mile of Project components are identified on Figures 5.18-1A through 5.18-1D.

### **5.18.2.1 Components Common to Project Alternatives**

#### **Morena Pump Station**

The Morena Pump Station site is bounded by Sherman Street and Custer Street and is located in southwestern area of Linda Vista. While the Morena Pump Station site located in an urban and industrial setting, recreational facilities and open space are located nearby. The nearest recreational facilities include the San Diego River Bike Path (located 0.20 mile south), Mission Bay Park (approximately 0.3 mile to the west (and west of I-5)), Presidio Park (approximately 0.3 mile to the southeast), Sefton Field (approximately 0.4 mile to the southeast), and Silver Terrace Park (approximately 0.4 mile to the east). In addition, the San Diego River is located approximately 230 feet south of the Morena Pump Station site (south of Friars Road) and this segment of the river and San Diego River Park is known as the Mission Valley Preserve.

#### ***San Diego River Bike Path***

Located along the south bank of the San Diego River, the Estuary Section of the San Diego River Bike Path is paved, approximately 10-foot-wide, and occasionally striped path that runs from Sefton Field west to Dog Beach (i.e., in Ocean Beach).

Cyclists and other trail-based recreationists on the Estuary Section of the San Diego River Bike Path are physically buffered from the Morena Pump Station site by the San Diego River and Friars Road.

### ***Mission Bay Park***

Consisting of over 4,600 acre of land and water and 27 miles of shoreline, Mission Bay Park is the largest aquatic park of its kind in the country (City of San Diego 2017b). Mission Bay Park offers boat docks and launching facilities, sailboat and motor rentals, biking and walking paths, unprogrammed turf area, basketball courts, picnic facilities, and playgrounds. The City of San Diego identifies 15 individual park facilities and permit sites that include De Anza Cove in the northeast, Hospitality Point in the southwest, Sail Bay in the northwest, and Rose Marie Starns South Shores Park in the southeast (City of San Diego 2017c).

Mission Bay Park recreationists are physically buffered from the Morena Pump Station site by I-5 and intervening development located east of I-5 and north of Friars Road.

### ***Presidio Park***

Located in the Old Town Community Plan area and on the site of San Diego’s original Spanish presidio and mission, Presidio Park (approximately 50 acres). The approximately 50-acre park offers both educational and recreational opportunities as the Junipero Serra Museum and more than 2 miles of trails, a recreation center, basketball courts, and picnic tables are located within the park boundaries (City of San Diego 2017d). Presidio Hills Golf Course is adjacent to Presidio Park and the public, par three, 18-hole golf course features a driving range and putting green.

Presidio Park recreationists (and Presidio Hills Golf Course recreationists) are physically buffered from the Morena Pump Station site by I-8, the San Diego River, and Friars Road.

### ***Sefton Field***

Located at 2508 Hotel Circle Place, Sefton Field consists of two Little League (“Majors”) fields, two t-ball fields, and a Seniors/Juniors baseball field. Sefton Field is used by Presidio Little League Baseball generally during the spring and fall seasons.

Sefton Field recreationists (and spectators) are physically buffered from the Morena Pump Station site by the San Diego River and Friars Road. The approximate 0.85-acre park features a turf area, limited picnic facilities, and a children’s playground.

### ***Silver Terrace Park***

Silver Terrace Mini-Park is located north of Friars Road, west of Colusa Street, and south of the SDG&E's Old Town substation. The approximate 0.85-acre park features a turf area, limited picnic facilities, and a children's playground.

Silver Terrace Mini-Park recreationists are physically buffered from the Morena Pump Station site by intervening development and roads including Morena Boulevard.

### ***Mission Valley Preserve***

Consisting primarily of passive open space, the Mission Valley Preserve is traversed by segments of the Estuary Section of the San Diego River Bike Path (see discussion above) and a system of unimproved, multi-use trails that link Sefton Field with the Mission Valley YMCA (one trail parallels the San Diego River Bike Path for approximately 0.5-mile). Also, the green line of the MTS Trolley spans the Mission Valley Preserve between I-8 and Friars Road (west of Morena Boulevard) and from Friars Road to the northern boundary of Sefton Field (east of Morena Boulevard) (City of San Diego 2016a).

The San Diego River and Friars Road physically buffer trail-based recreationists at the Mission Valley Preserve from the Morena Pump Station site.

### **Morena Wastewater Forcemain and Brine/Centrates Line**

The Morena Wastewater Forcemain and Brine/Centrates (Morena Pipelines) Line primarily travel along paved roadways between the Morena Pump Station in Linda Vista and the North City Water Reclamation Plant (NCWRP) in the University Community Plan area. In addition to the recreational facilities discussed above for the Morena Pump Station, the nearest recreational facilities to the Morena Pipelines alignment include Tecolote Community Park (approximately 0.27 mile to the west near Sea World Drive crossing) in the Linda Vista Community Plan area. In the Clairemont Mesa Community Plan area, nearby recreational facilities include South Clairemont Community Park (3577 Clairemont Drive; adjacent to alignment along Clairemont Drive), Tecolote Canyon Natural Open Space Park (approximately 0.10 mile east near Balboa Avenue crossing), North Clairemont Community Park (approximately 0.12 mile south near Genesee Avenue crossing), Marian Bear Memorial Park (adjacent to alignment and Genesee Avenue south of SR-52). In the University Community Plan area, Rose Canyon Open Space Park (adjacent to

alignment at Rose Canyon crossing) in the only park or recreational facility located within 1,000 feet of the forcemain and brine/centrate line alignment.

### ***Tecolote Community Park***

Tecolote Community Park features five baseball/softball fields, a recreation center, turf areas, basketball courts, a children’s playground, walking paths, and limited picnic tables. In addition, the Tecolote Nature Center (technically a component of the Tecolote Canyon Natural Open Space Park) is located adjacent to the park boundaries at the northern extent of Tecolote Road.

Intervening development and roads physically buffer trail-based recreationists at Tecolote Community Park from the Morena Wastewater Forcemain and Brine/Centrate Line alignment in Morena Boulevard.

### ***South Clairemont Community Park***

South Clairemont Community Park is located adjacent south of Marston Middle School and north of the Clairemont Pool and the Mission Valley YMCA Krause Family Bike/Skate Park. In addition to a recreation center, South Clairemont Community Park features walking paths, turf areas, a gazebo/small picnic area, tennis court and, basketball court.

Access to the South Clairemont Community Park parking lot is provided off Clairemont Drive and as such, the park is located adjacent to the Morena Pipeline alignment. The park is also accessible via Waco Street, which parallels Clairemont Drive and the park’s eastern boundary.

### ***Tecolote Canyon Natural Open Space Park***

Comprised primarily of undeveloped canyon lands stretching from Linda Vista Road to the south, Mesa College to the east, and Clairemont Mesa Boulevard to the north, Tecolote Canyon Natural Open Space Park features numerous trailheads that originate at local area parks and provide access to approximately 6.5 miles of multi-use trails (City of San Diego 2017e).

The closest trailhead to the Morena Pipeline alignment is situated at North Clairemont Community Park (City of San Diego 2017f). At its closest point, the Morena Pipeline alignment is located within 340 feet of Tecolote Canyon Natural Open Space Park however, trail-based recreationist are physically buffered from the Clairemont Drive alignment by residences and sloping canyon terrain.

### ***North Clairemont Community Park***

Similar to the South Clairemont Community Park, North Clairemont Community Park features a recreation center; multi-purpose field, outdoor basketball and tennis courts, and a children’s play area. In addition, a gymnasium for basketball, soccer, volleyball, and other recreational pursuits is available at North Clairemont Community Park (City of San Diego 2017g).

Intervening development and roads physically buffer trail-based recreationists at North Clairemont Community Park from the Morena Pipeline alignment in Clairemont Mesa Boulevard.

### ***Marian Bear Memorial Park***

The Morena Pipeline alignment is located adjacent to Marian Bear Memorial Park as Genesee Avenue approaches SR-52 from the south. The open space park is comprised of undeveloped San Clemente Canyon bottom lands that parallel SR-52 and run west from I-805 to I-5. Multiple trailheads are provided from the south (i.e., at Limerick Avenue, Lehrer Drive, Cobb Drive, and Biltmore Street), and graveled staging/parking areas are located off Regents Road and Genesee Avenue (restroom facilities are provided at the Genesee Avenue staging/parking area). Park trails provide a connection to Rose Canyon Open Space hiking trails and Stadley Community Park in the University Community Plan area (City of San Diego 2017h).

### ***Rose Canyon Open Space Park***

The Morena Pipeline alignment is located adjacent to Rose Canyon Open Space Park as Genesee Avenue traverse Rose Canyon and spans existing railroad track. The open space park is comprised of undeveloped canyon bottom lands that that run west from I-805 to I-5 and parallel I-5 south to SR-52. A small staging area is available west of Genesee Avenue near University City High School (the parking area is only accessible via southbound Genesee Avenue) but parking is available at the high school when school is not in session (City of San Diego 2017i).

### **North City Water Reclamation Plant Expansion**

The proposed NCWRP Expansion, North City Influent Pump Station, and North City Renewable Energy Facility would occur at the existing NCWRP, a City of San Diego water reclamation plant facility located south of the proposed North City Pure Water Facility (NCPWF) site and Eastgate Mall.

There are no parks or recreational facilities located within 1,000 feet of the NCWRP. The nearest recreational facility, Nobel Athletic Area, is located 0.50-mile southwest of the NCWRP. The athletic area is comprised of 30 acres including two softball fields, children’s play area, an off-leash dog park, two soccer fields, a multipurpose fields, shaded picnic tables, barbeque pits, outdoor basketball courts, and walking paths (City of San Diego 2017j). In addition, designated open space (i.e., Carroll Canyon Open Space) is located 0.60-mile northeast of the NCWRP. Per the Carroll Canyon Master Plan, there are no designated trails or trailheads in the designated open space/canyon terrain located west of Camino Santa Fe (City of San Diego 1994) and the area is bound by railroad track to the south and industrial warehouse and office development to the north and east.

I-5, Miramar Road, and intervening development physically buffer recreationists at the Nobel Athletic Area from the NCWRP. While the Carroll Canyon Open Space does not offer developed recreational amenities, dispersed recreation that may occur there is physically buffered from the NCWRP site (and NCPWF site) by intervening development and canyon terrain.

### **North City Pure Water Facility**

The NCPWF site is located on an undeveloped and disturbed triangular-shaped parcel located north of the existing NCWRP. The Nobel Athletic Area (see discussion above under North City Water Reclamation Plant Expansion) is the closest park to the NCPWF however, designated open space is located within 0.60-mile to the east (i.e., Carroll Canyon Open Space), and 0.70-mile to the northwest (i.e., Campus Point Open Space). Please refer to the North City Water Reclamation Plant Expansion discussion above for a description of designated open space in Carroll Canyon. Based on aerial imagery, the Campus Point Open Space area features a limited number of dirt trails that are accessible via informal trailheads located off Campus Point Drive and Eastgate Mall.

### **North City Pure Water Facility Influent Pump Station and Conveyance**

The NCPWF Influent Pump Station would be constructed at the NCWRP. Please refer to North City Water Reclamation Plant Expansion above, for a discussion of parks and recreational facilities located near the NCPWF Influent Pump Station.

### **North City Pure Water Pump Station**

The North City Pure Water Pump Station (North City Pump Station) site encompasses an approximate 0.7-acre site located adjacent to the southeastern corner of the

NCPWF site. Please refer to North City Pure Water Facility above, for a discussion of parks and recreational facilities located near the North City Pure Water Pump Station.

### **Landfill Gas Pipeline**

The proposed underground Landfill Gas (LFG) Pipeline would primarily be located on Marine Corps Air Station (MCAS) Miramar land and would generally follow the existing disturbed City utility easement (recycled water line, centrate line, sludge line, landfill gas line, and fiber optic cable) that runs between the Miramar Landfill and NCWRP. As the landfill gas pipeline originates at the NCWRP, the parks and recreational facilities near the NCWRP Expansion would also be applicable to the landfill gas pipeline. See discussion above for the North City Water Reclamation Plant Expansion. In addition, designated open space in Rose Canyon is located within 0.75-mile of the landfill gas pipeline as measured from the pipeline alignment near the eastern terminus of Governor Drive. Please refer to the Rose Canyon Open Space Park discussion above under the Morena Wastewater Forcemain and Brine/Centrates Line heading.

I-5, Miramar Road, intervening development, and undeveloped MCAS Miramar lands physically buffer recreationists at the Nobel Athletic Area from the landfill gas pipeline alignment. I-5, intervening development (i.e., Miramar Wholesale Nursery), and undeveloped MCAS Miramar lands buffer trail-based recreationists on designated open space of Rose Canyon.

The NCCF LFG compressor station is located off Johnson Road in the City's Miramar Landfill lease area. In addition to the Miramar Landfill (located south of the NCCF LFG compressor station), MCAS Miramar lands are located to the north. There are no parks or public recreational facilities located within one mile of the NCCF LFG compressor station. The nearest park, University Garden Neighborhood Park, is located approximately 1.3 miles to the west (and west of I-805 and in the University Community Plan area) and offers a baseball field, large turf area, children's playground area, and limited picnic facilities.

### **Metro Biosolids Center Improvements**

The Metro Biosolids Center is an existing regional biosolids treatment facility located on 39 acres adjacent to the Miramar landfill. The nearest parks and recreational facilities are located to the southwest and west of the Metro Biosolids Center, across from SR-52 and in the case of MacDowell Neighborhood Park, across from SR-52 and I-805. Located approximately 0.30-mile to the southwest of the Metro Biosolids

Center in the Kearny Mesa Community Plan area, the Hickman Field Athletic Area is a 44-acre complex that boasts space for 6 soccer fields, 10 baseball/softball fields for various age groups, and informal (i.e., unpaved) parking. MacDowell Neighborhood Park is located approximately 1.3 miles to the east of the Metro Biosolids Center and includes a walking path, turf area, children’s play area and several picnic tables.

Recreationists (and spectators) at the Hickman Field Athletic Area are physically buffered from the Metro Biosolids Center by intervening development and SR-52. Intervening development, SR-52, and I-805 physically buffer recreationists at MacDowell Neighborhood Park from the Metro Biosolids Center.

### **5.18.2.2 Miramar Reservoir Alternative**

#### **North City Pure Water Pipeline and Dechlorination Facility**

As proposed, the North City Pure Water Pipeline (North City Pipeline) alignment is primarily located within existing paved roadways and travels between the NCPWF – Miramar Reservoir (NCPWF-MR) and the Miramar Reservoir. The North City Pipeline alignment traverses MCAS Miramar and the City’s University, Mira Mesa (primarily along Miramar Road), and Scripps Miramar Ranch communities. Through the City’s University Community Plan area, the North City Pipeline alignment is located within 0.20-mile of designated open space in Carroll Canyon and in Miramar Road between Miramar Way and Keenan Street, the pipeline alignment is adjacent to the Miramar Memorial Golf Course (located on MCAS Miramar). No other parks or recreational facilities are located within 1,000 feet of the pipeline alignment through the Mira Mesa Community Plan area. Within the Scripps Miramar Ranch Community Plan area and along Hoyt Park Drive, the pipeline alignment is located within 1,000 feet of the designated open space that extends west from Hoyt Park. Lastly, the North City Pure Water Pipeline terminates at (and the subaqueous pipeline is located beneath the surface of) Miramar Reservoir. Lake View Park and Miramar Overlook Park are located east and west of Miramar Reservoir and both feature turf area, children’s playgrounds, benches, restrooms, and covered picnic facilities.

#### ***Miramar Reservoir***

Owned, operated, and maintained by the City of San Diego as a domestic drinking water supply, Miramar Reservoir offer diverse recreational opportunities including fishing, cycling, running, rollerblading, and picnicking (there are 18 barbeques and 48 picnic tables available) (City of San Diego 2017k). A paved, approximately 4.9-

mile long service road encircles the reservoir and is popular for walking, running, and cycling. While the majority of use is from runners, cyclists, and other forms of recreation besides fishing, Miramar Reservoir is also available for fishing (a permit is required for anglers and anglers 16 years or older must have a valid California Fishing License). Miramar Reservoir includes a concessions building from which recreationists can rent boats (private boats, kayaks and float tubes are also permitted on Miramar Reservoir) and purchase bait. Miramar Reservoir is open to fishing and private boats, kayaks and float tubes seven days a week from one-half hour before sunrise to sunset. Further, the gates are open from 5:30 a.m. to 8 p.m. during Daylight Savings Time and 5:30 a.m. to 6:30 p.m. when Daylight Savings Time is not in effect.

The reservoir has Florida-strain largemouth bass (*Micropterus salmoides floridanus*) (minimum size limit for bass is 12 inches), bluegill (*Lepomis macrochirus*), channel catfish (*Ictalurus punctatus*), and red ear sunfish (*Lepomis microlophus*) (City of San Diego 2017k). In addition, CDFW stocks the reservoir with rainbow trout (*Oncorhynchus mykiss*) in the 1- to 3.5-pound weight range during winter months (City of San Diego 2017l; CDFW 2016). Fish limits are five bass, five catfish and 25 bluegill in aggregate, with no limit of other species. In 2016, fish report detail that bass was the most regularly caught fish (nearly all reported catches (2,388 out of 2,389) included in the 2016 fish report were released) followed by Bluegill (222 reported catches), Channel Catfish (17 reported catches), and Redear Sunfish (3 reported catches) (City of San Diego 2017m). In addition, for the week ending April 9, 2017, 27 bass were caught and released and no other species of fish were reported caught (City of San Diego 2017n).

Angler, or “creel”, surveys of Lake Miramar users were conducted by CDFW in 2013 and 2014. Along with population estimates and general fish surveys, creel surveys provide useful information on catch species and assist in fishery management decisions (CDFW 2014). According to the creel surveys, Miramar Reservoir experiences the most angling traffic during the spring season but the catch per unit effort (# fish caught/total angler hours) is highest during the fall season (CDFW 2014). As previously mentioned, the majority of fish caught at Miramar Reservoir are largemouth bass (and over 50% of all catches are in the 12-15 inch range) and the species consistently dominates the total catch during each season. The creel surveys demonstrate that anglers are very satisfied with their overall fishing experience (over 50% of anglers rated their overall experience as very good) and the majority of anglers rate both the number and size of fish caught as good (CDFW 2014). Among those responding to motive questions concerning their visit to

Miramar Reservoir, over 90% identified “enjoying the outdoors” as very important, and approximately 60% identified “to catch a fish” or “to be with friends and family” as very important. Nearly 50% of respondents identified “to catch a trophy fish” and/or “to reflect on past trip” as important and 60% identified “to develop fishing skills” as important (CDFW 2014).

The Dechlorination Facility site is located in an industrial office park area off the Meanley Drive cul-de-sac in the Scripps Miramar Ranch community. The large turf area located to the south of the Dechlorination Facility site comprises the Meanley Open Dog Park. In addition to dispersed parcels of designated open space the closest of which is located approximately 0.20-mile east of the Dechlorination Facility site, Hoyt Park and the Miramar Reservoir are located within 0.40-mile. Located at 10711 Canyon Lake Drive, offers a large turf area, picnic tables, and children’s play area. Recreational opportunities at Miramar Reservoir are described above for the North City Pure Water Pipeline.

### **Miramar Water Treatment Plant Improvements**

The existing Miramar Water Treatment Plant is located in the Scripps Miramar Ranch community and operates along the southern shoreline of the reservoir. Parks and recreational facilities near the Miramar Water Treatment Plant (i.e., Miramar Reservoir, Lake View Park, and Miramar Overlook Park) are discussed above under North City Pure Water Pipeline and Dechlorination Facility.

#### **5.18.2.3 San Vicente Reservoir Alternative**

##### **San Vicente Reservoir Pure Water Pipeline**

The San Vicente Reservoir Pure Water Pipeline (San Vicente Pipeline) alignment is primarily located within existing paved roadways between the North City Pure Water Facility–San Vicente Reservoir (NCPWF-SVR) and the San Vicente Reservoir. The NCPWF-SVR is located on the same vacant 8.7-acre City-owned lot across Eastgate Mall to the north of the NCWRP as the NCPWF-MR. Similar to the NCPWF-MR, a pump station would also be located adjacent to the NCPWF-SVR. The alignment of the San Vicente Pipeline traverses MCAS Miramar, the City’s University, Kearney Mesa, Tierrasanta, East Elliott, and Navajo communities, the City of Santee, and the unincorporated County of San Diego community of Lakeside. The parks and recreational facilities located near the pipeline alignment as it traverses these communities are identified and described below.

### ***Hickman Field Athletic Area***

The western terminus of the San Vicente Pipeline is located in Copley Drive (near 5629 Copley Drive), approximately 400 feet north of the Hickman Athletic Field Area. Recreation amenities at the Hickman Athletic Field Area were previously discussed in Section 5.18.2.1 (see Metro Biosolids Center Improvements).

### ***Tierrasanta Open Space***

East of I-15 and west of Mission Trails Regional Park, undeveloped canyon lands in the Tierrasanta Community Plan area comprise the Tierrasanta Open Space network. Linear, unimproved trails are generally located on canyon bottoms and the nearest marked trailhead to the network via West Shepard Canyon is located immediately north of Clairemont Mesa Boulevard, approximately 530 feet east of Antigua Boulevard. Another trailhead to the open space network is located off Tierrasanta Boulevard, approximately 215 feet west of Rueda Drive. This trail provides access to North Rueda Canyon and the Canyon Trail.

### ***Villa Monserate Neighborhood Park***

No developed parks within Tierrasanta are located adjacent to the San Vicente Pipeline alignment. Located at 5728 Robusto Road, Villa Monserate Neighborhood Park is located approximately 0.25-mile north of the Clairemont Mesa Boulevard portion of the alignment. The neighborhood park features children's play areas, turf areas, and walking paths.

Recreationists at Villa Monserate Neighborhood Park are physically buffered from the San Vicente Pipeline alignment by intervening development and canyon terrain.

### ***Roadrunner Neighborhood Park***

Located immediately south of Farb Middle School, Roadrunner Park includes large rectangular turf area with two baseball/softball fields and six total backstops, a children's play area, picnic facilities, a southern turf area, and walking paths. Roadrunner Park is located approximately 0.20-mile southwest of the San Vicente Pipeline alignment at the La Cuenta Drive crossing.

Recreationists at Roadrunner Park are physically buffered from the San Vicente Pipeline alignment by intervening residential and commercial development and roads.

### ***Rancho Mission Canyon Open Space***

Undeveloped canyon lands located north of Waring Road and west of Navajo Road in the Navajo area encompass the Rancho Mission Canyon Open Space area. Trails generally line the bottom of canyons and are accessible via multiple trailheads, the closest of which is located at the eastern terminus of Larchwood Avenue, approximately 0.25-mile southeast of the Mission Gorge Road/Margerum Avenue intersection (City of San Diego 2017o). Walkers and runners are the primary users of the trail network. Through the Navajo community, the San Vicente Pipeline is located in Mission Gorge Road.

Trail-based recreationists at the Rancho Mission Canyon Open Space area are physically buffered from the San Vicente Pipeline alignment by intervening residential development and roads.

### ***Rancho Mission Canyon Neighborhood Park***

Located in the Navajo community at 6005 Larchwood Avenue, Rancho Mission Canyon Park is an approximately 5.5-acre facility featuring two turf areas lined by walking paths and featuring a parking lot. Trailheads to the Rancho Mission Canyon Open Space area are available at the northern and southern end of the park. Rancho Mission Canyon Park is located approximately 0.35-mile southeast of the San Vicente Pipeline alignment in Mission Gorge Road.

Trail-based recreationists at the Rancho Mission Canyon Open Space area are physically buffered from the San Vicente Pipeline alignment by intervening residential development and roads.

### ***Mission Trails Regional Park***

From Deerfield Street in Navajo northeast to Highridge Road in Santee (approximately 2.2 miles), Mission Gorge Road and the San Vicente Pipeline are located adjacent to Mission Trails Regional Park land. Encompassing 7,220 acres of natural and developed areas, Mission Trails Regional Park consists of rugged hills, valley, and open areas and is a popular destination for walking, hiking, trail running, mountain biking, equestrian use, camping (the 46-site Kumeyaay Campground is open for Friday and Saturday night camping), and rock climbing (Mission Trails Regional Park 2017a). The park also features a modern visitor and interpretive center where visitors can learn about the park's history, natural plant and animal activities, and the various activities and destinations available within the park (Mission Trails Regional Park Foundation 2017b).

Recreational opportunities accessible via Mission Gorge Road and the Father Junipero Serra Trail include BMX riding, hiking, rock climbing, and camping. Parking is provided off Mission Gorge Road at Deerfield Street, Father Junipero Serra Trail, and the Kumeyaay Lake Campground. Trails accessible via these parking areas include the Deerfield Loop, Visitor Center Loop, Oak Grove Loop, Climber's Loop, Canyon Trail, and the Kwaay Paay Peak Trail (City of San Diego 2017p).

### ***Santee Lakes Recreation Preserve***

Located off Carlton Oaks Drive and Fanita Parkway, the Santee Lakes Recreation Preserve is a 190-acre park and campground surrounding seven lakes filled with recycled water (Padre Dam Municipal Water District 2016). In addition to camping, recreation opportunities include fishing, picnicking, bird watching, boating, cycling, and running. Several children's play areas are also distributed throughout the recreation preserve. The lakes are stocked with catfish April to September and rainbow trout January through March and bass and bluegill are prevalent. The lakes are numbered 1 through 7 from south to the north and Lakes 1 through 5 are for day use fishing and Lakes 6 and 7 are for registered campers. No state fishing license is required at the Santee Lakes Recreational Preserve but a permit from the General Store is required (Padre Dam Municipal Water District 2017a).

Recreationist at Lake 1 (i.e., the southernmost lake and facility located closest to the San Vicente Pipeline alignment in Carlton Oaks Drive) are physically buffered from the pipeline alignment by intervening Padre Dam Municipal Water District facilities, parking lots, and City of Santee Fire Department Station #5 (located at 9130 Carlton Oaks Drive).

### ***Mast Park (City of Santee)***

Located at 9125 Carlton Hills Boulevard, Mast Park features a developed picnic area, barbeque grills, a picnic arbor, children's playground, basketball court, off-leash dog park, disc golf course, walking paths, and restrooms (City of Santee 2017a). In addition, natural habitat areas and an extensive trail system surround the park. The Mast Park parking lot is located off Carlton Hills Boulevard, approximately 0.10-mile south of Carlton Oaks Boulevard. The disc golf course portion of park (i.e., the easternmost area) is located as close as 240 feet from the San Vicente Pipeline alignment.

Recreationists at Mast Park are physically buffered from the pipeline alignment in Carlton Oaks Boulevard by intervening commercial and residential development.

### ***Lakeside Baseball Park***

The Lakeside Baseball Park is home to the Lakeside National Little League. Baseball park fields are located north of the San Diego River, approximately 0.15-mile south of Mast Boulevard, and west of Riverford Road. Marathon Parkway runs perpendicular to Mast Boulevard and provides access to the four, artificial turf field little league complex which also features batting cages, a children's playground, restrooms, concessions stand, and surface parking (Lakeside National Little League 2017). The fields host games for several divisions including t-ball, rookies, minors, and majors during the spring and summer regular season and fall ball season.

Recreationists (and spectators) at Lakeside Baseball Park are physically buffered from the pipeline alignment in Carlton Oaks Boulevard by intervening industrial warehouse development.

### ***El Capitan Equestrian Facility***

Situated on 4 acres at the intersection of Willow Road and Moreno Avenue, the El Capitan Equestrian Center offers boarding, training, and lessons. (El Capitan Equestrian Center 2017a). Site amenities at the privately owned and operated facility include two large arenas with night lighting for events, a round pen, 29 indoor barn stalls and a pasture (El Capitan Equestrian Center 2017b).

The San Vicente Pipeline is aligned in Moreno Avenue from north of Willow Road to the San Vicente Road driveway (approximately 2.15 miles).

### ***Louis A. Stelzer County Park***

Located at 11470 Wildcat Canyon Road in Lakeside, Louis A. Stelzer County Park consist of 310 acres of oak woodland and coastal sage scrub habitat with opportunities for bird watching, hiking, and picnicking. The park also contains playgrounds, a horseshoe pit, amphitheater, and barbeques (County of San Diego 2017a). The majority of parklands are located in V-shaped Wildcat Canyon and the easternmost portion of the park is located within 0.35-mile of the San Vicente Pipeline alignment in Moreno Avenue.

Recreationists at Louis A. Stelzer County Park are physically buffered from the pipeline alignment in Moreno Avenue by intervening rural residential development and equestrian facilities.

### ***Oakoasis Preserve***

Accessible via Wildcat Canyon Road and located within 0.25-mile of the southern shoreline of San Vicente Reservoir, Oakoasis Preserve boasts nearly 400 acres of chaparral, manzanita, and woodlands habitat (County of San Diego Parks and Recreation 2017b). The preserve features a 2.5-mile loop trail which affords trail-based recreationists sweeping views of surrounding mountains and valleys, and tent and cabin camping (cabin camping is available to youth groups only).

Recreationists at Oakoasis Preserve are physically buffered from the pipeline alignment (the in-reserve alternative and the tunnel alternative) by intervening mountainous terrain.

### ***Berkeley Herring Preserve***

The Berkeley Herring Preserve is a relatively small tract of designated open space situated west of San Vicente Reservoir and east of SR-67. An SDG&E access road is aligned in a general northwestern-southeastern direction through the central portion of the preserve.

The San Vicente Reservoir's marina parking lot is located approximately 0.30-mile southeast of the preserve.

### ***San Vicente Reservoir***

In addition to providing fishing, general boating and kayaking, and water contact sport (i.e., water skiing, wakeboarding, and jet-skis) opportunities, marina facilities including a 900-foot, 6-lane launch ramp, a large parking lot, covered picnic facilities, restrooms, a bait shop and concessions store, and paved walking paths are provided at the west end of the San Vicente Reservoir. On Sundays, fishing, general boating and water contact sport are permitted at San Vicente Reservoir and on Thursdays, Fridays, Saturdays, and Mondays, fishing and general boating are permitted (water contact sport is not permitted). The reservoir is closed for recreational use on Tuesdays and Wednesdays. All persons age 8 and older entering reservoir property are required to pay daily use fees (anglers 16 years of age and older must have California state fishing license) and all access is provided on a first come first served basis (City of San Diego 2017q). Gates to the reservoir and boat launch area open 1.5 hours before sunrise. In September 2016, the reservoir reopened to recreationists after being closed for eight years during construction of the San Vicente Dam Raise Project.

Regarding opportunities for fishing, the reservoir is stocked with Florida-strain largemouth bass, crappie, bluegill, channel catfish, blue catfish, green sunfish, and carp. Minimum size limit for bass is 12 inches and 10 inches for crappie and fish limits are five bass, five catfish, 25 crappie and bluegill in aggregate, with no limit on other species. As with Miramar Reservoir, CDFW occasionally stocks San Vicente Reservoir with rainbow trout during winter months. A recent creel survey for San Vicente Reservoir was not located during the preparation of this section in April 2017 and given the duration of closure, it's highly unlikely the CDFW has prepared a recent survey for the reservoir. However, on Opening Day (i.e., September 22), 346 angler were checked, 19 bass were kept, and 4,173 bass were caught and released (San Diego Union Tribune 2016).

### **Mission Trails Booster Station**

The Mission Trails Booster Station would be on an approximate 1.2-acre site located along Mission Gorge Road and north of a small commercial center. Nearby recreational facilities, include Rancho Mission Canyon Open Space, Rancho Mission Canyon Neighborhood Park, and Mission Trails Regional Park. For a description of the recreational opportunities available at these facilities, please refer to the San Vicente Reservoir Pure Water Pipeline discussion above.

### **5.18.3 REGULATORY FRAMEWORK**

#### **Federal**

There are no federal regulations pertaining to recreation that are particularly applicable to the proposed project.

#### **State**

There are no state regulations pertaining to recreation that are particularly applicable to the proposed project.

#### **Local**

##### ***City of San Diego General Plan***

The City's General Plan was unanimously adopted by the City Council on March 10, 2008, and was subsequently amended in 2010 and again in 2012. The General Plan consists of the following elements: Land Use Community Planning, Mobility, Urban Design, Economic Prosperity, Public Facilities, Services & Safety, Recreation,

Conservation, Noise, and Historic Preservation. A discussion of the Recreation Element is provided below.

**Recreation Element.** The purpose of the Recreation Element is to preserve, protect, acquire, develop, operate, maintain, and enhance public recreation opportunities and facilities throughout the City for all users (City of San Diego 2015a). Three use categories of parks and recreation for residents and visitors are provided by the City of San Diego: population-based, resource-based, and open space. Population-based parks include Neighborhood and Community parks, are located in close proximity to residential development, and are intended to serve the daily needs of residents. Resource-based parks are located at, or centered on, notable natural or man-made features (beaches, canyons, habitat systems, lakes, historic sites, and cultural facilities) and are intended to serve the Citywide population and visitors. In addition to Mission Bay Park, Mission Trails Regional Park and Balboa Park are classified by the City as resource-based parks. Open space lands are City-owned lands located throughout the City, consisting of canyons, mesas, and other natural landforms, and are intended to preserve and protect native plants and animals, while providing public access and enjoyment by the use of hiking, biking, and equestrian trails.

Relevant policies of the Recreation Element include the following:

- RE-A.8. Provide population-based parks at a minimum ratio of 2.8 useable acres per 1,000.
- RE-C.1. Protect existing parklands and open space from unauthorized encroachment by adjacent development through appropriate enforcement measures.
- RE-F.1. Protect and enhance parklands from adjacent incompatible uses and encroachments.

### ***University Community Plan***

According to the University Community Plan, dominant existing uses include UCSD, University Towne Center, the research and corporate headquarters, and medical centers in the northern portion of the planning area and the major parkland resources of the Torrey Pines, Rose Canyon and San Clemente Canyon areas (City of San Diego 1986). According to the community plan's Open Space and Recreation Element, the open space in the University planning area serves primarily three functions: (1) the preservation of topographic or biotic resources and habitats for resident and

migratory birds; (2) the provision of outlets for active or passive recreation; and (3) the protection of public health and safety (City of San Diego 2016b).

A relevant proposal of the University Community Plan is listed below. The University Community Plan does not contain policies and therefore, none are listed below.

- 7. San Clemente Canyon - Marian Bear Memorial Park should be preserved and maintained by the City of San Diego as a regional, resource-based park. The canyon and its riparian vegetation, including the mature oak and sycamore trees, should be preserved in their natural state.

### ***Mira Mesa Community Plan***

The Mira Mesa community is approximately 10,500 acres in area and is located in the northcentral portion of the City of San Diego (City of San Diego 2011a).

The following goal of the Mira Mesa Community Plan is relevant to the proposed project:

- Preservation of areas notable for scenic, natural or cultural attractions as resource-based parks.

The policies of the Mira Mesa Community Plan are not particularly relevant to the proposed project.

### ***Clairemont Mesa Community Plan***

Clairemont Mesa is an urbanized residential community with several shopping centers, parks and recreational facilities and educational opportunities. Development within the community is guided by the Clairemont Mesa Community Plan and applicable objectives, policies, and recommendations of the Open Space and Environmental Resources Element (City of San Diego 2015b) include:

- Objective 1: Preserve and enhance Marian Bear Memorial Park, Tecolote Canyon Natural Park, Stevenson Canyon and the finger canyons to provide visual open space and community identity.
- Objective 4: Protect the resource value of canyon areas and plant and animal wildlife within the community.
- Recommendation 6. Design: Any development proposed within or adjacent to the designated open space areas should be subject to development standards

of the Hillside Review Overlay Zone and Design and Development Guidelines and the Tecolote Canyon Rim Development Guidelines in order to protect the natural resources and preserve community identity.

- All public improvements such as roads, drainage channels and utility service and maintenance facilities should be developed in a manner that minimizes the visual and physical impacts of such improvements on the open space system.

None of the objectives or recommendations of the Population-Based Parks and Recreation Element are particularly relevant to the proposed project.

### ***Linda Vista Community Plan***

In Linda Vista, local parks serve the immediate population, while Tecolote Canyon Natural Park provide services to surrounding communities as well. (City of San Diego 2011b). There are three community parks (Kearny Mesa, Linda Vista, and Tecolote) and two neighborhood parks (Kelly Street and Mission Heights) within the Linda Vista community. Tecolote Canyon Natural Park is a resource-based park which forms the northwestern edge of the community. The park contains a golf course and passive recreational amenities.

Objectives and recommendations of the Open Space Element and the Community Facilities, Parks, and Services are not particularly relevant to the proposed project.

### ***Kearny Mesa Community Plan***

The community of Kearny Mesa is a major industrial and commercial center occupying a central location in the City of San Diego and the community meets employment, business, and retail needs for a large portion of the City (City of San Diego 2011c). Kearny Mesa is incised by two major canyon systems. The most prominent canyon, Murphy Canyon, parallels I-15 along the entire eastern boundary of the Plan area. The second canyon is a tributary of the San Clemente Canyon.

Applicable goals and policies of the Kearney Mesa Community Plan Conservation and Open Space Element are listed below:

- Policy 1: In order to conserve natural resources, prevent incompatible uses from locating on constrained land.

- Recommendation 1: Provide open areas within developments that provide visual relief and temporary respite from the work place.

### ***Scripps Miramar Ranch Community Plan***

Scripps Miramar Ranch is located on the north central part of metropolitan San Diego and the planning area contains approximately 4,365 acres of land (City of San Diego 2011d). The predominant land use in the planning area is residential although business park uses are concentrated in a southwestern portion of the community.

Relevant objectives of the Parks, Recreation, and Open Space Element include the following:

- Maximize preservation of existing mature eucalyptus groves, natural slopes and major canyons through careful siting of roadways and structures.
- Support creation of a regional park on Miramar Reservoir in accordance with the 1975 City Lakes Recreation Development Plan and the desires of local residents. Guarantee vehicular and pedestrian access to Scripps Ranch residents.

### ***Tierrasanta Community Plan***

The Tierrasanta community is centrally located within the greater San Diego metropolitan area, and with the exception of the Open Space portion of the plan area in Mission Trails Regional Park, the predominant land use in Tierrasanta is residential (City of San Diego 2011e).

None of the objectives or recommendations of the Tierrasanta Community Plan are particularly relevant to the proposed project.

### ***Navajo Community Plan***

The park system in the Navajo Community includes population-based parks, resource-based parks and open space lands (City of San Diego 2015c). Concerning Rancho Mission Neighborhood Park, the community plan states that the park encompasses an 18.84 acre site and features 9.42 useable acres including passive lawn areas, walkways through natural open space, picnic areas and on-site parking. Concerning Rancho Mission Canyon Open Space, the community plan states that approximately 21,900 lineal feet of trails are located throughout the open space network accessible from Conestoga Street, Margerum Street, Hemingway Street, Cabaret Street and Navajo Street. In addition, trail amenities

include trail kiosk, trail makers, interpretive signs, native landscaping and benches (City of San Diego 1982b).

Applicable objectives of the Navajo Community Plan are listed below:

- Protect and enhance the integrity and quality of existing parks, open space and recreational programs in the Navajo Community.

### ***City of Santee General Plan***

Adopted in 2003, the City of Santee General Plan 2020 contains nine elements including a Recreation Element and a Trails Element. The City's Parks and Recreation Master Plan sets the City's goal for parks at 10 acres of parkland for every 1,000 people in the City. Of this 10 acres, five acres is developed public parkland and the remaining five acres would be comprised of other recreational facilities, such as the school facilities and the Mission Trails and Goodan Ranch Regional Parks. Through the City of Santee, the San Vicente Pipeline would be located within existing roadways including Carlton Oaks Drive and Mast Boulevard. No other Project components are proposed in Santee and because parks and recreational facilities are not located adjacent to the San Vicente Pipeline alignment, goals, objectives, and policies of the Recreation and Trails Elements are not applicable.

### ***County of San Diego General Plan***

**Conservation and Open Space Element.** The primary focus of the Conservation and Open Space Element Parks and Recreation Section is to identify how the County intends to meet the public need for parks and recreation opportunities and open space. Applicable goals and policies of the Conservation and Open Space Element Parks and Recreation Section (County of San Diego 2011a) include the following:

- Policy COS-23.1 Public Access. Provide public access to natural and cultural (where allowed) resources through effective planning that conserves the County's native wildlife, enhances and restores a continuous network of connected natural habitat and protects water resources.
- Policy COS-24.1 Park and Recreation Contributions. Require development to provide fair-share contributions toward parks and recreation facilities and trails consistent with local, state, and federal law.

### ***Lakeside Community Plan***

Lakeside is a rural residential community that has experienced pressure to urbanize and accommodate suburban residential developments (County of San Diego 2011b). Relevant policies of the Lakeside Community Plan are listed below:

- Policy 4: Minimize conflicts between trail users and adjacent properties.

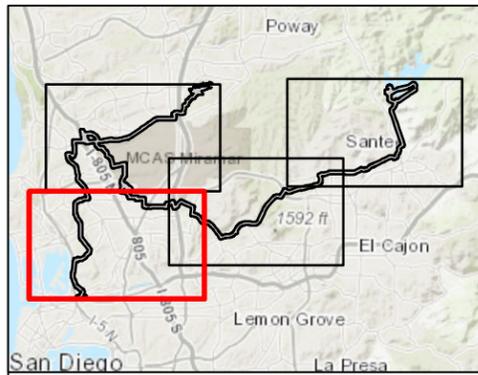
### ***County of San Diego Community Trails Master Plan – Lakeside Community Trails and Pathways Plan***

Adopted in January 2005, the County Trails Program consists of a system of interconnected regional and community trails and pathways intended to address the public need for recreation and transportation and provide health and quality of life benefits associated with hiking, mountain biking, and horseback riding (County of San Diego 2005). Several proposed community trails and community pathway are identified along the San Vicente Pipeline alignment through the community of Lakeside. More specifically, community trails and community pathway are proposed along and perpendicular Riverside Drive, Lakeside Avenue (i.e., Lakeside Avenue Pathway), Willow Road (i.e., Willow Road Pathway), and Moreno Avenue (i.e., Moreno Avenue Pathway). However, as these facilities have not yet been established and would essentially parallel the San Vicente Pipeline alignment once established, conflicts between construction activities and operation of the pipeline and trail-based recreationists are not anticipated.

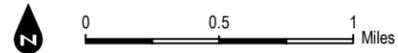
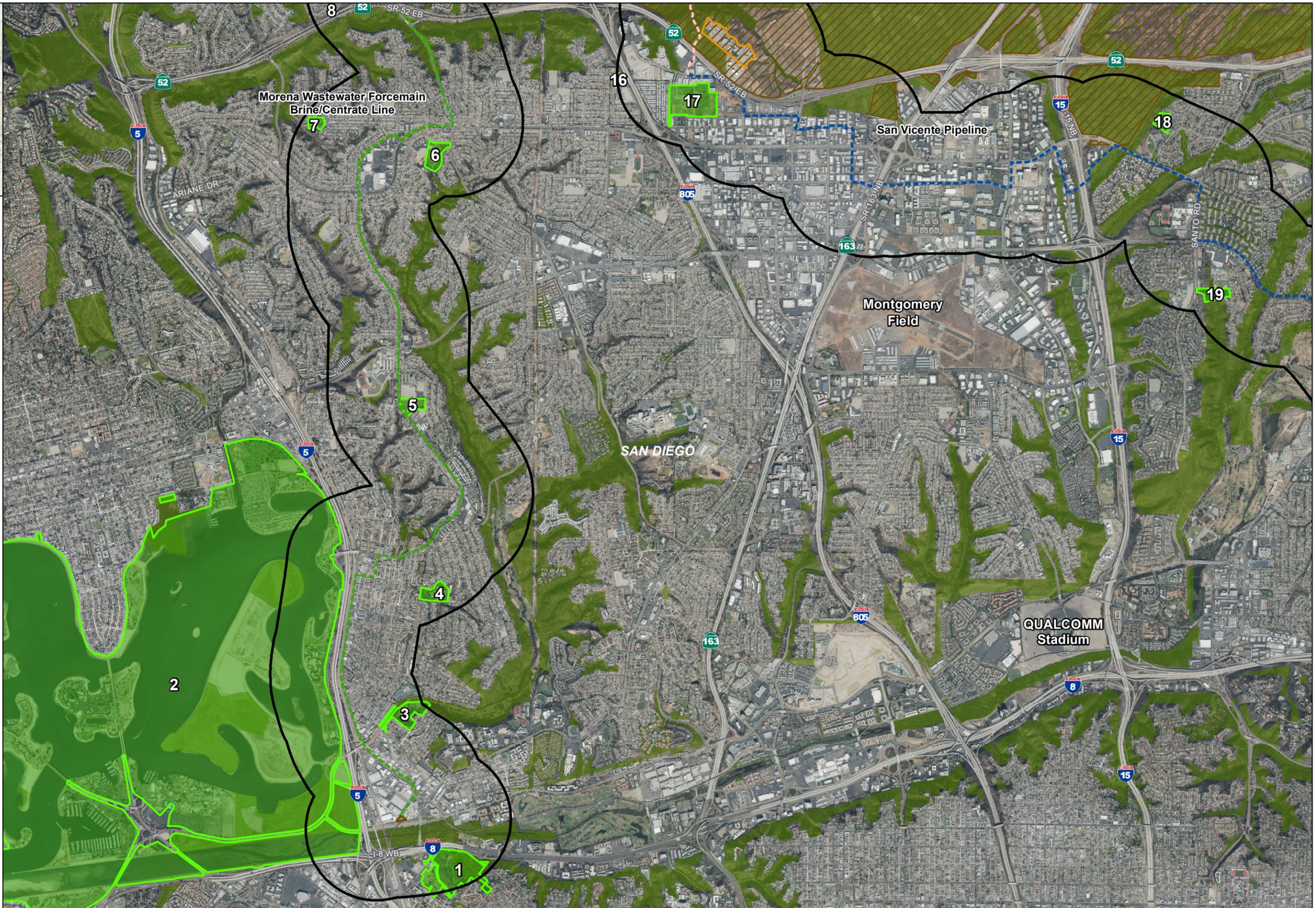
### ***Regional Trails Plan***

According to the Trails Master Plan, regional trails are significant on a countywide, state, or national level as they have characteristics and conditions that serve a regional function by covering long linear distances, transcending community and/or municipal borders, and/or providing important connections to existing parks and open space preserves (County of San Diego 2005). Of the nine trails in the regional trails plan, two (San Diego River Park Regional Trail and the Trans-County Trail) are located in the project area or would be traversed Project components.

