SD Airports

Airport Master Plan

Brown Field Municipal Airport

Working Paper 4—Environmental Overview

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Acronyms

AC: Advisory Circular
AEDT: Aviation Environmental Design Tool
AIA: Airport Influence Area
ALP: Airport Layout Plan
ALUC: Airport Land Use Commission
ALUCP: Airport Land Use Compatibility Plans
APU: Auxiliary Power Units
BCC: Bird of Conservation Concern
BGEPA: Bald and Golden Eagle Protection Act
BLA: Boundary Line Adjustment
BLM: U.S. Department of the Interior Bureau of Land Management
CALFIRE: California Department of Forestry and Fire Protection
CDFW: California Department of Fish and Wildlife
CEQ: Council on Environmental Quality
CEQA: California Environmental Quality Act
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CESA: California Endangered Species Act
CFR: Code of Federal Regulations
CFG: California Fish and Game
CNDDB: California Natural Diversity Database
CNEL: Community Noise Equivalent Level
CNPS: California Native Plant Society
CO: Carbon Monoxide
CO_{2e}: Carbon dioxide equivalent
CPUC: California Public Utilities Commission
CPS: Cleanup Program Sites
CRPR: California Rare Plant Rank
CT: Census Tract
CWA: Clean Water Act
DNL: Day-Night Average Sound Level
DOT: U.S. Department of Transportation
DTSC: Department of Toxic Substances Control
EA: Environmental Assessment
EIS: Environmental Impact Statement
EO: Executive Order
EPA: U.S. Environmental Protection Agency
EPCRA: Emergency Planning and Community Right to Know Act
ESL: Environmentally Sensitive Lands
FAA: Federal Aviation Administration
FE: Federally Endangered
FEMA: Federal Emergency Management Agency
FESA: Federal Endangered Species Act
FONSI: Finding Of No Significant Impact
FPPA: Farmland Protection Policy Act
FT: Federally Threatened
FUDS: Formerly Used Defense Sites
GA: General Aviation
HSC: California Health and Safety Code
ICAO: International Civil Aviation Organization

ILRP: Irrigated Lands Regulatory Program
LTO: Landing and Take Off
LUST: Leaking Underground Storage Tanks
MBTA: Migratory Bird Treaty Act
MCAS: Marine Corps Air Station
MHPA: Multi-habitat Planning Area
MSCP: Multiple Species Conservation Program
MSL: Mean Sea Level
NAAQS: National Ambient Air Quality Standards
NAAS: Naval Auxiliary Air Station
NEPA: National Environmental Policy Act
NFIP: National Flood Insurance Program
NO_2: Nitrogen dioxide
NPDES: National Pollutant Discharge Elimination System
NPL: National Priority List
NPS: U.S. National Park Service
NRCS: Natural Resources Conservation Service
NRI: Nationwide Rivers Inventory
NWI: National Wetland Inventory
NWP: Nationwide Permits
O_3: Ozone
Pb: Lead
PM: Particulate Matter
RCRA: Resource Conservation and Recovery Act
RWQCB: Regional Water Quality Control Board
SANDAG: San Diego Association of Governments
SAM: Site Assessment and Mitigation
SAP: Subarea Plan
SC: Site Cleanups
SDM: Brown Field Municipal Airport
SE: State Endangered
SEL: Sound Exposure Level
SIP: State Implementation Plan
SLIC: Spills, Leaks, Investigations, and Cleanups
SO_2: Sulfur dioxide
SSC: Species of Special Concern
SWIS: Solid Waste Information System
SWRCB: State Water Resources Control Board
USACE: U.S. Army Corps of Engineers
USC: United States Code
USDA: U.S. Department of Agriculture
USFS: U.S. Forest Service
USFWS: U.S. Fish and Wildlife Service
USGS: U.S. Geological Survey
UST: Underground Storage Tanks
VHFHSZ: Very High Fire Hazard Severity Zones
VPHCP: Vernal Pool Habitat Conservation Plan
WDR: Waste Discharge Requirement
WL: Watch List

Executive summary

As the owner and operator for Brown Field Municipal Airport, the City of San Diego Airports Division is in the process of preparing an updated Airport Master Plan to guide future airport development. This Airport Master Plan will include a report of existing and future conditions, an Airport Layout Plan and a schedule of priorities and funding sources for proposed improvements.

In order to comply with the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA); U.S. Department of Transportation (DOT) Order 5610.1C, *Procedures for Considering Environmental Impacts*; and FAA Order 1050.1F *Environmental Impacts: Policies and Procedures*, environmental impact analysis must be performed to determine if a proposed federal action will have a potential environmental impact. There are 14 category areas that the FAA determines should be considered as part of this analysis, covering a range of social and environmental topics. If no potentially significant affect occurs, under FAA procedures, it may be permissible to have a Categorical Exclusion rather than the need for further study, such as in the form of an Environmental Assessment or Environmental Impact Statement.

This Environmental Overview identifies environmental resources, environmentally sensitive areas and areas where a potential impact is likely to occur and thus the need for further assessment. The report is comprised of publicly available data available from federal, local and other agencies and field survey information, where possible. The purpose of this report is to identify resources early in the master planning process to ensure the consideration of sensitive environmental resources during the development of the airport master plans.

The environmental and community resources topics summarized in this report have been divided in three categories, (1) Key resources with potential for significant impact; (2) Resources with no significant impact; and (3) Resources with no/negligible impact or resources not present. At Brown Field Municipal Airport, the following resources have been deemed to have a potentially significant effect:

- Air Quality
- Biological Resources
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Land Use

The following resources were deemed to have no potentially significant effect:

- Climate
- Department of Transportation, Section 4f
- Historical, Architectural, Archeological, and Cultural Resources
- Farmlands
- Noise and Noise Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- Water Resources

As there are several topics which could have a potentially significant effect, it is recommended that an Environmental Assessment is undertaken, pursuant to FAA NEPA procedures.

4.1 Environmental Overview

The City of San Diego owns and operates two General Aviation (GA) airports in San Diego County – the Montgomery-Gibbs Executive Airport and Brown Field Municipal Airport. As the owner and operator for these airports, the City of San Diego Airports Division is in the process of preparing an Airport Master Plan for each of the facilities in order to establish a long-term plan by determining the extent, type and schedule of development needed, guiding airport development for the next 20 years. This process considers the needs and demands of airport tenants, users and the general public.

The Federal Aviation Administration (FAA) has classified both Brown Field Municipal and Montgomery-Gibbs Executive Airport as reliever airports for San Diego International Airport. This means that these airports serve GA aircraft that might otherwise use a congested air carrier airport, thus reducing delays due to air traffic congestion and enhancing airline passenger experience.

The Airport Master Plan will include a report of existing and future conditions, an Airport Layout Plan (ALP) and a schedule of priorities and funding sources for proposed improvements. This Working Paper documents the environmental overview for Brown Field Municipal Airport (hereafter referred to by its FAA identifier of "SDM" or "the Airport").

San Diego County Regional Airport Authority

The City of San Diego works with the San Diego County Regional Airport Authority and San Diego Association of Governments (SANDAG) in planning, providing, and expanding multi-modal transportation facilities between San Diego International Airport (SDIA) and the region's major activity centers.

The City coordinates with the Airport Land Use Commission (ALUC) and airport operators on preparing and amending community plans, zoning, development regulations, and the review of certain development proposals within airport influence areas to ensure protection of residents, workers, visitors, and airport operations.

The San Diego County Regional Airport Authority is the designated ALUC for airports within San Diego County; California State law requires ALUCs to coordinate planning for the areas surrounding public use airports. The purpose of the ALUC is to ensure orderly expansion of airports without causing a detrimental effect on public health, safety and welfare. This is achieved through review of proposed development surrounding airports and through policy and guidance provided in an Airport Land Use Compatibility Plan (ALUCP), adopted by the Airport Authority.

The Airport Authority adopted ALUCP for SDM in January 2010 and updated it in December 2010. In essence, the ALUCP serves as a tool for the ALUC to use in fulfilling its duty to review land use plans and development proposals within the Airport Influence Area (AIA) at the airport.

Brown Field Municipal Airport

The Airport is located 1.5 miles north of the U.S./Mexico border, situated in the Otay Mesa community, to the north of State Route 905. The Airport has two parallel runways (8L-26R at 7,972 feet and 8R-26L at 3,180 feet) and three small helipads, as shown on Insert Figure 4.1. Additionally, there is a fire station helipad located in the southeast corner of the Airport and a helipad at the U.S. Border Patrol complex located immediately north of the Airport.

The Airport was originally opened in 1918 as East Field (in honor of Army Major Whitten J. East),

when the U.S. Army established an aerial gunnery and aerobatics school to relieve congestion at Naval Air Station North Island. In 1943, the U.S. Navy took ownership of the airfield and changed the name to Naval Auxiliary Air Station (NAAS) Otay Mesa and then again later that year to NAAS Brown Field in honor of Navy Commander Melville S. Brown. In 1946, the Navy decommissioned Brown Field and turned it over to San Diego County but reopened Brown Field in 1951 as military operations escalated due to the Korean War. In 1962, the U.S. Navy transferred ownership of Brown Field to the City of San Diego, with the condition that it remains an airport for the use and benefit of the public.

As specified previously, the Airport is a general aviation airport, and does not cater to carrier and military aviation, even though the latter maintains a presence. The types of general aviation aircraft that operate at SDM include private, corporate, charter, air ambulance, law enforcement, fire rescue, flight training, cargo, skydiving, banner towing, and airships.

Previous master plan

The current master plan for the Airport was prepared in 2012, though was never approved by the City Council. However, this did result in an FAA-approved Airport Layout Plan (ALP).

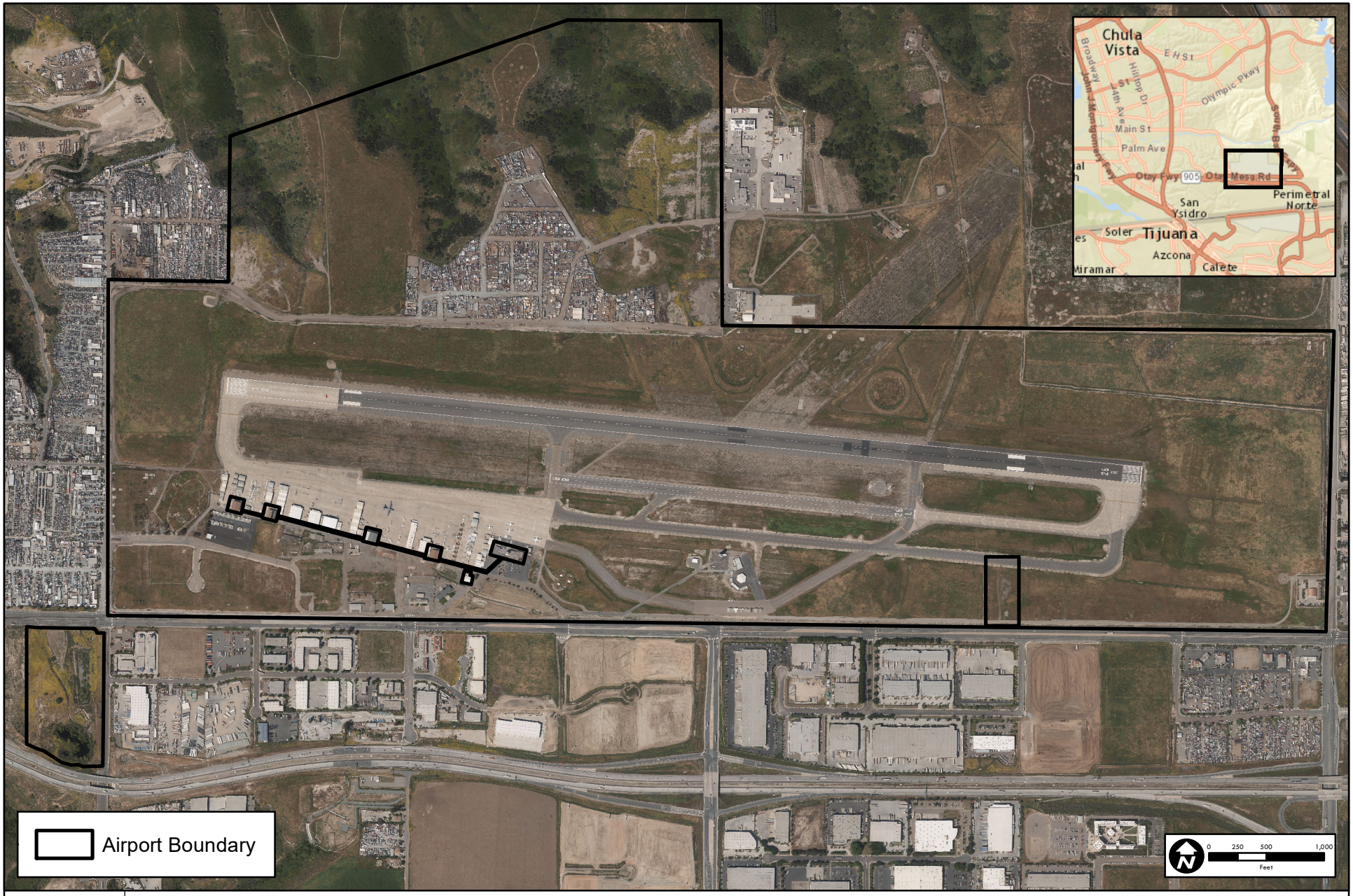

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FIGURE 4.1

SDM Airport

100054723 MYF/SDM Master Plans

Sources: Atkins 2017

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4.2 Master Plan Function

Within the Federal Aviation Administration's Advisory Circular (AC) *150/5070-6B Airport Master Plans*, a list of functions of a master plan is presented:

- Support the modernization or expansion of existing airports or the creation of a new airport;
- Provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts;
- Document the issues, opportunities and constraints of the airport;
- Justify the proposed development through the technical, economic, and environmental investigation of concepts and alternatives;
- Provide an effective graphic presentation of the development of the airport and anticipated land uses in the vicinity of the airport;
- Establish a realistic schedule for the implementation of the development proposed in the plan, particularly the short-term capital improvement program;
- Propose an achievable financial plan to support the implementation schedule;
- Provide sufficient project definition and detail for subsequent environmental evaluations that may be required before the project is approved;
- Present a plan that adequately addresses the issues and satisfies local, state, and federal regulations;
- Document policies and future aeronautical demand to support municipal or local deliberations on spending, debt, land use controls, and other policies necessary to preserve the integrity of the airport and its surroundings; and
- Set the stage and establish the framework for a continuing planning process.

The FAA reviews all elements of a master plan to ensure that sound planning techniques have been applied as recommendations, views, policies and development plans contained within an airport master plan do not necessarily represent the views of the FAA. Therefore, the onus is on the airport sponsor to ensure consistencies with FAA processes. That said, the FAA only approve two elements of the master plan, the consistency of the forecasts of demand with the Terminal Area Forecast and the ALP.

Once FAA has approved these elements, particularly the ALP, this indicates that the FAA finds the proposed development to be safe and efficient and that the ALP conforms to the FAA airport design standards.

The new airport master plans at SDM will:

- Consider new and changing long-term uses for the airports
- Improve the regional air transportation system and local economy
- Address improvements necessary to comply with federal aviation regulations
- Accommodate existing and projected demands on the airports

4.3 Environmental Impact Analysis

Council on Environmental Quality Regulations

In order to comply with Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA) (CEQ Regulations) (40 Code of Federal Regulations (CFR) parts 1500-1508), U.S. Department of Transportation (DOT) Order 5610.1C, Procedures for Considering Environmental Impacts, and FAA Order 1050.1F Environmental Impacts: Policies and Procedures, environmental impact analysis must be performed to determine if a proposed federal action will have a potential environmental impact. Additionally, FAA Order 5050.4B NEPA Implementing Instructions for Airport Actions supplements Order 1050.1F by providing NEPA instructions especially for proposed federal actions to support airport development projects.

As specified above, federal agency NEPA procedures must meet the standards in the CEQ Regulations while also reflecting each agency's unique mandate and mission. As a result, NEPA procedures vary from agency to agency. Under FAA NEPA procedures, if an airport sponsor or the FAA anticipates that an action may cause significant impacts, they should identify whether an Environmental Assessment (EA) or Environmental Impact Statement (EIS) may be required or whether Categorical Exclusions may apply meaning that an EA or EIS are not requisite.

FAA Order 1050.1F, and thus NEPA procedures, are applicable to the following actions; grants, loans, contracts, leases, construction and installation actions, procedural actions, research activities, rulemaking and regulatory actions, certifications, licensing, permits, plans submitted to the FAA by state or local agencies for approval, and legislation proposed by the FAA.

As per FAA Order 1050.1F requirements, an initial environmental review should be undertaken to determine if the proposed action is:

a. Within the scope of a categorical exclusion;
b. Addressed in an existing NEPA document, such as a regional assessment or a NEPA document prepared by another federal agency;
c. Likely to significantly affect the quality of the environment with respect to noise, land, air, water, wildlife, energy supply and natural resources; or cultural, historic, or archeological resources;
d. To be located in wetlands; floodplains; coastal zones; prime or important farmlands; habitat of federally listed endangered, threatened, or other protected species; wild and scenic river areas; areas protected under Section 4(f), 49 United States Code (U.S.C). § 303, or Section 6(f) of the Land and Water Conservation Fund Act (16 U.S.C. §§ 460l-8(f)(3)); or in or adjacent to minority or low-income populations (Executive Order 12898 and DOT Order 5610.2(a)); or
e. Likely to be highly controversial on environmental grounds.

NEPA environmental assessment procedures

There are three levels appropriate to NEPA review; Categorical Exclusion, EA, and EIS. These are briefly summarized below:

Categorical Exclusion - Categorical exclusions are categories of actions the FAA has determined, based on previous experience, do not have significant individual or cumulative impact on the quality of the human environment except in extraordinary circumstances[1]. If the proposed action falls within the scope of a categorical exclusion, and there are no extraordinary circumstances an EA or EIS is not required. To assist with agency planning and decision-making, however, the FAA may at its discretion decide to prepare an EA even if a proposed action fits within a categorical exclusion and no extraordinary circumstances exist. It should be noted that a categorical exclusion is not an exemption or waiver of NEPA review; it is a level of NEPA review in its own right.

Environmental Assessment – An EA is undertaken to determine whether a proposed action has the potential to significantly affect the environment. The EA briefly provides evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact (FONSI). An EA can facilitate the preparation of an EIS. An EA is prepared in the following circumstances:

- When the proposed action does not normally require an EIS;
- When the proposed action does not fall within the scope of a categorical exclusion; or
- When the proposed action falls within the scope of a categorical exclusion but there are one or more extraordinary circumstances.

Environmental Impact Statement - an EIS is required for actions significantly affecting the quality of the environment. It is a detailed written statement required under Section 102(2)(C) of NEPA when one or more environmental impacts would be significant and mitigation measures cannot reduce the impact(s) below significant levels. Direct, indirect, and cumulative impacts must be considered when determining significance.

Environmental Impact Categories

There are 14 categories that may be relevant to FAA actions. These are:

- Air quality
- Biological resources (including fish, wildlife, and plants)
- Climate
- Coastal resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Natural resources and energy supply
- Noise and compatible land use
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Visual effects (including light emissions)
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

An EIS is required when any of the impacts of the proposed action, after incorporating any mitigation

1 Extraordinary circumstances are factors or circumstances in which a normally categorically excluded action may have a significant environmental impact that then requires further analysis in an EA or an EIS.

commitments, remain significant. **Table 4.1** displays the FAA's significance thresholds and factors to consider for each relevant environmental impact category, as specified on Exhibit 4-1 of Order 1050.1F.

Table 4.1 Significance Determination for FAA Actions

Environmental Impact Category	Significance Threshold	Factors to Consider
Air Quality	The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the Environmental Protection Agency under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.	N/A
Biological Resources (including fish, wildlife, and plants)	The U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat. The FAA has not established a significance threshold for non-listed species.	The action would have the potential for: - A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport); - Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats; - Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or - Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.
Climate	The FAA has not established a significance threshold for Climate.	N/A
Coastal Resources	The FAA has not established a significance threshold for Coastal Resources.	The action would have the potential to: - Be inconsistent with the relevant state coastal zone management plan(s); - Impact a coastal barrier resources system unit (and the degree to which the resource would be impacted); - Pose an impact to coral reef ecosystems (and the degree to which the ecosystem would be affected);

		- Cause an unacceptable risk to human safety or property; or - Cause adverse impacts to the coastal environment that cannot be satisfactorily mitigated.
Department of Transportation Act, Section 4(f)	The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; and publicly or privately owned land from an historic site of national, state, or local significance. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.	There are historic Section 4(f) resources, or unevaluated resources. They can likely be avoided, but demolition of them would create a use. There are public recreation areas surrounding each airport, but it is unlikely there will be any substantial impairment of their protected features.
Farmlands	The total combined score on Form AD-1006, "Farmland Conversion Impact Rating," ranges between 200 and 260 points.	The action would have the potential to convert important farmlands to nonagricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land.
Hazardous Materials, Solid Waste, and Pollution Prevention	The FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention.	The action would have the potential to: - Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management; - Involve a contaminated site (including but not limited to a site listed on the National Priorities List). Contaminated sites may encompass relatively large areas. However, not all of the grounds within the boundaries of a contaminated site are contaminated, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site. An EIS is not necessarily required. Paragraph 6-2.3.a of Order 1050.1F allows for mitigating impacts below significant levels (e.g., modifying an action to site it on non-contaminated grounds within a contaminated site). Therefore, if appropriately mitigated, actions within the boundaries of a contaminated site would not have significant impacts;

		- Produce an appreciably different quantity or type of hazardous waste; - Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or - Adversely affect human health and the environment.
Historical, Architectural, Archeological and Cultural Resources	The FAA has not established a significance threshold for Historical, Architectural, Archeological, and Cultural Resources.	The action would result in a finding of Adverse Effect through the Section 106 process. However, an adverse effect finding does not automatically trigger preparation of an EIS (i.e., a significant impact).
Land Use	The FAA has not established a significance threshold for Land Use.	There are no specific independent factors to consider for Land Use. The determination that significant impacts exist in the Land Use impact category is normally dependent on the significance of other impacts.
Natural Resources and Energy Supply	The FAA has not established a significance threshold for Natural Resources and Energy Supply.	The action would have the potential to cause demand to exceed available or future supplies of these resources.
Noise and Noise Compatible Land Use	The action would increase noise by Day-Night Average Sound Level (DNL) 1.5 decibel (dB) or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no-action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB. In addition to the DNL metric, the community noise equivalent sound level (CNEL) is the average sound level in A-weighted decibels (frequency-weighted sound levels that correlate with human hearing) for an average day. CNEL is the current noise metric used for transportation noise sources in the State of California and is recognized by the FAA.	Special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within Section 4(f) properties (including, but not limited to, noise-sensitive areas within national parks; national wildlife and waterfowl refuges; and historic sites, including traditional cultural properties) where the land use compatibility guidelines in 14 CFR part 150 are not relevant to the value, significance, and enjoyment of the area in question. For example, the DNL 65 dB threshold does not adequately address the impacts of noise on visitors to areas within a national park or national wildlife and waterfowl refuge where other noise is very low and a quiet setting is a generally recognized purpose and attribute.
Socioeconomics, Environmental Justice, and Children's Health and Safety Risks		
Socioeconomics	The FAA has not established a significance threshold for Socioeconomics.	The action would have the potential to: - Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an

		undeveloped area); - Disrupt or divide the physical arrangement of an established community; - Cause extensive relocation when sufficient replacement housing is unavailable; - Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities; - Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or - Produce a substantial change in the community tax base.
Environmental Justice	The FAA has not established a significance threshold for Environmental Justice.	The action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to: - Significant impacts in other environmental impact categories; or - Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines are unique to the environmental justice population and significant to that population.
Children's Environmental Health and Safety Risks	The FAA has not established a significance threshold for Children's Environmental Health and Safety Risks.	The action would have the potential to lead to a disproportionate health or safety risk to children.
Visual Effects		
Light Emissions	The FAA has not established a significance threshold for Light Emissions.	The degree to which the action would have the potential to: - Create annoyance or interfere with normal activities from light emissions; and - Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the

		affected visual resources.
Visual Resources/ Visual Character	The FAA has not established a significance threshold for Visual Resources / Visual Character.	The extent the action would have the potential to: - Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources; - Contrast with the visual resources and/or visual character in the study area; and - Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.
Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)		
Wetlands	The action would: 1. Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers; 2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected; 3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public); 4. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands; 5. Promote development of secondary activities or services that would cause the circumstances listed above to occur; or 6. Be inconsistent with applicable state wetland	N/A

	strategies.	
Floodplains	The action would cause notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values are defined in Paragraph 4.k of DOT Order 5650.2, Floodplain Management and Protection.	N/A
Surface Waters	The action would: 1. Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or 2. Contaminate public drinking water supply such that public health may be adversely affected.	The action would have the potential to: - Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values; - Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or - Present difficulties based on water quality impacts when obtaining a permit or authorization.
Groundwater	The action would: 1. Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or 2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.	The action would have the potential to: - Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values; - Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or - Present difficulties based on water quality impacts when obtaining a permit or authorization.
Wild and Scenic Rivers	The FAA has not established a significance threshold for Wild and Scenic Rivers.	The action would have an adverse impact on the values for which a river was designated (or considered for designation) through: - Destroying or altering a river's free-flowing nature; - A direct and adverse effect on the values for which a river was designated (or under study for designation); - Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features

of the river's setting;

- Causing the river's water quality to deteriorate;

- Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor (which cannot exceed an average of 320 acres per mile which, if applied uniformly along the entire designated segment, is one-quarter of a mile on each side of the river); or

- Any of the above impacts preventing a river on the Nationwide Rivers Inventory (NRI) or a Section 5(d) river that is not included in the NRI from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational).

Sources: City of San Diego. 2017. SDM – Airport layout, FAA. 2014. National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, FAA. 2015a. FAA Order 1050.1F, FAA. 2015b. 1050.1F Desk Reference.

4.4 Environmental Impacts

Introduction

This report identifies environmental resources, environmentally sensitive areas and areas where a potential impact is likely to occur. The report is comprised of publicly available data and field survey information, where possible. The purpose of this report is to identify resources early in the master planning process to ensure the consideration of sensitive environmental resources during the development of the airport master plans.

Study area

To consider the potential for direct, indirect or secondary effects to community or environmental resources as a result of master plan development at each of the airports, the study area is dependent on the area of most likely impacts and varies from topic to topic. For example, socio-economic impacts are assessed at a Census Tract level, whereas other topics such as Farmlands are assessed at a more local scale. While each topic study area differs, all topics consider the likely impact on receptors within the airport sites and most include an assessment of impacts at least ½ mile from the airport perimeter fence line.

Methodology

This report summarizes environmental and community resource data collected as part of this study effort. This comprises data readily available from federal, local and other agencies, and the results of the evaluation of existing environmental resources in the study area. These data will be used in development and analysis of the master plans for each of the airports.

The environmental and community resources topics summarized in this report have been divided in three categories, (1) Key resources with potential for significant impact; (2) Resources with no significant impact; and (3) Resources with no/negligible impact or resources not present. Table 4.1 summarizes whether any of the topics are likely to need further analysis due to potential impacts associated with master plan development at the airports. These are marked with a '✓'. Those resource areas that are anticipated to experience either no or negligible environmental impact under implementation of the Proposed Action or its alternatives are marked with an '×'.