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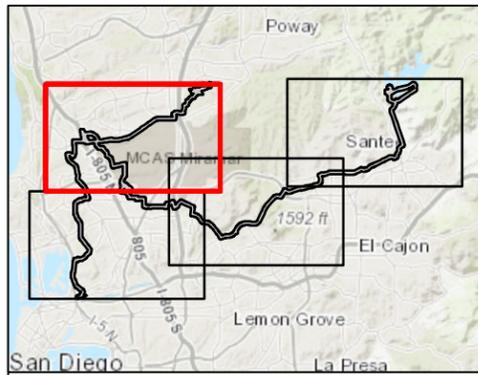


- Project Study Area 0.5-Mile Buffer
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
  - San Vicente Pure Water Pipeline
  - Morena Wastewater Forcemain and Brine/Centrated Line
  - Repurposed Existing 36" Pipeline
- Project Facilities**
  - Metro Biosolids Center Improvements
  - Morena Pump Station
  - City of San Diego Parks and Recreation Facilities
- Community Park**
  - 1 - Presidio Park and Recreation
  - 3 - Tecolote Park and Recreation
  - 5 - Clairemont Park and Recreation
  - 6 - N Clairemont Park and Recreation
  - 8 - Standley Park and Recreation
- Regional Park**
  - 2 - Mission Bay Park
  - 17 - Hickman Field Park
- Neighborhood Park**
  - 4 - Western Hills Park
  - 7 - Gershwin Park
  - 16 - MacDowell Park
  - 18 - Villa Monserate Park
  - 19 - Roadrunner Park
- Landscape Open Space/Park/Preserve



SOURCE: SanGIS 2017; SANDAG 2014, 2016

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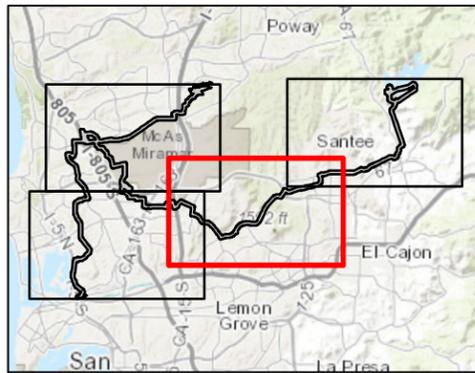


- Project Study Area 0.5-Mile Buffer
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
- North City Pure Water Pipeline
- North City Pure Water Pipeline - Subaqueous Pipeline
- San Vicente Pure Water Pipeline
- Morena Wastewater Forcemain and Brine/Centrate Line
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- Project Facilities**
- North City Pure Water Facility
- North City Pure Water Pump Station
- North City Water Reclamation Plant Expansion
- Metro Biosolids Center Improvements
- Pure Water Dechlorination Facility
- Miramar Water Treatment Plant Improvements
- Landfill Gas Compressor Station
- City of San Diego Parks and Recreation Facilities
- Community Park**
- 6 - N Clairemont Park and Recreation
- 8 - Standley Park and Recreation
- 9 - Doyle Community Park
- 10 - Nobel Athletic
- Regional Park**
- 17 - Hickman Field Park
- Neighborhood Park**
- 7 - Gershwin Park
- 11 - Weiss/Mandell - Eastgate Park
- 12 - Aviary Park
- 13 - Forestview Mini-Park
- 14 - Overlook Park
- 15 - Lakeview Neighborhood Park
- 16 - MacDowell Park
- 18 - Villa Monserate Park
- County of San Diego Parks and Recreation Facilities
- Regional Park**
- 22 - Mission Trails Regional Park
- Landscape Open Space/Park/Preserve

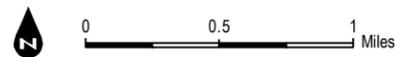
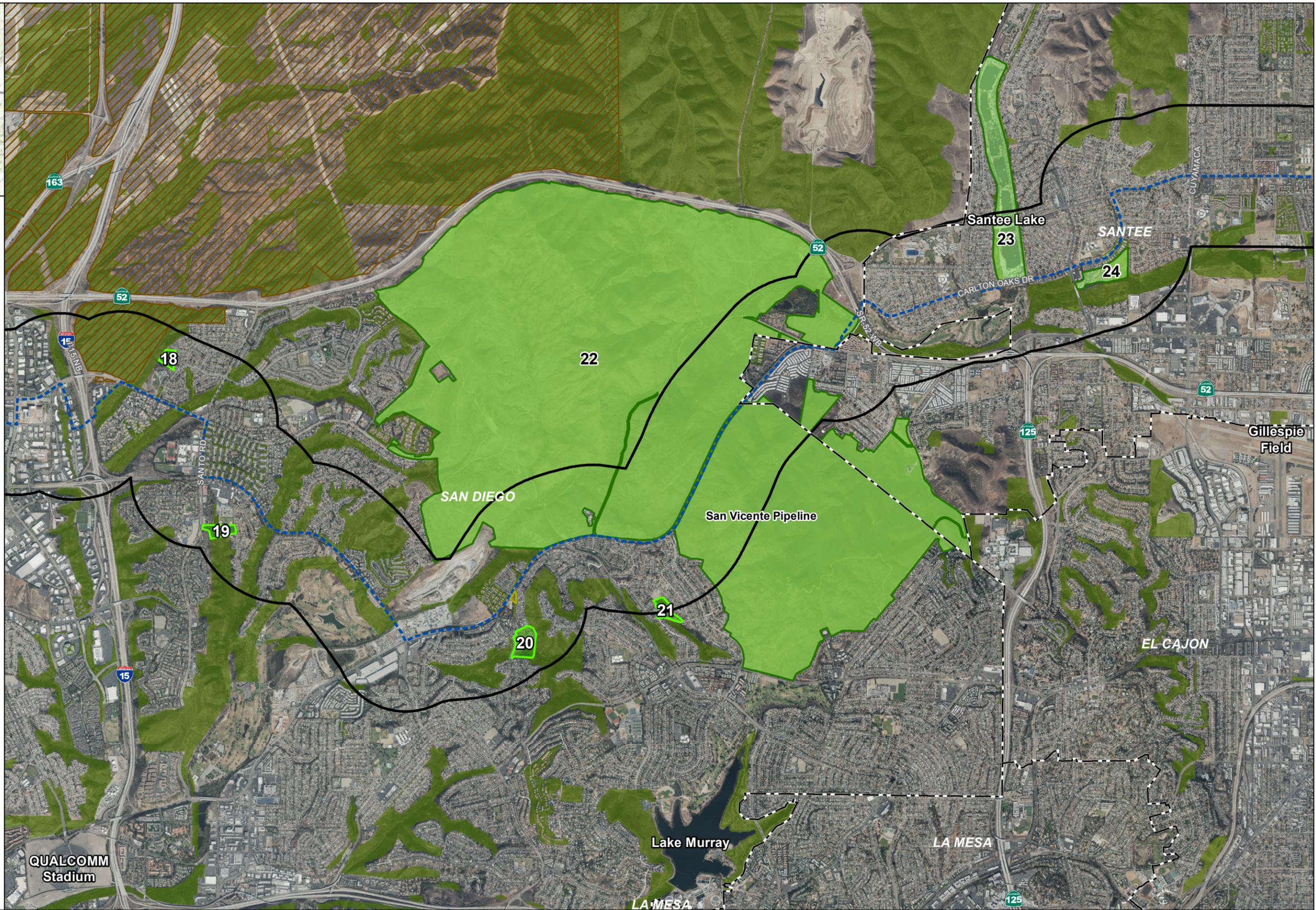


**FIGURE 5.18-1B**  
Parks and Recreation Facilities

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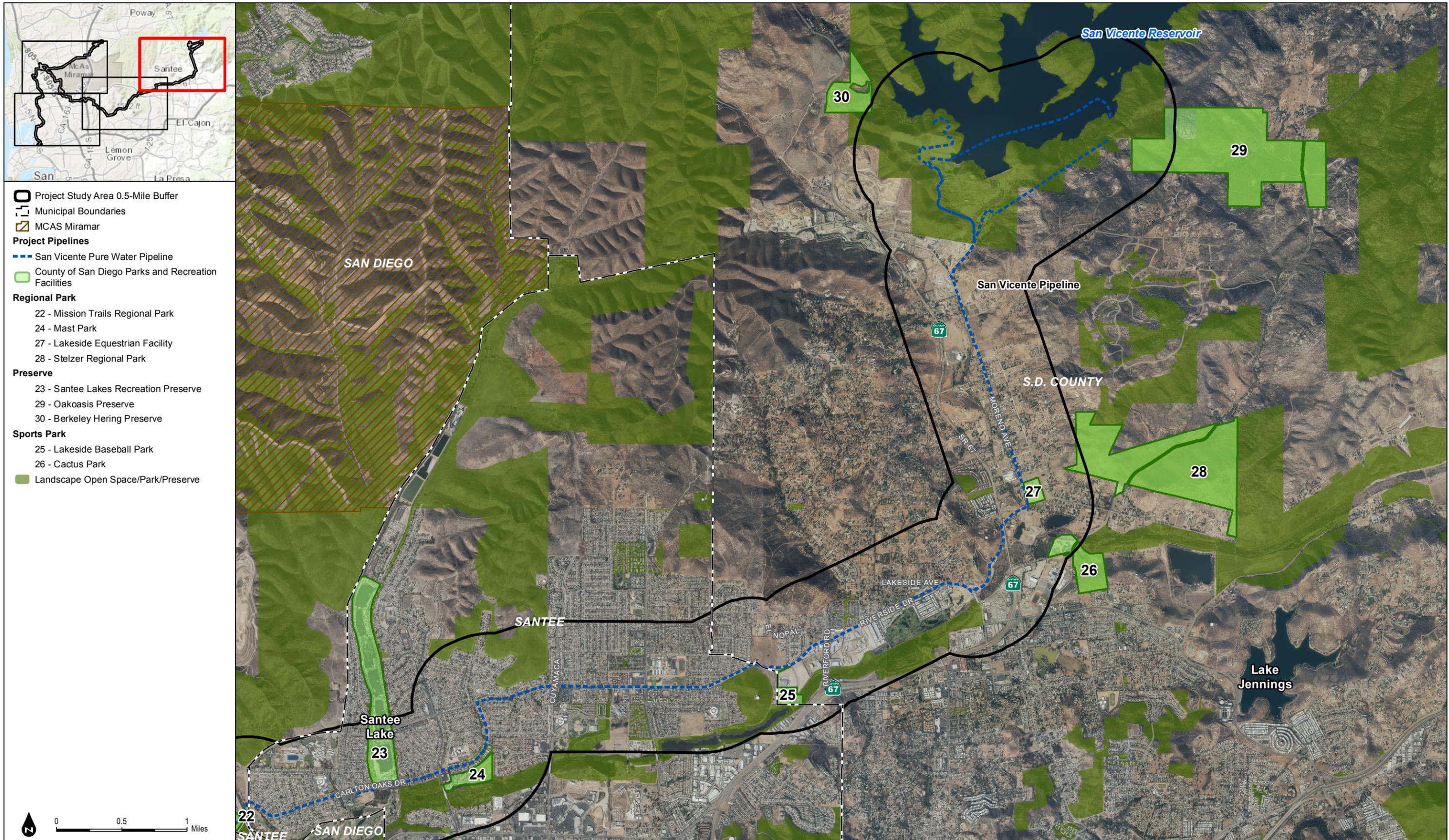


- Project Study Area 0.5-Mile Buffer
- Municipal Boundaries
- MCAS Miramar
- Project Pipelines**
- San Vicente Pure Water Pipeline
- Project Facilities**
- Mission Trails Booster Station
- City of San Diego Parks and Recreation Facilities
- Neighborhood Park**
- 18 - Villa Monserate Park
- 19 - Roadrunner Park
- 20 - Rho Mission Canyon Park
- 21 - Tuxedo Park
- County of San Diego Parks and Recreation Facilities
- Regional Park**
- 22 - Mission Trails Regional Park
- 24 - Mast Park
- Preserve**
- 23 - Santee Lakes Recreation Preserve
- Landscape Open Space/Park/Preserve



SOURCE: SanGIS 2017; SANDAG 2014, 2016

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SOURCE: SanGIS 2017; SANDAG 2014, 2016

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 5.18-1D**  
Parks and Recreation Facilities

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## CHAPTER 6 ENVIRONMENTAL ANALYSIS

### 6.1 LAND USE

#### 6.1.1 INTRODUCTION

The following section examines the impacts of the North City Project on the future environmental goals, objectives, and recommendations of applicable land use plans.

Potential impacts with the provision of adopted Airport Land Use Compatibility Plans are described elsewhere in this Environmental Impact Report/Environmental Impact Statement (EIR/EIS). See Section 6.9, Health and Safety/Hazards, and Section 6.12, Noise.

#### 6.1.2 CEQA THRESHOLDS OF SIGNIFICANCE

The City's California Environmental Quality Act Significance Determination Thresholds (City of San Diego 2016) and Appendix G of the California Environmental Quality Act (CEQA) Guidelines contain significance guidelines related to land use. In addition, the City of San Diego Development Services Department submitted a comment letter regarding the scope of the EIR/EIS and identified significance thresholds to utilize in the EIR/EIS. Therefore, pursuant to the City Development Services Department comment letter dated August 4, 2016, a significant impact to land use would occur if the proposed project would:

1. Be inconsistent with or conflict with the environmental goals, objectives, and recommendations of the City of San Diego General Plan (General Plan), the City of San Diego Municipal Code, the various community plans where the project would be located, or other applicable land use plans including the [Marine Corps Air Station] MCAS Miramar Integrated Natural Resources Management Plan?
2. Conflict with adopted environmental plans for the area including an adopted local habitat conservation plan?

As stated in Section 5.1, "zoning ordinances of a county or city do not apply to the location of construction of facilities for the production, generation, storage, treatment, or transmission of water" (Government Code Section 53091(e)). While the development standards associated with City of San Diego zoning underlying North City Project facilities are not applicable, they are considered for information purposes in order to assist in determining local land use compatibility.

### 6.1.3 ISSUE 1

***Would the North City Project be inconsistent or conflict with the environmental goals, objectives, and recommendations of the City of San Diego General Plan (General Plan), the City of San Diego Municipal Code, or the various community plans where the project would be located, or other applicable land use plans including the MCAS Miramar Integrated Natural Resources Management Plan?***

#### 6.1.3.1 Impacts

##### **No Project/No Action Alternative**

No land use impacts would result from the No Project/No Action Alternative.

##### **Miramar Reservoir Alternative**

##### ***Morena Pump Station***

##### **General Plan**

Within the exception of a small portion of the site designated for Park, Open Space, and Recreation use that would not be developed, the Morena Pump Station site is designated for Industrial Employment use by the City of San Diego General Plan. Further, the Morena Pump Station site is currently developed and is located in an industrial neighborhood in which large, two- to three-story warehouses and showrooms and occasional tall office complexes have been constructed. As proposed, the Morena Pump Station would consist of (1) a junction structure and intake screening facility – flow separator and screening structures, (2) pump station building, (3) odor control and chemical storage, (4) energy dissipator for the 24-inch brine line, (5) transformer, and (6) electrical and motor control center building. Lastly, the Morena Pump Station site would be encompassed by an 8-foot-high masonry perimeter wall, and street trees would be installed along Sherman Street and Custer Street site frontages.

As the Morena Pump Station site is designated for industrial use and currently supports office development within an industrial neighborhood dotted with warehouses and showrooms, development of the Morena Pump Station would not conflict with the underlying Industrial Employment land use designation associated with the site. Further, above-ground components and structures at the Morena

Pump Station would be partially screened from view of passing motorists by newly installed street trees along the Sherman Street and Custer Street Morena Pump

Station site frontages and by the 8-foot high masonry perimeter wall. In addition, construction and operation of the Morena Pump Station at the proposed site would not preclude implementation of the City of Villages Strategy. Neither the Linda Vista Community Plan nor the City's General Plan designate the site for mixed use and land uses in the immediate vicinity generally consistent of industrial and office uses. In addition, development of the Morena Pump Station and the North City Project would further the goals of the Public Facilities, Services, and Safety Element and Conservation Element by utilizing reclaimed water to supplement regional water supply and produce a safe and adequate water supply. Therefore, no adverse effects related to conflicts between development of the Morena Pump Station and applicable environmental goals, objectives, and recommendations of the City's General Plan would occur.

### **Municipal Code**

The Morena Pump Station site is zoned Industrial-Light (IL-3-1), which allows for a mix of light industrial, office, and commercial zone. Pump stations are not specifically listed within the Institutional Use category in Municipal Code Table 131-06B, Use Regulations for Industrial Zones. However, energy generation and distribution facilities, and major communication switching stations, are listed and considered permitted uses (switching stations are permitted uses with limitations) in the IL-3-1 zone. While pump stations are not specifically identified in Table 131-06B, the IL-3-1 zone accommodates similar necessary utilities, and these uses (and pump stations) are often located in urban settings out of necessity.

Development of the Morena Pump Station would essentially require the entire site and therefore, development would comply with the IL-3-1 zone minimum lot area of 15,000 square feet but would not comply with the minimum required setback of 15 feet from the property line (Table 131-06C). As currently proposed, the Energy Dissipator Structure and Electrical Building encroach into the required setback area. In addition, pursuant to Municipal Code Section 142.0310(c), solid walls located at the property line along Custer Street and Sherman Street shall not exceed 3 feet in height. An 8-foot-high solid wall is currently proposed at the majority of the property line along Custer Street and Sherman Street. However, at the facility access gates on Custer and Sherman Streets, a minimum length of 10 feet of wrought-iron fencing would be provided on both sides of the gates. Further, to meet the City's visibility

requirements established by Municipal Code Section 113.0273 (i.e., walls within the visibility clearance area shall not exceed 3 feet in height), the height of the masonry block wall at these locations would be limited to 3 feet, and the remaining 6 feet, 6 inch height of the wall would be wrought-iron fencing. As there are no height limits for structures in industrial zones, development of aboveground structures including the intake screening facility and the electrical and motor control center (MCC) building would not conflict with height regulations. Also, regulations listed in Table 131-06C of the Municipal Code require refuse and recyclable material storage at the facility, and existing landscape regulations require that one 15-gallon tree be planted within 30 feet of the two proposed parking spaces along the site's southern property line. As currently proposed, no refuse and recyclable material storage would be provided at the facility, and no new plantings are indicated within the fence line of the pump station (see Figure 6.2-5 in Section 6.2).

As demonstrated above, development of the Morena Pump Station site would not comply with applicable development regulations regarding minimum setbacks, ~~minimum parking ratios,~~ refuse and recyclable materials storage, and landscaping, but pursuant to Government Code Section 53091(e)), the City's development regulations do not apply to the Project. However, development of Morena Pump Station (and all Project components) would comply with the City's development regulations to the maximum extent feasible, and where safety is an issue such as for visibility areas, the Project would be designed to meet development regulations. Therefore, no adverse effects related to conflicts between development of the Morena Pump Station and the City's Municipal Code would occur.

### **Community Plans**

The Morena Pump Station site is located within the southwestern corner of the Linda Vista Community Plan area. Similar to the City's General Plan designation, the community plan designates the site and surrounding area for Industrial use and the southwestern corner of the community plan encompasses the industrial Morena area. Development of the site as proposed would further Linda Vista Community Plan Commercial and Industrial Land Use Goal 2 (retain the existing industrial area west of Morena Boulevard). Construction and operation of the Morena Pump Station would retain the current industrial character of the site and would be consistent with the community plan vision of the Morena area as an industrial hub. Due to intervening vegetation, development, and the MTS Trolley bridge span over Friar's Road, proposed Morena Pump Station above-ground structures would not be readily visible from Interstate 5 (I-5) or Pacific Highway. Instead, passing motorists on these roadways

would experience the Project site primarily as a cluster of eucalyptus trees located along the southern site boundary and new street trees installed along Sherman Street. As such, the Project would not present a poor visual image to passing motorists and the Morena Pump Station would not conflict with Commercial and Industrial Land Use Goal 3 (“Ensure that development in the Morena area presents a positive visual image to viewers from Interstate 5, Pacific Highway, Interstate 8, and Mission Bay Park”). Therefore, no adverse effects related to conflicts between development of the Morena Pump Station and applicable environmental goals, objectives, and recommendations of the Linda Vista Community Plan would occur.

### ***Morena Wastewater Forcemain and Brine/Centrates Line***

#### **General Plan**

As proposed, the Morena Wastewater Forcemain and Brine/Centrates Line (Morena Pipelines) alignment travels from the proposed Morena Pump Station to the North City Water Reclamation Plant (NCWRP) primarily along existing paved roadways. The proposed alignment would run through several neighborhoods and is located adjacent to industrial, commercial, residential and park, open space, and recreation uses associated with a variety of industrial, commercial, and residential zoning designations. As the Morena Pipelines would be installed underground within existing roadways and/or tunnels across highways and canyons, no conflicts with the goals of the City’s General Plan Land Use and Community Planning and Urban Design Element would occur. Water and wastewater infrastructure are essential services and are located in nearly every neighborhood of the City. Further, because the Pipelines would be installed underground and would not include prominent above ground components, they would not impair the City’s implementation of their City of Villages strategy and would not contribute to the urban form and character of the traversed neighborhoods. For the same reasons discussed above for the Morena Pump Station, the Morena Pipelines would further the water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element. As such, no adverse effects related to conflicts between development of the Morena Pipelines and applicable environmental goals, objectives, and recommendations of the City’s General Plan would occur.

#### **Municipal Code**

As the Morena Pipelines would be installed underground within existing roadways and/or tunnels across highways and canyons, underlying zone development

regulations of the Municipal Code including setbacks, lot size, and building height would not apply.

### **Community Plans**

Between the Morena Pump Station and the NCWRP, the Morena Pipelines alignment traverses the Linda Vista, Clairemont Mesa, and University Community Plan areas. As the Morena Pipelines would be installed underground and would not include prominent above-ground features, development of the Morena Pipelines would not conflict with community plan goals regarding assurance of a positive visual image of development (Community and Industrial Land Use Goal 3; Linda Vista Community Plan) or preservation and enhancement of the visual appearance of Kearney Mesa (Urban Design Element Primary Goal; Kearney Mesa Community Plan) and the University area (Overall Urban Design Goal; University Community Plan). Therefore, no adverse effects related to conflicts between development of the Morena Pipelines and applicable environmental goals, objectives, and recommendations of the Linda Vista, Clairemont Mesa, and University community plans would occur.

### ***North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility***

#### **General Plan**

The existing NCWRP is located on land designated for is designated for Institutional & Public and Semi-Public Facilities use by the City's General Plan, Public Facilities/Institutional use by the University Community Plan. Expansion of the NCWRP and addition of the Influent Pump Station and North City Renewable Energy Facility within the existing NCWRP boundary would be consistent with the intent/goal of the Institutional & Public and Semi-Public Facilities land use designation. Pursuant to Table LU-4 of the City of San Diego General Plan Land Use and Community Planning Element, the Institutional & Public and Semi-Public Facilities land use designation is intended to provide for public or semi-public facilities and services including (but not limited to) water sanitation plants and communication and utilities (City of San Diego 2015). Construction and operation of water and power generating facilities within the boundary of an existing water reclamation plant would be consistent with the underlying City General Plan land use designation applied to the site. Proposed development would also be consistent with the range of utility uses (e.g., electrical utilities and sewer and water

facilities) associated with the Public Facilities/Institutional land use designation of the University community plan. Therefore, no adverse effects related to conflicts between development of the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility and the underlying Institutional & Public and Semi-Public Facilities land use designation of the General Plan or the Public Facilities/Institutional land use designation of the University Community Plan applied to the NCWRP site would occur.

In addition to being compatible with the intent of the underlying land use designation, expanded NCWRP operations and the addition of an Influent Pump Station and North City Renewable Energy Facility within the existing boundary of the NCWRP would not conflict with applicable environmental goals, objectives, and recommendations of the City's General Plan. Introduction of the Influent Pump Station and North City Renewable Energy Facility would entail the development of new buildings displaying similar bulk and scale as existing NCWRP structures. The Influent Pump Station would be located in a building of similar character as adjacent existing NCWRP buildings along the eastern facility boundary. Engines and generator units of the North City Renewable Energy Facility would also be located within an approximately 25-foot-tall building that would incorporate sound suppression features to reduce noise levels outside the building. Engine exhaust stacks measuring 55 feet high from the finished ground elevation immediately adjacent to the renewable energy building would rise approximately 30 feet above the roof of the building however, these features would be shorter than tall steel lattice towers and tubular steel poles in the transmission corridor located to the immediate east of the NCWRP property. Because proposed development on the NCWRP would be consistent in bulk, scale, and character with facilities and features currently operating onsite and within the adjacent transmission corridor, the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility would not create an incompatible land use within an Airport Influence Area (the facility is located in MCAS Miramar Review Area 1). In addition, proposed development would not impair the City's City of Villages Strategy of fostering focused, mixed-use activity centers. The NCWRP is an existing industrial facility that is physically separated from the residential and commercial core of the UTC area (i.e., the likely location to target mixed-use activity) by I-805. As such, proposed development and maintenance of the NCWRP site as an industrial facility would not hinder the City's vision of a mixed-use activity center in the University community plan area. Also, because expansion activities and the introduction of new facilities would occur within the boundary of a visually obstructed facility (i.e., with the

exception of perimeter buildings visible from Miramar Road the facility is generally obstructed from view of passing motorists), proposed development would not conflict with relevant Urban Design Element goals regarding enhanced visual quality for industrial development. Lastly, the Project, including the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility, would further the water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element. Therefore, no adverse effects related to conflicts between development of the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility and applicable environmental goals, objectives, and recommendations of the City's General Plan would occur.

### **Municipal Code**

While the site is zoned for Residential-Single use (i.e., RS-1-14), the NCWRP is an established use and as stated above for the Morena Pipelines, water and wastewater infrastructure are essential city services that are located in nearly every neighborhood of the City. Further, the NCWRP is an existing facility that is buffered from sensitive land uses by vacant land, military land, and I-805. As stated in Section 5.1, noteworthy development regulations for the RS-1-14 zone include setbacks (minimum front setback of 15 feet and minimum rear setback of 10 feet), and maximum structure height (35 feet). While new structures would be setback more than 15 feet from Eastgate Mall and Miramar Road, the screen wall associated with the new equalization tank and decorative wall over the southern site access driveway may not maintain a minimum 10-foot rear setback from the rear property line along Miramar Road. In addition, the new pump station and North City Renewable Energy Facility buildings would be less than 35 feet in height, and engines exhaust stacks would be approximately 55 feet high from the finished ground elevation immediately adjacent to the power generation building. Therefore, features of the North City Water Reclamation Plant Expansion and North City Renewable Energy Facility would exceed the minimum rear setback requirement and maximum structure height associated with the RS-1-4 zone.

The proposed new equalization basin within the southernmost area of NCWRP would be visible from Miramar Road. Pursuant to the City's landscape regulations, landscaping (including trees) are required between the screen wall/basin and Miramar Road. As proposed, climate-appropriate trees and accent shrubs would be installed north of Miramar Road. Trees to be installed may include Elderica pine and Torrey pine, and/or Melaleuca. Proposed landscaping to be installed is simulated in Figure 6.2-9A (in Section 6.2). As demonstrated in Figure 6.2-9A,

the new equalization tank would be partially screened by newly installed screening trees, and accent shrubs that may include toyon and foxtail agave would complement these taller features.

While features of the North City Water Reclamation Plant Expansion and North City Renewable Energy Facility would not comply with the City's RS-1-4 zone development regulations regarding minimum rear setback and maximum building height, the development of these components would comply with applicable development regulations to the maximum extent feasible. Further, pursuant to Government Code Section 53091(e), the City's development regulations do not apply to the project. Therefore, no adverse effects related to conflicts between development of the North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility and the City's Municipal Code would occur.

### **Community Plan**

The existing NCWRP is located in the industrial Miramar subarea of the University Community Plan area. Although a new, aboveground EQ basin is proposed as part of NCWRP Expansion and would be constructed on the NCWRP property to the north of Miramar Road and approximately 450 feet east of the I-805 northbound on-ramps, the tank would be clustered near two existing tanks displaying similar bulk and scale. Further, and similar to existing NCWRP components located along the perimeter proposed tanks would be partially obstructed from view of passing motorists by bermed land, vegetation, and a site perimeter retaining wall. The remaining expansion activities, Influent Pump Station and North City Renewable Energy Facility are generally proposed in the interior or northern portion of the NCWRP property and would not be readily visible by passing motorists on Miramar Road or Eastgate Mall. Therefore, expansion activities would not conflict with University community plan goals and objectives related to an improved visual image along the industrially developed portion of Miramar Road and an enhanced eastern entrance into the community. Therefore, no adverse effects related to conflicts between development of the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility and applicable environmental goals, objectives, and recommendations of the University Community Plan would occur.

As stated in Section 5.1, the NCWRP is partially located within Accident Potential Zone (APZ) II of MCAS Miramar. Refer to Section 5.9, Health and Safety/Hazards, and Section 5.12, Noise, for compatibility analyses regarding components of the Project and the MCAS Miramar Airport Influence Area (AIA).

## ***North City Pure Water Facility–Miramar Reservoir and North City Pump Station***

### **General Plan**

The North City Pure Water Facility–Miramar Reservoir (NCPWF-MR) and North City Pump Station are proposed on a vacant, City-owned lot located north of the existing NCWRP and Eastgate Mall. The NCPWF site is designated for Industrial Employment and Institutional & Public and Semi-Public Facilities use by the City General Plan, Public Facilities/Institutional and Industrial use by the University Community Plan. The North City Pump Station site is wholly designated for Institutional & Public and Semi-Public Facilities use by the General Plan and Public Facilities/Institutional and Industrial use by the University Community Plan.

As with the NCWRP property, construction and operation of the NCPWF-MR and adjacent North City Pump Station would be consistent with the intent/goal of the Institutional & Public and Semi-Public Facilities which is to provide for public or semi-public facilities and services including (but not limited to) water sanitation plants and communication and utilities. Similarly, the Industrial Employment designation provides for a mix of research, technology, light- and heavy -industrial uses and operation of the an advanced water purification facility (i.e., the NCPWF-MR) would be consistent with this range of research, technological, and industrial uses. The proposed Pure Water Facility and adjacent pump station would also be consistent with the range of utility uses (e.g., electrical utilities and sewer and water facilities) associated with the Public Facilities/Institutional land use designation of the University community plan. Therefore, no adverse effects related to conflicts between development of the NCPWF-MR and North City Pump Station and the underlying land use designations of the General Plan and the University Community Plan applied to the NCPWF and pump station site would occur.

Development of the NCPWF-MR and North City Pump Station would not conflict with applicable environmental goals, objectives, and recommendations of the City's General Plan. Similar to all other Project components, the NCPWF-MR and North City Pump Station would not impair the City's implementation of their City of Villages strategy as the sites are physically isolated from the denser UTC area to the east. The site is located in an industrial setting and is surrounded by I-805 to the west and industrial uses to the north, east, and south. In addition, due to the proximity of similarly scaled facilities and buildings at the NCWRP and tall steel lattice towers and tubular steel poles in the adjacent transmission corridor, development of the NCPWF-MR and North City Pump Station are not anticipated

to present a hazard to MCAS Miramar operations. As discussed in Section 6.2, Aesthetics/Visual Effects and Neighborhood Character, the Eastgate Mall-fronting NCPWF-MR Operations and Maintenance (O&M) Building would incorporate modern building materials including translucent light and dark blue glass windows (representative of water entering and flowing through the facility), a central, clear glass atrium, and ripple-finished, porcelain tile clad walls along the south elevation that would be representative of water entering, and flowing through the facility and finally, being purified (Brown and Caldwell/MWH Americas et al. 2016). In addition, metallic awnings and window trimmings, and climate appropriate tree and shrub landscaping plantings are proposed along the facility's Eastgate Mall frontage. Streetscape improvements including the introduction of sidewalks along east and westbound Eastgate Mall, crosswalks, and a landscaped median are also proposed. The result would be an altogether pleasing aesthetic experience for passing motorists that would enhance the visual quality of both the site and surrounding industrial area. In addition, a yet to be defined Public Art Piece would be commissioned and housed on the grounds of the NCPWF-MR. The pump station would consist of approximately 24-foot-high, cast-in-place concrete electrical control and pump rooms/buildings separated by a fiberglass sandwich panel wall system and an inviting entrance that would be sited atop a slightly elevated building pad located immediately to the east of the O&M building. A decorative CMU wall (8 feet to 12 feet high) with stainless steel gates would be constructed along the site's Eastgate Mall frontage. Vinyl coated chain-link fencing (10 feet high) would be installed along the eastern, western, and northern facility boundaries. The building pad would be landscaped with climate-appropriate tree and shrub species (Brown and Caldwell/MWH Americas et al. 2016). The NCPWF-MR and North City Pump Station would comply with applicable goals of the City's Urban Design Element regarding enhanced visual quality of industrial development, a pattern and scale of development that provides visual diversity, and distinctive public facilities enhanced with public art. In addition, the NCPWF-MR and North City Pump Station would further the applicable water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element concerning increased use of reclaimed water to supplement the region's limited water supply and a safe and adequate water supply that meets demand for existing and future population through water efficiency and reclamation. Therefore, no adverse effects related to conflicts between development of the NCPWF-MR and North City Pump Station and applicable environmental goals, objectives, and recommendations of the City's General Plan would occur.

## **Municipal Code**

Similar to the NCWRP, the NCPWF-MR and North City Pump Station sites are zoned RS-1-14. As stated in Section 5.1, noteworthy development regulations for the RS-1-14 zone include minimum front setbacks of 15 feet, minimum street side and rear setback of 10 feet, and maximum structure height of 35 feet. Proposed two- and three-story facility buildings at the NCPWF-MR and North City Pump Station site would generally comply with the minimum street side setback of 10 feet. In addition to sidewalks, planters with rock mulching, shrubs, and trees would be installed between Eastgate Mall and the NCPWF street side property line. Consistent with the City's Landscape Regulations, parking lot trees are proposed in the landscape islands adjacent to parking along the NCPWF-MR west property line (see Figure 6.2-13 in Section 6.2). Landscape regulations also require the installation of one street tree per 30 linear feet of street frontage (Section 142.0409(a)(1)) along Eastgate Mall and the maintenance of minimum tree separation distance from improvements including traffic signals and stop signs (20 feet), sewer lines (10 feet), aboveground utility structures (10 feet), driveways (10 feet), and intersections (25) (see Table 142-04E of the Municipal Code). ~~(the site features approximately 400 linear feet of street frontage). As shown on Figure 6.2-13, n~~ Nine street trees are currently proposed along the site's Eastgate Mall frontage (see Figure 6.2-13). While the site features approximately 400 linear feet of street frontage and requires 13 street trees pursuant to Municipal Code Section 142.0409(a)(1), maintaining minimum tree separation distance from aboveground and belowground utilities, the NCPWF driveway, and intersections make the installation of four additional trees on Eastgate Mall infeasible. ~~and therefore, the landscape concept plan does not comply~~ with the City's landscape regulations.

The height of new buildings constructed at the NCPWF and North City Pump Station site would generally comply with the RS-1-14 zone maximum structure height of 35 feet however, the O&M building, LOX storage tanks, and Lime Facility would be taller than 35 feet. According to elevations prepared for the NCPWF, the O&M building parapet would be approximately 46 feet above finished grade (AFG), the top of LOX tank would be approximately 43 feet, 9 inches AFG, and the Lime Facility at top of deck would be approximately 60 feet AFG. Also, it should be noted that the site is located in an industrial area and the nearest residential development occurs approximately 0.5 mile to the southwest across I-805. Surrounding land uses consist of an SDG&E substation to the north, a transmission corridor, sand and gravel quarry and other industrial uses including warehouse and distribution facilities to the east, the existing NCWRP to the south, and I-805 to the west.

While the NCPWF-MR would not comply with the City's ~~landscape regulations regarding site frontage street trees and~~ development regulations ~~including regarding~~ maximum building height, the NCPWF-MR would comply with the City's landscape regulations and would comply with applicable development regulations to the maximum extent feasible. Further, pursuant to Government Code Section 53091(e), the City's development regulations do not apply to the Project. Therefore, no adverse effects related to conflicts between development of the NCPWF-MR and North City Pump Station and the City's Municipal Code would occur.

### **Community Plan**

The NCPWF-MR and North City Pump Station are proposed on vacant, City-owned land in the industrial Miramar subarea of the University Community Plan area. As proposed, the NCPWF-MR O&M building would incorporate tempered light blue curtain walls and doors glass along the building exterior (and central, light blue insulated glass atrium is also proposed) and would incorporate to outdoor viewing platforms take advantage of the San Diego climate and reduce heating costs. Through the introduction of aesthetically pleasing O&M building architecture, climate appropriate site landscaping including street trees and median plantings along Eastgate Mall, decorative resin panels/site wall signage that incorporates the "Pure Water" project title and City logo along the Eastgate Mall frontage site perimeter wall, and a new sidewalk along Eastgate Mall, development of the NCPWF-MR and North City Pump Station would provide visual amenities and a sense of place and would improve and enhance the entrance to the business park, commercial, and residential developed Central subarea of the University Community Plan area. Therefore, no adverse effects related to conflicts between development of the NCPWF-MR and North City Pump Station and applicable environmental goals, objectives, and recommendations of the University Community Plan would occur.

As stated in Section 5.1, the NCPWF-MR and North City Pump Station are partially located within APZ II of MCAS Miramar. Refer to Section 5.9, Health and Safety/Hazards, and Section 5.12, Noise, for compatibility analyses regarding components of the Project and the MCAS Miramar AIA.

### ***Landfill Gas Pipeline***

#### **General Plan and Community Plan**

The proposed underground Landfill Gas (LFG) Pipeline would primarily be located on MCAS Miramar land and would run between the northwestern corner of the

Miramar Landfill lease area and NCWRP. The LFG Pipeline alignment is proposed to be located within two utility easements across MCAS Miramar which run generally north-south between the Miramar Landfill and the NCWRP and under a portion of Miramar Road between Miramar Mall and the BNSF Railway. Existing access roads would be used to access the underground alignment. The southern end of the LFG Pipeline would connect to a proposed LFG compressor station that would be located within the Miramar Landfill lease area.

Approximately 0.6 mile of the LFG Pipeline alignment is located along Miramar Road in the University Community Plan area. Installation of the pipeline would not conflict with Citywide Land Use and Community Development, Urban Design, Public Facilities, Services, Safety, and Conservation Element goals; Municipal Plan goals; or University Community Plan goals. Gas pipelines and similar utilities are located throughout the City of San Diego in nearly every neighborhood and are essential services to residences, businesses, public facilities, and other land uses of the built environment. Further, the gas pipeline alignment would be located in an established industrial area and would avoid residential neighborhoods. Construction and operation of the LFG Pipeline across MCAS Miramar would be coordinated with the MCAS Miramar Deputy Director of Environmental, Marine Corps Installation West (MCIWEST) Regional Planners, and Headquarters Marine Corps (HQMC) (USMC 2016). Therefore, no adverse effects related to conflicts between development of the LFG Pipeline and applicable environmental goals, objectives, and recommendations of the General Plan, University Community Plan, and the MCAS Miramar Integrated Natural Resources Management Plan would occur.

### **Municipal Code**

As the LFG Pipeline would be installed underground, underlying zone development regulations of the City's Municipal Code including setbacks, lot size, and building height would not apply.

As stated in Section 5.1, the LFG Pipeline alignment would traverse APZs II and I of MCAS Miramar but would be located underground. Refer to Section 5.9, Health and Safety/Hazards, and Section 5.12, Noise, for compatibility analyses regarding components of the Project and the MCAS Miramar Airport Influence Area AIA.

### **MCAS Miramar Integrated Natural Resources Management Plan**

In addition to APZs, the LFG Pipeline alignment would traverse Level II, III, and V Management Areas (MAs) on MCAS Miramar. The alignment is primarily located

within an existing disturbed easement across MCAS Miramar and would border and/or cross existing non-military uses on MCAS Miramar including Miramar Wholesale Nursery and Miramar Landfill. Avoiding natural area would minimize the potential for construction activities to impact non-venal pool special status species, riparian areas and underground installation of the pipeline would not divide habitat blocks. Construction and operation of the LFG Pipeline across MCAS Miramar would be coordinated with the MCAS Miramar Deputy Director of Environmental, MCIWEST Regional Planners, and HQMC (USMC 2016) to ensure adequate protection of MAs on MCAS Miramar. Therefore, no adverse effects related to conflicts between development of the LFG Pipeline and the MCAS Miramar Integrated Resources Management Plan would occur.

### ***Metro Biosolids Center Improvements***

#### **General Plan**

The existing Metro Biosolids Center (MBC) is located within the Miramar Landfill lease area on lands designated as Military lands by the City's General Plan and zoned AR-1-1. While not subject to the City's General Plan or Municipal Code due to its location on MCAS Miramar, improvements at the MBC would expand, upgrade, replace existing facilities and operations and expand existing piping systems. As such, substantially different or potentially incompatible land uses are not proposed. Therefore, MBC Improvements would not conflict with goals of the City's General Plan.

The facility is located within MCAS Miramar APZ I. Refer to Section 5.9, Health and Safety/Hazards, and Section 5.12, Noise, for compatibility analyses regarding components of the Project and the MCAS Miramar Airport Influence Area AIA.

#### **MCAS Miramar Integrated Natural Resources Management Plan**

The MBC is also located within a Level V (developed land) MA on MCAS Miramar. Because the MBC is an existing facility and improvements are proposed within the existing developed footprint of the facility, MBC Improvements would not conflict with the MCAS Miramar Integrated Resources Management Plan. Still, MBC Improvements would be coordinated with MCAS Miramar Deputy Director of Environmental, MCIWEST Regional Planners, and HQMC to ensure adequate protection of MAs on MCAS Miramar.

## ***North City Pure Water Pipeline***

### **General Plan**

The approximately 8-mile North City Pure Water Pipeline (North City Pipeline) alignment travels from the proposed NCPWF-MR to Miramar Reservoir primarily along existing paved roadways. The pipeline alignment would run through industrial, commercial, office park, and parks and open space (i.e., lands surround Miramar Reservoir) neighborhoods and uses and adjacent lands are primarily zoned industrial or commercial. In addition, the alignment traverses the City's University, Mira Mesa (primarily along Miramar Road), and Scripps Miramar Ranch communities, would tunnel beneath I-15 and briefly traverse an "island" of unincorporated San Diego County land, and would end at the Miramar Reservoir.

As the North City Pipeline would be installed underground within existing roadways and/or would tunnel across I-15, no conflicts with the goals of the City's General Plan Land Use and Community Planning and Urban Design Elements would occur. For the same reasons, no conflicts with County's General Plan Land Use and Conservation Elements would occur. Water and wastewater infrastructure are essential services and are located in nearly every neighborhood of the City. Further, because the North City Pipeline would be installed underground and would not include prominent above ground components (the proposed Dechlorination Facility is discussed separately below), the North City Pipeline would not impair the City's City of Villages strategy and would not introduce a use that would be incompatible with existing industrial and commercial land uses along the alignment. IN addition, the North City Pipeline would not contribute prominent above ground elements to the urban form and character of the neighborhoods traversed by the pipeline alignment. For the same reasons discussed above for the Morena Pipelines, the North City Pipeline would further the water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element. Lastly, the North City Pipeline would aid in the achievement of Goal COS-4 (Water Management) of the County General Plan Conservation Element concerning long-term viability of the County's water quality and supply. Therefore, no adverse effects between the North City Pipeline and the applicable environmental goals, objectives, and recommendations of the City's General Plan (and the County's General Plan) would occur.

### **Municipal Code**

Because the North City Pipeline would be installed underground within existing roadways and/or tunnels across highways and canyons, underlying zone development regulations of the City's Municipal Code including setbacks, lot size, and building height would not apply.

### **Community Plans**

Between the NCPWF-MR and Miramar Reservoir, the North City Pipeline alignment traverses the University, Mira Mesa, and Scripps Miramar Ranch Community Plan areas. As proposed, the North City Pipeline would be installed underground and would not include prominent above-ground features. Therefore, the North City Pipeline would not conflict with community plan goals and objectives regarding an improved visual image of the industrially developed portion of Miramar Road or enhancement of the eastern entrance into the University community, improved visual quality of industrial development, and preservation of the valued natural resources of the Scripps Miramar Ranch area. No adverse effects between the North City Pipeline and the applicable environmental goals, objectives, and recommendations of the University, Mira Mesa, and Scripps Miramar Ranch community plans would occur.

### ***Dechlorination Facility***

#### **General Plan**

Located in Scripps Miramar Ranch at the end of Meanley Drive, the proposed Dechlorination Facility would include an approximately 768-square-foot above-grade building to house chemical storage tanks, dosing pumps, analyzers, chemical injection, and associated piping valves and appurtenances. The Dechlorination Facility is designated for Industrial Employment by the City's General Plan, Industrial Park use by the Scripps Miramar Ranch Community Plan.

The Dechlorination Facility site is located in an industrial office park area that also features the City's Miramar Recycled Water Storage Tank. Given the concentration of existing industrial uses in the immediate area including water utilities, construction and operation of the Dechlorination Facility would be a compatible land use within its existing setting. Similar to the Dechlorination Facility, research and development, light manufacturing, and high technology uses permitted in the Industrial Employment and Industrial Park land use designations may also store chemicals on site. In addition, similar piping and appurtenances may be installed

nearby at the Miramar Recycled Water Storage Tank and therefore, installation of these components for the Dechlorination Facility would not represent a new land use or feature in area. Lastly, the facility building would be an approximately 20-foot-tall cement block masonry unit structure designated to align aesthetically with the overall character of the neighborhood and site development would include implementation of a planting plan to help the facility blend into the surroundings and soften the appearance of site perimeter fencing. Development of a Dechlorination Facility primarily consisting of a 768-square-foot above-grade building would not preclude implementation of the City's City of Villages Strategy (the site is located in an industrial business park setting), would not degrade the visual quality of the surrounding industrial business park area, and would not expose sensitive receptors to excessive noise (see Section 6.12 for more detail). Lastly, as a component of the Project, the Dechlorination Facility would further the water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element. Therefore, no adverse effects between the Dechlorination Facility and the applicable environmental goals, objectives, and recommendations of the City General Plan would occur.

### **Municipal Code**

The Dechlorination Facility site is zoned for Industrial Park (IP-2-1) use. As stated in Section 5.1, noteworthy development regulations of the IP-2-1 zone include minimum front and street side setbacks of 20 feet and minimum setback of 15 feet from the side (northeast) property line. Landscape regulations also require the installation of one 24-inch box tree along the site's Meanley Drive frontage, and Municipal Code Section 113.0273 prohibits the construction of solid walls exceeding 3 feet in height within the required visibility clearance areas adjacent to driveways. There is no maximum structure height for development within the IP-2-1 zone. ~~Based on review of the Basis of Design Report for the North City Conveyance System (HDR 2016),~~ ~~the proposed Dechlorination Facility would not maintain the 20-foot minimum setback from the front property line or the 15-foot minimum setback from the side property line as required for development in the IP-2-1 zone (HDR 2018).~~ Further and as detailed on the proposed planting plan (see Figure 6.2-19 in Section 6.2), a 24-inch box street tree is not currently proposed along the site's Meanley Drive frontage (a 24-inch box tree (*Geijera parviflora*) is proposed along the site's western boundary). A wrought-iron fence is proposed around the perimeter of the facility, and therefore, the Dechlorination Facility site design would not conflict with Municipal Code Section 113.0273 regarding the construction of solid walls. Therefore, as currently proposed, the Dechlorination Facility's planting plan

does not comply with the City's landscape regulations. Lastly, as proposed, wrought-iron fencing would be installed along the perimeter of the facility and the developed portions of the site.

While the Dechlorination Facility site plan and planting plan would not comply with the City's minimum setback requirements associated with the IP-2-1 zone or the City's landscape regulations regarding site frontage street trees, the Dechlorination Facility would comply with applicable development regulations to the maximum extent feasible. Further, pursuant to Government Code Section 53091(e), the City's development regulations do not apply to the Project. Therefore, no adverse effects related to conflicts between development of the Dechlorination Facility and the City's Municipal Code would occur.

### ***Community Plan***

Development of the Dechlorination Facility would not require the removal of eucalyptus trees, modification of significant hills, or removal/alteration to other valued natural resources of the Scripps Miramar Ranch community. Development would require the removal of moderately tall landscape trees (a jacaranda tree and a pepper tree) and alteration of existing, gradually sloping terrain situated between Meanley Drive and an access road. The new facility would not damage the existing industrial neighborhood identity of the area, and implementation of the proposed planting plan (and existing landscaping on adjacent parcels) would partially screen the facility from passing motorists and employees at nearby office developments. In addition, development of a 20-foot-tall Dechlorination Facility building would be appropriate for the area due to the presence of similarly scaled two-story office development in the surrounding area. Therefore, no adverse effects related to the Dechlorination Facility and the relevant objectives of the Scripps Miramar Ranch community plan would occur.

### ***Miramar Water Treatment Plant Improvements***

#### **General Plan and Community Plan**

Improvements at the Miramar Water Treatment Plant would include rehabilitation of the existing Miramar Reservoir Pump Station, changes to the treatment and corrosion control processes, and resurfacing of concrete in the sedimentation and flocculation basins. Because substantially different or potentially incompatible land uses are not proposed, no adverse effects between the Miramar Water Treatment Plant improvements and the applicable environmental goals, objectives, and

recommendations of the City General Plan or Scripps Miramar Ranch Community Plan would occur.

### **San Vicente Reservoir Alternative**

The impacts described above under the Miramar Reservoir Alternative for the Morena Pump Station, Morena Pipelines, NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility, LFG Pipeline, and MBC Improvements would also be applicable to this alternative. Also, the North City Pure Water Facility–San Vicente Reservoir (NCPWF-SVR) and associated Pump Station would result in similar impacts as described above for the NCPWF-MR and North City Pump Station.

### ***San Vicente Pure Water Pipeline***

#### **General Plan**

The San Vicente Pure Water Pipeline (San Vicente Pipeline) alignment travels from the proposed NCPWF-SVR to the San Vicente Reservoir primarily along existing paved roadways. The pipeline alignment would run through industrial, residential, recreational, commercial, school, and rural residential neighborhoods and uses and adjacent lands are primarily zoned industrial residential, or commercial. As the San Vicente Pipeline would be installed underground within existing roadways and/or would tunnel under highways and canyons, no adverse effects related to conflicts between development of the San Vicente Pipeline and underlying land use designations along the pipeline alignment would occur. Water and wastewater infrastructure are essential services and are located in nearly every neighborhood of the City. Further, because the San Vicente Pipeline would be installed underground and would not include prominent above ground components (the proposed Mission Trails Booster Station (MTBS) is discussed separately below), the San Vicente Pipeline not impair the City's implementation of their City of Villages strategy, and would not contribute to the urban form and character of the traversed neighborhoods. For the same reasons discussed above for the Morena Pipelines and North City Pipeline, the San Vicente Pipeline would further the water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element. Therefore, no adverse effects related to conflicts between development of the San Vicente Pipeline and applicable environmental goals, objectives, and recommendations of the City's General Plan would occur.

### **Municipal Code**

Because the San Vicente Pipeline would be installed underground within existing roadways and/or tunnels across highways, underlying zone development regulations of the City's Municipal Code and the County's zoning ordinance including setbacks, lot size, and building height would not apply.

### **Community Plan**

Between the NCPWF-SVR and San Vicente Reservoir, the SWWPL alignment traverses the Kearney Mesa, Tierrasanta, and Navajo community plan areas, the City of Santee, and the County of San Diego community of Lakeside. As the San Vicente Pipeline would be installed underground and would not include prominent above-ground features, the San Vicente Pipeline would not conflict with community plan goals and objectives regarding preservation and enhancement of the visual appearance of Kearney Mesa and the provision of compatible land uses within airport influence areas (Kearney Mesa Community Plan), and the accommodation of compatible uses and preservation of canyons and San Diego River environs (Tierrasanta Community Plan). Further, the San Vicente Pipeline would not conflict with Navajo Community Plan goals associated with the protection of distinct areas and communities from incompatible uses. Similarly, the San Vicente Pipeline would comply with City of Santee General Plan goals associated with compatible land uses (Land Use Objective 5.0) and minimization of land use conflict between adjacent land uses (Land Use Objective 9.0). Lastly, because the San Vicente Pipeline would be installed underground, the pipeline would comply with applicable County of San Diego General Plan Land Use and Conservation Element goals (and Lakeside Community Plan goals and recommendations in protection of the rural character of the community). Therefore, no adverse effects related to conflicts between development of the San Vicente Pipeline and applicable environmental goals, objectives, and recommendations of the Kearney Mesa, Tierrasanta, and Navajo Community Plans, the City of Santee General Plan, the County of San Diego General Plan, and the Lakeside Community Plan would occur.

### ***Mission Trails Booster Station***

### **General Plan and Community Plan**

The MTBS would be located along Mission Gorge Road spread across two privately owned parcels. The MTBS site is designated for Park, Open Space, and Recreation and Commercial Employment, Retail, & Services by the City's General Plan, Single-

Family Residential use by the Navajo Community Plan. Located in the Navajo community, the site abuts single-family residential land uses to the east and is located atop an elevated landform that severely slopes to the west towards Mission Gorge Road. The surrounding area is characterized by a mix of single-family and multi-family residential land uses.

In addition to parks and other areas providing recreational opportunities, the Parks, Open Space, and Recreation land use designation provides for the preservation of and with “distinctive scenic, natural or cultural features” or that contain “environmentally sensitive resources” (City of San Diego 2015). The Commercial Employment, Retail, & Services is intended to provide for commercial, office, retail and limited office development. While the MTBS is a public utility facility and would not be entirely consistent with the intended uses of the underlying land use designations applied to the site, booster stations and similar water infrastructure are essential services that are located in nearly every neighborhood of the City. Therefore, while the MTBS would not entail development of a parks, commercial, office, retail and limited office use, construction and operation of a booster station off Mission Gorge Road would not represent an incompatible land use based purely on the underlying land use designation. Specific design considerations would be implemented for the booster station to reduce the potential for nuisance impacts to adjacent land uses. For example, design considerations for facility noise have been made considering the pump station’s proximity to residential uses and would ensure that residential land uses are protected from excessive noise. Also, as proposed, the booster station electrical room building would be obscured from view of adjacent residential land uses to the east due to proposed site grading. In addition, development of the MTBS would not impair the City’s implementation of their City of Villages strategy, and would not substantially degrade the existing urban form and character of the Navajo community. As with all project components, the MTBS would further the water and wastewater goals of the Public Facilities, Services, and Safety Element and Conservation Element. Therefore, no adverse effects related to conflicts between development of the MTBS and applicable environmental goals, objectives, and recommendations of the City General Plan and Navajo Community Plan would occur.

### **Municipal Code**

The MTBS site is zoned RS-1-7 and CN-1-2. As proposed, the electrical room building would be setback greater than 15 feet from Mission Gorge Road. However, the retaining wall and rear yard fencing would likely not meet the minimum setback of at least 13 feet from the eastern property line. It is assumed that the electrical

room building would be no taller than 24 feet in height as measured from building roof to adjacent ground level (AGL). The electrical room building would be the tallest structure on the MTBS site and therefore, development of the MTBS would be consistent with the RS-1-7 zone maximum structure height of 24 feet.

### **6.1.3.2 Significance of Impacts Under CEQA**

#### **No Project/No Action Alternative**

**No impacts** would occur as a result of No Project/No Action Alternative.

#### **Miramar Reservoir Alternative**

Impacts would be **less than significant** under CEQA.

#### **San Vicente Reservoir Alternative**

Impacts would be **less than significant** under CEQA.

### **6.1.3.3 Mitigation, Monitoring, and Reporting**

#### **No Project/No Action Alternative**

No mitigation is required.

#### **Miramar Reservoir Alternative**

No mitigation is required.

#### **San Vicente Reservoir Alternative**

No mitigation is required.

### **6.1.4 ISSUE 2**

***Would the North City Project conflict with adopted environmental plans for the area including an adopted local habitat conservation plan?***

#### **6.1.4.1 Impacts**

#### **No Project/No Action Alternative**

No land use impacts would result from the No Project/No Action Alternative.

## North City Project Alternatives

The City's Subarea Plan contributes to the regional Multiple Species Conservation Plan (MSCP) for preservation and mitigation for impacts to sensitive biological resources within southwestern San Diego County. The Subarea Plan is intended to provide cumulative mitigation for impacts to covered biological resources within the City's jurisdiction and to ensure sufficient resources are preserved to avoid jeopardizing the continued presence of Covered Species under the MSCP.

The Miramar Reservoir Alternative is located in the Northern and Urban areas of the Subarea Plan, as well as on MCAS Miramar and Cornerstone lands. The majority of the Project components associated with the Miramar Reservoir Alternative are located outside of the Multi-Habitat Planning Area (MHPA) of the City's Subarea Plan. There is 0.05 acre of impacts to lands located within the MHPA boundary under the Miramar Reservoir Alternative; however, impacts would be located within an existing roadway (0.01 acre of urban/developed from the Morena Pipelines) or have been previously mitigated (0.04 acre of disturbed Diegan coastal sage scrub at the Miramar WTP). Therefore, no adverse effects or conflicts with an applicable conservation plan are anticipated.

The San Vicente Reservoir Alternative is located in the Urban and Eastern areas of the Subarea Plan as well, as on MCAS Miramar and Cornerstone lands. The majority of the Project is located outside of the MHPA of the City's Subarea Plan. However, portions of the Project area are within or immediately adjacent to the MHPA. The San Vicente Reservoir Alternative would result in 18.60 acres of temporary impacts within the MHPA and 0.02 acre of permanent impacts within the MHPA (see Table 6.4-3 in Section 6.4, Biological Resources, of this EIR/EIS). Portions of the Project that do occur within or adjacent to the MHPA would result in the long-term loss of wetlands and Tier I through IV communities within the MHPA (Table 6.4-3). As such, adverse effects related to the potential for the San Vicente Reservoir Alternative to conflict with an applicable conservation plan are anticipated.

Based on the North City Project design and implementation of mitigation measures contained within this section, the North City Project is consistent with the requirements of the City of San Diego MSCP Subarea Plan and San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012) (see Table 6.4-15 in Section 6.4, Biological Resources, of this EIR/EIS). Table 6.4-15 is replicated and identified as Table 6.1-1, below. As an Essential Public

Project, the North City Project is considered compatible with the biological objectives of the MSCP and thus would be allowed within the City's MHPA.

Placement of utility lines within the City of San Diego's MHPA must be in compliance with the policies identified in Sections 1.4.2 and 1.5.2 of the City of San Diego's Subarea Plan (see Table 6.1-1, below). These policies are listed below.

1. All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.
2. All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located, and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.
3. Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.
4. Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.
5. Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/ emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.
6. Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in

order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully functional wildlife movement capability. Bridges are the preferred method of providing for movement, although culverts in selected locations may be acceptable. Fencing, grading, and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.

7. Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.
8. For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore would be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management Section 1.5.
9. Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).
10. Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting. Signage will be limited to access and litter control and educational purposes.
11. Prohibit storage of materials (e.g. hazardous or toxic chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.

**Table 6.1-1**  
**Multiple Species Conservation Program Consistency Analysis**

<b>Siting Criteria</b>		<b>Analysis</b>
1	Minimize intrusion into the MHPA	Both alternatives have been designed to follow existing developed and disturbed areas and the existing City utility corridor in order to minimize intrusion into the MHPA to the greatest extent possible. Impacts to MHPA areas largely occur along slivers of the alignment from the San Vicente Reservoir Alternative and would not result in large losses of habitat. Impacts to MHPA from the Miramar Reservoir Alternative include 0.01 acre of an existing developed roadway and 0.04 acre of previously mitigated disturbed coastal sage scrub, which does not require mitigation.
2	Minimize environmental impacts (avoid MSCP covered species and wetlands)	Both alternatives have been designed to follow existing developed and disturbed areas and the existing City utility corridor but would result in impacts to wetland resources. Wetlands would be avoided during construction by using trenchless construction methods such as auger boring/auger jack and bore, micro-tunneling, or horizontal directional drilling. Standard best management practices (BMPs) specifically related to reducing impacts from dust, erosion, and runoff generated by construction activities would be implemented (MM-BIO-10(j)). The Miramar Reservoir Alternative would result in impacts to 3 wart-stemmed ceanothus individuals and 12 Orcutt's brodiaea individuals, while the San Vicente Reservoir Alternative would result in impacts to those same populations as well as 6 barrel cactus.
3	Avoid disturbance of existing habitat	Both alternatives have been designed to follow existing developed and disturbed areas and the existing City utility corridor in order to minimize intrusion into the MHPA to the greatest extent possible. Impacts to MHPA areas largely occur along slivers of the alignment from the San Vicente Reservoir Alternative and would not result in large losses of habitat. Impacts to MHPA from the Miramar Reservoir Alternative include 0.01 acre of an existing developed roadway, and therefore would not disturb existing habitat and 0.04 acre of coastal sage scrub, which has been previously mitigated. In areas where there are temporary impacts, habitat restoration and erosion control treatments will be installed in accordance with the City's Biology Guidelines and Landscape Regulations (City of San Diego 2012) (MM-BIO-1b).

**Table 6.1-1  
Multiple Species Conservation Program Consistency Analysis**

Siting Criteria		Analysis
4	Avoid significant disruption of corridor usage	Since both alternatives consist largely of long linear features which would for the most part be placed underground, neither alternative is expected to disrupt corridor usages over the long-term. Short-term construction-related impacts would occur on a minor scale, and would mostly affect smaller wildlife, and the appropriate measures would be taken to reduce those impacts. Biological monitoring would include verifying that the contractor has covered all steep-walled trenches or excavations over night or after shift or installed ramps (as a means of escape) to prevent entrapment of wildlife (e.g., reptiles and mammals) (MM-BIO-10(h)). In addition, the biological monitor would provide training to construction personnel to increase awareness of the possible presence of wildlife beneath vehicles and equipment and to use best judgment to avoid killing or injuring wildlife (MM-BIO-10(f)).
5	Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads	Not applicable
6	Avoid development of roads in canyon bottoms	Not applicable
7	Road widths are narrowed and in lower quality habitat	Not applicable
8	Maintenance of existing roads/utility line	Not applicable

**Table 6.1-1**  
**Multiple Species Conservation Program Consistency Analysis**

<b>Siting Criteria</b>		<b>Analysis</b>
9	Appropriate fencing or barriers	Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the Biological Construction Mitigation/Monitoring Exhibit (BCME). This phase shall include flagging plant specimens and delineating buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site (MM-BIO-10(e)).
10	Minimize intrusive lighting into the MHPA	To reduce impacts to nocturnal species in those areas where they have a potential to occur, nighttime construction activity within undeveloped areas containing sensitive biological resources would be minimized whenever feasible, and shielded lights would be utilized when necessary. Construction nighttime lighting would be subject to City Outdoor Lighting Regulations per LDC Section 142.0740 (MM-BIO-10(i)).
11	Prohibit storage of materials within the MHPA	During construction activities, the Qualified Biologist shall verify in writing on the Consultant Site Visit Record Forms (CSVs) that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking, or other construction-related activities shall occur adjacent to sensitive habitat. These activities shall occur only within the designated staging area located outside the area defined as biological sensitive area (MM-BIO-10(k)).

As demonstrated in the table above, the North City Project is a compatible land use within the MHPA and where applicable, follows the siting criteria outlined in Subsection 1.4.2 of the MSCP.

Additionally, adherence to Section 1.1.1 of the MSCP Subarea Plan (City of San Diego 1997), which requires disclosure of the MHPA boundary line adjustment in the environmental document prepared for the Project, would be required. Although the SANDER Vernal Pool and Upland Mitigation site is included in the MSCP Subarea Plan (City of San Diego 1997), it was not included within MHPA lands. Therefore, a boundary line adjustment was proposed to ensure that all mitigation from the North City Project occurs within the MHPA. The SANDER Vernal Pool and Upland

Mitigation site MHPA boundary line adjustment was approved by MSCP, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife on July 12, 2017, and therefore all habitat would be managed in accordance with MHPA requirements. Appendix Q to the Biological Resources Report for the North City Project includes the MHPA Boundary Line Adjustment Equivalency Analysis, and Figure 6.1-1, SANDER Mitigation Site, shows the SANDER site within MHPA lands.

#### **6.1.4.2 Significance of Impacts Under CEQA**

##### **No Project/No Action Alternative**

**No impacts** would occur as a result of No Project/No Action Alternative.

##### **Miramar Reservoir Alternative**

The Miramar Reservoir Alternative would not conflict with provisions of adopted local habitat conservation plans or policies protecting biological resources; therefore, impacts would be **less than significant** under CEQA.

##### **San Vicente Reservoir Alternative**

The San Vicente Reservoir Alternative would impact 18.62 acres within the MHPA but 15.67 acres would be to urban/developed land (Tier IV). Portions of the San Vicente Reservoir Alternative (2.71 acres) that do occur within the MHPA would result in the long-term loss of wetlands and Tier II through III communities. Therefore, conflicts with an adopted local habitat conservation plans or policies protecting biological resources would be **potentially significant** under CEQA.

#### **6.1.4.3 Mitigation, Monitoring, and Reporting**

##### **No Project/No Action Alternative**

No mitigation is required.

##### **Miramar Reservoir Alternative**

No mitigation is required.

## San Vicente Reservoir Alternative

Direct impacts to vegetation communities within the MHPA would be reduced through implementation of mitigation measures MM-BIO-1a and MM-BIO-1c (see Chapter 6.4, Biological Resources, for full text of mitigation measures).

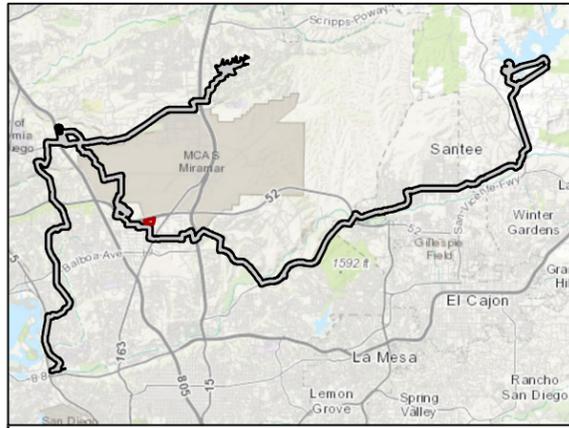
### 6.1.5 LEVEL OF IMPACT AFTER MITIGATION

Both the Miramar Reservoir and San Vicente Reservoir alternatives would result in **less-than-significant** impacts related to conflicts with local land use plans.

The Miramar Reservoir Alternative would result in **less-than-significant** impacts related to conflicts with adopted local habitat conservation plans or policies protecting biological resources; no mitigation is required.

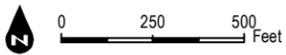
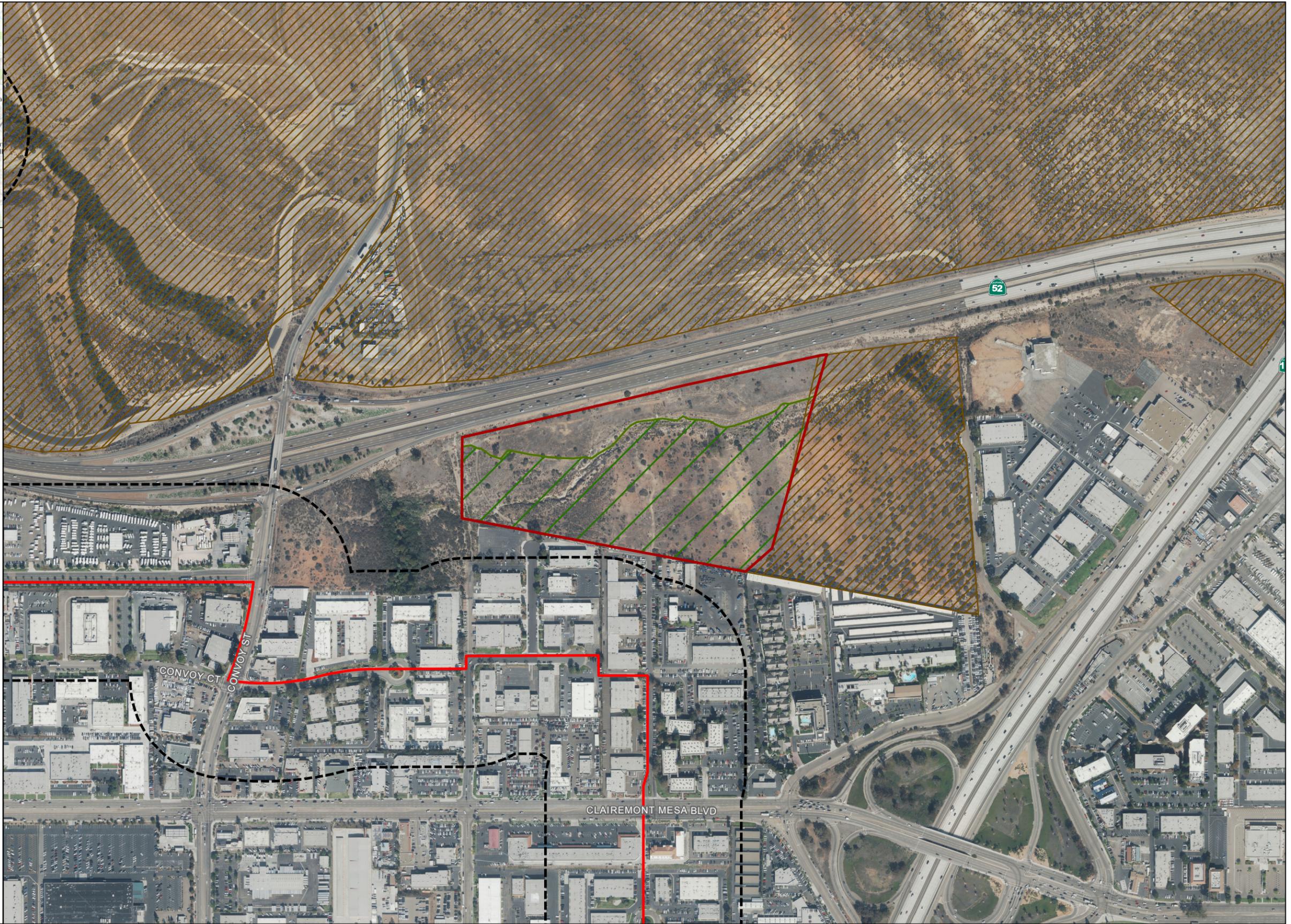
The San Vicente Reservoir Alternative would result in **less-than-significant** impacts related to conflicts with adopted local habitat conservation plans or policies protecting biological resources with incorporation of mitigation measures MM-BIO-1a and MM-BIO-1c.

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**LEGEND**

-  Project Study Area
  -  SANDER Mitigation Site
  -  Multi-Habitat Planning Area Addition Boundary
  -  MCAS Miramar
- Project Pipeline Alternatives**
-  San Vicente Pure Water Pipeline



SOURCE: City of San Diego 2016, 2017; SanGIS; SANDAG



Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.1-1**  
SANDER Mitigation Site

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## **6.2 AESTHETICS/VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER**

### **6.2.1 INTRODUCTION**

The following section examines the impacts of the North City Project on aesthetics/visual resources and neighborhood character.

### **6.2.2 CEQA THRESHOLDS OF SIGNIFICANCE**

The City of San Diego (City) California Environmental Quality Act Significance Determination Thresholds (City of San Diego 2016a) and Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) contain significance guidelines related to aesthetics/visual effects and neighborhood character. In addition, the City Development Services Department submitted a comment letter regarding the scope of the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and identified significance thresholds to use in the EIR/EIS. Therefore, pursuant to the City Development Services Department comment letter dated August 4, 2016, a significant impact to aesthetics/visual effects and neighborhood character would occur if the proposed project would:

1. Result in a substantial change to natural topography or other ground surface relief features through landform alteration.
2. Result in the blockage of public views from designated open space land areas, roads, or to any significant visual landmarks or scenic vistas.
3. Result in substantial alterations to the existing character of the area.
4. Be incompatible with surrounding development in terms of bulk, scale, materials or style.

### **6.2.3 ISSUE 1**

***Would the North City Project result in a substantial change to natural topography or other ground surface relief features through landform alteration?***

#### **6.2.3.1 Impacts**

##### **No Project/No Action Alternative**

Under the No Project/No Action Alternative, the North City Pure Water Facility (NCPWF) and ancillary facilities, pipelines, and other features would not be constructed.

Therefore, no effects to natural topography or other ground surface relief features through landform alteration would result from the No Project/No Action Alternative.

## **Miramar Reservoir Alternative**

### ***Morena Pump Station***

The Morena Pump Station is proposed on a developed site that currently supports several one- and two-story buildings and paved surfaces. See Figure 3-4, Morena Pump Station Site, in Chapter 3. While development of the site entails construction of a below-grade pump room and wet well, screening building, electrical building, a new diversion pipeline and junction structure (see Figure 3-5, Morena Pump Station Conceptual Site Layout, in Chapter 3), the proposed site is currently developed and paved. As such, development of the Morena Pump Station would not result in adverse effects to natural topography or other ground surface relief features through landform alteration.

### ***Morena Wastewater Forcemain and Brine/Centrates Line***

The Morena Wastewater Forcemain and Brine/Centrates Line (Morena Pipelines) would be located belowground and primarily along existing roadways between the Morena Pump Station and the North City Water Reclamation Plant (NCWRP). Following construction, the proposed alignment would be restored to pre-construction conditions. Where the pipeline crosses stream corridors and/or other linear impediments (e.g., highways and other utilities), trenchless technology would be used to install the conveyance facilities. Pipeline installations are narrow and it is standard practice to match the surface grade and cover type when completing an installation. As such, installation of the Morena Pipelines would not result in adverse effects to natural topography or other ground surface relief features through landform alteration.

### ***North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility***

The overall grading plan for the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility is depicted on Figure 6.2-1, North City Water Reclamation Plant Expansion Components Grading Plan. As shown on the figure, the majority of proposed expansion activities and the addition of the Influent Pump Station and the North City Renewable Energy Facility would occur on currently developed areas within the NCWRP. A new equalization (EQ) basin is proposed immediately south of existing EQ basins on undeveloped terrain located along the

southern boundary of the NCWRP. The new EQ basin site is relatively flat and is partially obscured from public view along Miramar Road due to local terrain that gradually rises north of the road. The majority of grading associated with the NCWRP Expansion is associated with the new secondary clarifiers, a new main access driveway off Eastgate Mall, realignment of a segment of existing “Road A” to better connect to the new main access driveway and “Road B,” and new water quality best management practices (i.e., detention basins) (see Figure 6.2-1). Grading activities would occur within the fenced boundary of the NCWRP where development of the facility has altered the natural topography. Therefore, since the majority of proposed expansion activities would occur in currently developed areas and the construction of new facilities would not require substantial modification of the existing terrain, development of the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility would not result in substantial adverse effects to natural topography or other ground surface relief features through landform alteration.

### ***North City Pure Water Facility – Miramar Reservoir and North City Pump Station***

The grading plan for the North City Pure Water Facility – Miramar Reservoir and North City Pump Station is depicted on Figures 6.2-2A through 6.2-2E, North City Pure Water Facility Grading Plan. As shown on the figures, manufactured slopes (2:1) would be constructed along portions of the site’s eastern property line and would generally mimic the existing topography of the larger mesa landform on which the site is located. The proposed parking adjacent to the eastern property line would have a slightly elevated grade with slope (1:24), ideally utilizing fill from proposed building excavations. A low concrete retaining wall along the east property line would provide shoring for the sloped parking. Although the City-owned lot would be graded to accommodate development of the North City Pure Water Facility—Miramar Reservoir (NCPWF-MR) and North City Pump Station, the site is relatively flat and does not contain particularly prominent terrain or significant landforms. Development of the site would entail landform alteration through necessary rough and fine grading and installation of yard piping; however, given current site conditions, topographical changes would not be substantial. Therefore, no substantial adverse effects would occur.

### ***Landfill Gas Pipeline***

The proposed Landfill Gas (LFG) Pipeline would be constructed using a combination of open cut and trenchless methods and would travel from the existing NCWRP to the proposed compressor station on the Miramar Landfill lease

area. Once installed, open cut trenches and trenchless entry points associated with the LFG Pipeline would be backfilled to match the surface grade and cover type when completing an installation. Therefore, the LFG Pipeline would not result in adverse effects to natural topography or other ground surface relief features through landform alteration.

### ***Metro Biosolids Center Improvements***

Improvements at the MBC would expand, upgrade, and replace existing facilities and operations and expand existing piping systems. Because improvements are proposed at existing developed areas at the MBC, improvements would not result in adverse effects to natural topography or other ground surface relief features through landform alteration.

### ***North City Pipeline***

Impacts associated with the North City Pure Water Pipeline (North City Pipeline) would be similar to those discussed previously for the Morena Pipelines.

### ***Dechlorination Facility***

The Pure Water Dechlorination Facility (Dechlorination Facility) is proposed at the Meanley Drive cul-de-sac in an industrial office park area of Scripps Miramar Ranch. Development of the facility would entail alteration of existing topography that features a gradual (i.e., approximately 5 feet of elevation gain) north to south slope to create a level building pad and pour a reinforced concrete foundation for the proposed 768,746-square-foot, approximately 20-foot-high one-story building (HDR 20162018). The Dechlorination Facility site is depicted on Figure 3-13, and the grading plan for the facility is presented on Figure 6.2-3, Dechlorination Facility Grading Plan. While the Project would develop a primarily undeveloped site and would construct a slightly elevated building pad, the site encompasses gradually sloping terrain and limited earthwork would be required to establish the building pad. Therefore, development of the site would not substantially change the natural topography or other ground surface relief features. No substantial adverse effects would occur.

### ***Miramar Water Treatment Plant Improvements***

Improvements at the Miramar Water Treatment Plant (WTP) would include rehabilitation of the existing Miramar Reservoir Pump Station, changes to the treatment and corrosion control processes, and resurfacing of concrete in the sedimentation and

flocculation basins. Because improvements are proposed at existing developed areas at the WTP, improvements would not result in adverse effects to natural topography or other ground surface relief features through landform alteration.

### **San Vicente Reservoir Alternative**

The impacts described under the Miramar Reservoir Alternative for the Morena Pump Station, Morena Pipelines, NCWRP Expansion, NCPWF Influent Pump Station, LFG Pipeline, and MBC Improvements would also be applicable to this alternative. Also, the NCPWF–San Vicente Reservoir (SVR) and North City Pump Station would result in similar impacts to those described previously for the NCPWF-MR and North City Pump Station.

### ***San Vicente Pipeline***

Impacts associated with the San Vicente Pure Water Pipeline (San Vicente Pipeline) would be similar to those discussed previously for the Morena Pipelines and North City Pipeline.

### ***Mission Trails Booster Station***

The Mission Trails Booster Station (MTBS) is situated on elevated terrain that slopes downwards to the west and south towards Mission Gorge Road and the existing commercial center. A conceptual site layout of the MTBS is provided on Figure 3-21, Mission Trails Booster Station Conceptual Site Layout. Based on a review of the conceptual site layout, substantial alterations to the site, including a considerable cut into the existing terrain, may be necessary in order to accommodate a level building pad for the pump and electrical rooms, site park, and a perimeter access road for ingress and egress. Further, construction of a retaining wall along the southern, eastern and northern facility boundaries would likely be required to accommodate the proposed grading and to adequately shore the adjacent landform to the east. Based on the elevation of existing terrain across the site and assuming that the proposed driveway to the facility off Mission Gorge Road would be at-grade with the road, the east–west elevation difference between the top of the retaining wall and surface of facility driveways could range from approximately 37 to 21 feet. Although the effort of grading would depend on final design details, the existing site terrain and necessary excavation suggests that development of the MTBS would result in adverse effects to natural topography or other ground surface relief features through landform alteration.

### 6.2.3.2 Significance of Impacts Under CEQA

#### No Project/No Action Alternative

**No impacts** to natural topography or other ground surface relief features through landform alteration would result from the No Project/No Action Alternative.

#### Miramar Reservoir Alternative

Under CEQA, impacts to natural topography or other ground surface relief features through landform alteration would be **less than significant**.

#### San Vicente Reservoir Alternative

Construction activities associated with the MTBS would result in a substantial change to the natural topography of the proposed site. Under CEQA, impacts to natural topography or other ground surface relief features through landform alteration would be **potentially significant**.

Construction of the San Vicente Pipeline would not result in a substantial change to the natural topography of the proposed alignment; impacts would be **less than significant** under CEQA.

### 6.2.3.3 Mitigation, Monitoring, and Reporting

#### No Project/No Action Alternative

No impacts to natural topography or other ground surface relief features through landform alteration would result from the No Project/No Action Alternative, and no mitigation measures would be required.

#### Miramar Reservoir Alternative

No mitigation would be required.

#### San Vicente Reservoir Alternative

There is no mitigation or measures available that, if implemented, would substantially reduce the anticipated impact to topography associated with development of the MTBS site.

Based on the conceptual site layout (see Figure 3-21), development of the MTBS component of the San Vicente Reservoir Alternative may require a substantial amount of excavation work at the site. In order to reduce the impact, the MTBS would need to be redesigned to reduce the facility footprint (and reduce associated grading), reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less excavation would be required, the feasibility and analysis of which is outside the scope of this EIR/EIS.

#### **6.2.4 ISSUE 2**

***Would implementation of the North City Project result in the blockage of public views from designated open space areas, roads, or to any significant visual landmarks or scenic vistas?***

##### **6.2.4.1 Impacts**

###### **No Project/No Action Alternative**

Under the No Project/No Action Alternative, the NCPWF and ancillary facilities, pipelines, and other features would not be constructed. Therefore, no effects to public views from designated open space areas or roads or to any significant visual landmarks or scenic vistas would occur.

###### **Miramar Reservoir Alternative**

###### ***Morena Pump Station***

The Morena Pump Station is proposed on a developed site in southwestern Linda Vista. One- and two-story structures and synthetic turf and paved surfaces currently cover the site and several large and long one- and two-story public storage warehouses and distribution centers, smaller, metal-siding covered Quonset-hut style showrooms and a blocky, three-story concrete and glass office development are located in the immediate surrounding area. Due to the presence of one- and two-story industrial development and aboveground utilities in the immediate area, and because development of the Morena Pump Station would include the introduction of a two low-profile buildings (i.e., pump station building and electric and motor control center building) to a site that currently features several one- and two-story structures, the Morena Pump Station would not result in substantial blockage of public views from roads or to any significant visual landmarks (e.g., San Diego River, Mission Bay) or scenic vistas. Therefore, no adverse effects to public

views from designated open space areas or roads or to any significant visual landmarks or scenic vistas would occur.

### ***Morena Wastewater Forcemain and Brine/Centrates Line***

Once constructed, the Morena Pipelines would be located underground and would not entail the introduction of prominent aboveground feature along its primarily urban landscape alignment between the Morena Pump Station and the NCWRP. During construction, construction crews and equipment would work along the alignment and any view blockage associated with construction equipment and/or vehicles would be highly localized and temporary. Therefore, no adverse effects to public views from designated open space areas or roads or to any significant visual landmarks (such as Mount Soledad along the Rose Canyon crossing segment of the alignment) or scenic vistas would occur.

### ***North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility***

The NCWRP is an existing water reclamation plant located north of Miramar Road and east of I-805 in the industrial Miramar subarea of the University Community Plan. Although the NCWRP Expansion and Influent Pump Station would entail the introduction of new facilities and structures to the existing plant, the new facilities and structures would be located near existing plant facilities and structures and would display similar bulk and scale. For example, a new EQ basin is proposed north of Miramar Road along the NCWRP's southern boundary. The new EQ basin would display a similar bulk and scale as the plant's existing EQ basins, which are located immediately to the north. Further, due to the presence of existing EQ basins and other plant facilities in the immediate area, views across the site to visual landmarks or scenic vistas from westbound Miramar Road are not available. Therefore, the introduction of a new basin would not result in new blockage of public views and the EQ basin would not obscure significant visual landmarks or scenic vistas from view. Because the new facilities and structures would display similar bulk and scale as existing plant facilities and structures, existing views across the NCWRP from west- and east-bound Miramar Road and Eastgate Mall would generally be maintained. Therefore, the NCWRP Expansion (and the introduction of the Influent Pump Station and North City Renewable Energy Facility) would not result in the new substantial blockage of public views, including views to significant visual landmarks (i.e., distant mountainous terrain to the northeast visible across the NCWRP from eastbound La Jolla Drive and mountainous terrain to

the east from Miramar Road). Further, because the new or expanded facilities would display a similar bulk and scale as existing NCWRP facilities, the NCWRP Expansion and the Influent Pump Station would not substantially alter existing public views across the site available from eastbound Eastgate Mall. As such, no adverse effects to public views from public roads to any significant visual landmarks or scenic vistas would occur.

### ***North City Pure Water Facility – Miramar Reservoir and North City Pump Station***

The NCPWF-MR and North City Pump Station are proposed on a vacant and relatively flat, City-owned lot located immediately north of Eastgate Mall and the existing NCWRP and east of I-805. Due to elevation difference between the site and I-805 travel lanes (the site is located approximately 70 feet above I-805 travel lanes atop a mesa landform), the NCPWF-MR and North City Pump Station would not block public views and would not block significant visual landmarks or scenic vistas from view of passing interstate motorists. From westbound Eastgate Mall, the NCPWF-MR and North City Pump Station would be revealed to motorists after passing a two-story business park, two-story self-storage facility, one-story concrete tilt buildings, and a two-story distribution facility. While unobstructed views across the site currently afforded to westbound Eastgate Mall motorists would not be available following construction of the NCPWF-MR and North City Pump Station, existing views across the site are primarily composed of multi-story office development and development landscaping and electrical infrastructure (steel lattice structures, tubular steel poles, and wood poles supporting an assortment of transmission lines). Therefore, although the NCPWF-MR and North City Pump Station would alter existing unobstructed views across the site, the new facilities would not block significant visual landmarks or scenic vistas from view. No adverse effects to public views from westbound Eastgate Mall to any significant visual landmarks or scenic vistas would occur.

Existing views afforded to eastbound Eastgate Mall motorists from approximately the Eastgate Mall bridge spanning I-805 to the North City Pump Station site are long and extend across the site to the east and northeast to the distant, hazy silhouettes of mountainous terrain. Following construction of the NCPWF-MR and North City Pump Station, the three-story Operations and Maintenance (O&M) building, two-story process building, and blocky pump room and electrical room buildings of the North City Pump Station, existing long easterly views across the site to mountainous terrain would no longer be available. Despite the anticipated view blockage from eastbound Eastgate Mall, long views to mountainous terrain are brief and through the Project

Area, Eastgate Mall is bordered by one- and two-story industrial development that restricts the length of available easterly views. Further, Eastgate Mall is not designated or considered to be a scenic roadway by the City's General Plan or the University Community Plan. As such, the NCPWF-MR and North City Pump Station would not result in substantial blockage of public views, and no adverse effects to public views from eastbound Eastgate Mall to any significant visual landmarks or scenic vistas would occur.

### ***Landfill Gas Pipeline***

The LFG Pipeline would be installed entirely underground and would not entail the introduction of prominent vertical features along the proposed alignment between the NCWRP and the proposed compressor station within the Miramar Landfill lease area. Because no prominent vertical features are associated within this component and open cut trenches and trenchless entry points would be backfilled to match the grade of adjacent terrain, the LFG Pipeline would not result in substantial blockage of public views. As such, no adverse effects to public views from public roads to any significant visual landmarks or scenic vistas would occur.