The following resources were determined to have a potentially significant impact:

- Air Quality
- Biological resources
- Hazardous materials
- Land use

The following resources were determined to have no significant impacts:

- Climate
- Department of Transportation Act, Section 4(f)
- Historical, Architectural, Archeological and Cultural Resources
- Farmlands
- Noise and Noise-Compatible Land Use
- Socioeconomics, environmental justice, and children's environmental health and safety risks

- Visual Effects
- Water Resources – wetlands and surface water (NB: Floodplains, Groundwater, Wild and Scenic Rivers are not present)

The resources determined either to have no/negligible impact or that are not present in the study area are thus not included within the main body of this report but are included in Appendix A. The following resources were determined either to have no/negligible impact or were not present in the study area:

- Natural Resources and Energy Supply
- Coastal Resources

The sections following **Table 4.2** set out the regulatory framework and existing conditions for each of the impact categories, unless they have no/negligible impact or that are not present. The primary statutes, regulations, and Executive Orders set forth in the Regulatory Setting section of the following analysis are as specified by the FAA's Order 1050.1F Desk Reference

Table 4.2 Summary of Further Analysis

Topic	Summary of Potential Impact			
	No impact	Not Significant	Potential Significant	
Air Quality			✓	Further GHG analysis required
Biological Resources (including fish, wildlife, and plants)			✓	Sensitive species present at both sites and need for further survey work
Climate		✓		Further GHG analysis required as per Air Quality section
Coastal Resources	✗			No coastal resources present
Department of Transportation Act, Section 4(f)		✓		Consideration of historical properties as per Cultural resources section
Farmlands		✓		SDM subject to FPPA requirements and further assessment work including completing Form AD-1006
Hazardous Materials, solid waste, and pollution prevention			✓	Hazardous Materials present within vicinity of SDM
Historical, architectural, archeological, and cultural resources		✓		Further consideration of historical and cultural resources needed
Land Use			✓	Compatibility with the ALUCPs for the airport and local community plans
Natural resources and energy supply	✗			Consideration of topic at a local level is needed, not master plan level
Noise and Noise compatible land use		✓		Potential need for further noise study
Socioeconomics, environmental justice, and children's environmental health and safety risks		✓		SDM considered an environmental justice community and will need further assessment
Visual effects (including light emissions)		✓		Aesthetics walk over of site is required
Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)		✓		No floodplains, groundwater sources or wild and scenic rivers present so no analysis needed. Further consideration of surface waters and wetlands needed.

4.5 Key Resources with Potentially Significant Impact

Air Quality

The sources assessed in this emission inventory were specific to the Airport and include aircraft engines and auxiliary power units (APU), where applicable depending on aircraft type[2]. Analysis was conducted following the FAA's *Aviation Emissions and Air Quality Handbook, Version 3 Update 12* and *Aviation Environmental Design Tool* (AEDT). AEDT is the FAA-required computer model for assessing air emissions associated with airports. The fleet mix, landing and takeoff (LTO) and touch and go operations were consistent with the noise analysis.

Regulatory Setting

Clean Air Act and NAAQS

Established in 1970 and last amended in 1990, the Clean Air Act (CAA) regulates air pollutant emissions from stationary and mobile sources. It was the mechanism for the United States Environmental Protection Agency (EPA) to develop National Ambient Air Quality Standards (NAAQS) for six common air pollutants. The criteria air pollutants are carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter[3] (PM), sulfur dioxide (SO_2), and lead (Pb), and were determined due to their likelihood of harming human health and the environment and causing property damage.

Air Resources Board and CAAQS

Prior to the CAA, in 1959, the California State Department of Public Health received direction from their state legislature to develop California Ambient Air Quality Standards (CAAQS), established in 1962. In 1967, the legislature created the Air Resources Board (ARB) in 1969, the CAAQS became under the jurisdiction of the ARB, prior to any federal law on air quality. CAAQS criteria pollutants include all NAAQS criteria pollutants, plus an additional four, two of which are covered under particulate matter, one odor-based, and the final a historical CAAQS, in place should sources of it arise again.

Existing Conditions

The existing conditions include emission estimates for coinciding NAAQS and CAAQS criteria air pollutants which are carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM), sulfur dioxide (SO_2) and lead (Pb). Ozone is an indirect or secondary pollutant that occurs due to chemical reactions primarily between NO_x and volatile organic compounds (VOCs). As a result, VOCs and NO_x, the primary precursors to ozone formation, provide surrogate information for assessing ozone levels. In addition, while not required under NEPA for evaluating air quality impacts, the emission inventory includes carbon dioxide (CO_2) emissions for consideration under FAA 1050.1F Climate Impacts[4] for addressing environmental impacts under NEPA.

In summary, the pollutant types evaluated in this inventory are consistent with the criteria pollutants evaluated when addressing air quality impacts under NEPA and consideration under FAA Climate guidance.

NAAQS are applicable throughout the United States and associated territories. For regions that have

2 APU emissions at SDM were modeled for aircraft type CL60 and are included in the overall aircraft emissions.
3 EPA regulates particulate matter (PM) in two categories, particles with aerodynamic diameters of 10 micrometers or less (PM10) and particles with aerodynamic diameters of 2.5 micrometers or less (PM2.5).
4 https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/3-climate.pdf

poor air quality, i.e. ambient concentrations of criteria pollutants above the NAAQS, the EPA has designated these areas as "nonattainment areas." Each nonattainment area is required to have an applicable State Implementation Plan (SIP) that prescribes mitigation measures and timelines necessary to bring ambient concentrations of criteria pollutants below the NAAQS.

The USEPA Green Book shows that San Diego County is designated as a moderate non-attainment area for the 2008 8-hour ozone standard and maintenance for CO[5]. The county is designated as attainment area for all other NAAQS.

Modeling Methodology

AEDT requires additional input data for air quality analysis including aircraft type operating at the airports. Engine type, taxi times, and APU usage is needed to determine air quality pollutant emissions, including greenhouse gas emissions and fuel burn. The analysis of aircraft taxi activity to and from the ramps included both aircraft types selected from the 2017 baseline fleet mix at the Airport and default taxi times from the AEDT as inputs. Similarly, it was assumed default AEDT APU times for each aircraft type. Annual aircraft emissions are a function of the number of aircraft operations expressed as landing and takeoff (LTO) cycles, the aircraft fleet mix (types of aircraft used), and the length of time aircraft spend in each of the modes of operation defined in AEDT. For this analysis, estimates for emissions came from the following aircraft modes[6]:

- Startup;
- Taxiing;
- Takeoff ground roll;
- Climb to mixing height and Descend from mixing height; and
- Landing ground roll

Pollutant emissions for aircraft operations using the above assumptions were estimated using AEDT for the LTO modes and touch and go (e.g. circuit model) operations below the mixing height including idle, taxing, climb, and descent. Per standard, it was assumed a default mixing height of 3,000 feet above ground level. Lead emissions are associated with leaded aviation fuel used in GA piston engine aircraft. AEDT does not estimate lead emissions directly. Therefore, these emissions were calculated based on fuel consumption and lead fuel content consistent with FAA/EPA methodology described in the *Aviation Emissions and Air Quality Handbook.*

Brown Field Municipal Airport

Table 4.3 presents primary baseline pollutant emissions in metric tons per year (TPY) for all 2017 SDM aircraft operations. The first seven are the overlapping NAAQS/CAAQS criteria pollutant according to the EPA and California ARB, as discussed above. Metric tons of CO2 emitted have been reported for the baseline in order to continually track this number, though it is not a criteria pollutant, it is standard to report this number when assessing air quality emissions.

5 https://www3.epa.gov/airquality/greenbook/anayo_ca.html
6 In the AEDT output, these modes are all represented in the "ClimbBelowMixingHeight" and "DescendBelowMixingHeight" source grouping

Table 4.3 – Baseline 2017 Aircraft Emissions (metric tons) at SDM

Source	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2	VOC	Pb	CO_2
Aircraft - Total	1.537	0.018	0.002	0.002	0.004	0.049	0.572	11.240

Note: All emissions were modeled using AEDT as the model and FAA Aviation Emissions and Air Quality Handbook, Version 3 Update 1 (2015) aside from Lead (Pb) which utilized guidance given in the Handbook; specifically Equation A1-3 – Lead Emission Calculation.

Summary and Recommendations

Further analysis of air quality and GHG emissions may be needed to qualitatively and quantitively identify whether there would be an impact from increased airport traffic and growth associated with airport expansion under the proposed master plan parameters.

Biological resources (including fish, wildlife, and plants)

This section describes the existing biological conditions at the Airport, including vegetation communities, jurisdictional waters and wetlands, sensitive natural communities, special status species, critical habitat, and regional conservation planning context. A summary of applicable regulations also is provided, as well as a ranking of biological constraints.

Regulatory Setting

Biological resources in the project site are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the City) pursuant to CEQA Guidelines. Proposed actions at the airport would also be subject to FAA review under NEPA pursuant to the guidance provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*. Biological resources-related laws and regulations that apply include Federal Endangered Species Act (FESA), Clean Water Act (CWA), Migratory Bird Treaty Act (MBTA), CEQA, California Endangered Species Act (CESA), Porter-Cologne Water Quality Control Act, California Fish and Game (CFG) Code, Multiple Species Conservation Program (MSCP) Subarea Plan (SAP), and the City's Environmentally Sensitive Lands (ESL) regulations and Biology Guidelines (City 2012).

With respect to the proposed project, the U.S. Fish and Wildlife Service (USFWS) will be responsible for reviewing issues related to federally listed species not covered by the MSCP, including San Diego fairy shrimp, Riverside fairy shrimp (if present), San Diego mesa mint, spreading navarretia (if present) and San Diego button-celery (if present), and MSCP covered species that may require consultation due to a federal action on the property (coastal California gnatcatcher), pursuant to the FESA, and migratory birds pursuant to the MBTA. The U.S. Army Corps of Engineers (USACE) will be responsible for reviewing issues related to waters of the U.S. The Regional Water Quality Control Board (RWQCB) will be responsible for reviewing issues related to waters of the State pursuant to the CWA and State Porter-Cologne Water Quality Control Act. The California Department of Fish and Wildlife (CDFW) will be responsible for reviewing issues related to vegetated and unvegetated streambeds pursuant to the CFG Code, rare plants regulated by the Native Plant Protection Act, and nesting birds and raptors pursuant to CFG Code.

The City is the lead agency for the CEQA environmental review process in accordance with state law and local ordinances. During CEQA review, the City will be responsible for reviewing project issues per the CEQA Significance Thresholds for Biological Resources, and the City's ESL Ordinance and Biology Guidelines. The City will also be responsible for reviewing the proposed project with respect to conservation planning related to the City's MSCP SAP, specifically in regard to project impacts

within and adjacent to the Multi-habitat Planning Area (MHPA). The MHPA is the planning area for core biological resources and corridors targeted for conservation within the City's MSCP SAP. Impacts proposed within the MHPA are subject to additional restrictions and requirements than areas outside of the MHPA. In July 1997, the USFWS, CDFW, and City entered into the Implementing Agreement for the MSCP (City 1997), which allows the incidental take of threatened and endangered species as well as regionally sensitive species conserved by it (i.e., covered species). Coastal California gnatcatcher is a covered species under the City's SAP. Approval of the City's draft Vernal Pool Habitat Conservation Plan (VPHCP) would provide take coverage for seven species that are associated with vernal pools, including the following three species that are known from the airport site or have historic records on site: San Diego fairy shrimp, Riverside fairy shrimp, and San Diego button-celery. However, regardless of MSCP coverage status, federal agencies that take action on a project (e.g. USACE or FAA) that may affect a federally listed species are still required to consult with the USFWS.

Existing Conditions

Baseline biological resources information was reviewed and compiled from several sources, including the City of San Diego draft VPHCP (2016), CDFW California Natural Diversity Database (CNDDB [CDFW 2017a]), USFWS sensitive species database (USFWS 2017), and biological reports for various projects including Merkel and Associates 2008 constraints report, and several reports associated with the Metropolitan Airpark Project (Sage Institute 2011a-c; ESA 2013 and 2014; ECORP 2015; ESA and Sage Institute 2016). The baseline data was supplemented with a single site reconnaissance by HELIX on June 6, 2017 to verify and update previous vegetation mapping and note the presence of any additional sensitive species observed. Focused surveys were not conducted as part of the field effort for the master plan, although results of biological surveys from various projects conducted on the airport over the past several years have been incorporated to the extent available.

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Baldwin et al. (2012) for plants; Collins and Taggart (2006) for reptiles and amphibians; American Ornithologists' Union (2016) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the California Native Plant Society (CNPS [2017]) and CDFW (2017b). Animal species status is from CDFW (2017c and 2017d).

Vegetation Communities

A total of 10 vegetation communities or land use types are mapped (**Table 4.4**; see **Figure 4.2**). They include four wetland habitat types (vernal pool, southern willow scrub, disturbed wetland and open water) and six upland habitat/land use types (maritime succulent scrub, Diegan coastal sage scrub [including disturbed], baccharis scrub, non-native grassland, disturbed habitat, and urban/developed land). The term "-disturbed" is used as a subcategory for classification of vegetation communities where more than half of the vegetation normally present is either bare ground and/or consists of weedy species characteristic of disturbed areas.