### ***Metro Biosolids Center Improvements***

The MBC is an existing facility located on 39 acres adjacent to the Miramar Landfill. The MBC is occasionally visible to passing SR-52 motorists; however, the presence of four large cylindrical tanks west of the MBC and rising and/or bermed chaparral-covered terrain east of the state route regularly interrupt available views to the facility. Improvements at the MBC would expand, upgrade, and replace existing facilities and operations and expand existing piping systems. Under existing conditions, views across the site to significant visual landmarks or scenic vistas are not available to passing motorists on SR-52. Rather, MBC facilities are briefly visible (albeit obscured and partially screened by site landscaping) and then are blocked by aboveground tanks. Because the MBC improvements would not entail the introduction of substantially larger/taller facilities and given the existing nature of available views to the facility, the MBC Improvements would not result in substantial blockage of public views and would not block significant visual landmarks or scenic vistas from view. No adverse effects to public views, visual landmarks, or scenic vistas would occur.

### ***North City Pipeline***

Impacts associated with construction and operation of the North City Pipeline would be similar as described above for the Morena Pipelines. Underground installation of

the pipeline would not result in long-term blockage of public views to mountainous terrain along the Miramar Road corridor or to Miramar Reservoir. Therefore, no adverse effects to public views, visual landmarks, or scenic vistas would occur.

### ***Dechlorination Facility***

The Dechlorination Facility is proposed in an industrial business park area featuring two-story industrial office development and relatively dense street and site landscaping, including tall pepper and eucalyptus trees. Due to the presence of two-story office buildings and vegetation in the area surrounding the proposed Dechlorination Facility, significant visual landmarks and scenic vistas are not visible from Meanley Drive. Further, the one-story, 768-square-foot building associated with the Dechlorination Facility would be situated immediately north of the City's Miramar Recycled Water Storage Tank and this feature (and existing terrain) would block views of the site from residential land uses to the south. Given the lack of available views to significant visual landmarks and scenic vistas on Meanley Drive near the proposed site, and the relatively low vertical profile and small footprint of the facility's aboveground building, no adverse effects concerning the Dechlorination Facility and the substantial blockage of public views from roads or to significant visual landmarks or scenic vistas would occur.

### ***Miramar Water Treatment Plant Improvements***

The Miramar WTP is an existing facility located south of the Miramar Reservoir that is visible from local roads and residential neighborhoods in the surrounding area. Improvements at the Miramar WTP would include rehabilitation of the existing Miramar Reservoir Pump Station, changes to the treatment and corrosion control processes, and resurfacing of concrete in the sedimentation and flocculation basins. Since these improvements would substantially increase the scale of Miramar WTP facilities, existing views of the Miramar WTP from local roads and residential neighborhoods in the surrounding area would generally be maintained. Therefore, no adverse effects related to proposed Miramar WTP improvements and substantial blockage of public views from designated open space areas or roads or to any significant visual landmarks or scenic vistas would occur.

### ***San Vicente Reservoir Alternative***

The impacts described previously under the Miramar Reservoir Alternative for the Morena Pump Station, Morena Pipelines, NCWRP Expansion, NCPWF Influent Pump Station, LFG Pipeline, and MBC Improvements would also be applicable to this

alternative. Also, the NCPWF-SVR and North City Pump Station would result in similar impacts to those described previously for the NCPWF-MR and North City Pump Station.

### ***San Vicente Pipeline***

Impacts associated with construction and operation of the San Vicente Pipeline would be similar to those described previously for the Morena Pipelines and the North City Pipeline. Underground installation of the San Vicente Pipeline would not result in long-term blockage of public views to mountainous terrain in Mission Trails Regional Park, the San Vicente Reservoir, or to mountainous terrain located south of the reservoir. In addition, underground installation of the pipeline would not affect the long and expansive nature of existing views available from Colina Dorado Drive north of the San Vicente Pipeline crossing of the San Diego River, on the Rancho Mission Canyon Trail (located on undeveloped lands east of Mission Gorge Road and the MTBS site), and on Mission Gorge Road near West Hills Parkway in Santee. Therefore, no adverse effects concerning the substantial blockage of public views from designated open space areas or roads or to any significant visual landmarks or scenic vistas would occur.

### ***Mission Trails Booster Station***

The MTBS would be located along Mission Gorge Road spread across two privately owned parcels. The MTBS site abuts single-family residential land uses to the east and is located atop an elevated landform that severely slopes to the west towards Mission Gorge Road. Since the MTBS site is located atop elevated terrain, substantial landform alteration may be required to construct the MTBS. As depicted in Figure 3-13, the MTBS would generally be located at grade with Mission Gorge Road (ingress and egress from Mission Gorge Road to the facility would be provided) and a retaining wall would be constructed along the southern, eastern, and northern facility boundaries. As such, the MTBS would be visible to passing motorists on Mission Gorge Road and surrounding residents but would likely be obscured from view of hiking and other trail-based recreationists located upslope of the facility and east of residential land uses on the Rancho Mission Canyon Trail. Therefore, existing views from the trail would not be substantially affected by development of the MTBS and the facility would not block significant visual landmarks from view. Further, development of the MTBS adjacent to Mission Gorge Road would not obstruct views from Mission Gorge Road to the north toward mountainous terrain in Mission Trails Regional Park. Therefore, no adverse effects

concerning development of the MTBS and substantial blockage of public views from designated open space areas or roads or to any significant visual landmarks or scenic vistas would occur.

#### **6.2.4.2 Significance of Impacts Under CEQA**

##### **No Project/No Action Alternative**

**No impacts** to public views from designated open space areas, roads, or to any significant visual landmarks or scenic vistas would result from the No Project/No Action Alternative.

##### **Miramar Reservoir Alternative**

Under CEQA, impacts associated with the Miramar Reservoir Alternative to public views from designated open space areas, roads, or any significant visual landmarks or scenic vistas would be **less than significant**.

##### **San Vicente Reservoir Alternative**

Under CEQA, impacts associated with the San Vicente Reservoir Alternative to public views from designated open space areas, roads, or any significant visual landmarks or scenic vistas would be **less than significant**.

#### **6.2.4.3 Mitigation, Monitoring, and Reporting**

##### **No Project/No Action Alternative**

No impacts to public views from designated open space areas, roads, or any significant visual landmarks or scenic vistas would result from the No Project/No Action Alternative, and no mitigation measures would be required.

##### **Miramar Reservoir Alternative**

No mitigation would be required.

##### **San Vicente Reservoir Alternative**

No mitigation would be required.

### 6.2.5 ISSUE 3

***Would the North City Project result in substantial alteration to the existing character of the area?***

#### 6.2.5.1 Impacts

##### **No Project/No Action Alternative**

No effects to the existing character of the area would result from the No Project/No Action Alternative.

##### **Miramar Reservoir Alternative**

##### ***Morena Pump Station***

The Morena Pump Station is proposed on a developed parcel surrounded by masonry walls and chain-link fencing and located the industrial Morena area of southwestern Linda Vista (see Figure 3-4, Morena Pump Station Site, in Chapter 3). In addition to several large and long one- and two-story public storage warehouses and distribution centers, smaller, metal-siding covered Quonset-hut style home improvement showrooms, single-story concrete masonry unit (CMU) structures and paved surface parking lots restricted by sliding chain-link gates, and a blocky, three-story concrete and glass office development are located in the immediate surrounding area. With the exception of the existing site and the developed parcel to the north, properties are not generally landscaped.

The conceptual site layout of the Morena Pump Station is depicted on Figure 3-5, in Chapter 3. Architectural renderings of the proposed Morena Pump Station are presented on Figures 6.2-4A through 6.2-4E. Figure 6.2-4A, Morena Pump Station: Architectural Rendering, provides an isometric view of the Morena Pump Station looking north to south and depicts aboveground facilities/buildings including the intake screening facility, electrical and motor control building, and chemical storage and odor control tanks, site screening wall and landscaping. Figure 6.2-4B, Morena Pump Station: Architectural Rendering Elevation Views, includes rendered off-site elevation views of the facility and generally demonstrates the visibility of aboveground components from surrounding roadways. Figures 6.2-4C through 6.2-4E, Bird's Eye Perspective of Morena Pump Station (Visual Simulation), present a bird's eye perspective of the visually simulated Morena Pump Station and surrounding land uses in a realistic Google Earth 3D environment.

As depicted on Figure 6.2-4A (and Figures 6.2-4C through 6.2-4E), the Morena Pump Station site would be surrounded by an 8-foot-high masonry perimeter wall featuring three ingress/egress points that would be controlled by 25 to 35-foot-wide sliding access gates (AECOM 2017). Further, on-site buildings would consist of single story, CMU-walled structures with slightly arched and grayish metallic frame roofs. As shown on Figures 6.2-4C through 6.2-4E, the scale of proposed buildings would be comparable to the scale of one- and two-story off-site buildings in the surrounding area, and the open yard layout of the proposed pump station would be consistent with similar yard areas associated with businesses to the east. While not depicted on Figures 6.2-4A and 6.2-4B, an existing specimen tree (a 40-foot-high Canary Island date palm) would be retained on site and relocated from its current location to near the proposed high purity oxygen system. (see Figures 6.2-4C through 6.2-4E, and 6.2-5, Morena Pump Station Landscape Plan). The landscape plan demonstrates the proposed installation of street trees every 30 feet of street frontage on Sherman Street and Custer Street, with the exception of ingress/egress points. Street trees would be located in a minimum 4-foot-wide landscape area that would be incorporated between the curb and sidewalk. Vine plantings are also proposed on the street-facing exterior of the site perimeter wall to deter graffiti.

Construction and operation of the Morena Pump Station would retain the current industrial character of the site and would be consistent with the community plan vision of the Morena area as an industrial hub. As proposed, the Morena Pump Station would be located in an industrial area and would incorporate design features (i.e., perimeter walls with sliding access gates and CMU walls and metal roofs) that are displayed by existing industrial land uses in the immediate area. Further, cylindrical, aboveground storage tanks and rectangular one-story facilities would generally display a smaller bulk and scale than existing office, warehouse, and showroom development in the area, and as a result, on-site facilities would not be visually prominent in the Morena area. Also, aboveground components and structures at the Morena Pump Station would be partially screened from view of passing motorists by newly installed street trees along the Sherman Street and Custer Street Morena Pump Station site frontages and by the 8-foot-high masonry perimeter wall. Architectural renderings of elevations of the pump station facility as viewed from Custer Street, Sherman Street, and Friars Road are depicted on Figure 6.2-4B. As illustrated on Figure 6.2-4B, facility buildings and tanks would be partially screened from view by existing and proposed vegetation (see Figure 6.2-5), and the presence of both the perimeter wall and site landscaping would help break up the bulk and scale of the Morena Pump Station as viewed from off-site locations in the

surrounding area. Therefore, for the reasons discussed above, no substantial adverse effects concerning the Morena Pump Station and substantial alterations to the existing character of the Morena area would occur.

### ***Morena Wastewater Forcemain and Brine/Centrates Line***

Once constructed, the Morena Pipelines would be located underground and would not entail the introduction of prominent aboveground features through the Linda Vista, Clairemont Mesa, and University communities. Open cut trenches or trenchless entry points along the alignment would be restored to existing conditions following construction. The presence of construction workers, vehicles, and equipment along the alignment may create localized nuisance effects; however, these effects would be temporary and would not last long in any one given location on the alignment. As such, no substantial adverse effects concerning the Morena Pipelines and substantial alterations to the existing character of the area would occur.

### ***North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility***

An aerial of the North City Water Reclamation Plant (NCWRP) is provided on Figure 3-6, and a conceptual site plan depicting new and retrofitted facilities at the NCWRP is presented on Figure 3-8 (see Chapter 3). In addition, illustrative perspectives of the existing NCWRP and the NCWRP expansion are depicted on Figure 6.2-6A, Illustrative Perspective of North City Water Reclamation Plant – Existing, and Figure 6.2-6B, Illustrative Perspective of North City Water Reclamation Plant – Proposed. As shown on Figures 6.2-6A and 6.2-6B, new facilities are proposed within the developed NCWRP site near existing facilities of generally similar bulk and scale. For example, a new equalization (EQ) tank is proposed immediately adjacent to two existing EQ tanks in the southern extent of the NCWRP property. Similarly, new primary clarifiers are proposed adjacent to existing primary clarifiers located north of the existing EQ tanks. New secondary clarifiers are proposed in the northern portion of the NCWRP property (see Figure 6.2-6B) and would display a similar building scale as nearby buildings including the two-story Operations Building and similar bulk as existing and proposed EQ tanks. Therefore, new and retrofitted facilities at the NCWRP would aesthetically blend in with existing facilities by focusing development in currently developed areas and using familiar bulk and scale in building and facility design.

In addition to the perspective images which represent aerial views of the entire NCWRP, four visual simulations of the existing and proposed visual conditions at the NCWRP as viewed from Miramar Road and Eastgate Mall were prepared by the City of San Diego. In contrast to the perspective images, the visual simulations depict visual change associated with the NCWRP anticipated to be experienced by receptors (primarily motorists) in the surrounding area. The locations of the visual simulation viewpoints are identified on Figure 6.2-7, North City Water Reclamation Plant: Visual Simulation Locations. Two of the visual simulations viewpoints (i.e., Viewpoints 1 and 2) are located south of the NCWRP on La Jolla Village Drive/Miramar Drive, and two (i.e., Viewpoints 3 and 4) are located north of the NCWRP on or near Eastgate Mall.

As viewed from La Jolla Village Drive (see Figure 6.2-8, Viewpoint 1: Looking Northeast from La Jolla Village Drive to North City Water Reclamation Plant), visible NCWRP expansion components would consist primarily of the new EQ tank and screen walls and potentially, clear span domes installed atop new secondary clarifiers. Neither of these components would be visually prominent and or overly noticeable to the casual passing motorist. Further, clear span domes would be partially screened by site landscaping and the new EQ tank and screen walls along the southern facility boundary would be constructed of similar materials and would display a similar scale as the existing EQ tanks and nearby NCWRP buildings (see Figure 6.2-8). When viewed from the eastbound travel lanes of La Jolla Village Drive, NCWRP expansion components would overall be visually cohesive with existing NCWRP facilities and features.

Similarly, when viewed from Miramar Road, expansion features (primarily concrete screening walls and a new EQ tank) would be visible but would incorporate design features displayed by the exteriors of existing facility structures. A visual simulation of the NCWRP expansion as experienced from Miramar Road is included as Figure 6.2-9, Landscaping Proposed North of Miramar Road near New Equalization Tank at North City Water Reclamation Plant. As depicted in Figure 6.2-9, use of similar design features and materials would create a familiar visual appearance in new screening walls and passing motorists would experience these features as a nearly indistinguishable extension of the existing NCWRP facility. Consistent with City of San Diego landscape regulations, new landscaping would be installed north of Miramar Road near the EQ tanks to aid in screening these features from Miramar Road motorists (see Figure 6.2-9). As proposed, climate appropriate trees would be installed between Miramar Road and the new screen walls and would partially obscure screen walls and the new EQ tank from view. Also, newly installed street trees would be complimented by climate appropriate shrubs.

While not depicted in Figure 6.2-9, North City Renewable Energy Facility components would generally be screened from view of passing Miramar Road motorists by existing and new EQ tanks, associated screening, and other existing intervening NCWRP facilities. Proposed landscaping (primarily street trees) would help to screen these more distant facilities from view along Miramar Road. Tall engine exhaust stacks near the power generation building may rise above foreground elements and be partially visible; however, these features would be shorter than the existing steel lattice towers and tubular steel poles in the transmission corridor located to the immediate east of the NCWRP property. Therefore, the exhaust stacks would not be visually prominent, and due to the presence of existing tall vertical forms in the visual setting, the introduction of the exhaust stacks would not create strong visual contrast.

Visual simulations of the NCWRP expansion from Eastgate Mall are depicted on Figure 6.2-10, Viewpoint 3: Looking South from Eastgate Mall to North City Water Reclamation Plant, and Figure 6.2-11, Viewpoint 4: Looking Southwest from Eastgate Mall to North City Water Reclamation Plant. Viewpoint 3 (see Figure 6.2-10) looks south from Eastgate Mall to the NCWRP from near the existing NCWRP main driveway. As proposed and viewed from Viewpoint 3, the existing main driveway would be relocated to the east and new fencing and landscaping would be constructed along the site's Eastgate Mall frontage. As shown in Figure 6.2-10, a new sidewalk would also be constructed and would parallel Eastgate Mall. In addition, four secondary clarifiers would be constructed to the southeast of the existing operations and maintenance building and may be topped by clear span dome structures. Similar to existing conditions (see Figure 6.2-10 existing conditions image), site landscaping would partially screen new NCWRP facilities from view. The off-white clear span dome of the secondary clarifiers would be visible through gaps in newly installed shade trees along the northern facility boundary. However, the local terrain falls south of Eastgate Mall, and as a result the secondary clarifiers would be situated at an elevation lower than that of passing motorists on Eastgate Mall. As depicted in the Viewpoint 3 visual simulation, the clear span dome of the secondary clarifiers would remain below the tree line of newly installed street trees. The secondary clarifiers would be further obscured from view by new drought-tolerant shrubs and groundcover.

New landscaping and the installation of a new sidewalk along Eastgate Mall would improve existing visual quality by creating a more cohesive pattern of built and natural landscape elements and softening the tan, horizontal line create by the disturbed strip of land located immediately south of Eastgate Mall. While the

available view is broader, a similar visual experience as anticipated at Viewpoint 3 is anticipated at Viewpoint 4 for Eastgate Mall motorists (see Figure 6.2-11). From Viewpoint 4, secondary clarifiers and the proposed renewable energy facility would be partially obscured by new site landscaping, and a new landscape berm. Further, the clear span dome of clarifiers would not rise above the tree line of site landscaping and would not substantially alter views of the western horizon. The introduction of secondary clarifiers and the North City Renewable Energy Facility would be compatible with the existing character of the industrial NCWRP and would not substantially degrade existing visual quality.

The NCWRP Expansion includes the addition of new or expanded facilities and structures (i.e., EQ basin, screening walls, process units, aeration basins, secondary clarifiers, renewable energy facility, etc.) that would display a similar visual character as existing facility buildings and features. Also, due to its interior location on the NCWRP property, the new Influent Pump Station building would generally not be visible from public viewing locations, and the North City Renewable Energy Facility would be obscured from public view by intervening facilities, site landscaping, and, depending on location, terrain. Therefore, no substantial adverse effects concerning the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility and a substantial alteration to the existing industrial character of the area would occur.

### ***North City Pure Water Facility – Miramar Reservoir and North City Pump Station***

An aerial of the North City Pure Water Facility (NCPWF-MR) and North City Pump Station sites are depicted on Figure 3-10 in Chapter 3. As proposed, the facilities would be located on a vacant, City-owned lot located north of the existing NCWRP, east of I-805, and south of a San Diego Gas & Electric Company electrical substation. Also, the site is situated west of an existing transmission corridor, an industrial distribution center, and a construction materials quarry. The NCPWF-MR and North City Pump Station would not substantially alter the existing industrial character of the surrounding area. Although the site is currently vacant, industrial land uses including an existing, approximately 35-acre water reclamation plant are established in the immediate surrounding area. Further, the site is located in the industrial Miramar subarea of the University Community Plan, which indicates that the visual character of the subarea is dominated by “open spaces with restricted industrial development” (City of San Diego 2016b).

Further, the design of the NCPWF-MR would generally replicate that of the existing NCWRP site. A conceptual site layout of the NCPWF-MR and North City Pump Station is depicted on Figure 3-11. As shown on the figure, the site would be developed as a campus of operations, treatment, and process buildings that relate aesthetically to one another through use of complementary materials and colors and consistent signage including large letter graphics that note the function of each building (MWH Americas Inc. et al. 2016). The public would primarily experience the NCPWF-MR and North City Pump Station from Eastgate Mall and on the west and east approaches to the site. A concrete-finished gatehouse would be constructed at the main entrance off Eastgate Mall. A low concrete wall, tapered up to 5-feet-high, along with cast iron fencing and gates for auto access, would be constructed along the parking area at the east property line (see Figure 6.2-12A North City Pure Water Facility – South Elevation: Fencing). Further, concrete walkways would be constructed along both the NCPWF and NCWRP Eastgate Mall frontage, and a landscape plan for Eastgate Mall and the site would be implemented. In addition, a yet-to-be defined public art component would also be incorporated into the NCPWF; however, the specific location of the component on the NCPWF site has not yet been determined.

Figures 6.2-12B and 6.2-12C (North City Pure Water Facility – West and South Elevations: Building Materials, and North City Pure Water Facility – East and North Elevations: Building Materials, respectively) depict elevations of the proposed O&M building and include callouts for specific building materials to be incorporated. As shown in the figures, the three-story, approximately 46-foot-high O&M building would have a rusticated concrete base and compressed composite panel rainscreen upper stories, with storefront and butt joint panel glazing clads. The building would feature a central glass atrium. The O&M building, along with the 24-foot-high cast-in-place concrete-walled pump station building, would be prominent along the southern site boundary. As shown on Figure 3-11, the site would also be developed with a long, approximately 35-foot-high concrete process building, a 25-foot-high cast-in-place concrete-walled electrical building, a concrete biological activated carbon filtration (BAC) facility, a chemical storage facility (tallest features would be 22-foot high tanks), and aboveground storage tanks and paved areas. Other aboveground equipment proposed at the site include 20-foot-high rectangular concrete basin reverse osmosis feed tanks (these elements would be screened from view by the process building (located to the west) and the ozone generation system (located to the south)) and two 60-foot-high lime tanks that would be installed at the north end of the NCPWF site.

As previously mentioned, a landscape concept plan has been prepared for the NCPWF site and is included as Figure 6.2-13, North City Pure Water Facility – Miramar Reservoir Landscape Concept Plan. As shown on the figure, street trees are proposed to be installed along the O&M building and pump station frontage of Eastgate Mall and would also be installed in similar locations along the new sidewalk to be installed parallel to eastbound travel lanes. In addition, a landscape median would be installed in Eastgate Mall and, in addition to street trees, is intended to reduce travel speeds as vehicles pass the new facilities. In accordance with City Landscape Regulations, trees would also be installed within parking areas to enhance visual quality. While not clearly depicted in Figure 6.2-13, shrub and groundcover plantings are also proposed along the NCPWF-MR and North City Pump Station frontages along Eastgate Mall.

To further depict visual changes anticipated to occur because of NCPWF-MR and North City Pump Station development, existing photos of the site and visual simulations of the facilities were prepared. Figure 6.2-14, North City Pure Water Facility – Miramar Reservoir: Existing Photos and Visual Simulation Locations shows the locations of the existing photo and visual simulation viewpoints and Figure 6.2-15, Viewpoint 1: Looking North from South of Eastgate Mall to North City Pure Water Facility Site, and Figure 6.2-16, Viewpoint 2: Looking East from Parking Lot Located West of I-805 to North City Pure Water Facility Site, present before and after images of the site as viewed from Eastgate Mall and a parking lot located west of I-805.

As shown on Figure 6.2-15, the existing site is vacant and lacks particularly memorable features or resources. Existing wood poles run parallel to Eastgate Mall and a low, metallic jersey barrier is aligned along the site's southern boundary. A transmission corridor clustered with tubular steel poles and numerous transmission lines is located east of the site. Following construction of the NCPWF-MR and North City Pump Station, the site would be transformed from a vacant lot bound by industrial land uses to the north, east, and south, and I-805 to the west to an aesthetically pleasing O&M building that would improve the visual character of the Miramar subarea and incorporate design elements common to that of industrial office development located east of I-805 (see Figure 6.2-15). In addition to the NCPWF-MR, the pump station and LOX storage tanks would also be visible from Eastgate Mall but would tend to recede into the landscape and be viewed as secondary features to that of the O&M building. In addition, climate-appropriate site landscaping and a new sidewalk along Eastgate Mall would also be visible and would enliven the site and surrounding area.

Figure 6.2-16 illustrates the existing character and quality of the site and surrounding area as viewed from an industrial office development parking lot located east of I-805. As depicted on Figure 6.2-16, the site displays low visual quality due to large areas of exposed tan-colored soils between mounded clumps of low vegetation and generally flat terrain. In addition to tall, tubular steel poles and steel lattice towers located in the transmission corridor to the east of the site, white aboveground tanks at the adjacent construction materials quarry rise above the generally flat terrain, and an unadorned, concrete block wall distribution center to the east of the North City Pump Station site contributes to the industrial character of the area. With implementation of the NCPWF-MR and North City Pump Station (see Figure 6.2-16 visual simulation), the vacant site would be developed with one-, two-, and three-story facilities and storage tanks. The long, 35-foot-high concrete process building would display a similar color and straight roof line as the existing distribution facility to the east of the site and generally would have a more industrial look than the O&M building. Punched openings with glazing and a board from cast concrete base would reflect a similar treatment at the O&M building.

A conceptual site layout of the North City Pump Station is provided in Figure 3-12 and elevations of the facility are depicted in Figure 6.2-17A, North City Pump Station: West and South Elevations, and Figure 6.2-17B, North City Pump Station: East and North Elevations. As shown on Figures 6.2-17A and 6.2-17B, the pump station building would be approximately 24 feet high measured from top of roof to adjacent ground surface. Further, design of the building would incorporate cast-in-place concrete walls with smooth finishes, fiberglass windows on building exteriors, painted metal doors and signage specifying the function of the facility (see Figure 6.2-17A).

As proposed, the North City Pump Station and NCPWF-MR would present a cohesive visual pattern that would be compatible with the existing industrial character of the surrounding area. Given the existing nature of the vacant site, the presence of existing industrial facilities in the immediate surrounding area, and the proposed building and site design, implementation of the NCPWF-MR and North City Pump Station would improve the existing visual quality of the site and the industrial Miramar subarea. As such, no substantial adverse effects concerning the NCPWF-MR and North City Pump Station and a substantial alteration to the existing industrial character of the area would occur.

### ***Landfill Gas Pipeline***

The LFG pipeline would be installed entirely underground and would not entail the introduction of prominent vertical features along the proposed alignment between the NCWRP and the proposed compressor station within the Miramar Landfill lease area. Further, once installed open cut trenches and trenchless entry points would be backfilled to match the grade of adjacent terrain and the alignment would generally be restored to pre-construction conditions. Therefore, no substantial adverse effects concerning the LFG Pipeline and a substantial alteration to the existing character of the alignment would occur.

### ***Metro Biosolids Center Improvements***

Improvements at the MBC would expand, upgrade, and replace existing facilities and operations and expand existing piping systems. Because proposed improvements would not entail substantial physical modifications to existing operations that would enhance the overall visibility of the facility from public accessible vantage points such as I-805, no substantial adverse effects concerning the MBC Improvements and a substantial alteration to the existing character of the MBC would occur.

### ***North City Pipeline***

Impacts associated with construction and operation of the North City Pipeline would be similar to those described previously for the Morena Pipelines.

### ***Dechlorination Facility***

The Dechlorination Facility is proposed in an industrial business park area featuring two-story, concrete tilt-up and flat roof industrial office development, surface parking lots, and the City's Miramar Recycled Water Storage Tank. As proposed, the Dechlorination Facility site would include a single-story ~~768~~746-square-foot building (HDR ~~2016~~2018). Figure 3-14 illustrates the conceptual site layout for the proposed Dechlorination Facility. As proposed, wrought-iron fencing would be installed along the perimeter of the facility and the developed portions of the site. In addition, the majority of the site (i.e., area within the perimeter fencing) would be surfaced with concrete slab and AC paving, and the site would be accessed by City personnel through a roller access gate constructed off Meanley Drive. As depicted on Figure 6.2-18, Dechlorination Facility Elevations, the 32-foot-long by 24-foot-wide, CMU Dechlorination Facility building would be approximately 20 feet high and would include a 12-foot-wide by 14-foot-high steel roll-up door along the north elevation,

and interior and exterior lighting. A loading pad for tanker truck deliveries would be incorporated along the edge of Meanley Drive (see Figure 3-14) and near the roller access gate. Lastly, areas located outside of the fenced portions of the site would be landscaped with groundcover, shrubs, and several trees (see Figure 6.2-19, Dechlorination Facility Landscape Plan). A visual simulation of the Dechlorination Facility and site landscaping as viewed from Meanley Drive is included as Figure 6.2-20, Visual Simulation of Dechlorination Facility as viewed from Meanley Drive.

Due to the relatively small footprint of the building, the presence of existing industrial office developments and the City's Miramar Recycled Water Storage Tank in the surrounding area, and the presence of existing street trees and proposed landscaping that would partially screen the facility from view of area office workers, construction and operation of the Dechlorination Facility would not substantially alter the character of the area. Therefore, no substantial adverse effects concerning the Dechlorination Facility and a substantial alteration to the existing character of the area would occur.

### ***Miramar Water Treatment Plant Improvements***

The Miramar WTP is an existing treatment facility located along the south shore of the Miramar Reservoir. Proposed improvements would include rehabilitation of the existing Miramar Reservoir Pump Station, changes to the treatment and corrosion control processes, and resurfacing of concrete in the sedimentation and flocculation basins. Because the proposed improvements would be consistent with existing operations and would not substantially alter the existing character of the facility, no substantial adverse effects concerning Miramar WTP improvements and a substantial alteration to the existing character of the Miramar WTP would occur.

### **San Vicente Reservoir Alternative**

The impacts described above under the Miramar Reservoir Alternative for the Morena Pump Station, Morena Pipelines, NCWRP Expansion, NCPWF Influent Pump Station, LFG Pipeline, and MBC Improvements would also be applicable to this alternative. Also, the NCPWF-SVR and North City Pump Station would result in similar impacts to those described previously for the NCPWF-MR and North City Pump Station.

### ***San Vicente Pipeline***

Impacts associated with construction and operation of the San Vicente Pipeline would be similar to those described previously for the Morena Pipelines and the North City Pipeline.

### ***Mission Trails Booster Station***

Although the substantial modification of the existing site and removal of vegetation would be required to accommodate the MTBS and ancillary facilities, the pump room and electrical room would display a similar height to the one-story, single-family residences and commercial structures in the immediate area. Once developed, the site would essentially extend features (i.e., rectangular, flat roof buildings, paved parking areas and ingress and egress driveways) to the north that currently characterize the adjacent commercial area. Further, the MTBS site is relatively small and development of a portion of the site would not entail substantial alterations to the primarily residential character of the surrounding area. As such, no substantial adverse effects concerning construction and development of the MTBS and a substantial alteration to the character of the area would occur.

## **6.2.5.2 Significance of Impacts Under CEQA**

### **No Project/No Action Alternative**

**No impacts** to the existing character of the area would result from the No Project/No Action Alternative.

### **Miramar Reservoir Alternative**

Impacts to the existing character of areas in which project components of the Miramar Reservoir Alternative are located would be **less than significant** under CEQA.

### **San Vicente Reservoir Alternative**

Impacts to the existing character of areas in which project components of the San Vicente Reservoir Alternative are located would be **less than significant** under CEQA.

### **6.2.5.3 Mitigation, Monitoring, and Reporting**

#### **No Project/No Action Alternative**

No impacts to the existing character of the area would result from the No Project/No Action Alternative, and no mitigation measures would be required.

#### **Miramar Reservoir Alternative**

No mitigation measures would be required.

#### **San Vicente Reservoir Alternative**

No mitigation measures would be required.

### **6.2.6 ISSUE 4**

***Would the North City Project be compatible with surrounding development in terms of bulk; scale, materials, or style?***

#### **6.2.6.1 Impacts**

##### **No Project/No Action Alternative**

No effects associated with incompatibility with surrounding development in terms of bulk, scale, materials, and style would occur under the No Project/No Action Alternative.

##### **Miramar Reservoir Alternative**

###### ***Morena Pump Station***

As demonstrated in Section 6.2.5, the Morena Pump Station would be compatible with surrounding development in terms of bulk, scale, materials, and style. See Section 6.2.5 for a general compatibility analysis.

###### ***Morena Wastewater Forcemain and Brine/Centrates Line***

Once constructed, the Morena Pipelines would be located underground and would not entail the introduction of prominent aboveground features through the Linda Vista, Clairemont Mesa, and University communities. Open cut trenches or trenchless entry points along the alignment would be restored to existing conditions following construction. As such, no adverse effects concerning the Morena Pipelines and incompatibility with surrounding development in terms of bulk, scale, materials, or style would occur.

***North City Water Reclamation Plant Expansion, Influent Pump Station, and North City Renewable Energy Facility***

The NCWRP Expansion and the addition of an Influent Pump Station and the North City Renewable Energy Facility would entail the construction of expanded and/or upgraded facilities similar to those already located on the NCWRP. Because expanded and/or upgraded facilities would be similar to those already operating on site and would not entail substantially different building materials or architectural styles (i.e., the new EQ basin would display a similar scale and cylindrical form as existing nearby EQ basins), no adverse effects concerning the NCWRP Expansion, Influent Pump Station, and North City Renewable Energy Facility and incompatibility with surrounding development in terms of bulk, scale, materials, or style would occur.

***North City Pure Water Facility – Miramar Reservoir and North City Pump Station***

As demonstrated in Section 6.2.5, the introduction of the NCPWF-MR and North City Pump Station would enhance the visual quality of the site and surrounding industrial Miramar subarea of the University community plan. The proposed bulk and scale of proposed facilities would be comparable to the two-story office and warehouse development located to the east of the site and multi-story industrial office development located to the west of the site (and west of I-805). In addition, the NCPWF-MR and North City Pump Station would be located north of the NCWRP, an existing water reclamation plant that, like the NCPWF-MR and North City Pump Station, features process buildings displaying bold, rectangular shapes consisting of cast-in-place concrete walls along its western and southern perimeter. The building materials and architectural style of the prominent O&M building would complement materials and styles of structures along Eastgate Mall located west of I-805 and would create a visual connection to the area. Further, the O&M building and proposed streetscape and site perimeter improvement would improve the existing entrance to the University Town Center area from the east.

The NCPWF-MR and North City Pump Station would display comparable size and scale to existing developments in the surrounding area and would also stand out as civic assets. They would also demonstrate design strategies that directly respond to ecological, climatic and topographic/terrain conditions inherent to the site. The civic function of the O&M building would be immediately apparent. The clean and ordered appearance of the south façade, with expanses of deep inset glazing, is supported by a heavy, rusticated concrete base. Along with glazing, the façade

would be primarily composed of colored and textured composite panels, with colors ranging from white to deep aqua blue. A prominent accessible “interpretive” ramp incorporated into the base of the building would lead visitors and staff alike into the public lobby with viewing windows of the control room and working laboratory spaces. A modest cascading water feature at the entry would utilize reclaimed water produced by the facility and provide the feel of an oasis setting, as well as mask the sound of the adjacent freeway. A large metal canopy with metal signage above would shade the entry alcove and, along with the water feature, provide a compelling place for people to gather. The interior atrium space, would offer views through the O&M building to the process buildings to the north, giving the public additional points of connection to the water reclamation and purification process. Daylighting in the lab and maintenance and office spaces would be achieved with deep inset glazing and canopy shades that address unwanted heat gain and bounce light deep into the interior via interior and exterior light shelves. See Figures 6.2-12A, 6.2-12B, and 6.2-12C for elevations of the NCPWF-MR O&M building. In addition, visual simulations depicting the scale, building materials, and architectural style of the NCPWF-MR O&M building, pump station, treatment process buildings, and other facilities are presented on Figures 6.2-15 and 6.2-16.

The NCPWF-MR and North City Pump Station would be compatible with surrounding development in terms of bulk, scale, materials, and style but would also incorporate unique design elements and materials that would be representative of the treatment processes occurring at the facility. Therefore, no adverse effects concerning the NCPWF-MR and North City Pump Station and incompatibility with surrounding development in terms of bulk, scale, materials, or style would occur.

### ***Landfill Gas Pipeline***

The LFG Pipeline would be installed entirely underground and would not entail the introduction of prominent vertical features along the proposed alignment between the NCWRP and the proposed compressor station within the Miramar Landfill lease area. Open cut trenches and trenchless entry points associated with installation of the pipeline would be backfilled to match the grade of adjacent terrain and the alignment would generally be restored to pre-construction conditions. Therefore, no adverse effects concerning the LFG Pipeline and incompatibility with surrounding development in terms of bulk, scale, materials, or style would occur.

***Metro Biosolids Center Improvements***

Because proposed improvements would not entail substantial physical modifications to existing operations that would enhance the overall visibility and would not substantially alter the character of the facility, no adverse effects concerning the MBC Improvements and incompatibility with surrounding development in terms of bulk, scale, materials, or style would occur.

***North City Pipeline***

Impacts and effects associated with construction and operation of the North City Pipeline would be similar to those described previously for the Morena Pipelines.

***Dechlorination Facility***

As demonstrated in Section 6.2.5, the Dechlorination Facility would be compatible with surrounding development in terms of bulk, scale, materials, and style. See Section 6.2.5 for a general compatibility analysis.

***Miramar Water Treatment Plant Improvements***

The Miramar WTP is an existing treatment facility located along the south shore of the Miramar Reservoir. Because the proposed improvements would be consistent with existing operations and would not substantially alter the existing character of the facility through the introduction of facilities displaying substantially larger bulk or scale or the use of different building materials, the improvements would be compatible with existing plant facilities and surrounding land uses. Therefore, no adverse effects concerning the Miramar WTP Improvements and incompatibility with surrounding development in terms of bulk, scale, materials, or style would occur.

***San Vicente Reservoir Alternative***

The impacts described previously under the Miramar Reservoir Alternative for the Morena Pump Station, Morena Pipelines, NCWRP Expansion, NCPWF Influent Pump Station, LFG Pipeline, and MBC Improvements would also be applicable to this alternative. Also, the NCPWF-SVR and North City Pump Station would result in similar impacts to those described previously for the NCPWF-MR and North City Pump Station.

### ***San Vicente Pipeline***

Impacts associated with construction and operation of the San Vicente Pipeline would be similar to those described previously for the Morena Pipelines and the North City Pipeline.

### ***Mission Trails Booster Station***

As demonstrated in Section 6.2.5, the MTBS would be compatible with surrounding development in terms of bulk, scale, materials, and style. See Section 6.2.5 for a general compatibility analysis.

## **6.2.6.2 Significance of Impacts Under CEQA**

### **No Project/No Action Alternative**

**No impacts** associated with incompatibility with surrounding development in terms of bulk, scale, materials, and style would result from the No Project/No Action Alternative.

### **Miramar Reservoir Alternative**

Impacts associated with incompatibility of components of the Miramar Reservoir Alternatives with surrounding development in terms of bulk, scale, materials, and style would under CEQA be **less than significant**.

### **San Vicente Reservoir Alternative**

Impacts associated with incompatibility of components of the Miramar Reservoir Alternatives with surrounding development in terms of bulk, scale, materials, and style would under CEQA be **less than significant**.

## **6.2.6.3 Mitigation, Monitoring, and Reporting**

### **No Project/No Action Alternative**

No impacts associated with incompatibility with surrounding development in terms of bulk, scale, materials, and style existing character of the area would result from the No Project/No Action Alternative, and no mitigation measures would be required.

### **Miramar Reservoir Alternative**

No mitigation would be required.

### San Vicente Reservoir Alternative

No mitigation would be required.

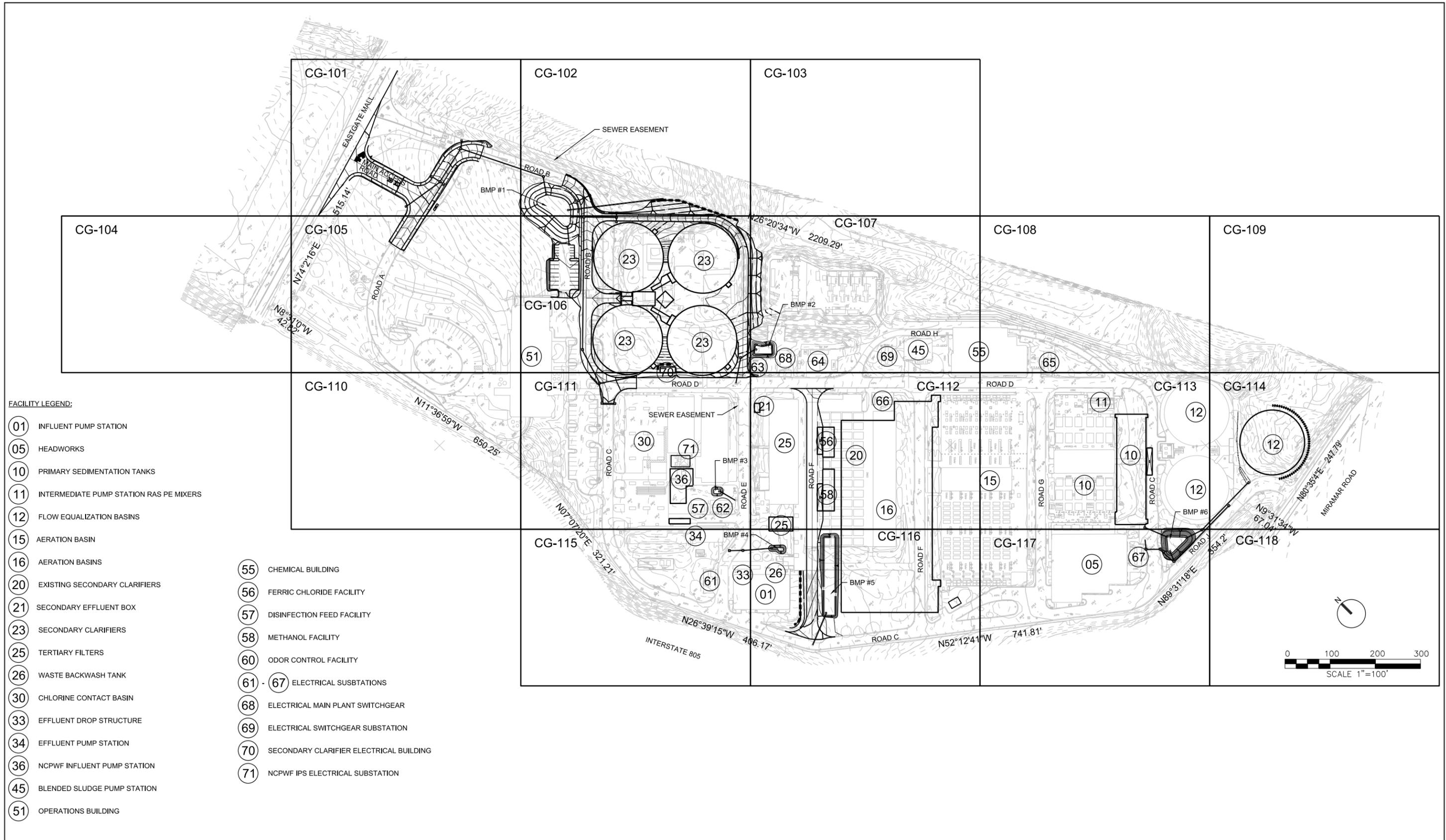
#### 6.2.7 LEVEL OF IMPACT AFTER MITIGATION

With the exception of construction activities associated with the MTBS phase of the San Vicente Reservoir Alternative, impacts to visual resources from implementation of the North City Project Alternatives would be **less than significant**.

Construction activities associated with the San Vicente Reservoir Alternative and more specifically, the MTBS, would result in a substantial change to the natural topography of the proposed site. Base on the conceptual site layout, development of the MTBS would require a substantial amount of excavation work at the site. In order to reduce the impact, the MTBS would need to be redesigned to reduce the facility footprint (and reduce associated grading), reshape cuts and fills to appear as natural forms, retain trees to screen earthwork contrasts, or be relocated to an area with less slope where less excavation would be required, the feasibility and analysis of which is outside the scope of this EIR/EIS.

No mitigation has been identified that would substantially reduce the anticipated impact to landform alteration from the MTBS and therefore this impact would be **significant and unavoidable**.

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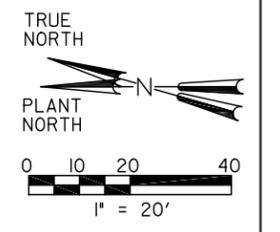
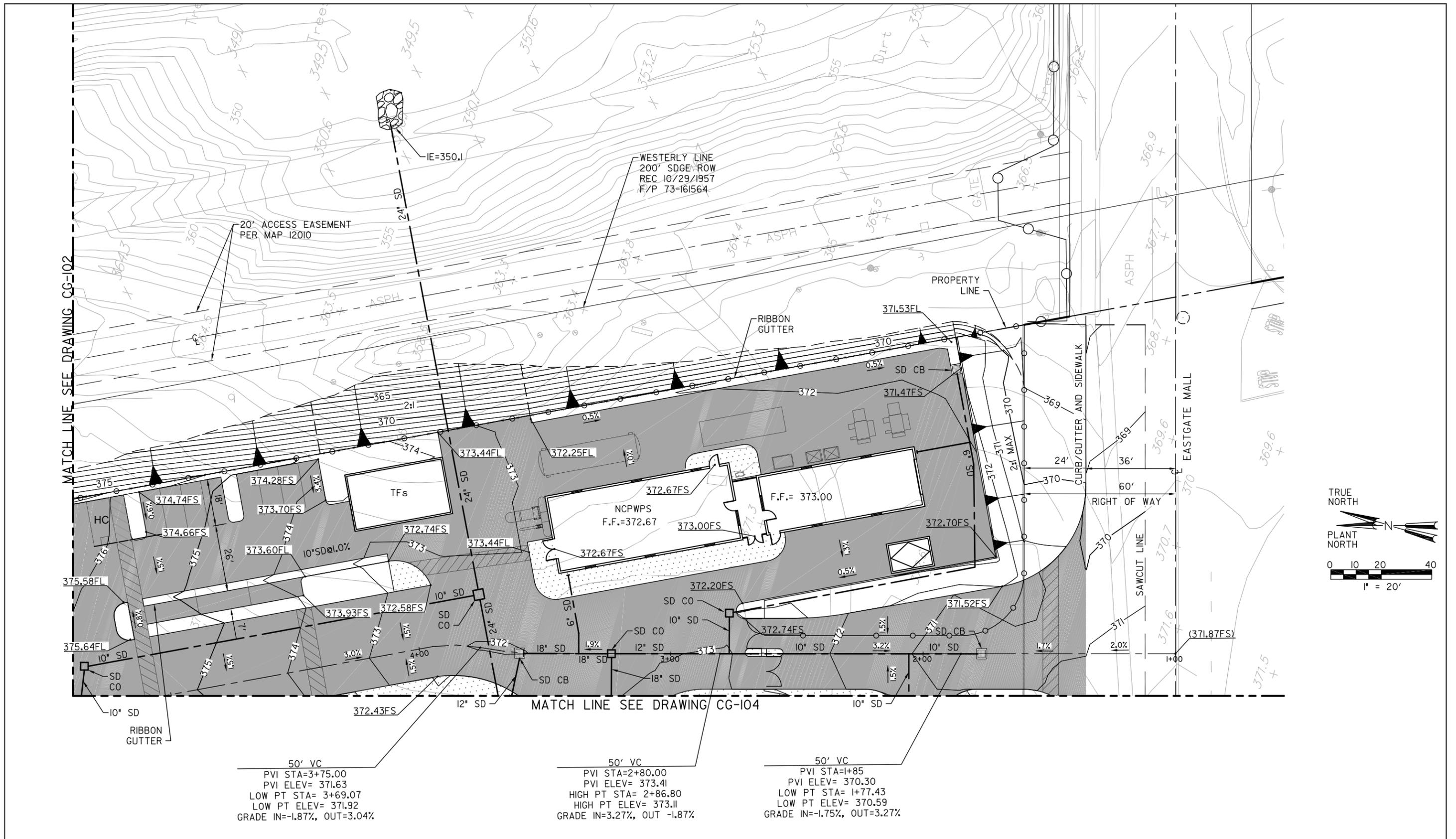
SOURCE: City San Diego 2017



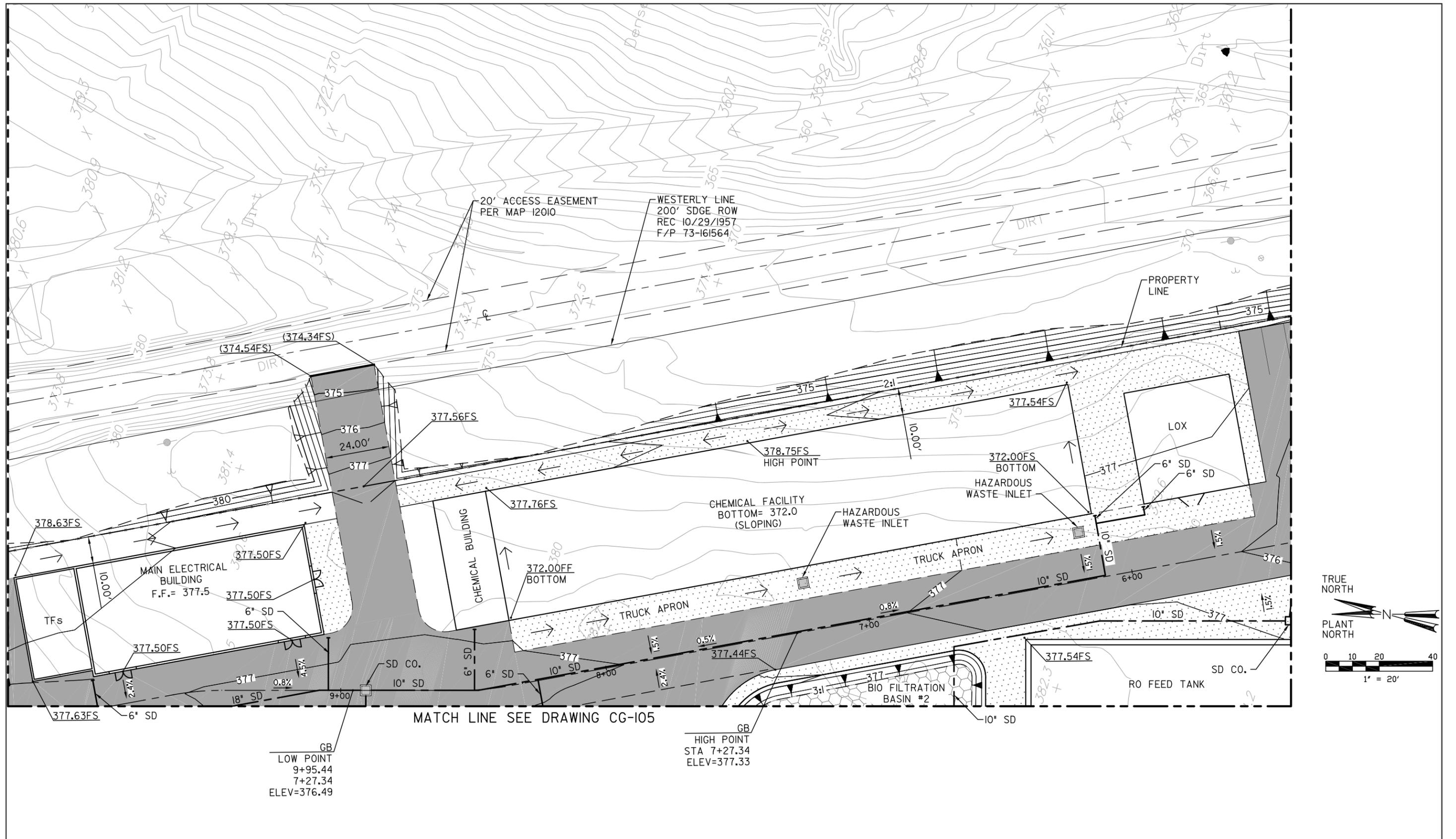
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-1**  
**North City Water Reclamation Plant Expansion Components Grading Plan**

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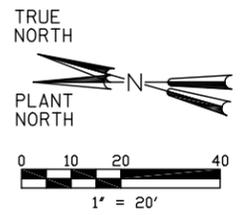
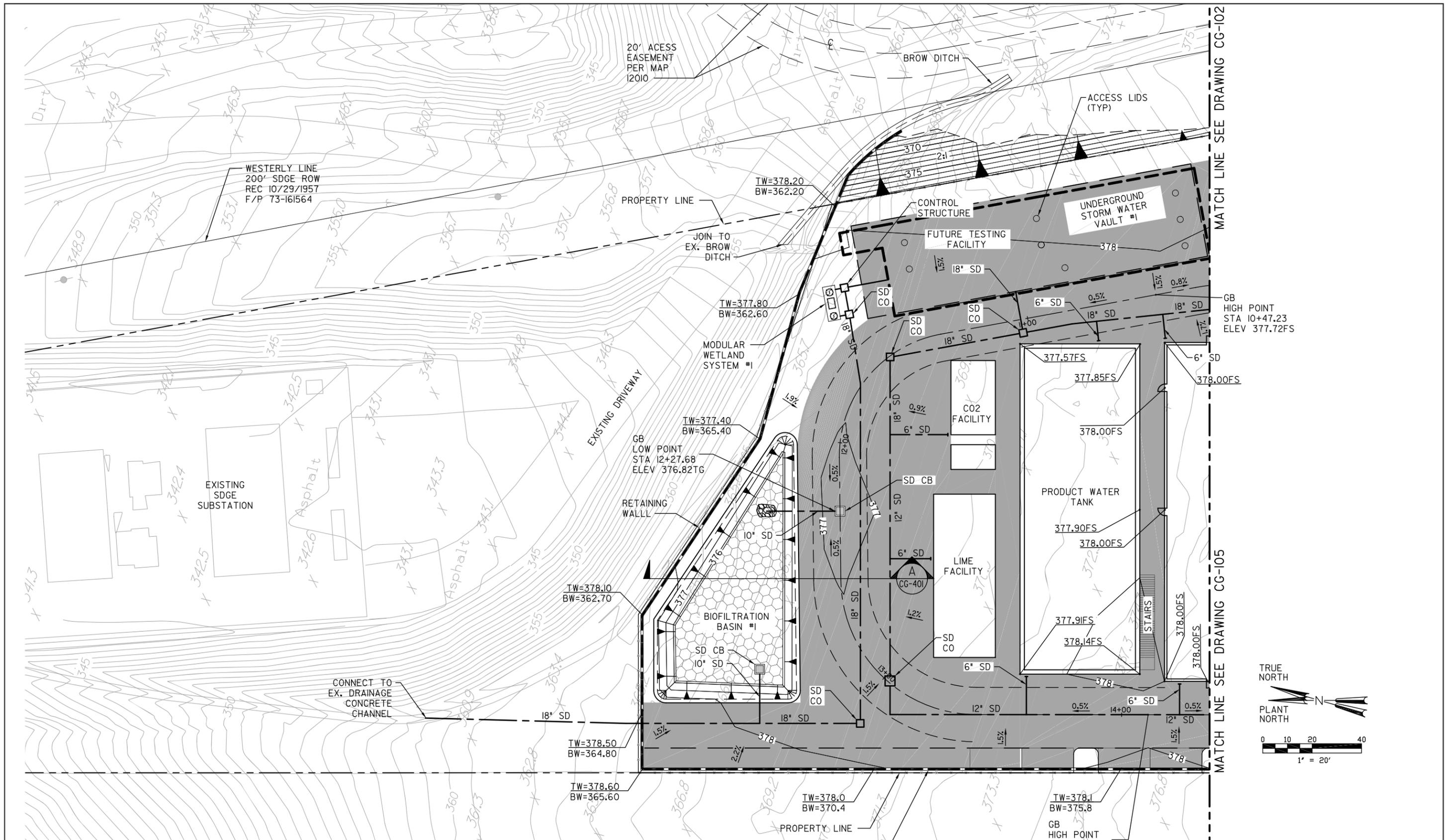
SOURCE: City San Diego 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-2B**  
**North City Pure Water Facility Grading Plan**

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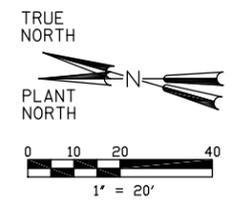
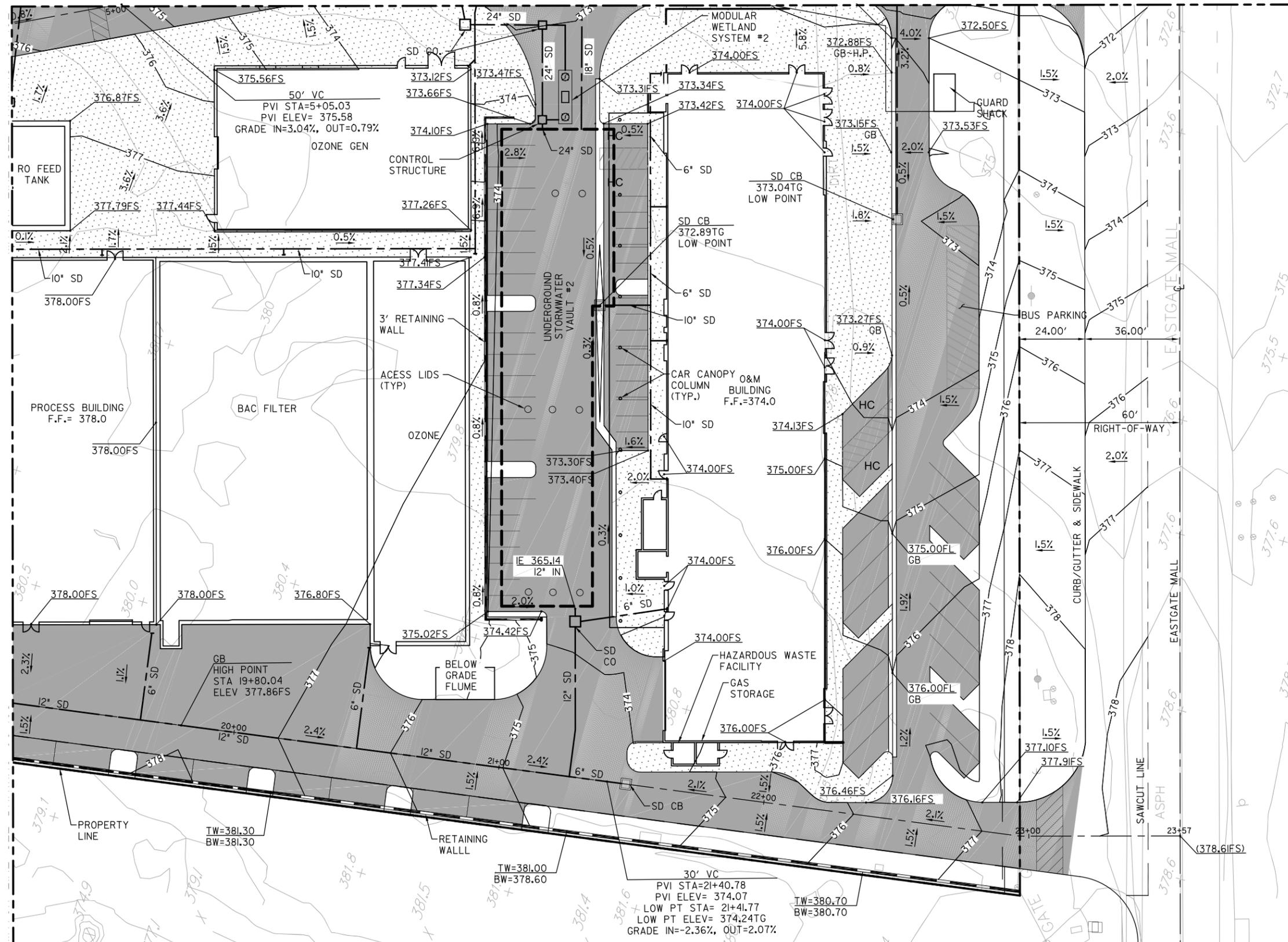
SOURCE: City San Diego 2017

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Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-2C**  
**North City Pure Water Facility Grading Plan**

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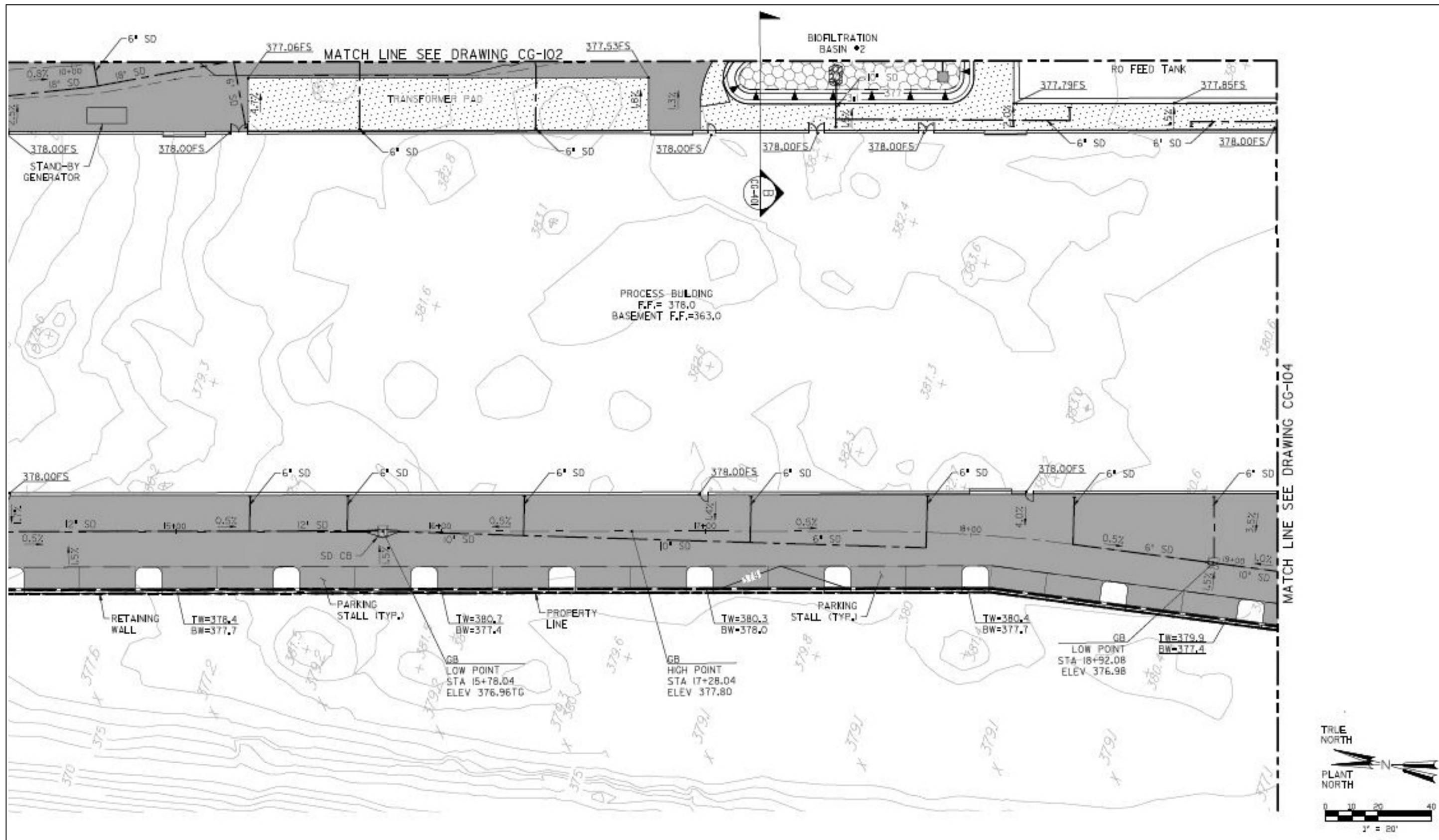
SOURCE: City San Diego 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-2D**  
**North City Pure Water Facility Grading Plan**

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SOURCE: City San Diego 2017

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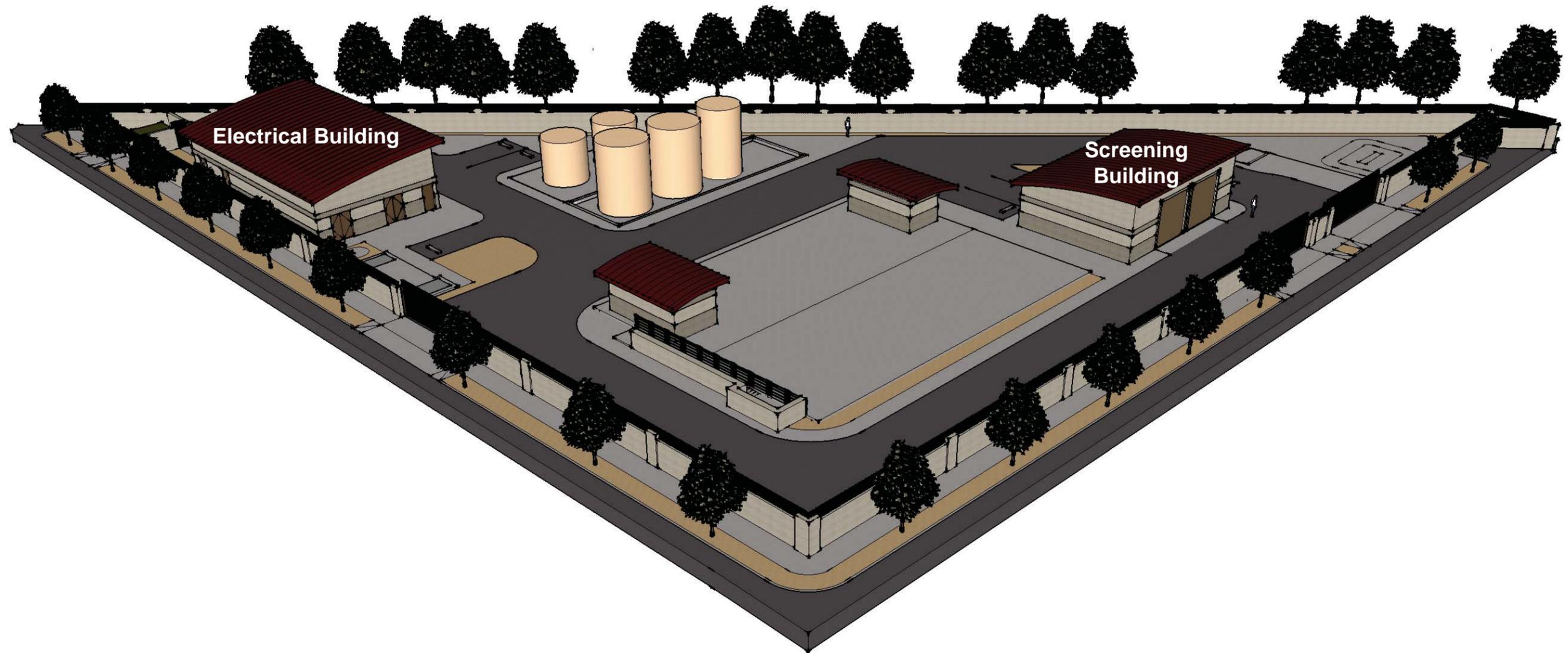
Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-2E**  
**North City Pure Water Facility Grading Plan**

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Isometric View - Looking South below render

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Elevation View - Custer Street



Elevation View - Sherman Street



Elevation View - Friars Road

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SOURCE: KEH/AECOM 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-4C**  
**Bird's Eye Perspective of Morena Pump Station (Visual Simulation)**

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SOURCE: KEH/AECOM 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-4D**  
**Bird's Eye Perspective of Morena Pump Station (Visual Simulation)**

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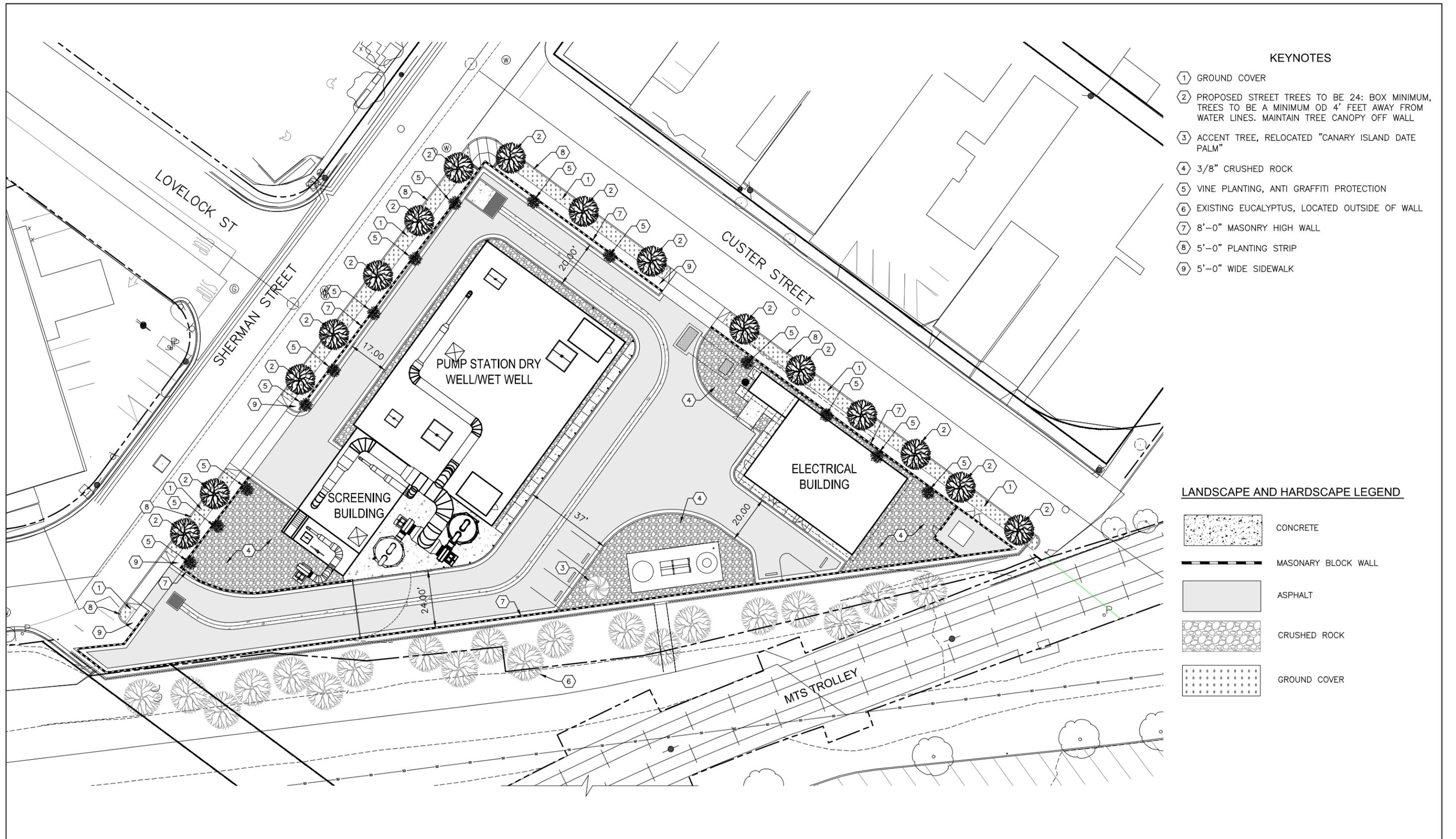
SOURCE: KEH/AECOM 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-4E**  
**Bird's Eye Perspective of Morena Pump Station (Visual Simulation)**

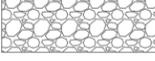
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**KEYNOTES**

- ① GROUND COVER
- ② PROPOSED STREET TREES TO BE 24" BOX MINIMUM, TREES TO BE A MINIMUM OD 4" FEET AWAY FROM WATER LINES. MAINTAIN TREE CANOPY OFF WALL
- ③ ACCENT TREE, RELOCATED "CANARY ISLAND DATE PALM"
- ④ 3/8" CRUSHED ROCK
- ⑤ VINE PLANTING, ANTI GRAFFITI PROTECTION
- ⑥ EXISTING EUCALYPTUS, LOCATED OUTSIDE OF WALL
- ⑦ 8'-0" MASONRY HIGH WALL
- ⑧ 5'-0" PLANTING STRIP
- ⑨ 5'-0" WIDE SIDEWALK

**LANDSCAPE AND HARDSCAPE LEGEND**

-  CONCRETE
-  MASONRY BLOCK WALL
-  ASPHALT
-  CRUSHED ROCK
-  GROUND COVER

SOURCE: KEH & Associates, Inc., 2017



Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-5  
Morena Pump Station Landscape Plan**

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SOURCE: ch2m 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-6A**  
**Illustrative Perspective of North City Water Reclamation Plant - Existing**

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SOURCE: ch2m 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-6B**  
**Illustrative Perspective of North City Water Reclamation Plant - Proposed**

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SOURCE: City of San Diego 2016, 2017; SANDAG

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-7**  
North City Water Reclamation Plant: Visual Simulation Locations

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**ABOVE: Existing Conditions**

**BELOW: Visual Simulation**



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**ABOVE: Existing Conditions**

**BELOW: Visual Simulation**



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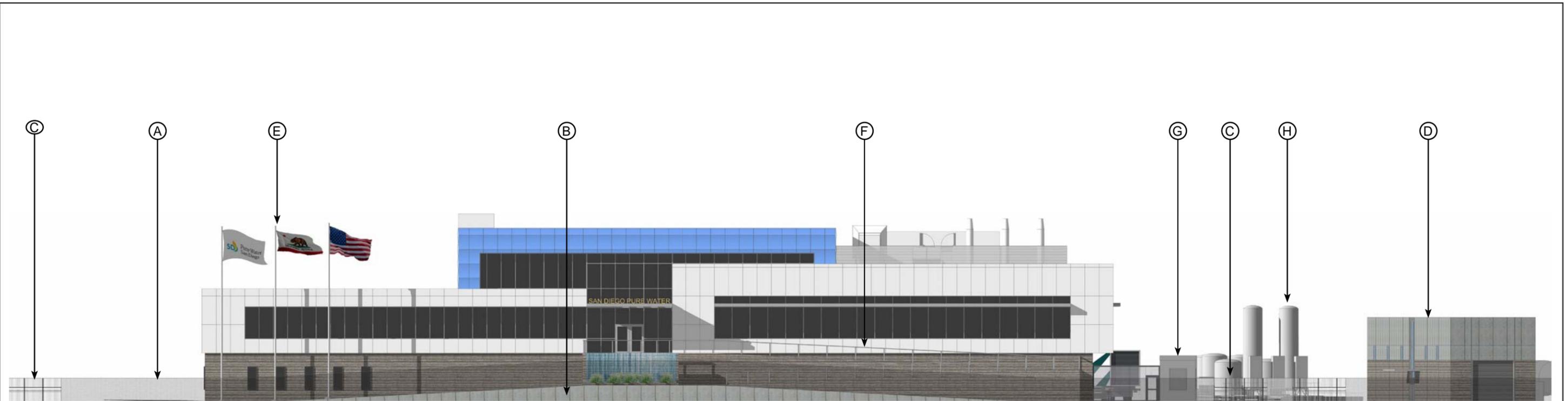


**ABOVE: Existing Conditions**

**BELOW: Visual Simulation**



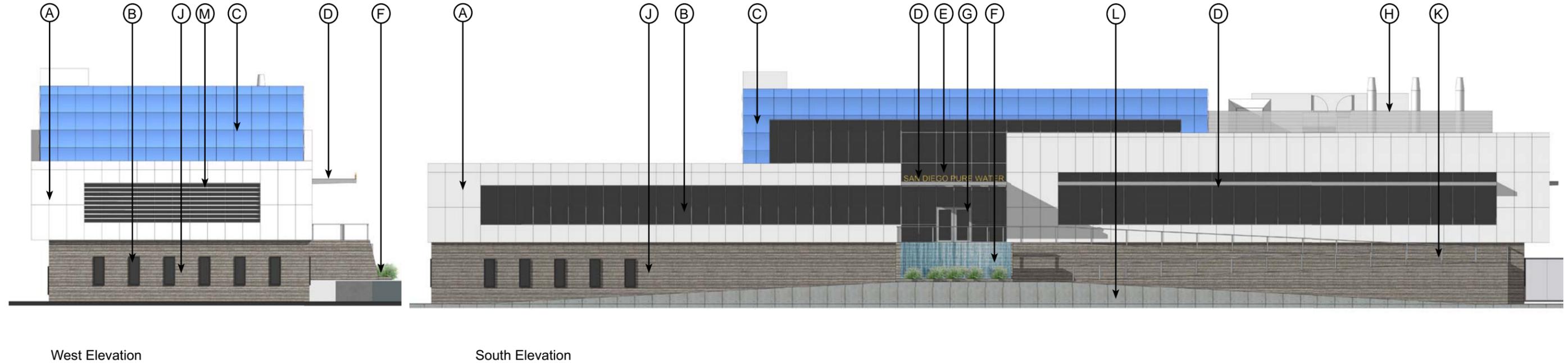
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**KEYNOTES**

- (A) Security iron picket fencing at site perimeter, shown at 7' ht. - final height to be determined by client requirements
- (B) Low concrete retaining wall adjacent to sidewalk
- (C) Entrance and exit iron gates
- (D) Pump Station - concrete finish similar to building base
- (E) Flagpoles at site perimeter (# TBD)
- (F) ADA Entry ramp with interpretive elements
- (G) Gatehouse - concrete finish similar to building base
- (H) Facility processing tanks (beyond)

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**KEYNOTES**

- (A) Rainscreen resin panel system; Trespa, Swisspearl or similar; color: white to light blue

(B) Recessed aluminum storefront system w/ butt joint glazing

(C) Rainscreen resin panel system; Trespa, Swisspearl or similar; color: aqua/light blue with “rippled” texture

(D) Metal framed canopy with metal or glass panel shading elements

(E) 20” Cast metal lettering, powder coated, color by client standards -mount on entry canopy

(F) Concrete water wall feature at entry, utilizing reclaimed water

(G) Aluminum storefront glazed entry doors

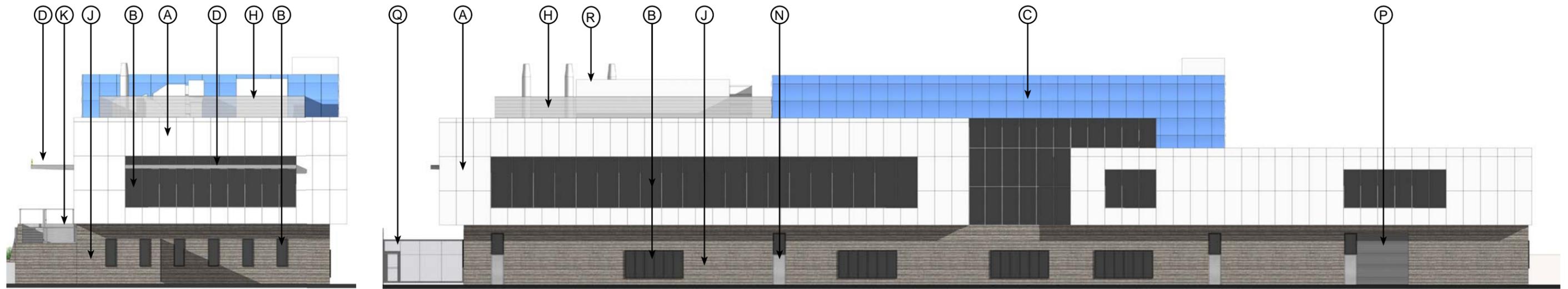
(H) Metal mechanical screen wall, 14’ ht. or less to hide lab ventilation and mechanical equipent; equipment panels partially open

(J) Board-form cast in place concrete base, horizontal board form orientation
- (K) ADA entry ramp with metal guardrail; semi transparent metal panel infill

(L) Raised parking area, utilizing onsite fill; Slope to meet new civil grades at east & west

(M) Metal louvers

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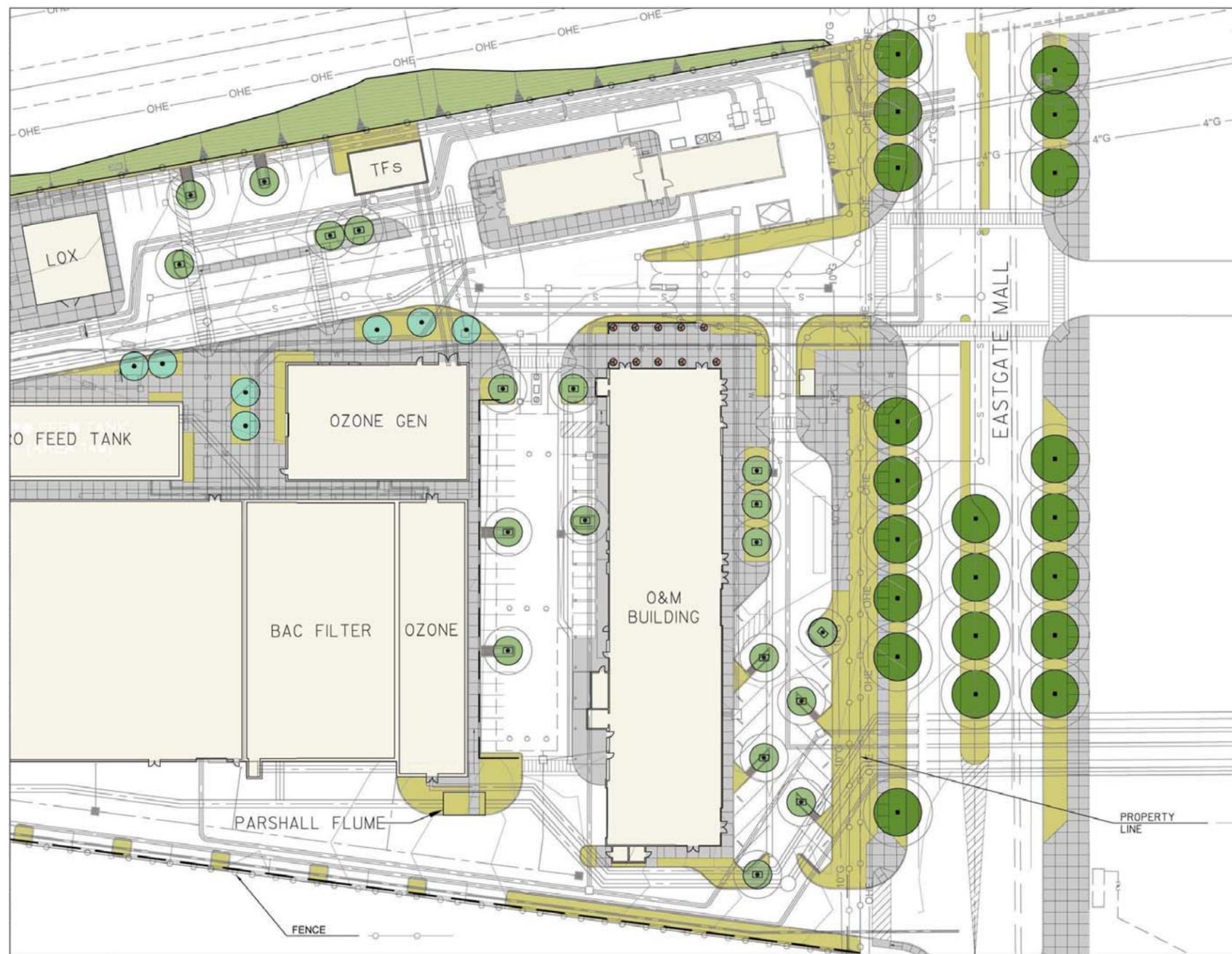
East Elevation

North Elevation

**KEYNOTES**

- (A) Rainscreen resin panel system; Trespa, Swisspearl or similar; color: white to light blue
- (B) Recessed aluminum storefront system w/ butt joint glazing
- (C) Rainscreen resin panel system; Trespa, Swisspearl or similar; color: aqua/light blue with "rippled" texture
- (D) Metal framed canopy with metal or glass panel shading elements
- (E) 20" Cast metal lettering, powder coated, color by client standards -mount on entry canopy
- (F) Concrete water wall feature at entry, utilizing reclaimed water
- (G) Aluminum storefront glazed entry doors
- (H) Metal mechanical screen wall, 14' ht. or less to hide lab equipment panels partially open
- (J) Board-form cast in place concrete base, horizontal board form orientation
- (K) ADA entry ramp with metal guardrail; semi transparent metal panel infill
- (L) Raised parking area, utilizing onsite fill; Slope to meet new civil grades at east & west
- (M) Metal louvers
- (N) Hollow metal door, paint to match adjacent metals
- (P) Aluminum overhead coiling door
- (Q) Exterior man door for egress @ entry gate, match gate metals/panic hardware
- (R) Lab ventilation and mechanical equipment

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**DESIGN GOALS:**

AS DESCRIBED IN THE PROJECT DESIGN REPORT, THE DESIGN INTENT IS TO PROVIDE A WATER WISE LANDSCAPE WITH A DESERT THEME. THE GOAL IS TO FOLLOW A SIMILAR LANDSCAPE THEME WITH NCWRP (ACROSS THE STREET) TO STRENGTHEN THE TWO FACILITIES SHARED IDENTITY AND PURPOSE IN THE COMMUNITY.

THE PLANT MATERIAL WILL MEET THE FOLLOWING CRITERIA:

- RECYCLED WATER TOLERANT
- NO TO LOW WATER USE
- LOW MAINTENANCE
- FIRE RESISTANT - LOW FUEL
- ESTABLISHED AFTER 2 TO 5 YEARS

BIORETENTION BASIN PLANT MATERIAL WILL MEET THE ADDED CRITERIA:

- TOLERANT OF UP TO 24 HOURS OF INUNDATION - NO TO MODERATE WATER USE

IRRIGATION SYSTEMS WILL BE PERMANENT AUTOMATIC IRRIGATION SYSTEMS DESIGNED FOR USE WHERE INORGANIC ROCK IS USED AS A LANDSCAPE TREATMENT. SYSTEMS SHALL BE A POINT TO POINT SYSTEM OR MICRO-IRRIGATION AS DEFINED BY THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND CITY OF SAN DIEGO MUNICIPAL CODE. SLOPES WILL BE IRRIGATED WITH LOW PRECIPITATION RATE IRRIGATION NOZZLES.

**LANDSCAPE MATERIALS QUANTITIES:**

NOTE: LANDSCAPE AREA DOES NOT INCLUDE MEDIAN OR NCWTP PARKWAY.  
TOTAL SITE PLANTING AREA: 45,051 S.F.

**HARDSCAPE**

- PERMEABLE CONCRETE PAVERS: 650 S.F.

**INORGANIC ROCK MATERIAL**

- MIXED AGGREGATE AT OUTSIDE OF SHRUB AREAS: 13,305 S.F.
- 3" DEPTH 3/4" MINUS 'CALIFORNIA GOLD' AGGREGATE AT SHRUB AREAS: 11,454 S.F.
- 2'-4" BOULDERS (AVERAGED): 154
- GEOTEXTILE UNDERLAYMENT/WEED BARRIER: 24,759 S.F.

**SOFTSCAPE**

- IRRIGATION SYSTEMS - DRIP: 24,759 S.F.
- 2 BUBBLERS PER TREE
- LANDSCAPE FINE GRADING: 24,759 S.F.
- 15 GALLON: 72
- 5 GALLON: 310
- 1 GALLON: 1,074
- 36" BOX - STREET TREES: 9
- 36" BOX - PARKING LOT TREES: 16
- 36" BOX - SPECIMEN TREES: 10
- ROOT BARRIER CONTROL

**BIORETENTION**

- IRRIGATION SYSTEMS - SPRAY: 7,250 S.F.
- LANDSCAPE FINE GRADING: 7,250 S.F.
- PLANTING:
  - 5 GALLON SHRUBS: 1,812

**EROSION CONTROL**

- IRRIGATION SYSTEMS - SPRAY: 12,392 S.F.
- LANDSCAPE FINE GRADING: 12,392 S.F.
- PLANTING:
  - 1 GALLON SHRUBS: 5,576

**MAINTENANCE**

- PLANT ESTABLISHMENT PERIOD - 120 DAYS: 45,051 S.F.
- MAINTENANCE - 24 TO 60 MONTHS: 45,051 S.F.