Table 4.4 - Vegetation Communities/Land Use Types at SDM

Vegetation Communities/Land Use	MSCP Tier[17]	Acreage[28]
Wetlands		
Vernal Pool	-	3.77
Southern Willow Scrub (including disturbed)	-	2.04
Disturbed Wetland	-	0.20
Open Water	-	0.21
	Wetlands Subtotal	**6.22**
Uplands		
Maritime Succulent Scrub	I	7.7
Diegan Coastal Sage Scrub (including disturbed)	II	61.9
Baccharis Scrub	II	1.0
Non-native Grassland	IIIB	490.5
Disturbed Habitat	IV	66.2
Urban/Developed Land	IV	247.0
	Uplands Subtotal	**874.3**
	TOTAL	**880.5**

Source: HELIX (2017)

Vernal Pool

Vernal pools are ephemeral wetlands that form in small pools and swales as a result of a subsurface hardpan or claypan that inhibits the downward percolation of water. The landscape conditions usually consist of relatively level areas (e.g. mesas) with low hummocks (mima mounds) and shallow basins (vernal pools). The climate consists of cool, wet winters and hot, dry summers. If sufficient rainfall occurs during the rainy season, the combination of landscape position, low soil permeability, and climatic conditions results in water ponding in the pools, that then gradually evaporates and becomes completely dry over the summer and fall. Vernal pools may not fill at all with water during dry years. These highly specialized wetland habitats support a unique flora and are identified by having at least one indicator plant species present (USACE 1997). Several species of rare plants are associated with vernal pools, as are rare invertebrates such as San Diego fairy shrimp (*Branchinecta sandiegonensis*) and Riverside fairy shrimp (*Streptocephalus woottoni*).

Vernal pool boundaries were obtained from the City's 2012 Updated Vernal Pool Database (as depicted in the City's 2016 draft VPHCP) On-site pools are part of the VPHCP's South Planning Unit, which is located generally south of SR 94 and north of the U.S./Mexico international border. Pursuant to the draft VPHCP, a total of 17 vernal pools occur on the airport site, and are situated within the J-35 complex. Characteristic species present include dwarf woolly-marbles (*Psilocarphus brevissimus*), spikerush (*Eleocharis* sp.), and lythrum (*Lythrum hyssopifolia*). Vernal pools total 3.77 acres on site (HELIX, 2017).

Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat (*Baccharis salicifolia*). This habitat typically occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows.

Arroyo willow (*Salix lasiolepis*) is the dominant species present in this habitat on site, which occurs in

7 Tiers refer to the City's Multiple Species Conservation Program (MSCP) Subarea Plan (SAP) habitat classification system for upland habitats. Wetlands are not assigned tiers

8 Rounded to the nearest tenth acre for uplands and the nearest hundredth acre for wetlands; totals reflect rounding.

the disjunct airport-owned parcel at the southwest corner of Otay Mesa Road and Heritage Road (herein referred to as the southwest parcel). A total of 2.04 acres of southern willow scrub was mapped within this parcel (HELIX, 2017).

Disturbed Wetland
Disturbed wetland is dominated by exotic wetland species that invade areas that have been previously altered or undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora. Characteristic species of disturbed wetlands include giant reed (*Arundo donax*) and tamarisk (*Tamarix* sp.).

Disturbed wetland on site is composed of giant reed, pampas grass (*Cortaderia* sp.), and curly dock (*Rumex crispus*). This habitat occurs as a single stand of habitat within a canyon in the northwestern portion of the site, totaling 0.20 acre (HELIX, 2017).

Open Water
Open water occurs in the southwest parcel, consisting of a non-vegetated area of standing water surrounded by southern willow scrub. Open water totals 0.21 acre on site (HELIX, 2017).

Maritime Succulent Scrub
Maritime succulent scrub is a low open scrub community that is dominated by a mixture of stem and leaf succulent species and drought deciduous species that also occur within sage scrub communities. This vegetation community occurs on thin, rocky or sandy soils, on steep slopes of coastal headlands and bluffs. Maritime succulent scrub is restricted to within a few miles of the coast from about Torrey Pines to Baja and on San Clemente and Catalina islands. The dominant species typically found within this vegetation community include San Diego barrel cactus (*Ferocactus viridescens*), velvet cactus (*Bergerocactus emoryi*), coast prickly pear (*Opuntia littoralis*), cliff spurge (*Euphorbia misera*), dudleya (*Dudleya* spp.), desert thorn (*Lycium californicum*), and California encelia (*Encelia californica*).

Characteristic species observed in this habitat on site include California encelia, San Diego sunflower (*Bahiopsis laciniata*), California sagebrush (*Artemisia californica*), San Diego barrel cactus, bladderpod (*Peritoma arborea*), chalk lettuce (*Dudleya pulverulenta*), jojoba (*Simmondsia chinensis*), and coast cholla (*Cylindropuntia prolifera*). This habitat occurs in the northern portion of the airport site, totaling 7.7 acres (HELIX, 2017).

Diegan Coastal Sage Scrub (including disturbed)
Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Species typically found within Diegan coastal sage scrub include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub, but is sparser and has a higher proportion of non-native, annual species.

Diegan coastal sage scrub on site is dominated by California sagebrush, California buckwheat, lemonadeberry, and California encelia. This habitat occurs on the canyon slopes in the northern portion of the site, adjacent to maritime succulent scrub, as well as within the disjunct parcel of airport-owned land at the southwest corner of Otay Mesa Road and Heritage Road. A total of 61.9 acres of Diegan coastal sage scrub (including 11.5 acres of disturbed sage scrub) was mapped on site

(HELIX, 2017).

Baccharis Scrub
Baccharis scrub is an upland community recognized by resources agencies as a subtype of coastal sage scrub that develops under a variety of circumstances following Diegan coastal sage scrub disturbance. This vegetation community is dominated by broom baccharis (*Baccharis sarothroides*) with lesser coverage by California sagebrush and California buckwheat and is confined to the disjunct parcel of airport-owned land at the southwest corner of Otay Mesa Road and Heritage Road. A total of 1.0 acre of baccharis scrub was mapped on this southwest parcel (HELIX, 2017).

Non-Native Grassland
Non-native grassland is a dense to sparse cover of annual grasses, sometimes associated with numerous species of native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Characteristic species include oats (*Avena* sp.), red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*B. diandrus*), barley (*Hordeum* sp.), and mustard (*Brassica* sp.). Most of the annual introduced species that comprise the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California.

Characteristic species found in this habitat on site include oats, red brome, ripgut, and barley. Nonnative grassland is widespread on site, occupying a total of 490.5 acres (56 percent) of the property (HELIX, 2017).

Disturbed Habitat
Disturbed habitat includes land cleared of vegetation (e.g., dirt roads), land containing a preponderance of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (previously cleared or abandoned landscaping), or land showing signs of past or present animal usage that removes any capability of providing viable habitat.

Disturbed habitat on site includes such species as garland daisy (*Glebionis coronaria*), telegraph weed (*Heterotheca grandiflora*), filaree (*Erodium* sp.), Russian thistle (*Salsola tragus*), and iceplant (*Mesembryanthemum crystallinum* and *M. nodiflorum*). The largest areas of disturbed habitat occur in the northern portion of the site, with smaller, scattered patches occurring adjacent to existing developed areas in the southwest. Disturbed habitat totals 66.2 acres on site (HELIX, 2017).

Urban/Developed Land
Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation. Developed portions of the site consist of existing buildings, parking areas, helicopter landing pads, taxiways, and runways, together occupying a total of 247.0 acres (28 percent) of the site (HELIX, 2017).

Jurisdictional Waters and Wetlands
The site supports areas that could be considered jurisdictional waters or wetlands potentially subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), the RWQCB pursuant to Section 401 of the CWA and/or the State Porter-Cologne Water Quality Control Act, and the CDFW pursuant to Sections 1600 et seq. of the CFG Code, or that may be considered City-defined wetlands under the City's ESL ordinance. These include vernal pools, southern willow scrub, disturbed wetland, open water, and drainage ditches. Surveys to delineate

jurisdictional resources were conducted within the majority of the property, excluding the northern canyons, in 2011 (Sage Institute 2011a). Future projects with the potential to impact wetlands and/or waters may require updated jurisdictional delineations to define the type and extent of jurisdictional areas within the action area. Only the USACE, RWQCB, and CDFW can make a final determination of jurisdictional boundaries.

Sensitive Natural Communities

Sensitive natural communities include land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the CEQA Guidelines or as regulated pursuant to NEPA under guidance provided in FAA Order 1050.1F.

Sensitive natural communities observed within the project site include wetland habitats and City MSCP Tier I, II, and IIIB habitats, namely, vernal pool, southern willow scrub, disturbed wetland, open water, maritime succulent scrub, Diegan coastal sage scrub (including disturbed), baccharis scrub, and non-native grassland.

Sensitive Plant Species

Sensitive plant species are considered uncommon or limited in that they (1) are only found in the San Diego region, (2) are a local representative of a species or association of species not otherwise found in the region, or (3) are severely depleted within their ranges or within the region. High-interest plants include those that are listed as threatened or endangered by the USFWS or CDFW, and those afforded a California Rare Plant Rank (CRPR) designation of 1 or 2 by the CNPS, although species with lower CRPR ranks (i.e., CRPR 3 and 4 species) also may be considered sensitive species by local jurisdictions; however, no CRPR 3 or 4 species are specifically identified as sensitive species in the City's Biology Guidelines or MSCPSAP. According to the CNPS, CRPR 1 and 2 species meet the State CEQA Guidelines definition for Rare or Endangered and, therefore, must be considered in project CEQA analysis. While CRPR 3 and 4 species do not have this requirement, CNPS recommends that they be disclosed.

In terms of NEPA analysis, FAA Order 1050.1F includes significance thresholds for federally listed species; though the FAA has not established significance thresholds for non-listed species. However, FAA Order 1050.1F states the following as factors to consider: "The action would have the potential for (a) a long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area; (b) adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats; (c) substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or (d) adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance

Federally or State Listed Plant Species

Two federally and state listed plant species have been recorded on site; these are the federally and state listed endangered San Diego button-celery (*Eryngium aristulatum* var. *parishii*) and Otay tarplant (*Deinandra conjugens*). Additional information is provided in **Table 4.5**.

Other Sensitive Plant Species

Six other sensitive plant species have been recorded on site, including three CRPR designation 1 or 2 species: San Diego barrel cactus (*Ferocactus viridescens*), San Diego bur-sage (*Ambrosia*

chenopodiifolia), and variegated dudleya (*Dudleya variegata*); and three CRPR designation 4 species: ashy spike-moss (*Selaginella cinerascens*), San Diego County needlegrass (*Stipa diegoense*), and San Diego sunflower (*Bahiopsis laciniata*). Additional information is provided in **Table 4.6**.

Table 4.5 - Federally or State Listed Plant Species at SDM

Name	Listing[9]	Distribution	Habitat	Presence on site
San Diego Button-celery (*Eryngium aristulatum* var. *parishii*)	FE/SE; CNPS List 1B.1; City MSCP Narrow Endemic	San Diego and Riverside counties; Baja California, Mexico.	Vernal pools or mima mound areas with vernally moist conditions are preferred habitat	A single CNDDB record (see figure titled *CNDDB/USFWS Sensitive Species Database Records*) indicate this species was found in a single pool in the eastern portion of the site in 1979, but species has not been observed again. The City's 2016 draft VPHCP does not show this species as occurring on site, and it may no longer be extant at this location.
Otay Tarplant (*Deinandra conjugens*)	FT/SE; CRPR 1B.1; City MSCP Narrow Endemic; City MSCP Covered	Southern San Diego County and northwestern Baja California, Mexico. In San Diego County, found in scattered localities from the vicinity of Sweetwater Reservoir south to the Mexico border	Fractured clay soils in grasslands or lightly vegetated coastal sage scrub	Most recent record on site is from 1999, when species was observed in the northwest corner of the site near the canyons. Species was not detected during subsequent rare plant surveys when species was detectable at nearby reference sites (Merkel 2008), or during 2011 biological surveys.

Sources: California Department of Fish and Wildlife (CDFW). 2017a. California natural diversity data base (CNDDB). RareFind Database Program, Version 5.2.7; CDFW 2017b. State and federally listed endangered, threatened, and rare plants of California. Biogeographic Data Branch, California Natural Diversity Database; California Native Plant Society. 2017. Inventory of rare and endangered plants (online edition, v8-03); U.S. Fish and Wildlife Service. 2017. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO)

9 Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CRPR = California Rare Plant Rank: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California but more common elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

Table 4.6 - Other Sensitive Plant Species at SDM

Name	Listing	Distribution	Habitat	Presence on site
San Diego Barrel Cactus (*Ferocactus viridescens*)	--/--; CRPR 2B.1; City MCSP Covered	San Diego County; Baja California, Mexico	Optimal habitat for this cactus appears to be Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. Occasionally found on vernal pool periphery and mima mound topography in Otay Mesa	Species is abundant in maritime succulent scrub and sage scrub along upper fringes of the canyons in the northern portion of the site.
Ashy Spike-moss (*Selaginella cinerascens*)	--/--; CRPR 4.1	Orange and San Diego counties; northwestern Baja California, Mexico	Flat mesas in coastal sage scrub and chaparral. A good indicator of site degradation, as it rarely inhabits disturbed soils	Mapped in sage scrub in the northern portion of the site in 1998
San Diego Bur-sage (*Ambrosia chenopodiifolia*)	--/--; CRPR 2B.1	Southwestern San Diego County, Arizona, and Mexico below 600 feet in elevation. Known from several sites in Otay Mesa	Arid, low-growing, fairly open Diegan coastal sage scrub is preferred	Mapped in sage scrub in one of the northern canyons in 1998
San Diego County Needlegrass (*Stipa diegoense*)	--/--; CRPR 4.2	San Diego County; Baja California, Mexico; Channel Islands	Chaparral and sage scrub ecotone is preferred. The species is closely associated with metavolcanic soils and can been found in fine sandy loam and rocky silt loams. Peaks and upper ridgelines of mountains appear the preferred microhabitat	Mapped in sage scrub in one of the northern canyons in 1998
San Diego Sunflower (*Bahiopsis laciniata*)	--/--; CRPR 4.2	San Diego and Orange County; Baja California, Mexico	Diegan coastal sage scrub. Generally, shrub cover is more open than at mesic, coastal locales supporting sage scrub. Occurs on a variety of soil types	Species is abundant in maritime succulent scrub and sage scrub along upper fringes of the canyons in the northern portion of the site
Variegated Dudleya (*Dudleya variegata*)	--/--; CRPR 1B.2; City MSCP Narrow Endemic; City MCSP Covered	Southern San Diego County; northwestern Baja California, Mexico	Openings in sage scrub and chaparral, isolated rocky substrates in open grasslands, and a proximity to vernal pools and mima mound topography characterize habitats utilized by this species	Mapped in sage scrub in one of the northern canyons in 1998