- STREET TREE SUCH AS:
  - QUERCUS ILEX - 'HOLLY OAK' (36" BOX)
- PARKING LOT TREE SUCH AS:
  - MELALEUCA QUINQUENERVIA - 'CAJEPUT TREE' (36" BOX)
  - METROSIDEROS EXCELSA - 'NEW ZEALAND CHRISTMAS TREE'
  - 10' CLEARANCE TRUNK FROM WATER / SEWER LINES
- DECORATIVE PLANTER
- PLANTING AND ROCK MULCH AREA (24,759 S.F.)
- PERMEABLE PAVERS (650 S.F.)
- EROSION CONTROL PLANTING AREA
- PLANTED BIORETENTION BASIN (7,250 S.F.)
- CONCRETE WALKWAY

SOURCE: City San Diego 2017

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SOURCE: City of San Diego, 2015, 2016; SanGIS 2016

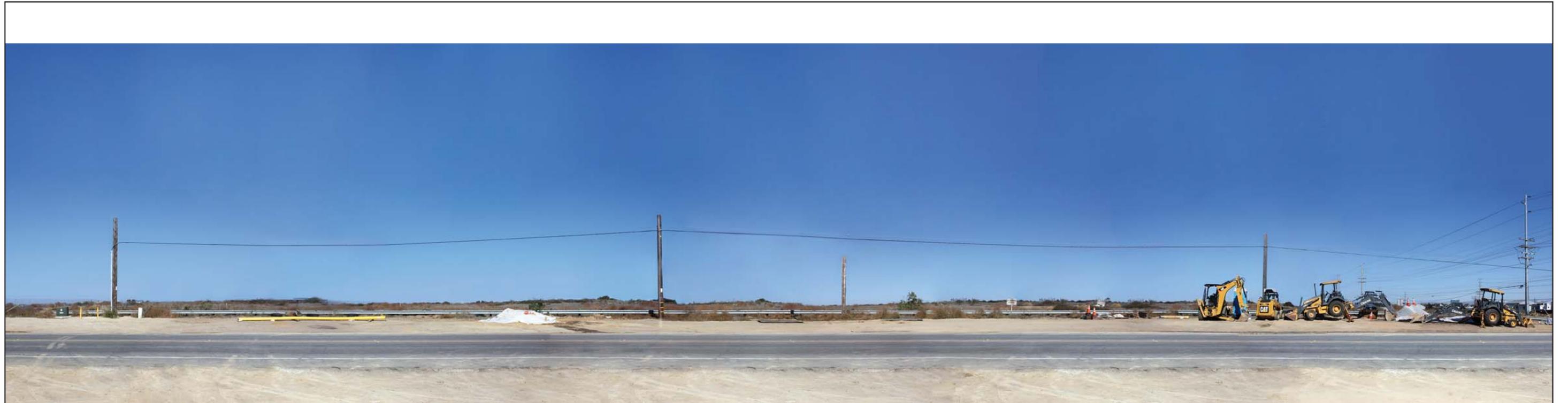
**FIGURE 6.2-14**



**North City Pure Water Facility - Miramar Reservoir: Existing Photos and Visual Simulation Locations**

Pure Water San Diego Program North City Project EIR/EIS

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Existing Conditions



Visual Simulation

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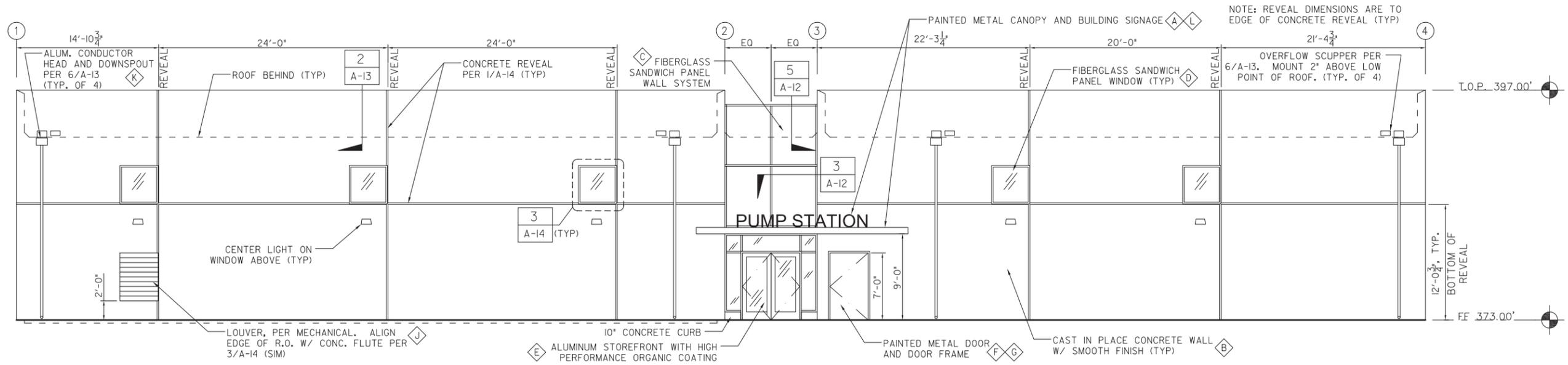


**ABOVE: Existing Conditions**  
**BELOW: Visual Simulation**

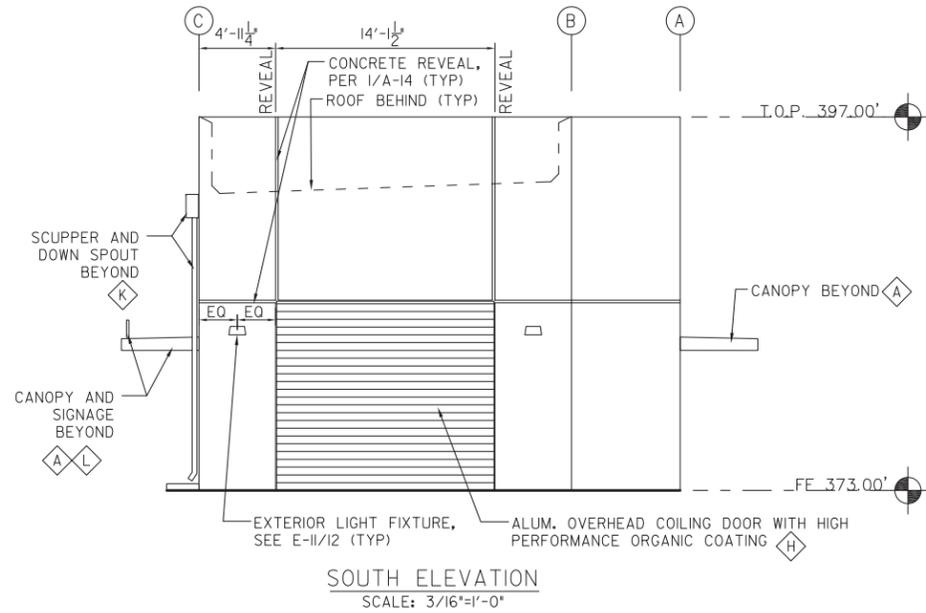


**Viewpoint 2: Looking East from Parking Lot Located West of I-805 to North City Pure Water Facility Site**

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WEST ELEVATION  
SCALE: 3/16"=1'-0"

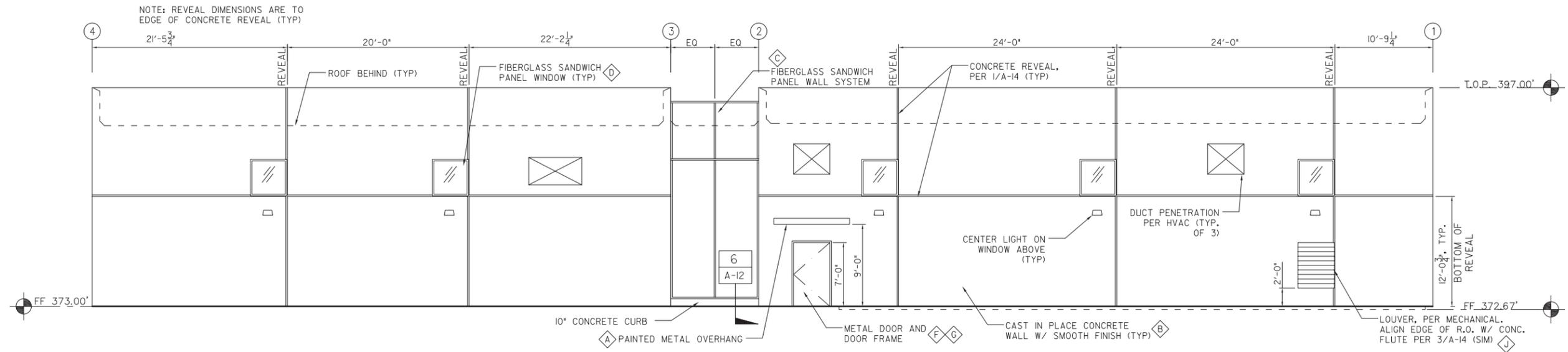


SOUTH ELEVATION  
SCALE: 3/16"=1'-0"

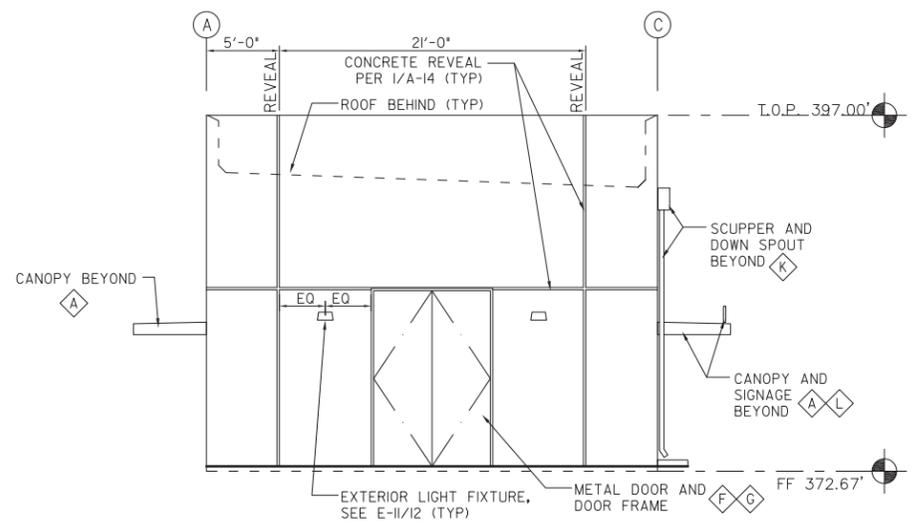
EXTERIOR COLOR / MATERIAL LEGEND				
SYMBOL	SYSTEM DESCRIPTION	MATERIAL	COLOR	MANUFACTURER (OR EQUAL)
⊠ A	ROOF CANOPY FASCIA COVER	METAL / PAINT	YELLOW	
⊠ B	EXTERIOR WALL	CAST-IN-PLACE SMOOTH POLISHED CONCRETE	LIGHT GRAY	
⊠ C	WALL SYSTEM	FIBERGLASS SANDWICH PANEL / BRUSHED ANODIZED ALUMINUM FRAME	TRANSLUCENT W/ ALUMINUM FRAME	
⊠ D	WINDOW & FRAME	FIBERGLASS SANDWICH PANEL / BRUSHED ANODIZED ALUMINUM FRAME	TRANSLUCENT W/ ALUMINUM FRAME	
⊠ E	STOREFRONT SYSTEM	HIGH PERFORMANCE COATED ALUMINUM FRAME	TRANSLUCENT W/ LIGHT BLUE	
⊠ F	DOOR	METAL / PAINTED	TRANSONE MEDIUM GRAY	
⊠ G	DOOR FRAME	METAL / PAINTED	DARK GRAY	
⊠ H	COILING DOOR & FRAME	HIGH PERFORMANCE ORGANIC COATING / ALUMINUM FRAME	MEDIUM GRAY	
⊠ J	LOUVER	METAL / PAINTED	LIGHT GRAY	
⊠ K	DOWNSPOUT	METAL / PAINTED	LIGHT GRAY	
⊠ L	SIGN LETTERS	LARGE SCALE METAL / PAINTED	BLACK	



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**EAST ELEVATION**  
SCALE: 3/16"=1'-0"

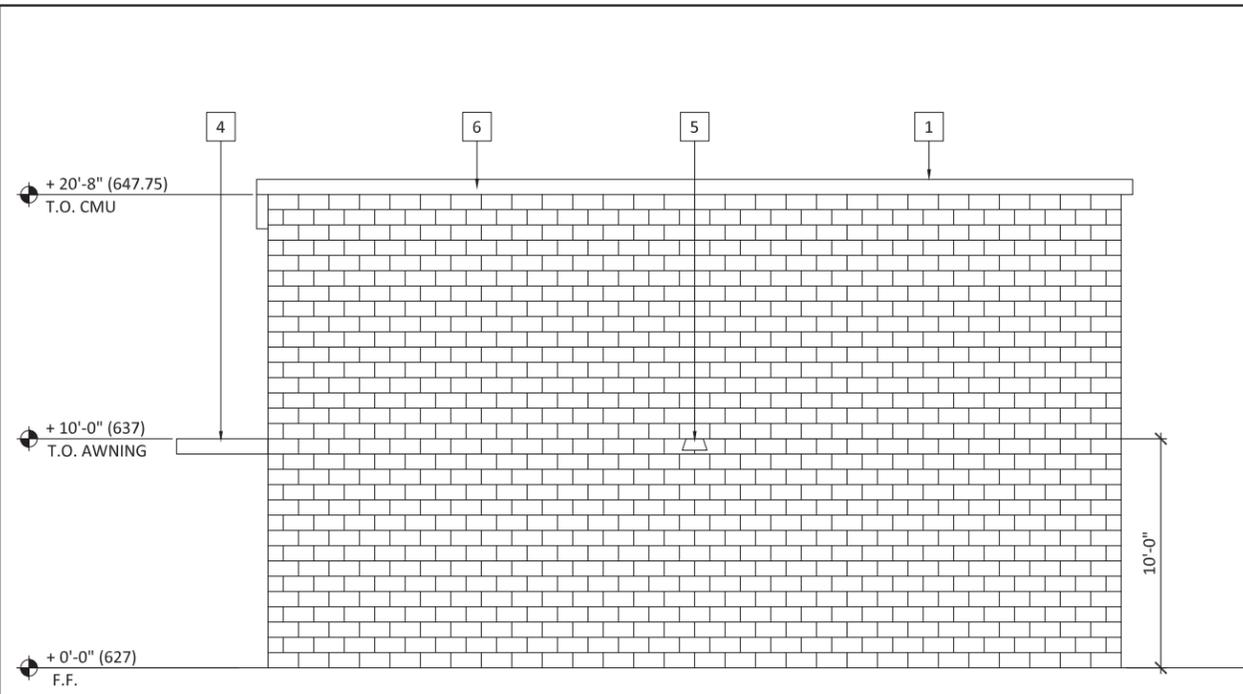


**NORTH ELEVATION**  
SCALE: 3/16"=1'-0"

EXTERIOR COLOR / MATERIAL LEGEND				
SYMBOL	SYSTEM DESCRIPTION	MATERIAL	COLOR	MANUFACTURER (OR EQUAL)
(A)	ROOF CANOPY FASCIA COVER	METAL / PAINT	YELLOW	
(B)	EXTERIOR WALL	CAST-IN-PLACE SMOOTH POLISHED CONCRETE	LIGHT GRAY	
(C)	WALL SYSTEM	FIBERGLASS SANDWICH PANEL / BRUSHED ANODIZED ALUMINUM FRAME	TRANSLUCENT W/ ALUMINUM FRAME	
(D)	WINDOW & FRAME	FIBERGLASS SANDWICH PANEL / BRUSHED ANODIZED ALUMINUM FRAME	TRANSLUCENT W/ ALUMINUM FRAME	
(E)	STOREFRONT SYSTEM	HIGH PERFORMANCE COATED ALUMINUM FRAME	TRANSLUCENT W/ LIGHT BLUE TRANSOME	
(F)	DOOR	METAL / PAINTED	MEDIUM GRAY	
(G)	DOOR FRAME	METAL / PAINTED	DARK GRAY	
(H)	COILING DOOR & FRAME	HIGH PERFORMANCE ORGANIC COATING / ALUMINUM FRAME	MEDIUM GRAY	
(J)	LOUVER	METAL / PAINTED	LIGHT GRAY	
(K)	DOWNSPOUT	METAL / PAINTED	LIGHT GRAY	
(L)	SIGN LETTERS	LARGE SCALE METAL / PAINTED	BLACK	



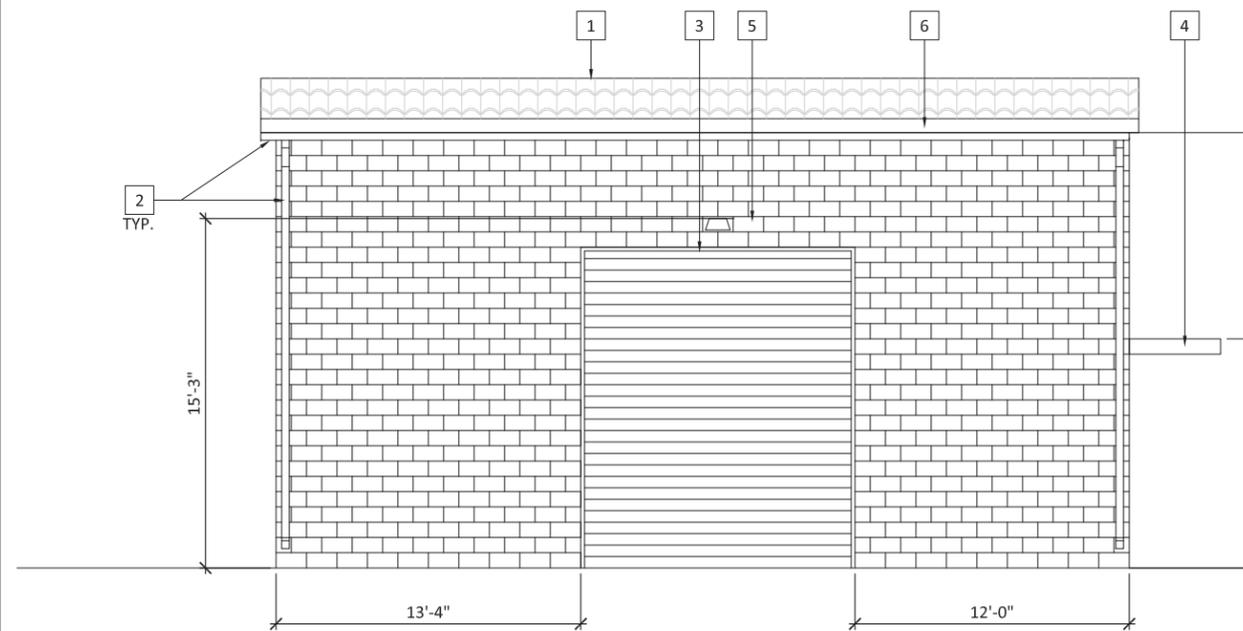
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**SOUTH ELEVATION**

SCALE: 1/4" = 1'-0"

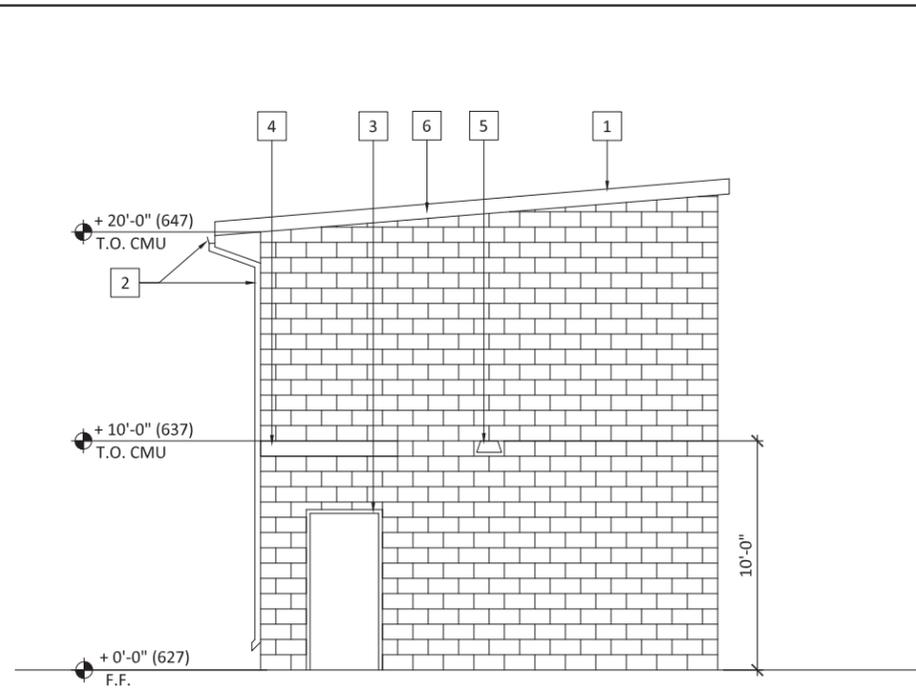
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**NORTH ELEVATION**

SCALE: 1/4" = 1'-0"

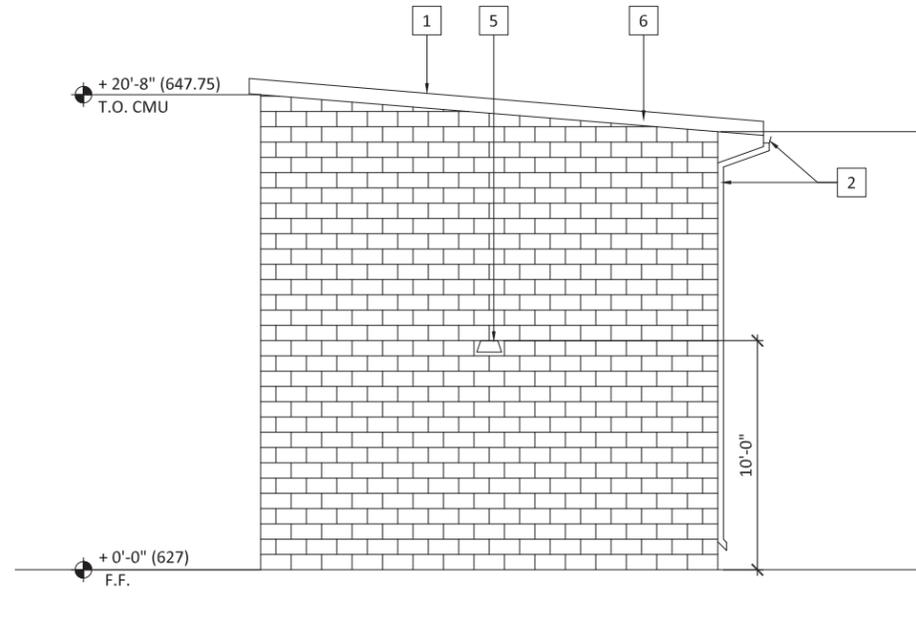
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**WEST ELEVATION**

SCALE: 1/4" = 1'-0"

2



**EAST ELEVATION**

SCALE: 1/4" = 1'-0"

4

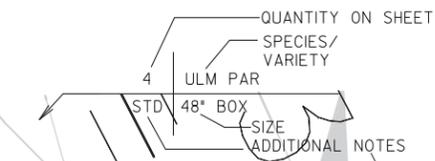
**GENERAL NOTES**

- 1 ALL ITEMS REFERENCED ARE NEW, UNLESS NOTED OTHERWISE.

EXTERIOR FINISH SCHEDULE		
KEY NOTE	MATERIAL	FINISH
1	COMPOSITE TILE ROOFING PER PLAN	FA
2	GUTTER AND DOWNSPOUT PER PLAN - REFER TO 10/A-7A	FA
3	DOOR/FRAME PER PLAN	PAINT
4	ENTRY DOOR AWNING PER PLAN - REFER TO DETAIL 5/A-10 SIM.	FA
5	EXTERIOR RATED WALL MOUNTED LIGHT FIXTURE PER ELECTRICAL	FA
6	STEEL FACIA	PAINT

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PLANT CALLOUT KEY

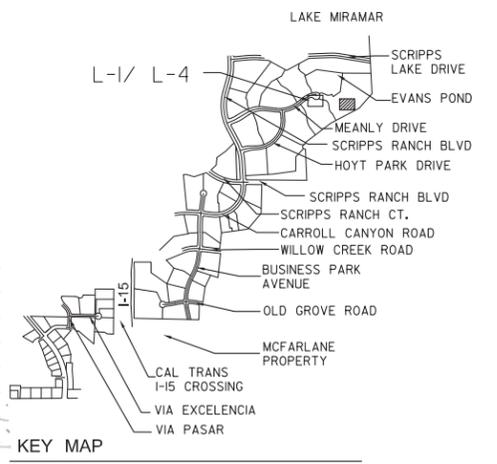
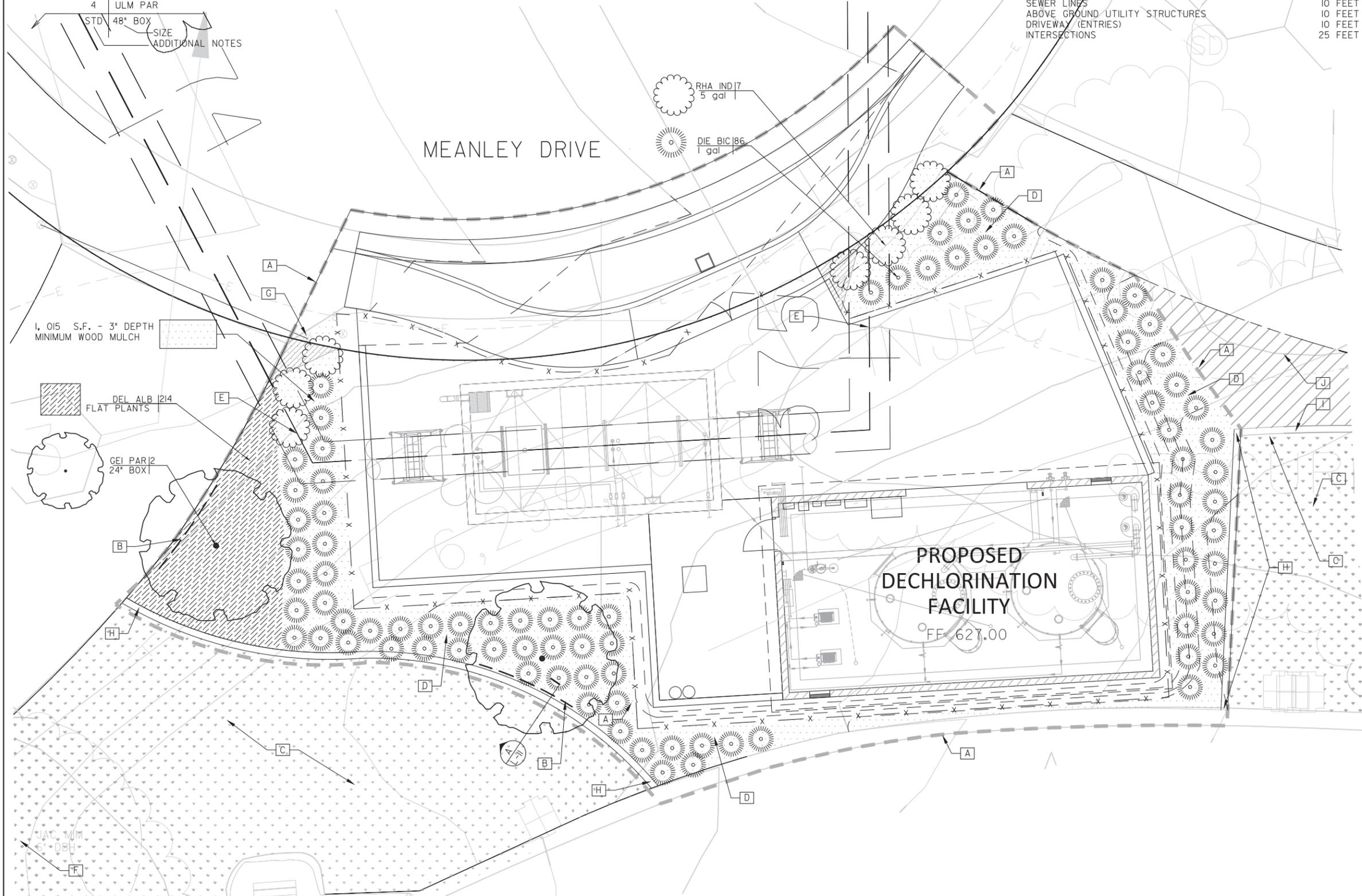


MINIMUM STREET TREE SEPARATION:

IMPROVEMENT	MINIMUM DISTANCE TO STREET TREE
TRAFFIC SIGNAL / STOP SIGN	20 FEET
UNDERGROUND UTILITY LINES (EXCEPT SEWER)	5 FEET
SEWER LINES	10 FEET
ABOVE GROUND UTILITY STRUCTURES	10 FEET
DRIVEWAY (ENTRIES)	10 FEET
INTERSECTIONS	25 FEET

KEY NOTES

- [A] LIMIT OF WORK
- [B] INSTALL ROOT BARRIER WITHIN 10 FT. OF TREE TRUNK ADJACENT TO IMPROVEMENT PER CITY OF SAN DIEGO STANDARD DRAWING SDL-106.
- [C] EXISTING TURF AREA TO REMAIN, TYPICAL SYMBOL - PROTECT IN PLACE. REPAIR ANY TURF DISRUPTED/ DAMAGED DURING CONSTRUCTION TO MATCH EXISTING. ALL DISTURBED AREAS TO BE WATER SETTLED AND COMPACTED PRIOR TO TURF PLACEMENT. CONTRACTOR SHALL PROVIDE ADDITIONAL TOP SOIL OVER AREAS OF SETTLEMENT UNTIL FIRM FINISH GRADE IS ACHIEVED.
- [D] ALL REQUIRED PLANTING AREAS SHALL BE COVERED WITH WOOD MULCH TO A MINIMUM OF 3" EXCLUDING AREAS TO BE PLANTED WITH TURF/ GROUND COVER.
- [E] PIPE BELOW GROUND - KEEP TREES 10 FT. AWAY FROM PIPELINE
- [F] EXISTING TREE TO REMAIN - PROTECT IN PLACE
- [G] EXISTING GATE TO REMAIN - PROTECT IN PLACE
- [H] NEW 8" X6" (86 LF) CONCRETE MOW CURB - PER CITY OF SAN DIEGO STANDARD DRAWING SDL-103.
- [I] EXISTING CONCRETE MOW CURB TO REMAIN - PROTECT IN PLACE.
- [J] EXISTING VEGETATION TO REMAIN - PROTECT IN PLACE & WATER WEEKLY DURING CONSTRUCTION.



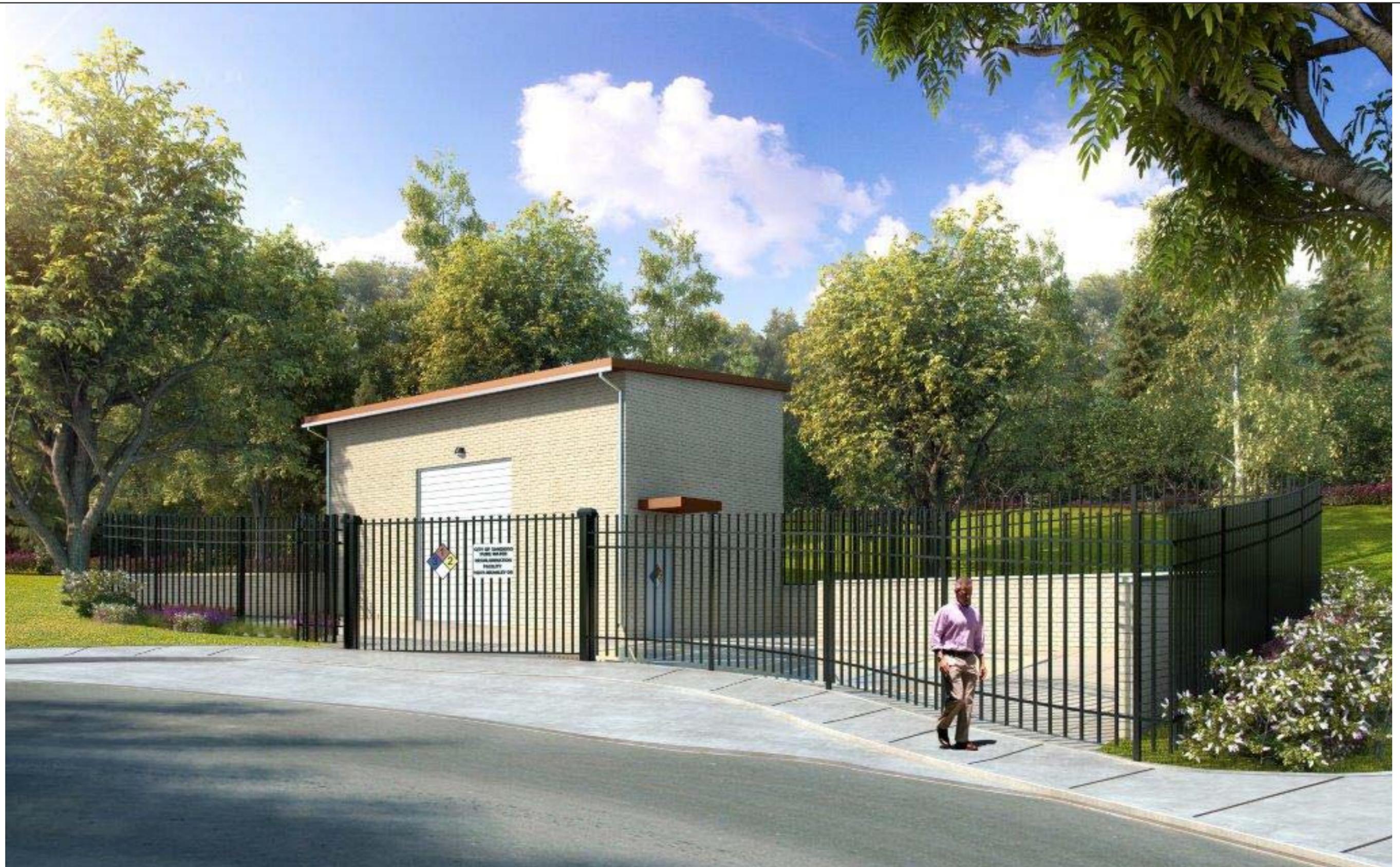
SOURCE: City of San Diego, 2017

**DUDEK**

Pure Water San Diego Program North City Project EIR/EIS

**FIGURE 6.2-19**  
**Dechlorination Facility Planting Plan**

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**FIGURE 6.2-20**  
**Visual Simulation of Dechlorination Facility as viewed from Meanley Drive**

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## **6.3 AIR QUALITY AND ODOR**

### **6.3.1 INTRODUCTION**

The purpose of this section is to estimate and evaluate the potential air quality impacts associated with implementation of the North City Project (Project) and to identify mitigation measures to reduce impacts as necessary. The following analysis is based on the Air Quality Technical Report for the North City Project, City of San Diego, California prepared by Dudek, dated ~~September 2017~~ February 2018 (provided as Appendix B).

### **6.3.2 CEQA THRESHOLDS OF SIGNIFICANCE**

The City of San Diego's (City's) California Environmental Quality Act (CEQA) Significance Determination Thresholds (City of San Diego 2016b) are based on Appendix G of the CEQA Guidelines and incorporate the San Diego Air Pollution Control District (SDAPCD) regulations. The City has identified the following specific significance criteria to be addressed in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS), as outlined in the Public Notice of Preparation for the Pure Water San Diego Program, North City Project (City of San Diego 2016c). For the purposes of this air quality analysis, the North City Project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the applicable air quality plan;
2. Result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in air emissions that would substantially deteriorate ambient air quality, including the exposure of sensitive receptors to substantial pollutant concentrations; or
4. Create objectionable odors affecting a substantial number of people.
5. Exceed 100 pounds per day of respirable particulate matter (PM<sub>10</sub>) or 55 pounds per day of fine particulate matter (PM<sub>2.5</sub>).<sup>1</sup>

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<sup>1</sup> San Diego Municipal Code, Chapter 14, Article 2, Division 7, — Off-Site Development Impact Regulations paragraph 142.0710 — Air Contaminant Regulations, which states: "Air contaminants including smoke, charred paper, dust, soot, grime, carbon, noxious acids, toxic fumes, gases, odors, and particulate matter, or any emissions that endanger human health, cause damage to vegetation or property, or

To determine whether the North City Project would result in criteria air pollutant emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation (Issue 2), estimated Project-generated emissions are evaluated based on the quantitative emission thresholds established by the SDAPCD. The SDAPCD’s maximum daily thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> are consistent with the particulate matter thresholds identified in Issue 5 (i.e., 100 pounds per day of PM<sub>10</sub> or 55 pounds per day of PM<sub>2.5</sub>).

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project’s total emissions would or would not result in a significant impact to air quality.

Impacts associated with Project-generated construction and operational criteria air pollutant emissions would be considered significant if any of the applicable significance thresholds presented in Table 6.3-1 are exceeded. Criteria air pollutants evaluated include volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), sulfur oxides (SO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>. VOCs and NO<sub>x</sub> are important because they are precursors to ozone (O<sub>3</sub>).

**Table 6.3-1**  
**SDAPCD Air Quality Significance Thresholds**

<b>Construction Emissions</b>	
<i>Pollutant</i>	<i>Total Emissions (Pounds per Day)</i>
Volatile Organic Compounds (VOC)	137 <sup>a</sup>
Oxides of Nitrogen (NO <sub>x</sub> )	250
Carbon Monoxide (CO)	550
Oxides of Sulfur (SO <sub>x</sub> )	250
Respirable Particulate Matter (PM <sub>10</sub> )	100
Fine Particulate Matter (PM <sub>2.5</sub> )	55

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cause soiling shall not be permitted to emanate beyond the boundaries of the premises upon which the use emitting the contaminants is located” (Added 12-9-1997 by O-18451 N.S.; effective 1-1-2000).

**Table 6.3-1  
SDAPCD Air Quality Significance Thresholds**

<b>Operational Emissions</b>			
<i>Pollutant</i>	<i>Total Emissions</i>		
	<i>Pounds per Hour</i>	<i>Pounds per Day</i>	<i>Tons per Year</i>
Volatile Organic Compounds (VOC)	—	137 <sup>a</sup>	13.7
Oxides of Nitrogen (NO <sub>x</sub> )	25	250	40
Carbon Monoxide (CO)	100	550	100
<b>Operational Emissions</b>			
<i>Pollutant</i>	<i>Total Emissions</i>		
	<i>Pounds per Hour</i>	<i>Pounds per Day</i>	<i>Tons per Year</i>
Sulfur Oxides (SO <sub>x</sub> )	25	250	40
Respirable Particulate Matter (PM <sub>10</sub> )	—	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	—	55	10

**Sources:** City of San Diego 2016b; SDAPCD 2016.

**Note:**

<sup>a</sup> VOC threshold based on the significance thresholds recommended by the Monterey Bay Unified Air Pollution Control District for the North Central Coast Air Basin, which has similar federal and state attainment status as the San Diego Air Basin for O<sub>3</sub>.

Regarding the potential for the project to result in air pollutant emissions that would substantially deteriorate ambient air quality, if Project-generated emissions are below the screening-level thresholds presented in Table 6.3-1, the North City Project would not under CEQA cause a significant impact to ambient air quality. In the event that emissions exceed these thresholds, modeling would be required to demonstrate that the Project’s total air quality impacts result in ground-level concentrations that are below the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS), including appropriate background levels.

In regards to the analysis of potential impacts to sensitive receptors, the City specifically recommends consideration of sensitive receptors in locations such as day care centers, schools, retirement homes, and hospitals, or medical patients in residential homes close to major roadways or stationary sources, which could be impacted by air pollutants. The City also states that the significance of potential odor impacts should be determined based on what is known about the quantity of the odor compound(s) that would result from the Project’s proposed use(s), the types of neighboring uses potentially affected, the distance(s) between the Project’s point source(s) and the neighboring uses such as sensitive receptors, and the resultant concentration(s) at the receptors.

According to the SDAPCD’s Supplemental Guidelines for Submission of Air Toxics “Hot Spots” Program Health Risk Assessments (HRAs) (SDAPCD 2015a), a project is deemed to have a significant risk if the health risk assessment (HRA) shows that the off-site cancer risk exceeds 10 in a million or the noncancer chronic health hazard index exceeds 1.

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person (SDAPCD 1976). A project that includes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

The air quality section of the City’s Significance Determination Thresholds recognizes that the San Diego Air Basin (SDAB) is in nonattainment status for both O<sub>3</sub> and particulate matter. As such, the document recognizes that all new projects should include measures, pursuant to CEQA, to reduce project-related O<sub>3</sub> and particulate matter emissions to ensure new development does not contribute to SDAB’s nonattainment status for these pollutants.

**General Conformity**

Under the General Conformity Rule, a quantitative evaluation of construction and operational emissions was conducted and evaluated against the federal *de minimis* thresholds. Because the Project area is located within the SDAB, which is in nonattainment for O<sub>3</sub> and a maintenance area for CO, conformity determination requirements do apply. The relevant *de minimis* thresholds for the SDAB are provided in Table 6.3-2.

**Table 6.3-2**  
**Federal De Minimis Levels**

Pollutant	Threshold (tons per year)
VOC	100
NO <sub>x</sub>	100
CO	100
SO <sub>x</sub>	100
PM <sub>10</sub>	100
PM <sub>2.5</sub>	100

**Source:** 40 CFR Part 93.153(b)(2).

### 6.3.3 ISSUE 1

#### ***Would the North City Project conflict with or obstruct the implementation of the applicable air quality plan?***

##### 6.3.3.1 Impacts

##### **No Project/No Action Alternative**

Under the No Project/No Action Alternative, the North City Pure Water Facility (NCPWF) and ancillary facilities, pipelines, and other features would not be constructed. Therefore, adverse effects related to applicable air quality plans would not occur.

##### **Miramar Reservoir**

As stated in Section 6.3.2, the SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the SDAB; specifically, the State Implementation Plan (SIP) and Regional Air Quality Strategy (RAQS).<sup>2</sup> The federal O<sub>3</sub> maintenance plan, which is part of the SIP, was adopted in 2012. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2009). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O<sub>3</sub>. The SIP and RAQS rely on information from the California Air Resources Board (CARB) and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the county as part of the development of their general plans.

If a project involves development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on

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<sup>2</sup> For the purpose of this discussion, the relevant federal air quality plan is the O<sub>3</sub> maintenance plan (SDAPCD 2012). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

air quality. The North City Project may potentially be inconsistent with the existing zoning and General Plan land use designations for one or more of the Project component locations in each jurisdiction in which the Project would occur. However, the North City Project would not include a residential component that would increase local population growth or provide additional water supplies that would result in growth-inducing effects; rather, the Project would provide a replacement water source for the City of San Diego's existing water supply.

Implementation of the North City Project would result in an increase in employment of 60 personnel to operate the facilities. The SANDAG Regional Comprehensive Plan, adopted in 2004, includes a public facilities goal to "have a diversified water supply with a broad range of water resources including water recycling" (SANDAG 2004). To achieve their objective to "ensure a safe, sufficient, reliable, and cost-effective water supply for the San Diego Region," the Regional Comprehensive Plan further states one of the recommended actions pursuant to this objective is to "maximize water resources through diversification strategies such as transfer agreements, water recycling and reclamation, seawater desalination, and sustainable groundwater development" (SANDAG 2004). Accordingly, it is reasonable to assume that the associated increase in employees to achieve the goal of diversifying water supplies using recycling and reclamation was included in the overall future growth projections for the region.

San Diego County's (County's) population and employment base have grown and are expected to continue to grow at moderate rates. The County's population is projected to grow to 3.8 million by 2030, an additional increase of approximately 35.7% (SANDAG 2015). Because the County's employment base is projected to grow, and Project facilities and associated employment positions would be introduced incrementally over the Project's 4-year implementation period, new employees associated with the Project facilities would be gradually accommodated by the local population (i.e., within the City or County) and would be included in the future growth projections for the County. Also, the addition of 60 employees to a regional population of 1.3 million residents is not considered a substantial increase in employment population such that implementation of local air quality strategies and air quality attainment goals cannot be achieved. However, it is too speculative to conclude that all employees would be local. As stated earlier, the North City Project does not include a residential component and the availability of water from the North City Project is not anticipated to have a substantial effect on growth planning within the City of San Diego.

The anticipated increase in the local employment base of 60 workers and associated vehicle source emissions is not anticipated to result in air quality impacts that were not envisioned in the growth projections and RAQS, and this minor increase in employment in the region would not obstruct or impede implementation of local air quality plans. Based on the nature of the proposed water utilities infrastructure improvements, and the incremental and gradual introduction of these new facilities and associated employment positions, implementation of the North City Project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the various project component locations is considered to be anticipated in the SIP and RAQS. Because the proposed land uses and associated vehicle trips are anticipated in local air quality plans, the North City Project would be consistent at a regional level with the underlying growth forecasts in the RAQS, and no adverse effects would occur.

### **San Vicente Reservoir Alternative**

The San Vicente Reservoir Alternative is fundamentally similar to the Miramar Reservoir Alternative in how it would apply to local air quality plans. Therefore, it would have the same impact and would not conflict with any applicable air quality plan. No adverse effects would occur.

#### **6.3.3.2 Significance of Impacts Under CEQA**

##### **No Project/No Action Alternative**

**No impacts** related to applicable air quality plans would occur under the No Project/No Action Alternative.

##### **Miramar Reservoir Alternative**

Vehicle trip generation and planned development for the various project component locations is considered to be anticipated in the SIP and RAQS. Because the proposed land uses and associated vehicle trips are anticipated in local air quality plans, the North City Project would be consistent at a regional level with the underlying growth forecasts in the RAQS. As such, the North City Project would not conflict with or obstruct implementation of a local air quality plan. Impacts associated with consistency of local plans under CEQA would be **less than significant**.

### **San Vicente Reservoir Alternative**

Similar to the Miramar Reservoir Alternative, impacts associated with the consistency of local plans under the San Vicente Reservoir Alternative under CEQA would be **less than significant**.

#### **6.3.3.3 Mitigation, Monitoring, and Reporting**

##### **No Project/No Action Alternative**

No mitigation is required.

##### **Miramar Reservoir Alternative**

No mitigation is required.

##### **San Vicente Reservoir Alternative**

No mitigation is required.

#### **6.3.4 ISSUE 2 AND ISSUE 5**

**Issue 2: Would the North City Project result in a violation of any air quality standard or contribute substantially to an existing or projected air quality violation?**

**Issue 5: Would the North City Project exceed 100 pounds per day of respirable particulate matter (PM<sub>10</sub>) or 55 pounds per day of fine particulate matter (PM<sub>2.5</sub>)?**

##### **6.3.4.1 Construction Impacts**

###### **Methodology**

Construction of the Project components would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions would primarily result from grading and site preparation activities.

NO<sub>x</sub> and CO emissions would primarily result from the use of construction equipment and motor vehicles.

Emissions from the construction phase of project components were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1, available online ([www.caleemod.com](http://www.caleemod.com)). For the purposes of modeling, it was assumed that construction of Project components would occur from November 2018 through March 2022.

Table 6.3-3 provides the construction timeline and potential phasing of the components that would come online to achieve the target milestones. The construction schedule was developed based on available information, typical construction practices, and best engineering judgment. Construction phasing and assumptions are intended to represent a schedule of anticipated activities for use in estimating potential Project-generated construction emissions.

**Table 6.3-3**  
**North City Project Construction Phasing Assumptions**

<b>Project Component</b>	<b>Construction Start Date</b>	<b>Construction End Date</b>
<i>Project Components Common to Alternatives</i>		
NCWRP Expansion	10/2018	12/2021
NCPWF Influent Pump Station	1/2019	10/2021
Morena Pump Station and Pipelines	4/2019	10/2021
MBC Improvements	4/2019	10/2021
North City Pump Station	5/2019	11/2021
NCPWF	10/2018	11/2021
North City Renewable Energy Facility	3/2020	12/2021
Landfill Gas Pipeline	3/2020	10/2021
<i>Miramar Reservoir Alternative</i>		
North City Pure Water Pipeline (North City Pipeline)	11/2018	10/2021
Pure Water Dechlorination Facility	1/2019	10/2021
Miramar WTP Improvements	7/2020	9/2021
<i>San Vicente Reservoir Alternative</i>		
San Vicente Pure Water Pipeline (San Vicente Pipeline)	12/2018	5/2021
Mission Trails Booster Station	5/2019	9/2021

**Notes:** NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Force-main, and Brine/Centrifuge Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

Equipment mix for construction of the North City Project was provided by the City. The equipment mix assumptions were based on Project design documents, review of related projects conducted in the Southern California area, and CalEEMod default equipment, where appropriate. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week. Default assumptions provided in CalEEMod were utilized to determine worker trips for each potential construction phase during pipeline, pump station, and facility construction. Generally, one worker per piece of construction equipment, a foreman, and several additional workers would be anticipated on a daily basis. Additionally, it was assumed approximately two vendor trucks per day would be required for general material deliveries, and approximately five haul trucks per day would be required when backfill/slurry deliveries would occur, if necessary. To conservatively estimate potential daily emissions, it was assumed pipelines and force main facilities would be constructed simultaneously with other construction components, including pump stations and treatment facilities.

### ***Pipelines***

Pipeline construction would require both open-trench construction and trenchless tunneling depending on the location of the pipeline to be installed. A description of construction activities and equipment associated with each of these methods is provided.

### ***Open Trench***

Open-trench construction would involve digging an open trench for the direct installation of pipeline. The sequence of activities for open-trench pipeline construction would typically commence with trenching and excavation, followed by pipe installation and covering of the installed pipe, and concluding with paving the pipeline corridor area of disturbance. For the purposes of quantifying emissions from daily construction activity associated with pipeline construction, it was assumed that each contractor would complete construction of approximately 75 linear feet of pipeline per day; however, daily activity and linear feet installed would vary depending on field conditions, site/easement access, and other factors associated with continual site location changes. Assuming concurrent construction by two contractors, approximately 150 linear feet of pipeline installation could occur each day depending on the component under construction and total linear

feet of pipeline or conveyance infrastructure to be constructed over a given period.<sup>3</sup> For the purposes of modeling, it was assumed that paving activities would occur for approximately 2 weeks every 6 months over a given construction period throughout the pipeline installation phases. It was also assumed that after pipe installation is completed, a portion of the paved roads would require light grading and reapplication of pavement, which was assumed to occur during the last month of pipeline construction for each Project component. In addition, for the purposes of estimating emissions, it was assumed that typical open trench construction phasing would occur as follows:

- Trenching and excavation would be ongoing throughout the pipeline construction phase.
- Pipe installation would occur intermittently as trenching and excavation activities occur throughout the pipeline construction phase.
- Paving, intermittent – approximately 2 weeks every 6 months for duration of pipeline construction.
- Final paving – 1 month at the end of the construction phase.

For the purposes of estimating daily construction activity and associated emissions from off-road equipment during open trench pipeline construction, it was assumed that the equipment mix shown in Appendix B, or similar equipment, would be employed. The number of equipment per potential contractor and total equipment, assuming simultaneous construction by two contractors working on several portions of a given Project alignment, are provided in Appendix B. Due to the length of the alignment, it was assumed that two contractors would potentially be required for construction of the Miramar Reservoir Alternative.

Additionally, it was assumed approximately two vendor trucks per day would be required for general material deliveries, and approximately five haul trucks per day would be required for backfill/slurry deliveries and soil export.

### ***Trenchless Tunneling***

Trenchless tunneling would involve the excavation of a portal at either end of the pipeline segment to be installed, where the pipeline would be fed through and connected. The sequence of activities for trenchless tunneling construction would

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<sup>3</sup> Linear feet per day assumptions based on typical construction practices for pipeline construction and review of related projects.

typically commence with site preparation of the first portal location followed by excavation of the portal. Excavation of the tunnel would occur following portal excavation. It is assumed all excavated material would be hauled off site. The second portal location would then be prepped and excavated. Installation of pipeline would occur once the tunnel has been fully excavated and portals are clear. The pipeline would then be connected, and the portal sites would be restored to their pre-construction condition. Trenchless tunneling practices would be employed for the specific segments of other pipeline alignments such as freeway or waterway crossings or within avoidance areas where ground disturbance (i.e., an open trench) is not permitted such as wetlands or other environmentally sensitive locations.

For the purposes of estimating emissions, it was assumed that typical construction phasing would occur as follows during tunneling:

- Site preparation at first portal site
- Excavation of first portal site
- Tunnel excavation
- Site preparation at second portal site
- Excavation of second portal site
- Pipeline installation
- Pipeline connection
- Site restoration

Phase durations would depend on the location of the site to be tunneled. For the purposes of estimating daily construction activity and associated emissions from off-road equipment during tunneling activities, it was assumed that the equipment mix shown in Appendix B, or similar equipment, would be employed.

Additionally, it was assumed that approximately two vendor trucks per day would be required for general material deliveries, and approximately five haul trucks per day would be required for backfill/slurry deliveries and soil export.

### **Pump Stations and Treatment Facilities**

For the purposes of estimating emissions, construction timelines vary based on the type of feature and are summarized in Appendix B.

A detailed depiction of the Project-level, conceptual construction schedule—including information regarding subphases and equipment assumed for each subphase—is included in Appendix B of this EIR/EIS. The information contained in Appendix B was used as CalEEMod model inputs.

Construction of Project components would be subject to SDAPCD Rule 55 – Fugitive Dust Control. This rule requires that construction of Project components include steps to restrict visible emissions of fugitive dust beyond the property line (SDAPCD 2009). Compliance with Rule 55 would limit fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) that may be generated during grading and construction activities. Construction of Project components would also be subject to SDAPCD Rule 67.0.1 – Architectural Coatings. This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015b).

**No Project/No Action Alternative**

Under the No Project/No Action Alternative, the NCPWF and ancillary facilities, pipelines, and other features would not be constructed. Therefore, no emission impacts/effects related to construction would occur.

**Miramar Reservoir Alternative**

Table 6.3-4 shows the estimated maximum daily unmitigated construction emissions associated with the conceptual construction phases of the North City Project under the Miramar Reservoir Alternative. As discussed above, both open trench and trenchless construction methods were modeled for pipeline construction since each alignment is anticipated to be constructed using a combination of methods. Complete details of the emissions calculations are provided in Appendix B.

**Table 6.3-4**  
**Estimated Maximum Daily Construction Emissions for the**  
**Miramar Reservoir Alternative – Unmitigated**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>Miramar Reservoir Alternative – 2018</i>						
North City Pipeline	6.09	42.26	60.24	0.09	4.36	3.01

**Table 6.3-4  
Estimated Maximum Daily Construction Emissions for the  
Miramar Reservoir Alternative – Unmitigated**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>Miramar Reservoir Alternative – 2019</i>						
Morena Pump Station and Pipelines	9.82	62.18	99.20	0.12	6.36	5.07
NCWRP Expansion	2.95	20.80	27.94	0.04	2.35	1.36
NCPWF Influent Pump Station	2.31	14.91	19.32	0.03	2.09	1.09
MBC Improvements	2.70	19.33	25.24	0.03	2.18	1.64
North City Pump Station	3.50	27.02	31.55	0.05	13.78	8.14
NCPWF	9.42	59.69	112.25	0.14	34.06	20.03
North City Pipeline	6.69	45.69	58.06	0.09	3.87	3.06
Pure Water Dechlorination Facility	2.14	13.77	15.72	0.03	1.67	0.98
<b>Total 2019</b>	<b>39.52</b>	<b>263.38</b>	<b>389.28</b>	<b>0.54</b>	<b>66.36</b>	<b>41.37</b>
<i>Miramar Reservoir Alternative – 2020</i>						
Morena Pump Station and Pipelines	15.65	60.36	87.83	0.12	22.57	8.61
NCWRP Expansion	2.24	15.38	17.69	0.04	2.24	1.08
NCPWF Influent Pump Station	6.35	14.27	18.48	0.03	1.99	1.00
Landfill Gas Pipeline	7.08	47.50	67.23	0.08	8.64	6.01
North City Renewable Energy Facility	1.97	12.74	19.26	0.02	6.25	3.66
MBC Improvements	1.56	10.72	13.24	0.02	0.81	0.68
North City Pump Station	2.39	19.89	21.35	0.04	1.29	1.11
NCPWF	3.57	26.02	32.64	0.06	2.89	1.71
North City Pipeline	4.96	33.15	40.83	0.07	2.33	2.00
Miramar WTP Improvements	1.96	12.64	18.87	0.02	1.17	0.98
<b>Total 2020</b>	<b>47.72</b>	<b>252.67</b>	<b>337.42</b>	<b>0.51</b>	<b>50.18</b>	<b>26.83</b>
<i>Miramar Reservoir Alternative – 2021</i>						
Morena Pipelines	3.85	32.74	35.30	0.06	2.44	1.90
NCWRP Expansion	23.76	14.79	16.11	0.04	2.14	0.98
Landfill Gas Pipeline	5.68	45.92	51.58	0.08	4.06	2.85
NCPWF	33.26	26.97	30.41	0.06	2.94	1.60
North City Pipeline	2.45	23.98	23.83	0.04	1.51	1.25
North City Renewable Energy Facility	1.09	9.15	11.43	0.02	0.68	0.57
<b>Total 2021</b>	<b>70.10</b>	<b>153.54</b>	<b>168.66</b>	<b>0.30</b>	<b>13.77</b>	<b>9.16</b>
<i>Maximum</i>	<i>70.10</i>	<i>263.38</i>	<i>389.28</i>	<i>0.54</i>	<i>66.36</i>	<i>41.37</i>
<i>SDAPCD Threshold</i>	<i>137</i>	<i>550</i>	<i>250</i>	<i>250</i>	<i>100</i>	<i>67</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Force-main, and Brine/Centrates Line; MBC =

Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 6.3-4, daily construction emissions for the Miramar Reservoir Alternative would not exceed the City's significance thresholds for VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. However, daily construction emissions for the North City Project under the Miramar Reservoir Alternative would exceed the threshold for NO<sub>x</sub> during construction of the North City Project in 2019 and 2020, and maximum daily construction emissions associated with NO<sub>x</sub> would have an adverse impact on air quality.

The estimated annual construction emissions from the Miramar Reservoir Alternative are provided in Table 6.3-5.

**Table 6.3-5**  
**Estimated Annual Construction Emissions for the**  
**Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
<i>Miramar Reservoir Alternative – 2018</i>						
North City Pipeline	0.10	0.72	1.02	0.00	0.08	0.05
<i>Miramar Reservoir Alternative – 2019</i>						
Morena Pump Station and Pipelines	0.86	5.65	8.80	0.01	0.57	0.44
NCWRP Expansion	0.26	1.87	2.38	0.00	0.20	0.12
NCPWF Influent Pump Station	0.22	1.55	1.61	0.00	0.18	0.10
MBC Improvements	0.14	0.93	1.19	0.00	0.08	0.07
North City Pump Station	0.22	1.55	1.83	0.00	0.21	0.15
NCPWF	0.38	2.52	4.47	0.01	0.83	0.50
North City Pipeline	0.70	4.97	6.36	0.01	0.40	0.32
Pure Water Dechlorination Facility	0.12	0.88	0.93	0.00	0.09	0.06
<b>Total 2019</b>	<b>2.89</b>	<b>19.91</b>	<b>27.56</b>	<b>0.04</b>	<b>2.56</b>	<b>1.76</b>
<i>Miramar Reservoir Alternative – 2020</i>						
Morena Pump Station and Pipelines	0.54	3.72	4.86	0.01	0.37	0.27
NCWRP Expansion	0.28	2.01	2.32	0.01	0.29	0.14
NCPWF Influent Pump Station	0.19	1.14	1.16	0.00	0.14	0.08
Landfill Gas Pipeline	0.55	3.77	5.28	0.01	0.61	0.43
North City Renewable Energy Facility	0.14	1.06	1.45	0.00	0.12	0.09
MBC Improvements	0.06	0.40	0.48	0.00	0.03	0.02

**Table 6.3-5  
Estimated Annual Construction Emissions for the  
Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
North City Pump Station	0.14	1.06	1.19	0.00	0.08	0.06
NCPWF	0.46	3.40	4.28	0.01	0.37	0.22
North City Pipeline	0.49	3.74	4.42	0.01	0.27	0.23
Miramar WTP Improvements	0.06	0.42	0.53	0.00	0.04	0.03
<b>Total 2020</b>	<b>2.91</b>	<b>20.73</b>	<b>25.97</b>	<b>0.04</b>	<b>2.32</b>	<b>1.56</b>
<i>Miramar Reservoir Alternative – 2021</i>						
Morena Pump Station and Pipelines	0.17	1.58	1.56	0.00	0.11	0.08
NCWRP Expansion	1.24	0.95	1.05	0.00	0.11	0.06
Landfill Gas Pipeline	0.35	2.87	3.19	0.01	0.24	0.17
NCPWF	1.70	1.67	1.89	0.00	0.18	0.10
North City Pipeline	0.27	2.49	2.42	0.00	0.15	0.13
North City Renewable Energy Facility	0.06	0.51	0.62	0.00	0.04	0.03
<b>Total 2021</b>	<b>3.79</b>	<b>10.07</b>	<b>10.72</b>	<b>0.02</b>	<b>0.82</b>	<b>0.57</b>
<i>Maximum Annual Emissions</i>	<i>3.79</i>	<i>20.73</i>	<i>27.56</i>	<i>0.04</i>	<i>2.56</i>	<i>1.76</i>
<i>SDAPCD Threshold</i>	<i>13.7</i>	<i>100</i>	<i>40</i>	<i>40</i>	<i>15</i>	<i>10</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Federal Conformity Threshold</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

As shown in Table 6.3-5, the Miramar Reservoir Alternative would not exceed the City's annual significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> during construction of the Project, and no adverse effects to air quality would occur due to annual construction emissions.

Additionally, as shown in Table 6.3-5, the Miramar Reservoir Alternative would not exceed the general conformity *de minimis* thresholds during construction and would be considered in compliance with the general conformity requirements.

### San Vicente Reservoir Alternative

Table 6.3-6 shows the estimated maximum daily unmitigated construction emissions associated with the conceptual construction phases of the San Vicente Reservoir Alternative. As discussed above, both open-trench and trenchless construction methods were modeled for pipeline construction since each alignment is anticipated to be constructed using a combination of methods. Complete details of the emissions calculations are provided in Appendix B of this EIR/EIS.

**Table 6.3-6  
Estimated Maximum Daily Construction Emissions for the  
San Vicente Reservoir Alternative – Unmitigated**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>San Vicente Reservoir Alternative – 2018</i>						
San Vicente Pipeline	10.73	66.95	121.21	0.15	15.28	7.72
<i>San Vicente Reservoir Alternative – 2019</i>						
Morena Pump Station and Pipelines	9.82	62.18	99.20	0.12	6.36	5.07
NCWRP Expansion	2.95	20.80	27.94	0.04	2.35	1.36
NCPWF Influent Pump Station	2.31	14.91	19.32	0.03	2.09	1.09
MBC Improvements	2.70	19.33	25.24	0.03	2.18	1.64
North City Pump Station	3.50	27.02	31.55	0.05	13.78	8.14
NCPWF	9.42	59.69	112.25	0.14	34.06	20.03
San Vicente Pipeline	10.09	65.90	113.47	0.15	7.54	5.50
Mission Trails Booster Station	<u>13.07</u> 19.84	<u>97.88</u> 139.69	<u>393.71</u> 472.94	<u>0.98</u> 1.07	<u>31.01</u> 43.31	<u>10.43</u> 18.40
<b>Total 2019</b>	<b>53.85</b>	<b>367.714</b>	<b>822.679</b>	<b>1.56</b>	<b>99.39</b>	<b>53.27</b>
	<b>60.62</b>	<b>09.51</b>	<b>01.91</b>	<b>1.64</b>	<b>111.68</b>	<b>61.24</b>
<i>San Vicente Reservoir Alternative – 2020</i>						
Morena Pump Station and Pipelines	15.65	60.36	87.83	0.12	22.57	8.61
NCWRP Expansion	2.24	15.38	17.69	0.04	2.24	1.08
NCPWF Influent Pump Station	6.35	14.27	18.48	0.03	1.99	1.00
Landfill Gas Pipeline	7.08	47.50	67.23	0.08	8.64	6.01
MBC Improvements	1.56	10.72	13.24	0.02	0.81	0.68
North City Pump Station	2.39	19.89	21.35	0.04	1.29	1.11
North City Renewable Energy Facility	1.97	12.74	19.26	0.02	6.25	3.66
NCPWF	3.57	26.02	32.64	0.06	2.89	1.71
San Vicente Pipeline	3.84	28.62	35.67	0.06	2.06	1.65

**Table 6.3-6  
Estimated Maximum Daily Construction Emissions for the  
San Vicente Reservoir Alternative – Unmitigated**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
Mission Trails Booster Station	<u>1.05</u> <u>2.42</u>	<u>8.31</u> <u>20.10</u>	<u>8.63</u> <u>21.38</u>	<u>0.02</u> <u>0.04</u>	<u>0.67</u> <u>1.37</u>	<u>0.47</u> <u>1.13</u>
<b>Total 2020</b>	<b><u>45.70</u></b> <b><u>47.07</u></b>	<b><u>243.81</u></b> <b><u>255.60</u></b>	<b><u>322.02</u></b> <b><u>334.77</u></b>	<b><u>0.49</u></b> <b><u>0.51</u></b>	<b><u>49.41</u></b> <b><u>50.11</u></b>	<b><u>25.98</u></b> <b><u>26.64</u></b>
<i>San Vicente Reservoir Alternative – 2021</i>						
Morena Pipelines	3.85	32.74	35.30	0.06	2.44	1.90
NCWRP Expansion	23.76	14.79	16.11	0.04	2.14	0.98
Landfill Gas Pipeline	5.68	45.92	51.58	0.08	4.06	2.85
NCPWF	33.26	26.97	30.41	0.06	2.94	1.60
San Vicente Pipeline	1.34	15.23	12.98	0.02	0.88	0.68
North City Renewable Energy Facility	1.09	9.15	11.43	0.02	0.68	0.57
<b>Total 2021</b>	<b>68.99</b>	<b>144.79</b>	<b>157.81</b>	<b>0.28</b>	<b>13.15</b>	<b>8.59</b>
<i>Maximum</i>	<u>68.99</u> <u>68.99</u>	<u>367.71</u> <u>409.51</u>	<u>822.67</u> <u>901.91</u>	<u>1.56</u> <u>1.64</u>	<u>99.39</u> <u>111.68</u>	<u>53.27</u> <u>61.24</u>
<i>SDAPCD Threshold</i>	137	550	250	250	100	67
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>YesNo</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrated Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 6.3-6, daily construction emissions for the San Vicente Reservoir Alternative would not exceed the City's significance thresholds for VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. However, daily construction emissions for the San Vicente Reservoir Alternative would exceed the threshold for NO<sub>x</sub> and ~~PM<sub>10</sub>~~ during construction of the San Vicente Reservoir Alternative in 2019 and 2020, and maximum daily construction emissions associated with NO<sub>x</sub> and ~~PM<sub>10</sub>~~ would have an adverse effect on air quality.

The estimated annual construction emissions for the San Vicente Reservoir Alternative are provided in Table 6.3-7.

**Table 6.3-7  
Estimated Annual Construction Emissions  
for the San Vicente Reservoir Alternative – Unmitigated**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
<i>San Vicente Reservoir Alternative – 2018</i>						
San Vicente Pipeline	0.11	0.70	1.27	0.00	0.18	0.08
<i>San Vicente Reservoir Alternative – 2019</i>						
Morena Pump Station and Pipelines	0.86	5.65	8.80	0.01	0.57	0.44
NCWRP Expansion	0.26	1.87	2.38	0.00	0.20	0.12
NCPWF Influent Pump Station	0.22	1.55	1.61	0.00	0.18	0.10
MBC Improvements	0.14	0.93	1.19	0.00	0.08	0.07
North City Pump Station	0.22	1.55	1.83	0.00	0.21	0.15
NCPWF	0.38	2.52	4.47	0.01	0.83	0.50
San Vicente Pipeline	1.02	6.57	11.23	0.02	0.74	0.54
Mission Trails Booster Station	<u>0.27</u> 0.48	<u>2.00</u> 3.42	<u>6.61</u> 8.68	<u>0.02</u> 0.02	<u>0.51</u> 0.74	<u>0.19</u> 0.36
<b>Total 2019</b>	<b><u>3.37</u></b>	<b><u>22.64</u></b>	<b><u>38.11</u></b>	<b><u>0.06</u></b>	<b><u>3.31</u></b>	<b><u>2.12</u></b>
	<b>3.58</b>	<b>24.05</b>	<b>40.19</b>	<b>0.06</b>	<b>3.55</b>	<b>2.29</b>
<i>San Vicente Reservoir Alternative - 2020</i>						
North City Pump Station	0.14	1.06	1.19	0.00	0.08	0.06
Morena Pump Station and Pipelines	0.54	3.72	4.86	0.01	0.37	0.27
MBC Improvements	0.06	0.40	0.48	0.00	0.03	0.02
Landfill Gas Pipeline	0.55	3.77	5.28	0.01	0.61	0.43
NCPWF Influent Pump Station	0.19	1.14	1.16	0.00	0.14	0.08
NCWRP Expansion	0.28	2.01	2.32	0.01	0.29	0.14
North City Renewable Energy Facility	0.14	1.06	1.45	0.00	0.12	0.09
NCPWF	0.46	3.40	4.28	0.01	0.37	0.22
Mission Trails Booster Station	<u>0.06</u> 0.15	<u>0.47</u> 1.11	<u>0.53</u> 1.24	<u>0.00</u> 0.00	<u>0.04</u> 0.08	<u>0.03</u> 0.07
San Vicente Pipeline	0.26	2.06	2.42	0.00	0.15	0.12
<b>Total 2020</b>	<b><u>2.68</u></b>	<b><u>19.09</u></b>	<b><u>23.96</u></b>	<b><u>0.04</u></b>	<b><u>2.21</u></b>	<b><u>1.46</u></b>
	<b>2.77</b>	<b>19.73</b>	<b>24.68</b>	<b>0.04</b>	<b>2.24</b>	<b>1.49</b>

**Table 6.3-7  
Estimated Annual Construction Emissions  
for the San Vicente Reservoir Alternative – Unmitigated**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
<i>San Vicente Reservoir Alternative - 2021</i>						
Morena Pipelines	0.17	1.58	1.56	0.00	0.11	0.08
Landfill Gas Pipeline	0.35	2.87	3.19	0.01	0.24	0.17
NCWRP Expansion	1.24	0.95	1.05	0.00	0.11	0.06
NCPWF	1.70	1.67	1.89	0.00	0.18	0.10
San Vicente Pipeline	0.04	0.43	0.36	0.00	0.02	0.02
North City Renewable Energy Facility	0.06	0.51	0.62	0.00	0.04	0.03
<b>Total 2021</b>	<b>3.55</b>	<b>8.01</b>	<b>8.67</b>	<b>0.02</b>	<b>0.69</b>	<b>0.47</b>
<i>Maximum Annual Emissions</i>	<u>3.55</u>	<u>22.64</u>	<u>38.11</u>	<u>0.06</u>	<u>3.31</u>	<u>2.12</u>
	<u>3.58</u>	<u>24.05</u>	<u>40.19</u>	<u>0.06</u>	<u>3.55</u>	<u>2.29</u>
<i>SDAPCD Threshold</i>	13.7	100	40	40	15	10
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>YesNo</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Federal Conformity Threshold</i>	100	100	100	100	100	100
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

As shown in Table 6.3-7, annual construction emissions for the San Vicente Reservoir Alternative would not exceed the City's significance thresholds for VOC, CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> and no adverse effects to air quality would occur due to annual construction emissions. ~~The San Vicente Reservoir Alternative would exceed the annual significance threshold for NO<sub>x</sub> during the 2019 construction year, and an adverse effect to air quality would occur due to annual construction emissions in 2019.~~

As shown in Table 6.3-7, the San Vicente Reservoir Alternative would not exceed the general conformity *de minimis* thresholds during construction and would be considered in compliance with the general conformity requirements.

#### 6.3.4.2 Significance of Impacts Under CEQA

##### No Project/No Action Alternative

**No impacts** related to construction emissions would occur under the No Project/No Action Alternative.

##### Miramar Reservoir Alternative

Daily construction emissions for the Miramar Reservoir Alternative would not exceed the City of San Diego's significance thresholds for VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. However, daily construction emissions for the Miramar Reservoir Alternative would exceed the threshold for NO<sub>x</sub> during construction of the North City Project in 2019 and 2020, resulting in a **significant** impact under CEQA.

The Miramar Reservoir Alternative would not exceed the City of San Diego's annual significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> during construction of the North City Project; impacts would be **less than significant** under CEQA.

##### San Vicente Reservoir Alternative

Daily construction emissions for the San Vicente Reservoir Alternative would not exceed the City of San Diego's significance thresholds for VOC, CO, SO<sub>x</sub>, or PM<sub>2.5</sub>. However, daily construction emissions for the San Vicente Reservoir Alternative would exceed the threshold for NO<sub>x</sub> and PM<sub>10</sub> during construction of the North City Project in 2019 and 2020, resulting in a **significant** impact under CEQA.

~~The San Vicente Reservoir Alternative would not exceed the City of San Diego's annual significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> during construction of the North City Project; impacts would be **less than significant** under CEQA.~~  
~~would not exceed the City of San Diego's annual significance thresholds for VOC, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> during construction of the North City Project. However, the San Vicente Reservoir Alternative would exceed the annual significance threshold for NO<sub>x</sub> during the 2019 construction year, resulting in a **significant** impact under CEQA.~~

#### 6.3.4.3 Mitigation, Monitoring and Reporting

##### No Project/No Action Alternative

No mitigation required.

## Miramar Reservoir Alternative

The following mitigation measures (MM) outline the steps necessary to reduce the construction emissions from all components of the Miramar Reservoir Alternative.

**MM-AQ-1** The following best management practices shall be implemented during construction to comply with applicable San Diego Air Pollution Control District (SDAPCD) rules and regulations and to further reduce daily construction emissions:

- Best management practices that could be implemented during construction to reduce particulate emissions and reduce soil erosion and trackout include the following:
  - Cover or water, as needed, any on-site stockpiles of debris, dirt, or other dusty material.
  - Use adequate water and/or other dust palliatives on all disturbed areas in order to avoid particle blow-off. Due to current drought conditions, the contractor shall consider use of a SDAPCD-approved dust suppressant where feasible to reduce the amount of water to be used for dust control. Use of recycled water in place of potable water shall also be considered provided that the use is approved by the City of San Diego and other applicable regulatory agencies prior to initiation of construction activity.<sup>4</sup> Use of recycled water shall be in compliance with all applicable City of San Diego Rules and Regulation for Recycled Water (City of San Diego 2016a),

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<sup>4</sup> The use of recycled water for construction purposes requires approval of the City and other regulatory agencies on a case-by-case basis. The permit shall be obtained prior to beginning construction. Recycled water used for construction purposes may only be used for soil compaction during grading operations, dust control, and consolidation and compaction of backfill in trenches for non-potable water, sanitary sewer, storm drain, gas and electric pipelines. Equipment operators shall be instructed about the requirements contained herein and the potential health hazards involved with the use of recycled water. Water trucks, hoses, drop tanks, etc. shall be identified as containing non-potable water and not suitable for drinking. Determinations as to specific uses to be allowed shall be in accordance with the standards set forth in Title 22, Division 4 of the California Code of Regulations and with the intent of this ordinance to preserve the public health. The City may, at its discretion, set forth specific requirements as conditions to providing such services and/or require specific approval from the appropriate regulatory agencies (City of San Diego 2016a).

particularly for the protection of public health per the California Code of Regulations, Title 22, Division 4.

- Wash down or sweep paved streets as necessary to control trackout or fugitive dust.
- Cover or tarp all vehicles hauling dirt or spoils on public roads if sufficient freeboard is not available to prevent material blow-off during transport.
- Use gravel bags and catch basins during ground-disturbing operations.
- Maintain appropriate soil moisture, apply soil binders, and plant stabilizing vegetation.

**MM-AQ-2** The following measures shall be adhered to during construction activities associated with the North City Project to reduce oxides of nitrogen (NO<sub>x</sub>):

- a. All diesel-fueled construction equipment shall be equipped with Tier 3 or better (i.e., Tier 4 Interim or Tier 4 Final) diesel engines.
- b. The engine size of construction equipment shall be the minimum size suitable for the required job.
- c. Construction equipment shall be maintained in accordance with the manufacturer's specifications.

### **San Vicente Reservoir Alternative**

To reduce emissions during construction, implementation of mitigation measures MM-AQ-1 and MM-AQ-2 would be required for all components of the San Vicente Reservoir Alternative.

#### **6.3.4.4 Level of Impact After Mitigation**

##### **No Project/No Action Alternative**

The No Project/No Action Alternative had no impact prior to mitigation.

### Miramar Reservoir Alternative

Table 6.3-8 shows the estimated emissions from the Miramar Reservoir Alternative after implementing mitigation measures MM-AQ-1 and MM-AQ-2.

**Table 6.3-8  
Mitigated Maximum Daily Construction Emissions for the  
Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>Miramar Reservoir Alternative – 2018</i>						
North City Pipeline	2.16	46.77	40.14	0.09	3.37	2.24
<i>Miramar Reservoir Alternative – 2019</i>						
Morena Pump Station and Pipelines	2.81	65.31	54.48	0.12	3.82	2.93
NCWRP Expansion	1.28	21.99	16.60	0.04	2.13	0.99
NCPWF Influent Pump Station	1.11	15.38	10.34	0.03	1.87	0.90
MBC Improvements	1.44	19.74	9.47	0.03	1.30	1.00
North City Pump Station	1.31	31.11	23.89	0.05	6.20	3.68
NCPWF	3.24	66.93	63.61	0.14	16.05	9.58
North City Pipeline	2.21	50.57	41.16	0.09	2.90	2.30
Pure Water Dechlorination Facility	0.95	14.25	10.72	0.03	1.44	0.79
<b>Total 2019</b>	<b>14.33</b>	<b>285.27</b>	<b>230.27</b>	<b>0.54</b>	<b>35.70</b>	<b>22.17</b>
<i>Miramar Reservoir Alternative – 2020</i>						
Morena Pump Station and Pipelines	10.41	64.25	54.13	0.12	20.64	7.06
NCWRP Expansion	1.20	16.12	13.90	0.04	2.12	0.98
NCPWF Influent Pump Station	5.12	15.06	11.09	0.03	1.86	0.90
Landfill Gas Pipeline	1.99	50.68	37.21	0.08	4.53	3.26
MBC Improvements	0.53	11.46	9.44	0.02	0.69	0.58
North City Pump Station	0.93	24.03	18.15	0.04	1.17	1.06
NCPWF	1.71	28.02	25.34	0.06	2.64	1.55
North City Pipeline	1.92	40.67	34.75	0.07	2.17	1.92
North City Renewable Energy Facility	0.54	13.44	10.79	0.02	3.00	1.83
Miramar WTP Improvements	0.71	13.34	10.70	0.02	1.04	0.69
<b>Total 2020</b>	<b>25.08</b>	<b>277.05</b>	<b>225.50</b>	<b>0.51</b>	<b>39.85</b>	<b>19.83</b>
<i>Miramar Reservoir Alternative – 2021</i>						
Morena Pipelines	1.44	36.53	24.97	0.06	1.91	1.51
NCWRP Expansion	22.95	15.75	13.45	0.04	2.10	0.97
Landfill Gas Pipeline	2.28	52.06	36.04	0.08	3.32	2.31
NCPWF	31.68	32.78	25.72	0.06	2.91	1.66

**Table 6.3-8  
Mitigated Maximum Daily Construction Emissions for the  
Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
North City Pipeline	0.96	27.06	18.16	0.04	1.25	1.08
North City Renewable Energy Facility	0.41	10.39	8.36	0.02	0.56	0.49
<b>Total 2021</b>	<b>59.72</b>	<b>174.57</b>	<b>126.69</b>	<b>0.30</b>	<b>12.06</b>	<b>8.03</b>
<i>Maximum</i>	<i>59.72</i>	<i>285.27</i>	<i>230.27</i>	<i>0.54</i>	<i>39.85</i>	<i>22.17</i>
<i>SDAPCD Threshold</i>	<i>137</i>	<i>550</i>	<i>250</i>	<i>250</i>	<i>100</i>	<i>67</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

Table 6.3-8 shows resulting daily maximum emissions when mitigation measures MM-AQ-1 and MM-AQ-2 are applied to the Miramar Reservoir Alternative. Following implementation of mitigation measures MM-AQ-1 and MM-AQ-2 to the Miramar Reservoir Alternative, daily maximum construction emissions for the North City Project would be reduced to below a level of significance under CEQA.

***Mitigated Annual Construction Emissions for the Miramar Reservoir Alternative***

The Miramar Reservoir Alternative annual construction emissions were below the City's significance threshold prior to mitigation.

**San Vicente Reservoir Alternative**

Table 6.3-9 shows the estimated emissions from the San Vicente Reservoir Alternative after implementing mitigation measures MM-AQ-1 and MM-AQ-2.

**Table 6.3-9  
Mitigated Maximum Daily Construction Emissions for the  
San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>San Vicente Reservoir Alternative – 2018</i>						
San Vicente Pipeline	6.99	68.35	94.95	0.15	13.69	6.36
<i>San Vicente Reservoir Alternative - 2019</i>						
Morena Pump Station and Pipelines	2.81	65.31	54.48	0.12	3.82	2.93
NCWRP Expansion	1.28	21.99	16.60	0.04	2.13	0.99
NCPWF Influent Pump Station	1.11	15.38	10.34	0.03	1.87	0.90
MBC Improvements	1.44	19.74	9.47	0.03	1.30	1.00
North City Pump Station	1.31	31.11	23.89	0.05	6.20	3.68
NCPWF	3.24	66.93	63.61	0.14	16.05	9.58
San Vicente Pipeline	6.64	67.67	90.48	0.15	6.19	4.36
Mission Trails Booster Station	<u>11.73</u> <del>13.83</del>	<u>100.29</u> <del>146.48</del>	<u>383.92</u> <del>424.78</del>	<u>0.98</u> <del>1.07</del>	<u>26.81</u> <del>32.48</del>	<u>8.85</u> <del>12.69</del>
<b>Total 2019</b>	<b><u>29.55</u></b> <b><del>31.65</del></b>	<b><u>388.41</u></b> <b><del>434.60</del></b>	<b><u>652.78</u></b> <b><del>693.64</del></b>	<b><u>1.56</u></b> <b><del>1.64</del></b>	<b><u>64.36</u></b> <b><del>70.03</del></b>	<b><u>32.29</u></b> <b><del>36.13</del></b>
<i>San Vicente Reservoir Alternative – 2020</i>						
Morena Pump Station and Pipelines	10.41	64.25	54.13	0.12	20.64	7.06
NCWRP Expansion	1.20	16.12	13.90	0.04	2.12	0.98
NCPWF Influent Pump Station	5.12	15.06	11.09	0.03	1.86	0.90
Landfill Gas Pipeline	1.99	50.68	37.21	0.08	4.53	3.26
MBC Improvements	0.53	11.46	9.44	0.02	0.69	0.58
North City Pump Station	0.93	24.03	18.15	0.04	1.17	1.06
NCPWF	1.71	28.02	25.34	0.06	2.64	1.55
North City Renewable Energy Facility	0.54	13.44	10.79	0.02	3.00	1.83
San Vicente Pipeline	2.35	32.81	29.94	0.06	1.92	1.56
Mission Trails Booster Station	<u>0.47</u> <del>0.97</del>	<u>10.30</u> <del>24.24</del>	<u>7.52</u> <del>18.17</del>	<u>0.02</u> <del>0.04</del>	<u>0.63</u> <del>1.25</del>	<u>0.46</u> <del>1.08</del>
<b>Total 2020</b>	<b><u>25.25</u></b> <b><del>25.75</del></b>	<b><u>266.16</u></b> <b><del>280.09</del></b>	<b><u>217.51</u></b> <b><del>228.16</del></b>	<b><u>0.49</u></b> <b><del>0.51</del></b>	<b><u>39.18</u></b> <b><del>39.80</del></b>	<b><u>19.23</u></b> <b><del>19.85</del></b>
<i>San Vicente Reservoir Alternative – 2021</i>						
Morena Pipelines	1.44	36.53	24.97	0.06	1.91	1.51
NCWRP Expansion	22.95	15.75	13.45	0.04	2.10	0.97
Landfill Gas Pipeline	2.28	52.06	36.04	0.08	3.32	2.31
NCPWF	31.68	32.78	25.72	0.06	2.91	1.66
San Vicente Pipeline	1.34	15.23	12.98	0.02	0.88	0.68
North City Renewable Energy Facility	0.41	10.39	8.36	0.02	0.56	0.49

**Table 6.3-9  
Mitigated Maximum Daily Construction Emissions for the  
San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<b>Total 2021</b>	<b>60.11</b>	<b>162.73</b>	<b>121.51</b>	<b>0.28</b>	<b>11.70</b>	<b>7.63</b>
<i>Maximum</i>	<i>60.11</i>	<i>388.41</i>	<i>652.78</i>	<i>1.56</i>	<i>64.3</i>	<i>32.29</i>
	<i>60.11</i>	<i>434.60</i>	<i>693.64</i>	<i>1.64</i>	<i>670.03</i>	<i>36.13</i>
<i>SDAPCD Threshold</i>	<i>137</i>	<i>550</i>	<i>250</i>	<i>250</i>	<i>100</i>	<i>67</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Force main, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 6.3-9, the San Vicente Reservoir Alternative daily maximum construction emissions exceed the City’s significance threshold for NO<sub>x</sub> emissions after implementation of mitigation measures MM-AQ-1 and MM-AQ-2 in 2019, and impacts are significant and unavoidable.

The exceedance in daily maximum NO<sub>x</sub> emissions is driven by the Mission Trails Booster Station phase of the San Vicente Reservoir Alternative, which requires a substantial amount of excavation work. The haul trips associated with the excavation work comprise the majority of the NO<sub>x</sub> emissions for that phase in 2019. In order to further reduce the impact, the phase would need to be redesigned to keep excavated soil on site or potentially use another site where less excavation and hauling is required, the feasibility and analysis of which is outside the scope of this EIR/EIS.

Table 6.3-10 shows the annual construction emissions from the San Vicente Reservoir Alternative after implementation of mitigation measures MM-AQ-1 and MM-AQ-2.

**Table 6.3-10  
Mitigated Annual Construction Emissions for the  
San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
<i>San Vicente Reservoir Alternative – 2018</i>						
San Vicente Pipeline	0.03	0.73	0.72	0.00	0.13	0.05
<i>San Vicente Reservoir Alternative – 2019</i>						
Morena Pump Station and Pipelines	0.26	5.95	5.07	0.01	0.35	0.26
NCWRP Expansion	0.10	1.96	1.57	0.00	0.16	0.09
NCPWF Influent Pump Station	0.09	1.61	1.07	0.00	0.15	0.08
MBC Improvements	0.05	0.96	0.67	0.00	0.06	0.05
North City Pump Station	0.07	1.69	1.34	0.00	0.13	0.10
NCPWF	0.14	2.90	2.76	0.01	0.43	0.27
San Vicente Pipeline	0.33	7.05	6.78	0.02	0.47	0.33
Mission Trails Booster Station	<u>0.20</u> <del>0.27</del>	<u>2.10</u> <del>3.65</del>	<u>6.31</u> <del>7.61</del>	<u>0.02</u> <del>0.02</del>	<u>0.44</u> <del>0.57</del>	<u>0.16</u> <del>0.26</del>
<b>Total 2019</b>	<b><u>1.25</u></b>	<b><u>24.22</u></b>	<b><u>25.57</u></b>	<b><u>0.06</u></b>	<b><u>2.19</u></b>	<b><u>1.34</u></b>
	<b><del>1.32</del></b>	<b><del>25.76</del></b>	<b><del>26.87</del></b>	<b><del>0.06</del></b>	<b><del>2.31</del></b>	<b><del>1.44</del></b>
<i>San Vicente Reservoir Alternative – 2020</i>						
North City Pump Station	0.05	1.13	0.93	0.00	0.07	0.06
Morena Pump Station and Pipelines	0.20	4.13	3.11	0.01	0.27	0.20
MBC Improvements	0.02	0.43	0.34	0.00	0.03	0.02
Landfill Gas Pipeline	0.17	4.08	2.99	0.01	0.34	0.24
NCPWF Influent Pump Station	0.10	1.22	0.82	0.00	0.13	0.07
NCWRP Expansion	0.15	2.11	1.83	0.01	0.27	0.13
NCPWF	0.22	3.66	3.33	0.01	0.34	0.20
North City Renewable Energy Facility	0.05	1.17	0.94	0.00	0.08	0.06
Mission Trails Booster Station	<u>0.03</u> <del>0.05</del>	<u>0.52</u> <del>1.18</del>	<u>0.40</u> <del>0.98</del>	<u>0.00</u> <del>0.00</del>	<u>0.04</u> <del>0.07</del>	<u>0.03</u> <del>0.06</del>
San Vicente Pipeline	0.11	2.50	1.86	0.00	0.13	0.11
<b>Total 2020</b>	<b><u>1.09</u></b>	<b><u>20.93</u></b>	<b><u>16.55</u></b>	<b><u>0.04</u></b>	<b><u>1.70</u></b>	<b><u>1.11</u></b>
	<b><del>1.12</del></b>	<b><del>21.60</del></b>	<b><del>17.12</del></b>	<b><del>0.04</del></b>	<b><del>1.74</del></b>	<b><del>1.15</del></b>
<i>San Vicente Reservoir Alternative – 2021</i>						
Morena Pipelines	0.07	1.80	1.19	0.00	0.09	0.07
Landfill Gas Pipeline	0.13	3.22	2.22	0.01	0.19	0.14
NCWRP Expansion	1.18	1.06	0.80	0.00	0.10	0.06
NCPWF	1.60	1.85	1.60	0.00	0.17	0.10
San Vicente Pipeline	0.02	0.50	0.32	0.00	0.02	0.02

**Table 6.3-10  
Mitigated Annual Construction Emissions for the  
San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
North City Renewable Energy Facility	0.02	0.57	0.45	0.00	0.03	0.03
<b>Total 2021</b>	<b>3.01</b>	<b>8.99</b>	<b>6.58</b>	<b>0.02</b>	<b>0.61</b>	<b>0.41</b>
<i>Maximum Annual Emissions</i>	<u>3.01</u>	<u>24.22</u>	<u>25.57</u>	<u>0.06</u>	<u>2.19</u>	<u>1.34</u>
	<del>3.01</del>	<del>25.76</del>	<del>26.87</del>	<del>0.06</del>	<del>2.31</del>	<del>1.44</del>
<i>SDAPCD Threshold</i>	13.7	100	40	40	15	10
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Federal Conformity Threshold</i>	100	100	100	100	100	100
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Force-main, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

Table 6.3-10 shows resulting annual emissions when mitigation measures MM-AQ-1 and MM-AQ-2 are applied to the San Vicente Reservoir Alternative. Following implementation of mitigation measures MM-AQ-1 and MM-AQ-2, the annual construction emissions from the San Vicente Reservoir Alternative do not exceed the City’s significance threshold for NO<sub>x</sub> emissions, and annual construction emissions would be mitigated to less than significant.