Sources: California Department of Fish and Wildlife (CDFW). 2017a. California natural diversity data base (CNDDB). RareFind Database Program, Version 5.2.7; CDFW 2017b. State and federally listed endangered, threatened, and rare plants of California. Biogeographic Data Branch, California Natural Diversity Database; California Native Plant Society. 2017. Inventory of rare and endangered plants (online edition, v8-03); U.S. Fish and Wildlife Service. 2017. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO)

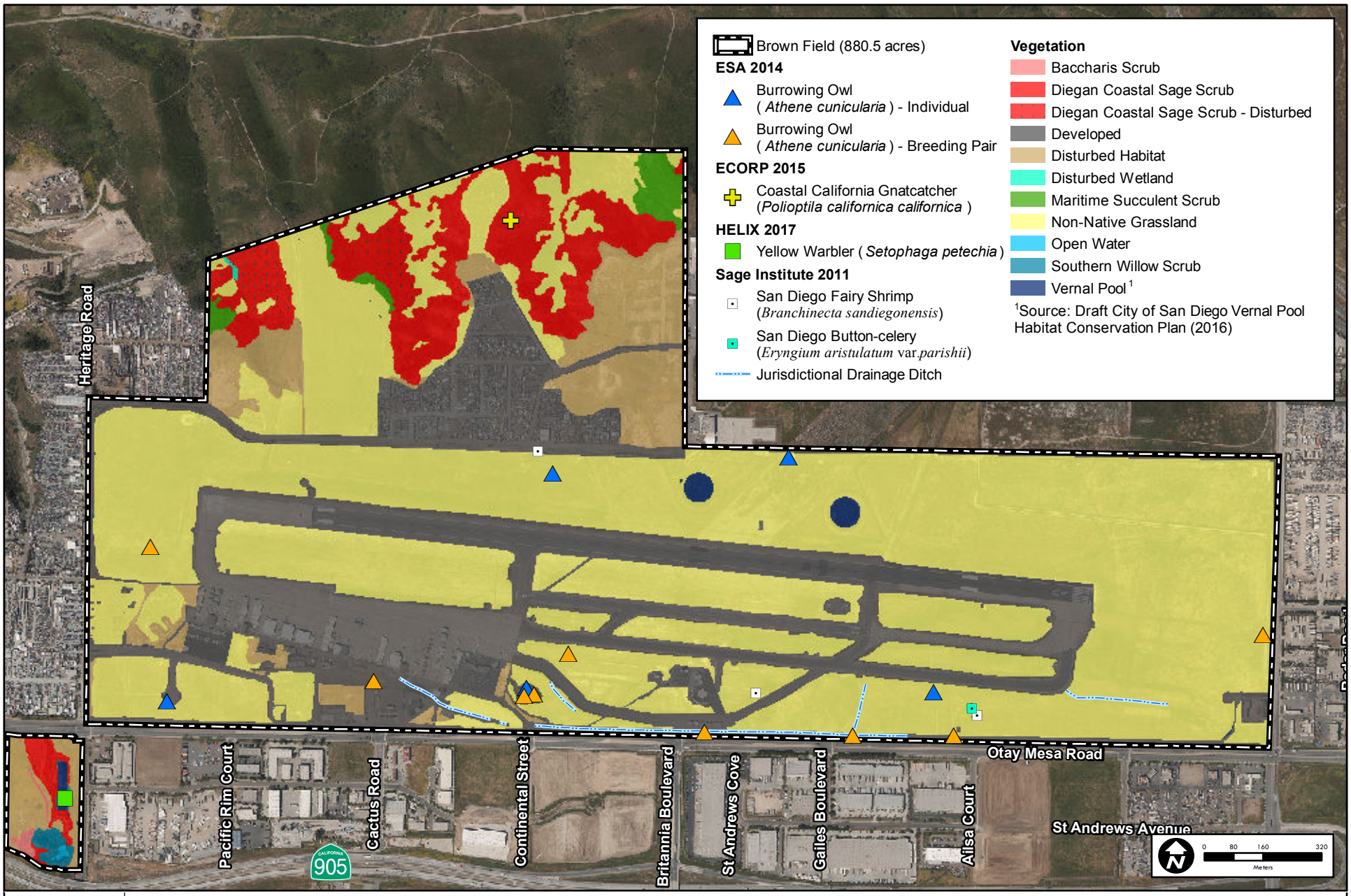

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FIGURE 4.2

Vegetation and Sensitive Biological Resources for SDM

100054723 MYF/SDM Master Plans

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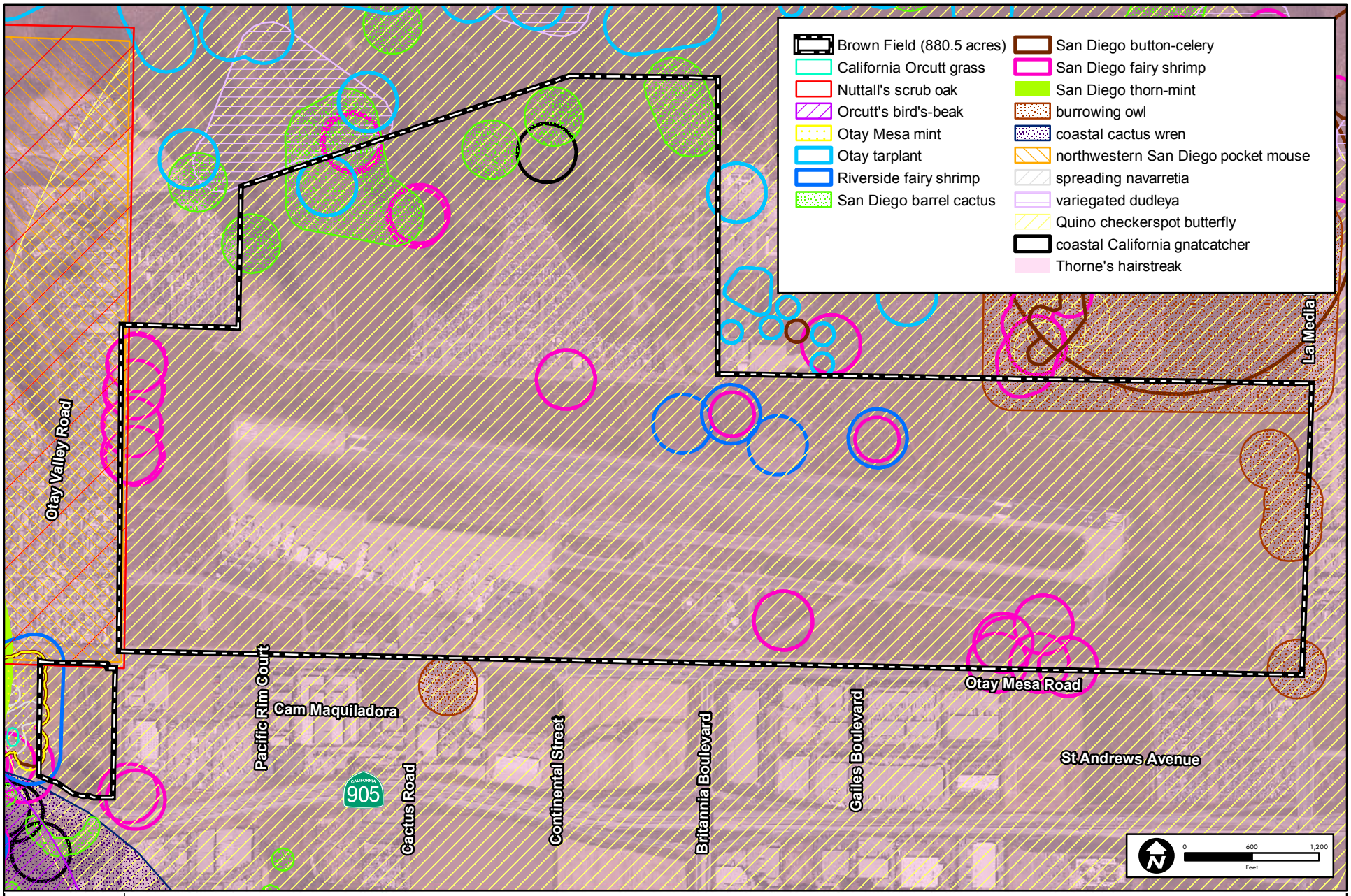

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FIGURE 4.3

CNDDB/USFWS Sensitive Species Database Records for SDM

Sources: Sensitive Species (CNDDB 5/17, USFWS (4/17)

100054723 MYF/SDM Master Plans

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Sensitive Animal Species

Sensitive animal species include those that have been afforded special status and/or recognition by the USFWS and/or CDFW. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

As stated previously under "Sensitive Plant Species", FAA Order 1050.1F includes significance thresholds for federally listed species; though the FAA has not established significance thresholds for non-listed species. However, FAA Order 1050.1F states the following as factors to consider: "The action would have the potential for (a) a long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area; (b) adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats; (c) substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or (d) adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance

Federally or State Listed Animal Species

Three federally listed animal species have been documented on site; these are the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) and the federally listed endangered Riverside fairy shrimp (*Streptocephalus woottonii*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*). No state listed species were documented on site. Additional information is provided in **Table 4.7**. A review of the USFWS database for listed species occurrences indicates that a fourth species, the federally listed endangered Quino checkerspot (*Euphydryas editha quino*), was present on site in 1976 and 1977 (see figure titled CNDDB/USFWS Sensitive Species Database Records). However, focused surveys conducted in 2011, 2008, and 1998 failed to detect this species. It is presumed absent from the airport property.

Other Sensitive Animal Species

Nine other sensitive animal species have been documented on site: burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), orange-throated whiptail (*Aspidoscelis hyperythra*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and yellow warbler (*Setophaga petechia*). Additional information is provided in **Table 4.8**.

Table 4.7 - Federally or State Listed Animal Species at SDM

Name	Status[10]	Distribution	Habitat	Presence on site
Coastal California Gnatcatcher (*Polioptila californica californica*)	FT/SSC; City MSCP Covered	In San Diego County, occurs throughout coastal lowlands	Coastal sage scrub, coastal bluff scrub, and coastal sage-chaparral scrub	A single male was detected within Diegan coastal sage scrub in the northern portion of the site in 2015 (ECORP 2015).
Riverside Fairy Shrimp (*Streptocephalus woottonii*)	FE/--	Western Riverside County, Orange County; and San Diego County. Known from 45 vernal pool complexes, including 26 in San Diego County, including within the City of San Diego, Marine Corps Air Station Miramar, Marine Corps Base Camp Pendleton, and Otay Mesa	Vernal pools and other non-vegetated ephemeral pools greater than 12 inches deep	Species was detected in two onsite pools in 1998. Subsequent surveys conducted in 2008, 2009, 2010, and 2011 were negative for this species (ESA 2013).
San Diego Fairy Shrimp (*Branchinecta sandiegonensis*	FE/--.	San Diego County and extreme northern Baja California, Mexico	Seasonally astatic pools which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral	Adult San Diego fairy shrimp have been documented in three vernal pools on site (Sage Institute 2011).

Sources: California Department of Fish and Wildlife (CDFW). 2017a. California natural diversity data base (CNDDB); CDFW 2017c. State and federally listed endangered and threatened animals of California; CDFW 2017d. Special animals list; U.S. Army Corps of Engineers (USACE). 1997. Indicator Species for Vernal Pools; U.S. Fish and Wildlife Service. 2017. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO)

10 Status is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; R = Rare; FP = Fully Protected; BCC = Bird of Conservation Concern; SSC = State Species of Special Concern; WL = CDFW Watch List; BGEPA = Listed under the Bald and Golden Eagle Protection Act.

Table 4.8 - Other Sensitive Animal Species at SDM

Name	Status[11]	Distribution	Habitat	Presence on site
Burrowing Owl (*Athene cunicularia*)	BCC/SSC (nesting sites and some wintering sites); City MSCP Covered	In San Diego County, occurs in a few scattered sites	Grassland or open scrub habitats	Several surveys performed between 1997 and 2014 identified a significant burrowing owl population on site. The 2014 survey identified 14 active burrows, nine of which were occupied by breeding pairs and five were occupied by individual owls (ESA 2014). Both the City and CDFW have identified this population as important to the long-term survival of the species in San Diego County (ESA and Sage Institute 2016.
Golden Eagle (*Aquila chrysaetos*)	BGEPA; BCC/WL, Fully Protected	In San Diego County, has the largest territory and lowest population density of any bird (Unitt 2004). Scattered throughout undeveloped San Diego County year-round.	Nesting occurs on cliff ledges or in trees on steep slopes, with foraging occurring primarily in grassland and sage scrub. Not usually observed near development	Observed flying over the northern portion of the site in 1998. No suitable nesting habitat occurs on site
Loggerhead Shrike (*Lanius ludovicianus*)	BCC/SSC	An uncommon year-round resident observed throughout San Diego County but absent from pinyon woodlands in higher elevations of the Santa Rosa and Vallecito mountains	Grassland, open sage scrub, chaparral, and desert scrub	Observed in coastal sage scrub in the northern portion of the site in 1998.
Northern Harrier (*Circus cyaneus*)	--/SSC; City MSCP Covered	In San Diego County, distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert	Open grassland and marsh	Observed in the northern portion of the site in 1998.
Orange-throated Whiptail (*Aspidoscelis hyperythra*)	--/WL	Southern Orange County and southern San Bernardino County, south through Baja	Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas	Observed in the southwest parcel in 1998. Likely occurs in sage scrub and maritime succulent scrub in the

11 Status is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; C = Candidate; R = Rare; FP = Fully Protected; BCC = Bird of Conservation Concern; SSC = State Species of Special Concern; WL = CDFW Watch List; BGEPA = Listed under the Bald and Golden Eagle Protection Act.