**6.3.4.5 Operational Impacts**

**No Project/No Action Alternative**

There would be no operational impacts from the No Project/No Action Alternative.

**General Approach and Methodology**

**Mobile Sources (Motor Vehicles)**

Following the completion of construction activities, the North City Project would generate VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from mobile sources (vehicular traffic) as a result of 60 additional staff for the Miramar Reservoir Alternative. It is

expected that during normal operations, these workers would generate in 120 one-way trips (i.e., 1 one-way trip from home to work and 1 one-way trip from work to home). Additionally, operational trips would be generated as a result of routine maintenance, periodic inspections and repairs of system facilities, monitoring, brush maintenance, and other operational procedures similar to those under the City's current water and wastewater treatment and distribution system. It was assumed that only a minor increase in operations and maintenance trips (in addition to the 60 new employees) would be required; therefore, it was assumed on a worst-case day that an additional 10 operations and maintenance-related trips would occur. In total, the North City Project operations would be expected to generate approximately 140 average daily trips for the Miramar Reservoir Alternative.

The CalEEMod Version 2016.3.1 model was used to estimate daily emissions from proposed vehicular sources (refer to Appendix B). CalEEMod Version 2016.3.1 default data, including temperature, trip characteristics, variable start information, emissions factors, and trip distances, were conservatively used for the model inputs. Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2022 were conservatively used to estimate emissions associated with vehicular sources. The 2022 operational year represents the initial 30 million gallons per day (MGD) that would come online with the first phase of the Pure Water Program (i.e., the North City Project).

### **Diesel Generators**

In addition to operational emissions from vehicular sources, it was conservatively assumed that one diesel-powered emergency generator would be required for back-up power at the NCPWF. The other facilities would receive power from the Renewable Energy Facility at the NCPWF. For the purposes of a conservative analysis, it was assumed that the generator would be approximately 1,000 horsepower with a kilowatt rating of 750; however, most pump station generators would likely be smaller (between 300–500 horsepower) (PBS&J 2011). It was assumed that the generator would only be used for emergency back-up power in the event of power outages, as well as for routine testing and maintenance. The NCPWF would not run at full capacity while running off power from the emergency generator. The compressor station located on the Miramar Landfill would also have a 2,500 kilowatt Tier 4 diesel emergency generator. CARB's Airborne Toxic Control Measure (ATCM) for stationary diesel engines restricts diesel engine operation for testing and maintenance to 50 hours per year, unless

a diesel particulate filter is used to reduce PM<sub>10</sub> emissions (CARB 2011). It was assumed that the engines would operate up to 50 hours per year (1 hour per week, 50 weeks per year) for testing and maintenance. Emissions were calculated using CalEEMod 2016.3.1 and a spreadsheet based model.

**North City Renewable Energy Facility**

The Renewable Energy Facility at the NCPWF would include six Caterpillar model CG26-16 or equivalent generators, with one acting as a backup. The Renewable Energy Facility is expected to produce up to 15.4 megawatts of power. The generators are designed to operate on gaseous fuel, either natural gas or landfill gas (LFG). For the purposes of estimating emissions, it was assumed that the generators would operate on 100% LFG from the Miramar Landfill. The LFG will undergo a series of cleanups starting at the compressor station where moisture and large contaminants will be removed, followed by an LFG cleaning and conditioning system on site at the NCWRP. The gas cleaning equipment is designed to supply clean, dry LFG to the new facility. The emissions from the Renewable Energy Facility were estimated using a spreadsheet based model and emission factors from the engine technical data sheet, oxidation catalyst and Non-Selective Catalyst Reduction (NSCR) post-combustion emission controls, U.S. Environmental Protection Agency (EPA) AP-42, and the SDAPCD.

**Miramar Reservoir Alternative**

Table 6.3-11, Estimated Daily Maximum Operational Emissions, presents the maximum daily emissions associated with the operation of the North City Project after all phases of construction have been completed. Complete details of the emissions calculations are provided in Appendix B of this document.

Emissions represent maximum of summer and winter. “Summer” emissions are representative of the conditions that may occur during the O<sub>3</sub> season (May 1 to October 31), and “winter” emissions are representative of the conditions that may occur during the balance of the year (November 1 to April 30).

**Table 6.3-11**  
**Maximum Daily Operational Emissions for Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>Area</i>						
Morena Pump Station	0.15	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	5.77	0.02	0.00	0.00	0.00	0.00

**Table 6.3-11  
Maximum Daily Operational Emissions for Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
NCPWF Influent Pump Station	0.16	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.13	0.00	0.00	0.00	0.00	0.00
NCPWF	7.72	0.03	0.00	0.00	0.00	0.00
Pure Water Dechlorination Facility	0.04	0.00	0.00	0.00	0.00	0.00
Miramar WTP Improvements	0.02	0.00	0.00	0.00	0.00	0.00
<b>Total Area</b>	<b>13.99</b>	<b>0.06</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<i>Mobile</i>						
Morena Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	0.19	2.53	0.89	0.01	0.77	0.21
NCPWF Influent Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
NCPWF	0.62	8.47	2.90	0.03	2.94	0.80
Pure Water Dechlorination Facility	0.00	0.00	0.00	0.00	0.00	0.00
Miramar WTP Improvements	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Mobile</b>	<b>0.81</b>	<b>11.00</b>	<b>3.79</b>	<b>0.04</b>	<b>3.70</b>	<b>1.01</b>
<i>Stationary</i>						
NCPWF	13.13	33.48	58.71	0.06	1.93	1.93
<u>Compressor Station</u>	<u>0.77</u>	<u>14.22</u>	<u>2.74</u>	<u>0.03</u>	<u>0.11</u>	<u>0.11</u>
North City Renewable Energy Facility	25.0	101.10	137.90	15.30	13.80	13.80
<b>Total</b>	<b>53.69</b>	<b>159.84</b>	<b>203.14</b>	<b>15.43</b>	<b>19.55</b>	<b>16.85</b>
	<b>52.93</b>	<b>145.64</b>	<b>200.40</b>	<b>15.40</b>	<b>19.44</b>	<b>16.74</b>
<i>SDAPCD Threshold</i>	137	550	250	250	100	67
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 6.3-11, the maximum daily operational emissions would not exceed the City of San Diego’s thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> during the operation of the project. No adverse effects to air quality would occur.

Table 6.3-12 below shows the annual operational emissions estimated for the Project.

**Table 6.3-12**  
**Estimated Maximum Annual Operational Emissions**  
**for the Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
<i>Area</i>						
Morena Pump Station	0.03	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	1.05	0.00	0.00	0.00	0.00	0.00
NCPWF Influent Pump Station	0.03	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.02	0.00	0.00	0.00	0.00	0.00
NCPWF	1.41	0.00	0.00	0.00	0.00	0.00
Pure Water Dechlorination Facility	0.01	0.00	0.00	0.00	0.00	0.00
Miramar WTP Improvements	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Area</b>	<b>2.55</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<i>Mobile</i>						
Morena Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	0.01	0.18	0.06	0.00	0.05	0.01
NCPWF Influent Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
NCPWF	0.03	0.47	0.16	0.00	0.16	0.04
Pure Water Dechlorination Facility	0.00	0.00	0.00	0.00	0.00	0.00
Miramar WTP Improvements	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Mobile</b>	<b>0.05</b>	<b>0.64</b>	<b>0.22</b>	<b>0.00</b>	<b>0.21</b>	<b>0.06</b>
<i>Stationary</i>						
NCPWF	0.04	0.10	0.18	0.00	0.01	0.01
Compressor Station	0.02	0.36	0.07	0.00	0.00	0.00

**Table 6.3-12  
Estimated Maximum Annual Operational Emissions  
for the Miramar Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
North City Renewable Energy Facility	4.60	18.40	25.20	2.80	2.50	2.50
<b>Total</b>	<b>7.26</b>	<b>19.51</b>	<b>25.68</b>	<b>2.80</b>	<b>2.72</b>	<b>2.56</b>
	<del>7.24</del>	<del>19.15</del>	<del>25.61</del>			
<i>SDAPCD Threshold</i>	13.7	100	40	40	15	10
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Federal Conformity Threshold</i>	100	100	100	100	100	100
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Force-main, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

As shown in Table 6.3-12, the annual operations emissions for the Miramar Reservoir Alternative do not exceed the City of San Diego’s significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. No adverse effects to air quality would occur.

As shown in Table 6.3-12, the Miramar Reservoir Alternative would not exceed the general conformity *de minimis* thresholds during operation and would be considered in compliance with the general conformity requirements.

**San Vicente Reservoir Alternative**

Table 6.3-13, Estimated Maximum Daily Operational Emissions for the San Vicente Reservoir Alternative, presents the maximum daily emissions associated with the operation of the North City Project under the San Vicente Reservoir Alternative after all phases of construction have been completed. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Complete details of the emissions calculations are provided in Appendix B of this document.

**Table 6.3-13**  
**Estimated Daily Operational Emissions from the**  
**San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>pounds per day</i>					
<i>Area</i>						
Morena Pump Station	0.15	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	5.77	0.02	0.00	0.00	0.00	0.00
NCPWF Influent Pump Station	0.16	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.13	0.00	0.00	0.00	0.00	0.00
NCPWF	7.72	0.03	0.00	0.00	0.00	0.00
Mission Trails Booster Station	0.10	0.00	0.00	0.00	0.00	0.00
<b>Total Area</b>	<b>14.03</b>	<b>0.06</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<i>Mobile</i>						
Morena Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	0.19	2.53	0.89	0.01	0.77	0.21
NCPWF Influent Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.00	0.00	0.00	0.00	0.00	0.00
NCPWF	0.62	8.47	2.90	0.03	2.94	0.80
Mission Trails Booster Station	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Mobile</b>	<b>0.81</b>	<b>11.00</b>	<b>3.79</b>	<b>0.04</b>	<b>3.70</b>	<b>1.01</b>
<i>Stationary</i>						
NCPWF	13.13	33.48	58.71	0.06	1.93	1.93
<u>Compressor Station</u>	<u>0.77</u>	<u>14.22</u>	<u>2.74</u>	<u>0.03</u>	<u>0.11</u>	<u>0.11</u>
North City Renewable Energy Facility	25.0	101.10	137.90	15.30	13.80	13.80
<b>Total</b>	<b>53.73</b>	<b>159.84</b>	<b>203.14</b>	<b>15.43</b>	<b>19.55</b>	<b>16.85</b>
	<b>52.97</b>	<b>145.64</b>	<b>200.40</b>	<b>15.40</b>	<b>19.44</b>	<b>16.74</b>
<i>SDAPCD Threshold</i>	<i>137</i>	<i>550</i>	<i>250</i>	<i>250</i>	<i>100</i>	<i>67</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrate Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

As shown in Table 6.3-13, the daily operational emissions for the North City Project do not exceed the City of San Diego’s significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. No adverse effect to air quality would occur.

The estimated annual operational emissions for the Project are provided in Table 6.3-14.

**Table 6.3-14  
Estimated Annual Operational Emissions for the  
San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
<i>Area</i>						
Morena Pump Station	0.03	0.00	0.00	0.00	0.00	0.00
NCWRP Expansion	1.05	0.00	0.00	0.00	0.00	0.00
NCPWF Influent Pump Station	0.03	0.00	0.00	0.00	0.00	0.00
MBC Improvements	0.00	0.00	0.00	0.00	0.00	0.00
North City Pump Station	0.02	0.00	0.00	0.00	0.00	0.00
NCPWF	1.41	0.00	0.00	0.00	0.00	0.00
Mission Trails Booster Station	0.02	0.00	0.00	0.00	0.00	0.00
<b>Total Area</b>	<b>2.56</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<i>Mobile</i>						
Morena Pump Station	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>
NCWRP Expansion	<del>0.010.19</del>	<del>0.180.00</del>	<del>0.060.00</del>	<del>0.000.00</del>	<del>0.050.00</del>	<del>0.010.00</del>
NCPWF Influent Pump Station	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>
MBC Improvements	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>
North City Pump Station	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>
NCPWF	<del>0.030.62</del>	<del>0.470.00</del>	<del>0.160.00</del>	<del>0.000.00</del>	<del>0.160.00</del>	<del>0.040.00</del>
Mission Trails Booster Station	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>	<del>0.000.00</del>
<b>Total Mobile</b>	<b><del>0.050.81</del></b>	<b><del>0.640.00</del></b>	<b><del>0.220.00</del></b>	<b><del>0.000.00</del></b>	<b><del>0.210.00</del></b>	<b><del>0.060.00</del></b>
<i>Stationary</i>						
NCPWF	0.04	0.10	0.18	0.00	0.01	0.01
Compressor Station	0.02	0.36	0.07	0.00	0.00	0.00

**Table 6.3-14  
Estimated Annual Operational Emissions for the  
San Vicente Reservoir Alternative**

Project Component	VOC	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
	<i>tons per year</i>					
North City Renewable Energy Facility	4.60	18.40	25.20	2.80	2.50	2.50
<b>Total</b>	<b><u>7.27</u></b> <b><u>8.01</u></b>	<b><u>19.51</u></b> <b><u>18.51</u></b>	<b><u>25.68</u></b> <b><u>25.38</u></b>	<b><u>2.80</u></b> <b><u>2.80</u></b>	<b><u>2.72</u></b> <b><u>2.51</u></b>	<b><u>2.56</u></b> <b><u>2.51</u></b>
<i>SDAPCD Threshold</i>	<i>13.7</i>	<i>100</i>	<i>40</i>	<i>40</i>	<i>15</i>	<i>10</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>Federal Conformity Threshold</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

**Source:** See Appendix B for complete results.

**Notes:**

NCWRP = North City Water Reclamation Plant; NCPWF = North City Pure Water Facility; Morena Pump Station and Pipelines = Morena Pump Station, Wastewater Forcemain, and Brine/Centrates Line; MBC = Metro Biosolids Center; NCPWF = North City Pure Water Facility; Miramar WTP = Miramar Water Treatment Plant.

VOC = volatile organic compound; NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide; SO<sub>x</sub> = sulfur oxides; PM<sub>10</sub> = coarse particulate matter; PM<sub>2.5</sub> = fine particulate matter.

As shown in Table 6.3-14, the annual operations emissions for the San Vicente Reservoir Alternative do not exceed the City of San Diego’s significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub>. No adverse effects to air quality would occur.

As shown in Table 6.3-14, the San Vicente Reservoir Alternative would not exceed the general conformity *de minimis* thresholds during operation and would be considered in compliance with the general conformity requirements.

**6.3.4.6 Significance of Impacts Under CEQA**

**No Project/No Action Alternative**

**No impacts** related to air emissions would occur under the No Project/No Action Alternative.

### **Miramar Reservoir Alternative**

As shown in Tables 6.3-11 and 6.3-12, daily and annual operation emissions would not exceed the City of San Diego's significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> and would not have a significant impact on the environment.

Additionally, the operational daily PM emissions would not exceed the 100 pounds per day of PM<sub>10</sub> or 55 pounds per day for PM<sub>2.5</sub>. Therefore, the Miramar Reservoir Alternative **would have a less-than-significant impact**.

### **San Vicente Reservoir Alternative**

As shown in Tables 6.3-13 and 6.3-14, daily and annual operational emissions would not exceed the City of San Diego's significance thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> and would not have a significant impact on the environment.

Additionally, the operational daily PM emissions would not exceed the 100 pounds per day of PM<sub>10</sub> or 55 pounds per day for PM<sub>2.5</sub>. Therefore, the San Vicente Reservoir Alternative **would not have a significant impact** on regional PM emissions.

#### **6.3.4.7 Mitigation**

##### **No Project/No Action Alternative**

No mitigation is required.

##### **Miramar Reservoir Alternative**

No mitigation is required.

##### **San Vicente Reservoir Alternative**

No mitigation is required.

#### **6.3.5 ISSUE 3**

***Would implementation of the North City Project result in air emissions that would substantially deteriorate ambient air quality, including the exposure of sensitive receptors to substantial pollutant concentrations?***

### 6.3.5.1 Impacts

#### **No Project/No Action Alternative**

Under the No Project/No Action Alternative, the NCPWF and ancillary facilities, pipelines, and other features would not be constructed. No adverse effects related to exposure of sensitive receptors to substantial pollutant concentrations would occur.

#### **Miramar Reservoir Alternative**

##### ***Carbon Monoxide Hotspots***

Mobile-source impacts occur on two basic scales of motion. Regionally, Project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, North City Project traffic will be added to the City's roadway system. If such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and operates on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO "hotspots" in the area immediately around points of congested traffic. Because of continued improvement in mobile emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. To verify that the North City Project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO hotspots was conducted. A traffic report (Chen Ryan 2017, provided as Appendix I to this EIR/EIS), evaluated the level of service (LOS) (i.e., increased congestion) impacts at intersections affected by the Project. The potential for CO hotspots was evaluated based on the results of the traffic report. City of San Diego's Significance Determination Thresholds (City of San Diego 2016b) CO hotspot screening guidance was followed to determine if the Project would require a site-specific hotspot analysis. The City recommends that a quantitative analysis of CO hotspots be performed if a proposed development causes a six-lane or four-lane roadway to deteriorate to LOS E or worse, causes a six-lane roadway to drop to LOS F, or if a proposed development is within 400 feet of a sensitive receptor and the LOS is D or worse. The Project's traffic report determined that peak hour trips were not anticipated to be generated by the Project, and an intersection analysis was not required. The traffic report also determined that the construction and operation of

the Project would not have a significant impact on transportation, and no mitigation is recommended (see Appendix I).

Project maintenance activities will be temporary and would not be a source of daily, long-term mobile-source emissions. Accordingly, Project maintenance activities would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing. Background CO levels in the area, as shown in Table 5.3-2, Ambient Air Quality Data, are less than 20% of the 1-hour and 8-hour CAAQS and would be expected to improve further due to reductions in motor vehicle emissions.

### ***Health Impacts of Toxic Air Contaminants***

In addition to impacts from criteria pollutants, Project impacts may include emissions of pollutants identified by the state and federal government as toxic air contaminants (TACs) or hazardous air pollutants (HAPs).

The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. The estimated sensitive receptors nearest to the Project components are presented in Figures 5.3-1A through 5.3-1D for both the Miramar Reservoir Alternative and the San Vicente Reservoir Alternative.

### **Health Risk Assessment—Construction**

In order to determine potential health risk associated with construction of project facilities, sensitive receptors were identified in proximity to each of the sites identified in the Draft EIR/EIS. The Mission Trails Booster Station (MTBS) is the only facility site with sensitive receptors within 1,000 feet of the facility construction area that has a construction duration longer than 2 months. As such, this facility was used as the worst-case exposure scenario, with the understanding that if construction health risk was below applicable thresholds for this facility, then health risk would be less-than-significant for the other facilities. Notably, a 1,000-foot radial distance is considered the distance in which pollutant concentrations are greatest, and serves as a general “notification” distance from receptors. For example, research conducted by CARB indicated an 80% drop-off in pollutant concentrations at approximately 1,000 feet from major sources (CARB 2005). Therefore, a 1,000-foot distance is often used in

analyzing impacts to receptors from distribution centers, freeways, rail yards, stationary sources, and other pollutant sources.

Construction of the MTBS would result in diesel particulate matter (DPM) emissions from heavy-duty construction equipment and trucks operating within the facility construction area. DPM is characterized as a toxic air contaminant (TAC) by CARB. The State of California Office of Environmental Health Hazard Assessment (OEHHA) has identified carcinogenic and chronic noncarcinogenic effects from long-term (chronic) exposure, but it has not identified health effects due to short-term (acute) exposure to DPM (OEHHA 2015). The nearest existing off-site sensitive receptors from the MTBS site consist of residences located adjacent to the eastern boundary of the Project site.

Cancer risk is defined as the increase in lifetime probability (chance) of an individual developing cancer due to exposure to a carcinogenic compound, typically expressed as the increased probability in 1 million. The cancer risk from inhalation of a TAC is estimated by calculating the inhalation dose in units of milligrams/kilogram body weight per day based on an ambient concentration in units of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), breathing rate, age-specific sensitivity factors, and exposure period, and multiplying the dose by the inhalation cancer potency factor, expressed as units of inverse dose [i.e., (milligrams/kilogram body weight per day)<sup>-1</sup>]. Typically, population-wide cancer risks are based on a lifetime (70 years) of continuous exposure, and an individual resident cancer risk is based on a 30-year exposure duration; however, for the purposes of this analysis, a 3-year exposure scenario corresponding to the construction period for MTBS was assumed.

Cancer risks are typically calculated for all carcinogenic TACs and summed to calculate the overall increase in cancer risk to an individual. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure and that risks from various TACs are additive. This is considered a conservative assumption at low doses and is consistent with the updated OEHHA-recommended approach (OEHHA 2015).

Noncancer health impact of an inhaled TAC is measured by the hazard quotient, which is the ratio of the ambient concentration of a TAC in units of  $\mu\text{g}/\text{m}^3$  divided by the reference exposure level (REL), also in units of  $\mu\text{g}/\text{m}^3$ . The inhalation REL is the concentration at or below which no adverse health effects are anticipated. The REL is typically based on health effects to a particular target organ system, such as the

respiratory system, liver, or central nervous system. Hazard quotients are then summed for each target organ system to obtain a hazard index.

To estimate the ambient DPM concentrations resulting from construction activities at nearby sensitive receptors, a dispersion modeling analysis was performed using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) dispersion model, Version 16216r, in conjunction with the Hotspots Analysis and Reporting Program Version 2 (HARP 2). CARB developed HARP 2 as a tool to implement the risk assessments and incorporate all the requirements provided by OEHHA as outlined in the Air Toxics Hot Spot Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015).

The DPM emissions from diesel-powered construction equipment and on-site diesel-powered trucks that would be used during construction are based on the CalEEMod model output for the MTBS construction, as provided in Appendix B. Annual emissions of construction-related exhaust PM<sub>10</sub>, as a surrogate for DPM, were calculated and then converted to grams per second for use in the AERMOD model. Additional construction details were available at the time this HRA was performed, and it was determined that construction equipment would be operating 4 hours per day, Monday through Friday, as opposed to 8 hours per day in the Draft EIR/EIS (Brown and Caldwell 2018). This HRA also assumed that heavy-duty diesel vehicles would have a trip length of 0.25 mile to represent on-site emissions. An unmitigated emission rate of  $3.91 \times 10^{-3}$  grams per second was calculated as follows:

$$\begin{aligned} &0.0484 \text{ total tons exhaust PM}_{10} = 96.8 \text{ total pounds (lbs) DPM during construction} \\ &\frac{96.8 \text{ lbs} \times 453.6 \text{ g/lb}}{(4 \text{ hrs/day} \times 780 \text{ working days}) \div 3600 \text{ seconds/hour}} = \\ &\quad 3.91 \times 10^{-3} \text{ g/second} \end{aligned}$$

An area source representing the site area was used to represent the emissions released by the construction equipment, as equipment will move freely around the site. A release height of 5 meters was provided to represent the midrange of the expected plume rise from frequently used construction equipment during daytime atmospheric conditions. These parameters reflect those utilized in the South Coast Air Quality Management District's Localized Significance Thresholds (LST) Methodology (SCAQMD 2008). In addition, SDAPCD recommends the use of the rural dispersion coefficient as the modeling default, based on the close proximity to the coastline (SDAPCD 2015a).

The three latest years of AERMOD-ready meteorological data from 2014 through 2016 for the Kearny Mesa Monitoring Station were provided by SDAPCD for use in AERMOD. SDAPCD processed the data using EPA's AERMET meteorological data processor.

The cancer risk calculations were performed using the HARP 2 Air Dispersion Modeling and Risk Tool (ADMRT) by importing the predicted annual DPM concentrations from AERMOD for the sensitive receptors, including the Maximally Exposed Individual Resident (MEIR). Cancer risk parameters, such as age sensitivity factors, daily breathing rates, and cancer potency factors were based on the values and data recommended by OEHHA (2015) as implemented in HARP 2. The potential exposure pathway for DPM includes inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance- and site-specific data, and the specific parameters for DPM are not known for these pathways.

For the purposes of this construction HRA, given the less-than-lifetime exposure period, and the higher breathing rates and sensitivity of children to TACs, the cancer risk calculation assumes that the exposure would affect children early in their lives. For the derived cancer risk calculation under the worst-case scenario, the 3-year exposure duration was assumed to start during the third trimester of pregnancy. Additionally, as a conservative assumption, a "fraction at home" factor was not applied for age bins less than 16, whereas OEHHA recommends a 0.85 fraction at home for third trimester through 3 years old for evaluating residential cancer risk.

In addition to the potential cancer risk, DPM has chronic (i.e., long-term) noncarcinogenic health impacts. The chronic hazard index was evaluated using the OEHHA inhalation RELs. The chronic noncarcinogenic inhalation hazard index for construction activities was also calculated using the HARP 2 ADMRT.

### **DPM Concentrations, Cancer Risk, and Chronic Hazard**

The results of the AERMOD and HARP 2 modeling are provided in Appendix B. The modeled maximum annual concentration at the MEIR would be  $0.021 \mu\text{g}/\text{m}^3$ . The associated cancer risk for the child MEIR (exposure starting in third trimester) would be approximately 7.95 in 1 million, which would not exceed the County significance threshold of 10 in 1 million for cancer impacts. The associated chronic hazard index for the child MEIR would be approximately 0.004, which would not exceed the County significance threshold of 1.0 for noncarcinogenic health impacts. Since emissions of DPM generated by construction at the MTBS facility would result in cancer and noncarcinogenic risk below the applicable thresholds, the impact would be less than significant. In addition, as noted in the Methodology section

above, since the MTBS site was used as the worst-case exposure scenario, the health risk impacts associated with construction of facilities at the other sites for the Project would also be less than significant. Construction of Project components would not require the extensive use of heavy-duty construction equipment, which is subject to a CARB ATCM for in-use diesel construction equipment to reduce diesel particulate emissions, and would not involve extensive use of diesel trucks, which are also subject to an ATCM. Construction of Project components would occur in three phases of 2–3 years each and would be periodic and short term within each phase. Following completion of construction activities, Project construction-related TAC emissions would cease.

**Health Risk Assessment—Operation**

An HRA was performed to evaluate potential health risks associated with operation of the Renewable Energy Facility. The following discussion summarizes the dispersion modeling and HRA methodology and assumptions presented in Appendix B.

The air dispersion modeling methodology was based on generally accepted modeling practices of the SDAPCD (SDAPCD 2015a). Air dispersion modeling was performed using the EPA’s AERMOD (Version 16216r) modeling system (computer software) with the Lakes Environmental Software implementation/user interface, AERMOD View Version 9.2.0. The HRA followed the Office of Environmental Health Hazard Assessment (OEHHA) 2015 guidelines (OEHHA 2015) and SDAPCD Tier-1 techniques to calculate the health risk impacts at all receptors, including the nearby residential receptors, the nearest school, and off-site worker receptors, as further discussed below. The dispersion modeling included the use of standard regulatory default options. AERMOD parameters were selected consistent with the SDAPCD and EPA guidance and identified as representative of the Project site and Project activities. Principal parameters of this modeling are presented in Table 6.3-15.

**Table 6.3-15  
AERMOD Principle Parameters**

Parameter	Details
Meteorological Data	AERMOD-specific meteorological data for the Marine Corps Air Station (MCAS) Miramar #722931 were used for the dispersion modeling. The 5-year meteorological dataset from 2009 through early 2014 was obtained from the Air Quality Planning and Science Division of the CARB in a preprocessed format suitable for use in AERMOD and Hotspots Analysis and Reporting Program Version 2 (HARP2) modeling (CARB 2015).

**Table 6.3-15  
AERMOD Principle Parameters**

Parameter	Details
Urban versus Rural Option	Urban dispersion option was selected due to the developed nature of the Project area and per SDAPCD guidelines
On-site Buildings	For the operational scenario, a total of seven on-site buildings close to the emission sources were included in the modeling using best available dimensional data. Buildings less than 20 feet or greater than 250 feet from the new sources were not included in the assessment. Building downwash effects were assessed using Building Profile Input Program (BPIP) with Plume Rise Model Enhancements (PRIME).
Terrain Characteristics	The modeling included the use of all standard regulatory default options, including the use of rural dispersion parameters and elevated terrain.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to receptors, buildings, and emission sources, as necessary. Digital elevation data were obtained through the AERMOD View™ WebGIS import feature in the U.S. Geological Survey's Digital Elevation Model (DEM 7.5) format, with a resolution of 1 degree.
Emission Sources and Release Parameters	The exhaust stacks from the LFG internal combustion engines (ICEs) were modeled as individual point sources. The release parameters for the ICEs were calculated from data provided in the engineering evaluation of the engines for 100% load case. There are six engines, with one as a backup. Thus, no more than five engines will operate simultaneously. The western-most five engines were included in the HRA since the closest receptors are to the west of the Project.
Receptors	<p>Model results were obtained at various locations around the renewable energy facility. These receptor locations were identified as the facility boundary, a grid network of receptors to establish the impact area and area where the maximum impact would occur, and discrete receptors that were positioned at specific locations of concern, namely the nearest residences, worker, and sensitive receptors.</p> <p>The facility boundary was established from an aerial map. Receptors were placed every 50 meters along the fenceline. Grid receptors were placed every 100 meters out to 1 kilometer, then every 250 meters out to 2 kilometers to ensure impacts were below the appropriate CEQA thresholds at all locations off site. A series of receptors were placed along the worker locations to the west and northeast of the Project.</p>

**Source:** See Appendix B.

The operational scenario used discrete Cartesian receptors positioned at specific locations of concern to evaluate the maximally exposed sensitive receptor. Discrete receptors are shown below in Table 6.3-16. To capture peak off-site worker exposure, worker risks were analyzed at the residential receptors. In addition, receptors were

placed at the facility boundary, which encompasses the NCWRP boundary, and fenceline receptors were placed every 50 meters.

**Table 6.3-16  
Sensitive Receptors and Proximity to Renewable Energy Facility**

Name	UTM Easting (meters)	UTM Northing (meters)	Distance to Receptor from the Power Units (kilometers)
Torah High School	480727.2	3636989	1.2
La Jolla Country Day	479941.9	3637767	1.6
Childtime	480393.8	3636961	1.5
UCSD Hospital	479201.2	3637859	2.3
Bright Daycare	480662.0	3637527	0.9
Nobel Recreation Center Park	481221.6	3636913	1.0
Resident 1	481019.9	3637371	0.7
Resident 2	481054.5	3637291	0.8
Resident 3	480556.9	3637550	1.0
Resident 4	480367.3	3637887	1.2

**Source:** See Appendix B.

The health risk calculations were performed using the Hotspots Analysis and Reporting Program Version 2 (HARP2) Risk Assessment Standalone Tool (RAST, version 17023). AERMOD was run with all sources emitting emissions in 1 gram per second to obtain the necessary input values for HARP2. The dispersion factor values that were determined for each source using AERMOD were imported into HARP2 and used in conjunction with hourly and annual emissions to determine the ground-level concentrations for each pollutant. The ground-level concentrations were then used to estimate the long-term cancer health risk to an individual and the non-cancer chronic and acute health indices.

Cancer risk is the estimated probability of an exposed individual potentially contracting cancer as a result of exposure to TACs over a period of 30 years for residential receptor locations and 25 years for off-site worker receptor locations. Sensitive receptors, such as schools, hospitals, convalescent homes, and day-care centers, were evaluated the same as residences. The OEHHA Derived Method was used to calculate the cancer risk. All receptors were assessed for a 30-year cancer risk with a “fraction of time at home” selected for the third trimester through 70 years. Mandatory minimum pathways of inhalation, soil ingestion, dermal absorption, and mother’s milk were selected. To assess the 25-year cancer risk to workers, all receptors were included in the worker run, but the results only

examined the seven worker receptors. Worker pathways of inhalation, soil ingestion, and dermal absorption were selected, and no worker adjustment factor was enabled as the Project may operate continuously.

The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system, and the Acute Hazard Index is the sum of the individual substance acute hazard indices for all TACs affecting the same target organ system.<sup>5</sup> A hazard index less of than one (1.0) means that adverse health effects are not expected. Within this analysis, noncarcinogenic exposures of less than 1.0 are considered less than significant. Some TACs increase non-cancer health risk due to short-term (acute) exposures. The Acute Hazard Index is the sum of the individual substance acute hazard indices for all TACs affecting the same target organ system. Acute risk is calculated from a 1-hour exposure.

Cancer burden is the estimated increase in the occurrence of cancer cases in a population subject to a Maximum Individual Cancer Risk of greater than or equal to one in one million ( $1.0 \times 10^{-6}$ ) based on a 70-year exposure to TACs. The cancer burden is determined for the population located within the zone of impact, defined as the area within the one in one million cancer risk isopleth for a 70-year exposure. HARP2 was used to generate an isopleth, which is a line of a constant value, showing the area exposed to a cancer risk above one in one million. Cancer burden was conservatively estimated by using the distance of the furthest receptor within the one in one million isopleth as the radius of a zone of impact.

The operational HRA estimated the Maximum Individual Cancer Risk and the Chronic Hazard Index for residential and off-site worker receptors, as well as Acute Hazard Index and the Residential Cancer Burden from the renewable energy facility. Results of the operational HRA are presented in Table 6.3-17.

**Table 6.3-17**  
**Operational HRA Results**

<b>Impact Parameter</b>	<b>Receptor Type</b>	<b>Health Risk Impact</b>	<b>Significance Threshold</b>	<b>Significant (Yes/No)</b>
Cancer Risk	PMI	1.16 in a million	10 in a million	No
	MEIR	0.09 in a million	10 in a million	No
	MEIW	0.02 in a million	10 in a million	No
	Maximum Sensitive Receptor	0.08 in a million	10 in a million	No

<sup>5</sup> The Chronic Hazard Index and the Acute Hazard Index (1-hour) estimates for all receptor types used the OEHHA Derived calculation method (OEHHA 2015).

**Table 6.3-17  
Operational HRA Results**

Impact Parameter	Receptor Type	Health Risk Impact	Significance Threshold	Significant (Yes/No)
HIC	PMI	0.056	1	No
	MEIR	0.004	1	No
	MEIW	0.010	1	No
	Maximum Sensitive Receptor	0.004	1	No
HIA	PMI	0.013	1	No
	MEIR	0.002	1	No
	MEIW	0.003	1	No
	Maximum Sensitive Receptor	0.001	1	No
Cancer Burden		0	1	No

**Notes:** See Appendix B.

PMI = Point of Maximum Impact; MEIR = Maximally Exposed Individual Resident; MEIW = Maximally Exposed Individual Worker; HIC = Chronic Hazard Index; HIA = Acute Hazard Index.

As shown in Table 6.3-17, Renewable Energy Facility would result in a cancer risk, chronic hazard index, acute hazard index, and cancer burden that is well below the SDAPCD threshold of significance. As such, no adverse effects would occur with respect to the exposure of Project-related TAC emission impacts to sensitive receptors.

### ***Health Impacts of Criteria Air Pollutants***

Construction and operation of the North City Project would not result in emissions that exceed the City's emission thresholds for VOC, CO, SO<sub>x</sub>, PM<sub>10</sub> or PM<sub>2.5</sub>. However, NO<sub>x</sub> emission thresholds would be exceeded during the construction of the Miramar Reservoir Alternative. Regarding VOCs, some VOCs would be associated with motor vehicles and construction equipment, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the City's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SDAPCD Rule 67.0.1 restricts the VOC content of coatings for both construction and operational applications.

VOCs and NO<sub>x</sub> are precursors to O<sub>3</sub>, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS (the SDAB is designated by the EPA as an attainment area for the 1-hour O<sub>3</sub> NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O<sub>3</sub>, as discussed in Section 5.3.3, are generally associated with reduced lung function. The contribution of VOCs and NO<sub>x</sub> to regional ambient O<sub>3</sub> concentrations is the result

of complex photochemistry. The increases in O<sub>3</sub> concentrations in the SDAB due to O<sub>3</sub> precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O<sub>3</sub> concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O<sub>3</sub> ambient air quality standards tend to occur between April and October when solar radiation is highest.

The holistic effect of a single project's emissions of O<sub>3</sub> precursors is speculative due to the lack of quantitative methods to assess this impact. The VOC and NO<sub>x</sub> emissions associated with Project construction could minimally contribute to regional O<sub>3</sub> concentrations and the associated health impacts; however, the North City Project would result in a minimal contribution of O<sub>3</sub> precursors during construction and operation.

Similar to O<sub>3</sub>, construction of the North City Project would not exceed thresholds for PM<sub>10</sub> or PM<sub>2.5</sub> and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter. The Project would also not result in substantial diesel particulate matter emissions during construction and operation and therefore, would not result in significant health effects related to diesel particulate matter exposure.

Regarding nitrogen dioxide, according to the construction emissions analysis, construction of the North City Project would not contribute to exceedances of the NAAQS and CAAQS for NO<sub>2</sub>. As described in Section 5.3.3, NO<sub>2</sub> and NO<sub>x</sub> health impacts are associated with respiratory irritation, which may be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, these operations would be relatively short term, and the Project would be required to comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction. Additionally, off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. Construction of the North City Project would not require any stationary emission sources that would create substantial, localized NO<sub>x</sub> impacts.

The VOC and NO<sub>x</sub> emissions, as described previously, would minimally contribute to regional O<sub>3</sub> concentrations and the associated health effects. In addition to O<sub>3</sub>, NO<sub>x</sub> emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO<sub>2</sub>. As shown in Table 5.3-2, the existing NO<sub>2</sub> concentrations in the

area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's operational NO<sub>x</sub> emissions would result in exceedances of the NO<sub>2</sub> standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. The associated CO "hotspots" were discussed previously as a less-than-significant impact. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. PM<sub>10</sub> and PM<sub>2.5</sub> would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, would not obstruct the SDAB from coming into attainment for these pollutants, and would not contribute to significant health effects associated with particulates. No adverse effect would occur.

### **San Vicente Reservoir Alternative**

The San Vicente Reservoir Alternative is fundamentally similar to the Miramar Reservoir Alternative in how emissions from the North City Project would affect sensitive receptors. As discussed in Section 6.3.4, the San Vicente Reservoir Alternative would result in slightly higher emissions than the Miramar Reservoir Alternative during construction and operation; however, no adverse effects would occur.

#### **6.3.5.2 Significance of Impacts Under CEQA**

##### **No Project/No Action Alternative**

**No impacts** related to sensitive receptors would occur.

##### **Miramar Reservoir Alternative**

Project maintenance would result in a **less-than-significant** impact to air quality with regard to potential CO hotspots. Project-generation of criteria pollutants and TACs were found to be less than significant, and associated impacts to sensitive receptors would be considered **less than significant** for the Miramar Reservoir Alternative.

##### **San Vicente Reservoir Alternative**

Impacts to sensitive receptors would be considered **less than significant** for the San Vicente Reservoir Alternative.

### **6.3.5.3 Mitigation**

#### **No Project/No Action Alternative**

No mitigation is required.

#### **Miramar Reservoir Alternative**

No mitigation is required.

#### **San Vicente Reservoir Alternative**

No mitigation is required.

### **6.3.6 ISSUE 4**

***Would the North City Project create objectionable odors affecting a substantial number of people?***

#### **6.3.6.1 Impacts**

##### **No Project/No Action Alternative**

Under the No Project/No Action Alternative, the NCPWF and ancillary facilities, pipelines and other features would not be constructed. Therefore, no adverse effects related to odor would occur.

##### **Miramar Reservoir Alternative**

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the Project facilities. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and for the types of construction activities anticipated for Project components, would generally occur at magnitudes that would not affect substantial numbers of people.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have an adverse effect. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater

treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors, such as residences and schools, other land uses where people may congregate (e.g., workplaces) or uses with the intent to attract people (e.g., restaurants and visitor-serving accommodations), should also be considered in the evaluation of potential odor nuisance impacts.

The North City Project would include the NCPWF, improvements to an existing water reclamation plant, and pump stations. The NCPWF would not result in nuisance odors because the NCPWF would accommodate flows that would have undergone previous tertiary treatment. Additionally, the closest sensitive receptor to the NCPWF is 2,700 feet away.

The Morena Pump Station will also include new facilities to supply ferric chloride and/or high purity oxygen for odor control in the forcemain and a passive odor control system for removing fouled air from the screening facility and pump station wet well. The odor control system at the Morena Pump Station utilizes negative pressure to change out the air in the screening and pump station buildings 20 times every hour. The Morena Pump Station will also add ferrous chloride to control the odor control process by binding the dissolved sulfide in the wastewater into a ferrous sulfide precipitate. The ferrous chloride addition reduces the dissolved sulfide to 0.1 milligrams per liter. Pilot-scale tests conducted in the past indicate that the ratio of ferrous chloride: dissolved sulfide concentration required for adequate treatment is 11:1. The City typically purchases ferrous chloride at 33%, which is equivalent to 3.9 pounds/gallon. This odor control design feature is anticipated to reduce odors to below nuisance levels. The NCWRP will also receive upgrades to its odor control systems to accommodate the additional wastewater flows.

The other lift stations, pipelines, and Pure Water Dechlorination Facility are not expected to generate odors because they either receive tertiary treated water or purified water. No additional odor control improvements are designed for the MBC as the existing odor control system is adequate for the upgrades. The current system and operating conditions will be managed to maintain compliance with the existing SDAPCD operating permit, which also regulates nuisance odors.

### **San Vicente Reservoir Alternative**

The common components shared with the Miramar Reservoir Alternative would have the same odor implications as discussed above. The NCPWF would not have odor issues because it receives tertiary treated wastewater. The Mission Trails Booster Station would also not have odor concerns as it receives and distributes purified water.

#### **6.3.6.2 Significance of Impacts Under CEQA**

##### **No Project/No Action Alternative**

**No impacts** related to odor would occur.

##### **Miramar Reservoir Alternative**

The NCPWF would not result in nuisance odors because it would accommodate flows that would have undergone previous tertiary treatment. There may be potential for odor impacts from the reclamation facility and pump stations. Therefore, the Miramar Reservoir Alternative would have **potentially significant impacts**.

##### **San Vicente Reservoir Alternative**

Similar to the Miramar Reservoir Alternative, the San Vicente Reservoir Alternative would have the potential to generate odors at several of the project components and would result in **potentially significant impacts**.

#### **6.3.6.3 Mitigation**

##### **No Project/No Action Alternative**

No mitigation is required.

##### **Miramar Reservoir Alternative**

Mitigation measure MM-AQ-3 is provided to reduce odor impacts for the Miramar Reservoir Alternative.

**MM-AQ-3** The City shall implement odor control systems at the NCWRP Expansion, Morena Pump Station, and Morena Wastewater Forcemain specifically designed to abate the potential odors of the facility. Odor control systems would be similar to those currently employed at City of San

Diego wastewater treatment facilities to reduce odor impacts. The following odor control systems or equivalent measures shall be implemented to mitigate nuisance odors:

- a. North City Water Reclamation Plant Expansion and the Morena Pump Station: NaOCl/NaOH Wet Scrubber plus carbon or Biofilter plus carbon.
- b. Air/vacuum relief valves at high points along the wastewater forcemain: ferric chloride and/or High Purity Oxygen injection.

Alternatively, odors could be abated through the addition of chemicals such as iron chloride, nitrate, hydrogen peroxide, sodium hypochlorite, high purity oxygen, magnesium hydroxide, and/or caustic solutions to reduce the liquid phase concentration and thus, reduce the amount volatilized into the gas phase.

### **San Vicente Reservoir Alternative**

Mitigation measure MM-AQ-3 would be implemented for the San Vicente Reservoir Alternative as described above.

#### **6.3.6.4 Level of Impact After Mitigation**

##### **No Project/No Action Alternative**

No mitigation is required, and thus impact would be **less than significant**.

##### **Miramar Reservoir Alternative**

With the implementation of mitigation measure MM-AQ-3, the NCWRP Expansion, Morena Pump Station, and wastewater forcemain associated with the North City Project would include an odor control system, similar to what is employed at the City's other wastewater treatment facilities and pump stations. Following implementation of mitigation measure MM-AQ-3, odor impacts associated with the Miramar Reservoir Alternative would be mitigated and would be **less than significant**.

##### **San Vicente Reservoir Alternative**

Similar to the Miramar Reservoir Alternative, with the implementation of mitigation measure MM-AQ-3, the odor impacts associated with the San Vicente Reservoir Alternative would be mitigated and would be **less than significant**.