		California.	adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites	northern portion of the site.
San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*)	--/SSC	Southern Santa Barbara County, south on the coastal slope to the vicinity of San Quintin, Baja California, Mexico. Localities on the eastern edge of its range include Jacumba and San Felipe Valley in San Diego County	Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present	Observed in the southwest parcel in 1998 (southwest corner of Otay Mesa Road and Heritage Road).
San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*)	BCC/SSC; City MSCP Covered	Observed in coastal lowlands of San Diego County	Cactus thickets	Observed in coastal sage scrub in the northern portion of the site in 1998.
Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)	--/WL; City MSCP Covered	Observed throughout coastal lowlands and foothills of San Diego County	Coastal sage scrub and open chaparral as well as shrubby grasslands	Observed in coastal sage scrub in the northern portion of the site in 1998.
Yellow Warbler (*Setophaga petechia*)	BCC/SSC	Observed throughout California during the breeding season with rare sightings in winter.	Riparian woodland, riparian forest, mule fat scrub, and southern willow scrub	One individual was detected in southern willow scrub in the southwest parcel by HELIX in 2017 (southwest corner of Otay Mesa Road and Heritage Road).

Sources: California Department of Fish and Wildlife (CDFW). 2017a. California natural diversity data base (CNDDB); CDFW 2017c. State and federally listed endangered and threatened animals of California; CDFW 2017d. Special animals list; U.S. Army Corps of Engineers (USACE). 1997. Indicator Species for Vernal Pools; U.S. Fish and Wildlife Service. 2017. Occurrence Information for Multiple Species within Jurisdiction of the Carlsbad Fish and Wildlife Office (CFWO)

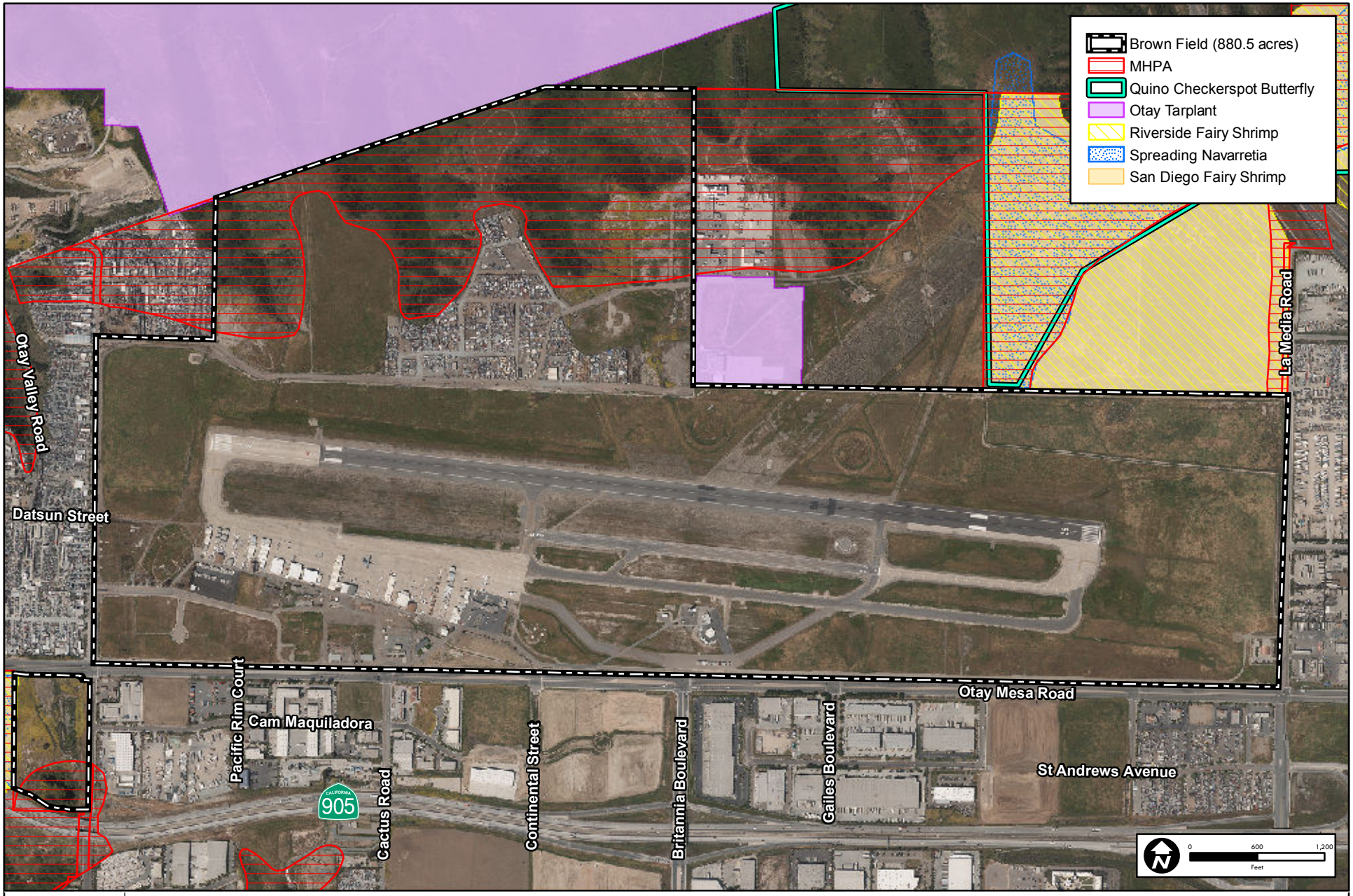

FIGURE 4.4

USFWS Critical Habitat and City Multi-Habitat Planning Area for SDM

Source: MHPA (SanGIS 2016); Critical Habitat (USFWS multiple dates).

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Critical Habitat and Regional Context

USFWS Critical Habitat
USFWS-designated critical habitat for the following five species occurs adjacent to the airport property: Otay tarplant, Quino checkerspot, Riverside fairy shrimp, San Diego fairy shrimp, and spreading navarretia (*Navarretia fossalis*). No critical habitat occurs on site. Refer to Insert Figure 4.4.

Multi-habitat Planning Area
The airport is within the boundary of the City's MSCP SAP (City 1997). The airport contains areas mapped as MHPA under the City's SAP. The MHPA is the planning area for core biological resources and corridors targeted for conservation within the City's MSCP SAP. A total of 134.4 acres of MHPA is mapped on site; it includes the canyons and associated habitats in the northernmost portions of the property (refer to Insert Figure 4.4).

Summary and Recommendations
Based on habitat and/or species sensitivity, wetland permitting requirements by the USACE, RWQCB, and CDFW, mitigation cost and complexity, and required ESA consultation process with USFWS, the following areas were considered to have the highest level of biological constraint on site.

Vernal pools, San Diego fairy shrimp populations, San Diego button-celery populations, wetlands, Tier I habitat (maritime succulent scrub), and occupied burrowing owl burrows (see Insert Figure 4.5) are the most sensitive on-site receptors.

Areas considered to have a moderate level of biological constraint include coastal sage scrub and baccharis scrub, non-native grassland with documented usage by burrowing owl, jurisdictional drainage ditches, and all MHPA except for areas supporting disturbed habitat. These resources are less sensitive than those that are considered to pose a high level of biological constraint, and are generally easier to mitigate and/or have a lesser degree of permitting complexity. Future projects under the Airport Master Plan would need to consider any impacts and mitigation implemented for burrowing owls associated with the Metropolitan Airpark project, and a new baseline may need to be established at the time of future project development. Occupied burrowing owl habitat typically needs to be mitigated with occupied habitat at a 1:1 ratio, which can be challenging to achieve.

Areas considered to have a low level of biological constraint include non-native grassland outside of the MHPA and without documented usage by burrowing owl, and areas of disturbed habitat within the MHPA. While still considered biologically sensitive, impacts to these resources would be expected to have the most stream-lined approval process compared to areas of moderate and high sensitivity.

No biological constraints were identified for existing developed lands and disturbed habitat outside of the MHPA except for where burrowing owl has been documented in these areas.

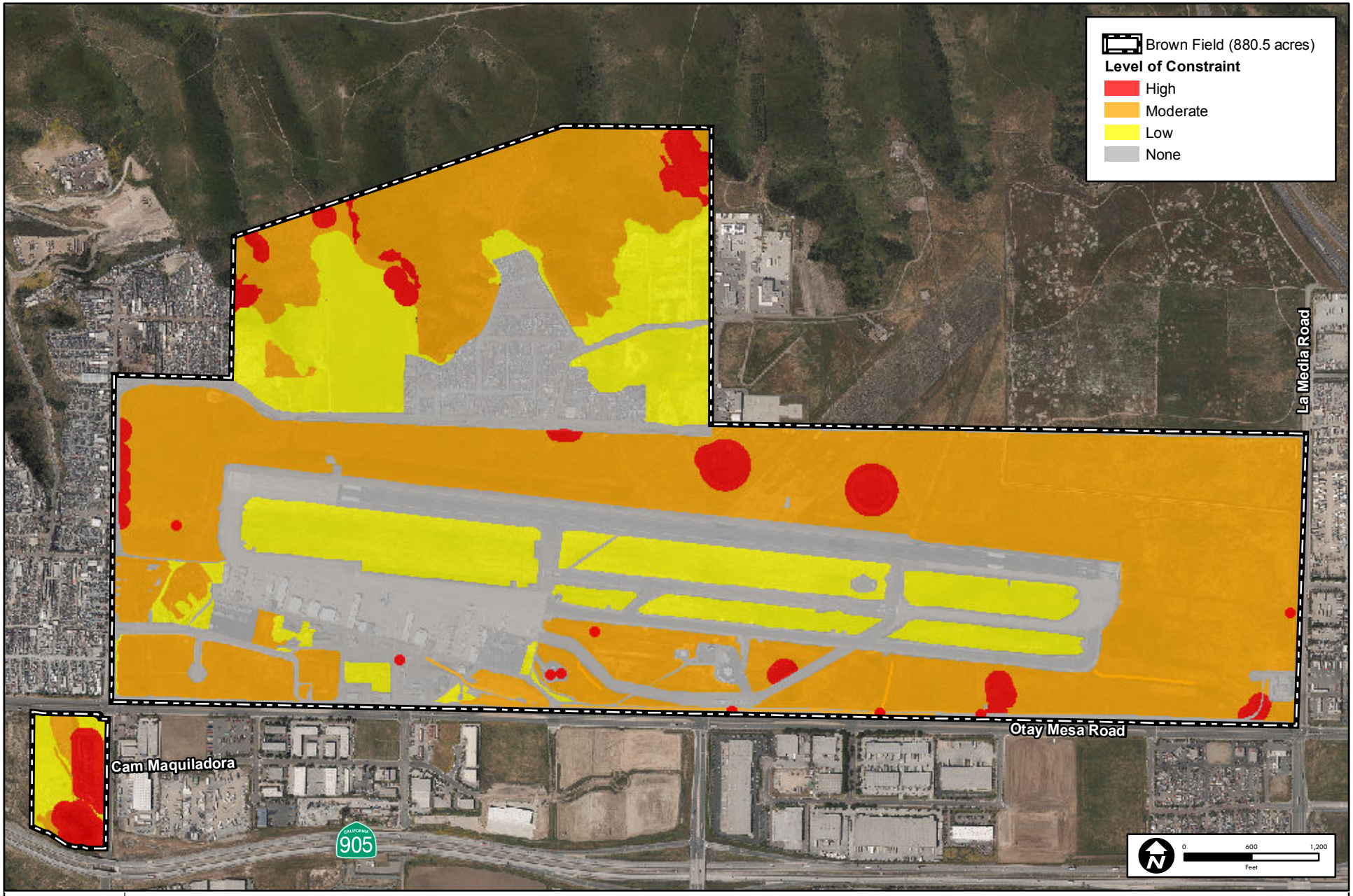

FIGURE 4.5

Biological Constraints for SDM

100054723 MYF/SDM Master Plans

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Coordination with the USACE regarding whether the on-site vernal pools would be regulated under the CWA would be necessary for any proposed impacts to vernal pools. If on-site vernal pools are determined to be waters of the U.S. by the USACE, impacts to any such vernal pools are likely to require issuance of an Individual Permit under the CWA; rather than a more-streamlined Nationwide Permit. The FAA is anticipated to be the lead federal agency responsible for consultation with the USFWS under Section 7 of the FESA. Consultation initiated by the FAA would address take of listed species regardless of whether they occur within or outside of waters of the U.S.

For purposes of constraints mapping, vernal pools were surrounded by a 100-foot radius to protect their associated watersheds; however, site-specific vernal pool watershed mapping has not been completed for either site. Wetlands were surrounded by a 50-foot buffer. Future projects in the vicinity of vernal pools may require site-specific watershed mapping, and wetland buffer widths would be subject to City and/or regulatory agency approval.

Additionally, as per FAA Advisory Circular FAA AC 150/5200-33A *Hazardous Wildlife Attractants on or Near Airports*, an assessment of potential wildlife hazards should be conducted to determine the potential effects of surrounding attractants. New development projects and land-use amendments that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes.

Further consideration of biological impacts associated with master plan development at both airport sites is therefore needed.

Department of Transportation Act, Section 4(f)

Section 4(f) of the U.S. Department of Transportation Act of 1966 protects certain significant resources such as publicly owned parks, recreational areas, wildlife and waterfowl refuges of national, state, or local significance, and public and private historic sites of national, state, or local significance.

Regulatory Setting

23 CFR 774.17 defines a Section 4(f) property as "publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance." FAA may not approve the use of a Section 4(f) property, unless it determines the following:

- There is no feasible and prudent avoidance alternative, as defined in Section 774.17, to the use of land from the property.
- The action includes all possible planning, as defined in Section 774.17, to minimize harm to the property resulting from such use.

A use occurs when:

- When land is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria in § 774.13(d); or
- When there is a constructive use of a Section 4(f) property as determined by the criteria in § 774.15.

However, the Administration may approve a use if it determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or

enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in § 774.17, on the property.

A constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished (23 CFR 774.15(a)).

A constructive use occurs when:

- The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a property protected by Section 4(f), such as:
    - Hearing the performances at an outdoor amphitheater
    - Sleeping in the sleeping area of a campground
    - Enjoyment of a historic site where a quiet setting is a generally recognized feature or attribute of the site's significance
    - Enjoyment of an urban park where serenity and quiet are significant attributes
    - Viewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing

- The proximity of the proposed project substantially impairs esthetic features or attributes of a property protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the property. Examples of substantial impairment to visual or esthetic qualities would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historic building, or substantially detracts from the setting of a Section 4(f) property which derives its value in substantial part due to its setting;
- The project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site;
- The vibration impact from construction or operation of the project substantially impairs the use of a Section 4(f) property; or
- The ecological intrusion of the project substantially diminishes the value of wildlife habitat in a wildlife and waterfowl refuge adjacent to the project.

A constructive use does not occur when:

- Compliance with the requirements of 36 CFR 800.5 for proximity impacts of the proposed action, on a site listed on or eligible for the National Register, results in an agreement of "no historic properties affected" or "no adverse effect;
- The impact of projected traffic noise levels of the proposed highway project on a noise-sensitive activity do not exceed the FHWA noise abatement criteria as contained in Table 1 in part 23 CFR 772, or the projected operational noise levels of the proposed transit project do not exceed the noise impact criteria for a Section 4(f) activity in the FTA guidelines for transit noise and vibration impact assessment;
- The projected noise levels exceed the relevant threshold in paragraph (f)(2) of (23 CFR 774.15) because of high existing noise, but the increase in the projected noise levels if the proposed project is constructed, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less);
- There are proximity impacts to a Section 4(f) property, but a governmental agency's right-

of-way acquisition or adoption of project location, or the
- Administration's approval of a final environmental document, established the location for the proposed transportation project before the designation, establishment, or change in the significance of the property. However, if it is reasonably foreseeable that a property would qualify as eligible for the National Register prior to the start of construction, then the property should be treated as a historic site for the purposes of this section; or
- Overall (combined) proximity impacts caused by a proposed project do not substantially impair the activities, features, or attributes that qualify a property for protection under Section 4(f);
- Proximity impacts will be mitigated to a condition equivalent to, or better than, that which would occur if the project were not built, as determined after consultation with the official(s) with jurisdiction;
- Change in accessibility will not substantially diminish the utilization of the Section 4(f) property; or
- Vibration levels from project construction activities are mitigated, through advance planning and monitoring of the activities, to levels that do not cause a substantial impairment of protected activities, features, or attributes of the Section 4(f) property.

23 CFR 774.13(b) provides the following exception for archaeological sites: "(b) Archeological sites that are on or eligible for the National Register when: (1) The Administration concludes that the archeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place. This exception applies both to situations where data recovery is undertaken and where the Administration decides, with agreement of the official(s) with jurisdiction, not to recover the resource; and (2) The official(s) with jurisdiction over the Section 4(f) resource have been consulted and have not objected to the Administration finding in paragraph (b)(1) of this section."

Existing Conditions

For historic resources, only those that are listed, or are eligible for listing on the NRHP are afforded Section 4(f) protection. Historic properties are discussed in the Historical, architectural, archeological, and cultural resources chapter. Historic Section 4(f) properties are listed below. Unevaluated resources are also included, as they may be found to be eligible in the future. Section 106 evaluation should be completed for all in-period resources.

Table 4.9 presents historic Section 4(f) resources from the Historical, architectural, archeological, and cultural resources chapter. These, and any other newly identified historic properties would need to be evaluated for use.

Table 4.9 - Historic or unevaluated Section 4(f) resources at SDM

Primary (P-37-)	TRINOMIAL (CA-SDI-)	Description	Significance Status
Built Environment			
018246	--	Auxiliary Naval Air Station Brown Field Historic District; composed of five separate buildings consisting of Naval airfield control tower and four nose end hangar repair docks.	Eligible for listing in the NRHP under Criterion A and C; City of San Diego Historic Landmark #405-409.

018256	--	Naval airfield latrine. Rectangular single-story building.	Evaluated as not eligible for listing in the NRHP; City of San Diego Historic Landmark #410
031491	--	Historic Otay Mesa Road.	Not evaluated.
Archaeological Sites			
010628	10628/H	Foundations and historic debris associated with historic Alta School as well as a prehistoric lithic scatter.	Determined not eligible for listing on the NRHP; a portion of the site is considered significant; City of San Diego Historic Landmark #411
015976	14559	Prehistoric lithic scatter.	Not evaluated
015980		Historic farmstead site as shown on historic maps and aerials. No surface features or artifacts observed.	Determined not eligible for listing on the NRHP under Criteria A, B, and C; not evaluated under Criteria D.
015981		Historic farmstead site as shown on historic maps and aerials. No surface features or artifacts observed; however historic artifacts identified within neighboring site (CA-SDI-10623)	Determined not eligible for listing on the NRHP under Criteria A, B, and C; not evaluated under Criteria D.
015982		Historic farmstead site as shown on historic maps and aerials. No surface features or artifacts observed.	Determined not eligible for listing on the NRHP under Criteria A, B, and C; not evaluated under Criteria D.

Non-historic Section 4(f) properties

Gateway Pacific Park is located southwest of Brown Field Municipal Airport. It is largely undeveloped; but, provides hiking and biking trails. However, the Otay Mesa Freeway is located within the park boundaries, adjacent to the airport, and may overwhelm any proximity impacts from the airport. There is also greenbelt and trails to the north of the airport site (Wolf Canyon) associated with the Otay Valley Regional Park (East) segment. Without physical property take, such resources would need to be evaluated for constructive use, such as noise impacts.

Summary and Recommendations

Impacts to historic properties should be avoided where possible. When not possible, Section 4(f) regulations demand "all possible planning to minimize harm." If no alternative avoids a use (greater than *de minimis)*, then a least overall harm analysis must be completed. Both airports have non-historic Section 4(f) resources near them, and proximity impacts, such as noise, vibration and visual impacts should be considered when evaluating proposed projects.

Farmlands

Farmlands are agricultural areas considered important (these include all pasturelands, croplands, and forests (even if zoned for development) considered to be prime, unique, or of statewide or local Importance) and are protected by federal, state, and local regulations.

Regulatory Setting

Farmland Protection Policy Act (FPPA)

The FPPA intends to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. **Table 4.10** includes a description of the types of important farmland, as determined by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS).

Table 4.10 – Farmland Descriptors

Category	Description
Prime Farmland	Prime farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
Farmland of Statewide Importance	Farmland of statewide importance is similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
Unique Farmland	Unique farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date
Farmland of Local Importance	Land that meets all the characteristics of Prime and Statewide, with the exception of irrigation. Farmlands not covered by the above categories but are of significant economic importance to the county. They have a history of good production for locally adapted crops. The soils are grouped in types that are suited for truck crops (such as tomatoes, strawberries, cucumbers, potatoes, celery, squash, romaine lettuce, and cauliflower) and soils suited for orchard crops (avocados and citrus).
Grazing Land	Grazing land is land on which the existing vegetation is suited to the grazing of livestock.
Urban and Built-Up Land	Urban and built-up land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
Other Land	Other land is land not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or Aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land.
Water	Perennial water bodies with an extent of at least 40 acres.

Source: California Department of Conservation. Division of Land Resource Protection. 2016a. Farmland Mapping and Monitoring Program - San Diego County Important Farmland 2014 Sheet 1 of 2

Federal agencies (or federally funded projects) involved in proposed projects that may convert farmland, as defined in the FPPA, to nonagricultural uses need to initially complete Parts I and III of the USDA's Form AD-1006 - Farmland Conversion Impact Rating, and return to the NRCS for their and evaluation and site assessment.

CEQ Memorandum on the Analysis of Impacts on Prime or Unique Agricultural lands in implementing the National Environmental Policy Act

The 1980 CEQ memorandum on Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA was developed in cooperation with the Department of Agriculture in order to ensure federal agencies considered impacts to prime and unique agricultural land, either directly or indirectly.

Existing Conditions

According to the California Important Farmland Finder and the California Department of Conservation, Division of Land Resource Protection, to the immediate north of the runway and south of the airport boundary lies 'Farmland of Local Importance', to the East lies 'Other Land' and Urban and Built Up Land' and to the west lies 'Urban and Built Up Land'.

As land within the vicinity of the airport is classified as 'Farmland of Local Importance', Brown Field Municipal Airport would be subject to FPPA requirements should future expansion look to expand into areas of locally important farmland. USDA's Form AD-1006 would need to be completed and sent to USDA for assessment.

USDA's CropScape - Cropland Data Layer identifies the land surrounding the Airport as a mixture of Grass/Pasture; Shrubland; Developed/High Intensity; Developed/Medium Intensity; and Developed/Low Intensity land.

Summary and Recommendations

The Airport would be subject to FPPA requirements and further assessment work, including completing Form AD-1006, would be needed. This document, the Farmland Conversion Impact Rating Form, is a request to the NRCS for determination of whether the site is farmland subject to the Farmland Protection Policy Act. NRCS will measure the relative value of the site as farmland on a scale of 0 to 100. The FAA will then need to assess the site, scoring up to 160 points for the site assessment, resulting in a maximum possible score of 260 points. For sites scoring less than 160, no further consideration for protection is needed. For sites scoring more than 160, increasingly higher levels of consideration for protection are necessary. This may limit the development that can be undertaken at that area of the site.

Hazardous Materials, Pollution Prevention, and Solid Waste

Hazardous materials, solid waste, and pollution prevention includes an evaluation of the following:

- Waste streams likely to be generated by the project; potential for the wastes to impact environmental resources, and the impacts on waste handling and disposal facilities that would likely receive the wastes;
- Potential hazardous materials that could be used during construction and operation of a project, and applicable pollution prevention procedures;
- Potential to encounter existing hazardous materials at contaminated sites during construction, operation, and decommissioning of a project; and
- Potential to interfere with any ongoing remediation of existing contaminated sites at the

proposed project site or in the immediate vicinity of a project site

Regulatory Setting

While there are numerous statutes, regulations, Executive Orders, and other requirements related to Hazardous Materials, Solid Waste, and Pollution Prevention, FAA's Order 1050.1F identifies the Resource Conservation and Recovery Act (RCRA) (40 CFR 239–282) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 United States Code [USC] 103) as the statutes of greatest importance when proposing actions to construct and operate facilities. Several of the other Acts of relevance are also outlined below, although this list is not definitive.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment. The Act enabled the creation of the National Priority List (NPL), a list of sites with known releases or threatened releases of hazardous substances used to guide the EPA in determining which sites warrant further investigation.

Resource Conservation and Recovery Act (RCRA)

RCRA governs the generation, treatment, storage, and disposal of hazardous wastes and establishes guidelines for hazardous waste and non-hazardous solid waste management activities.

Emergency Planning and Community Right to Know Act (EPCRA)

EPCRA requires hazardous chemical emergency planning by federal, state, and local governments, Indian tribes, and industries. The Act requires industry to report on the storage, use, and releases of hazardous chemicals.

Pollution Prevention Act

This Act requires pollution prevention and source reduction control so that wastes would have less effect on the environment while in use and after disposal.

Toxic Substances Control Act

This Act enables the EPA to regulate the production, importation, use, and disposal of chemicals defined as toxic, including lead, radon, asbestos, and polychlorinated biphenyls (PCBs), that have the potential to cause unreasonable risk of injury to public health or the environment.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance

Requires federal agencies to make sustainability a priority in agency operations. The EO calls for specific management strategies to improve sustainability including minimizing the acquisition, use, and disposal of toxic and hazardous materials and sets targets for achieving diversion for non-hazardous solid waste and construction and demolition materials and debris.

Existing Conditions

Hazardous materials are commonly stored and used by a variety of businesses and are commonly encountered during construction activities. Hazardous materials typically require special handling, reuse, and disposal because of their potential to harm human health and the environment. The California Health and Safety Code (HSC) defines a hazardous material as: "Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. 'Hazardous materials' include, but are not limited to, hazardous substances,

hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment." (HSC Section 25501).

As of October 2017, an environmental data report (such as one issued by EDR) has not been obtained. As such, the information in this section is from publicly available sources.

Sites with Known Hazardous Materials Issues

A variety of government data sources are available to identify sites that may have been subject to a release of hazardous substances or that may have supported a use that could have resulted in a hazardous condition on site. Listed below are some key sources of data that identify potential environmental conditions and historical uses that may represent a hazardous condition:

- Hazardous Waste and Substances sites from California Environmental Protection Agency Department of Toxic Substances Control (DTSC) *EnviroStor database*.
- Solid waste disposal sites identified by State Water Resources Control Board (SWRCB) with waste constituents above hazardous waste levels outside the waste management unit.
- Hazardous waste facilities subject to corrective action pursuant to HSC Section 25187.5, identified by DTSC.
- Active and closed solid waste sites (*Solid Waste Information System*-SWIS database) maintained by CalRecycle.
- Hazardous Materials Establishment Listing maintained by the County of San Diego.
- The County of San Diego maintains the *Site Assessment and Mitigation (SAM) Case Listing* of contaminated sites that have previously or are currently undergoing environmental investigations and/or remedial actions.
- *Resource Conservation and Recovery Information System*, a database of Resource Conservation Recovery Act facilities that is maintained by the Environmental Protection Agency.
- The U.S. Army Corps of Engineers (USACE), 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of *Formerly Used Defense Sites* (FUDS).
- The DTSC School Property Evaluation and Cleanup Division is responsible for assessing, investigating and cleaning up proposed school sites. A list is maintained by DTSC of school properties with environmental assessments and the findings
- *GeoTracke*r, the SWRCB database system identifies regulatory data for the following types of sites:
    - Leaking Underground Storage Tanks (LUST) cleanup sites;
    - Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites);
    - Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non-UST]);
    - Land Disposal sites (Landfills);
    - Permitted Underground Storage Tanks (UST) facilities;
    - Waste Discharge Requirement (WDR) sites;
    - Agricultural Waivers Program (Irrigated Lands Regulatory Program, ILRP) sites.
- The Environmental Protection Agency (EPA) maintains information on some hazardous waste sites, safe drinking water, hazardous waste generators and disposal operations, and toxic releases.

There is only one National Priorities List (NPL) Site in the County of San Diego; Camp Pendleton Marine Corps Base, Camp Pendleton, CA. Thus, there are no records in the vicinity of the Airport.

There are no records of Indian Country LUST in the vicinity of the Airport.

California Environmental Protection Agency Department of Toxic Substances Control EnviroStor Database

The site types included within the DTSC *EnviroStor* database are federal superfund sites (national priorities list), state response, voluntary cleanup, school cleanup, corrective action, evaluation, and tiered California permit sites. Information includes site name, site type, status, address, any restricted use (recorded deed restrictions), past use(s) that caused contamination, potential contaminants of concern, potential environmental media affected, site history, as well as planned and completed activities.

GeoTracker Database

The *GeoTracker* database is a geographic information system that provides online access to environmental data including underground fuel tanks, fuel pipelines and public drinking water supplies. *GeoTracker* contains information about leaking underground storage tanks (LUST) and can identify and display LUST sites within various distances of wells. This provides users with the ability to assess potential threats to their drinking water sources. *GeoTracker* also has information and data on non-LUST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense Sites, and Land Disposal programs.

Solid Waste Information System Database

The Solid Waste Information database contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, closed disposal sites, transfer stations, materials recovery facilities, composting sites, transformation facilities, waste tire sites, and construction, demolition and inert debris facilities and operations. For each facility, the database contains information about location, owner, operator, facility type, regulatory and operational status, authorized waste types, local enforcement agency and inspection and enforcement records.

County of San Diego Site Assessment and Mitigation Program Case Listing

The County of San Diego SAM Program, within the Land and Water Quality Division of the County Department of Environmental Health, has a primary purpose to protect human health, water resources, and the environment within San Diego County by providing oversight of assessments and cleanups in accordance with the California HSC and the CCR. The SAM Voluntary Assistance Program also provides staff consultation, project oversight, and technical or environmental report evaluation and concurrence (when appropriate) on projects pertaining to properties contaminated with hazardous substances. The County Department of Environmental Health maintains the SAM Program list of contaminated sites that have previously or are currently undergoing environmental investigations and/or remedial actions.

The SAM Program covers all of San Diego County and includes remediation sites of all sizes. The SAM case listing is revised and updated regularly and the number of sites on the list is continually changing, but may contain upwards of 5,000 cases at one time. There is some overlap with the information in other regulatory databases; however, the list also contains sites that often are not covered by some of the larger regulatory databases. If a project is submitted for discretionary review and is located on a site found on the SAM list, the project's status must be determined and any ongoing remediation requirements coordinated with the County Department of Environmental Health SAM project manager. All SAM sites are found and listed in the GeoTracker database.

Formerly Used Defense Sites Listing

The USACE maintains a list of FUDS within San Diego County. FUDS are real properties that were under the jurisdiction of the Secretary of Defense and owned by, leased by, or otherwise possessed by the United States. FUDS are located throughout the United States and in many cases the ownership of these properties have been transferred to private individuals, corporations, State and local governments, federal agencies, and tribal governments. FUDS include but are not limited to sites involving hazardous, toxic and radioactive waste; military munitions including munitions constituents; containerized hazardous, toxic and radioactive waste; building demolition and debris removal; and potentially responsible party sites (government shares burden with private entity).

There are approximately 20 FUDS in San Diego County. Many FUDS have potential hazardous waste contamination problems such as disposal areas and LUST. Other FUDS utilized practice rounds for training, and some sites used live munitions and explosives, known collectively as ordnance and explosives. The live munitions that were fired but did not detonate are known as unexploded ordnance. The unexploded ordnance that remain on FUDS properties today pose the greatest safety hazard to the public, if they are disturbed. Sites are ranked on a one to four scale, one being at the most risk for and increased hazard to the public and environment. Many FUDS sites in San Diego County are under investigation by the USACE to identify and remediate potential hazards.

Sites with Potential Hazardous Materials Issues

A variety of historical land uses and conditions would potentially result in site contamination, representing potential hazards to humans and the environment when new land uses are proposed on those lands. Examples of historic land uses that have the potential to result in current site contamination include burn dump sites, landfills, formerly used defense sites, agriculture, and petroleum storage.

Airport hazards

Airport Land Use Compatibility Plans (ALUCP) are plans that guide property owners and local jurisdictions in determining what types of proposed new land uses are appropriate around airports. They are intended to protect the safety of people, property and aircraft on the ground and in the air in the vicinity of the airport. They also protect airports from encroachment by new incompatible land uses that could restrict airport operations. ALUCP are based on a defined area around an airport known as the Airport Impact Areas (AIA). AIA are established by factors including airport size, operations, configuration, as well as the safety, airspace protection, noise, and overflight impacts on the land surrounding an airport. It is important to note that ALUCP do not affect existing land uses. Structure replacement and infill development are generally permitted under ALUCP, in accordance with policies established by the San Diego County Regional Airport Authority and the FAA.

Due to operations as airports, there may be hazardous materials stored on both site, along with petroleum/aviation fuel and solvents, waste oil and fuel, lubricants, cleaners, paints, compressed gasses, alcohols, peroxides, caustics, and foams. Additionally, transmission and hydraulic fluids could be present. Hazardous materials, will be handled according to applicable federal, state and local regulations to prevent their release to the environment through spill or other release. Hazardous waste generated at either airport would be removed by licensed waste haulers and transported for treatment and disposal, or recycling at an off-site licensed facility.

Fire Hazard Potential in the County of San Diego

California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards in the County through their Fire and Resource Assessment Program. These maps place areas

of the County into different Fire Hazard Severity Zones based upon fuels, terrain, weather, and other relevant factors. The zones are divided into three levels of fire hazard severity in State Responsibility Areas (SRA): Moderate, High and Very High; and Very High Fire Hazard Severity Zones (VHFHSZ) or non-VHFHSZ in Local Responsibility Area (such as the City of San Diego).

Airport Hazards

According to the SWRB's *GeoTracker*, there are 37 records within 1 mile of the approximate center point of the Brown Field Municipal Airport site for: LUST Cleanup Sites; Cleanup Program Sites; DTSC Cleanup Sites; Permitted USTs and a Land Disposal Site.

According to CalRecycle's *SWIS*, Cactus Road- AKA Tripp Salvage (closed) Solid Waste Disposal Site is located to the south of the site within 0.3 miles of the perimeter fence. There are no other Solid Waste Disposal Sites nearby.

There are 5 sites listed on the *EnviroStor* Database within 1 mile of the approximate center point of Brown Field Municipal Airport.

According to the USACE *FUDS database*, there are no FUDS listed within 1 mile of the approximate center point of Brown Field Municipal Airport.

According to CAL FIRE, the airport is situated in a Very High Fire Hazard Severity Zones.

The EPA's '*My Environment Map Viewer*' indicates there are 42 Hazardous Waste (RCRA Info) sites, 3 Toxic Releases to Land Inventory sites, and 8 Biennial Reporting sites in the vicinity of the airport. There are no Emergency Incidents, Superfund Sites or Brownfield Properties.

Summary and Recommendations

Due to the potential presence of hazardous sources, further consideration of Hazardous Materials, Pollution Prevention, and Solid Waste is recommended during the next stage of Master Plan development and environmental assessment. It is likely that land at the Airport is impacted to a degree by a range of contaminants. Where the potential for encountering contamination is suspected, avoidance or identification of mitigation measures can be implemented within reason, when possible. Environmental contaminants can differ from site to site and are most likely to be encountered during ground-disturbing activities. The most fundamental management for hazardous materials is to avoid contaminated sites, which often is not feasible.

The Airport Master Plans will not directly generate hazardous or solid wastes, and these impacts may be exempt from further assessment as project-specific environmental review would be necessary for any project that directly produces waste or has the likelihood of creating pollution. However, since the master plan would allow development of new facilities and introduce sensitive receptors (construction workers and human occupants once construction is complete), to presently undisturbed areas, the impact associated with this is potentially significant and further assessment will be needed. A site specific Environmental Data Report should be the initial step in identification of hazardous sources proximate to the site and may negate the need for further assessment once complete. A hazardous materials assessment, such as a Phase 1 Environmental Site Assessment, typically would be needed as part of future project development. The purpose for conducting a more detailed hazardous material assessment is to provide the information needed to plan for known and potential hazardous materials and contaminated sites.

Historical, architectural, archeological, and cultural resources

This section describes the existing cultural resource conditions at the Airport. Baseline cultural resources information was reviewed and compiled from sources, including:

- Metropolitan Airpark Project Final Environmental Impact Report (ESA 2013);
- Brown Field Master Plan Update, Environmental Baseline Report (City of San Diego 2010);
- Associated cultural resource reports for these documents (Bray and Brewster 2012; Robbins-Wade and Van Wormer 1998, 1999); and
- Various other available cultural resource reports (Cooley et al. 1996; Price and Zepeda-Herman 2013; Robbins-Wade and Shultz 1996)

Site records on file at the South Coastal Information Center were also reviewed. A cultural resources field survey was not conducted as part of this baseline data collection effort at either site.

Regulatory Setting

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. Significant resources are those resources which have been found eligible to the *California Register of Historical Resources* (CRHR) and *National Register of Historic Places* (NRHP), as applicable. California state law discusses significant cultural resources as "historical resources," whereas federal law uses the terms "historic properties."

Proposed actions at the airport would be subject to Federation Aviation Administration (FAA) review under the National Environmental Policy Act (NEPA) pursuant to the guidance provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*. NEPA regulations require Federal agencies to consider whether an action may "significantly affect the quality of the human environment," including unique characteristics of the geographic area, such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3)). Applicable Federal regulations regarding cultural resources consist of the National Historic Preservation Act (NHPA) and its implementing regulations (16 United States Code 470 et seq., 36 CFR Part 800). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on NRHP-eligible historic properties. To be eligible for the NRHP, a historic property must be significant under one or more of the following four criteria:

- that are associated with events that have made a significant contribution to the broad patterns of our history;
- that are associated with the lives of persons significant in our past;
- that 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; and/or
- that have yielded or may be likely to yield, information important in prehistory or history.

The California Environmental Quality Act (CEQA), Public Resources Code 21084.1 and CEQA Guidelines, California Code of Regulations Title 14 Section 15064.5 defines a historical resource as:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (Public Resources Code §5024.1, Title 14 California Code of Regulations

[CCR], Section 4850 et seq.).

- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (Public Resources Code §5024.1, Title 14, Section 4852) including the following:

    - Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
    - Is associated with the lives of persons important in our past;
    - 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
    - Has yielded, or may be likely to yield, information important in prehistory or history.

- The fact that a resource is not listed in or determined eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

All resources that are eligible for listing in the NRHP or CRHR must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

California State Assembly Bill 52 (AB 52) revised PRC Section 21074 to include Tribal Cultural Resources as an area of CEQA environmental impact analysis. Further, per new PRC Section 21080.3, a CEQA lead agency must consult with any California Native American tribe that requests consultation and that is traditionally and culturally affiliated with the geographic area of a proposed project to identify resources of cultural or spiritual value to the tribe, even if such resources are already eligible

as historical resources as a result of cultural resources studies.

The Native American Graves Protection and Repatriation Act (NAGPRA)

This Act describes the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, referred to collectively in the statute as cultural item.

City of San Diego Historical Resources Guidelines

The purpose and intent of the City's *Historical Resources Guidelines* (HRG), located in the City's Land Development Manual (City of San Diego 2001) is to protect, preserve and, where damaged, restore the historical resources of San Diego. The HRG states that if a project will potentially impact a resource, the resource's significance must be determined, even if it is not listed in or previously considered eligible for the California Register or a local register (Section II.D.5).

In order to be designated as a City of San Diego historically significant site, one or more of the following criteria must be met:

- 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.
- Is identified with persons or events significant in local, state or national history.
- 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.
- Is representative of the notable work of a master builder, designer, architect, engineer, landscape architect, interior designer, artist or craftsman.
- Is listed or has been determined eligible by the National Park Service for listing on the National Register of Historic Places or is listed or has been determined eligible by the California Office of Historic Preservation (link is external) for listing on the California Register of Historical Resources.
- 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.

Properties or sites are designated to the City's Register of Designated Historical Resources by the City's Historical Resources Board (HRB) at a publicly noticed hearing.

Existing Conditions

Cultural Setting

Prehistory

The earliest well-documented sites in the San Diego area belong to the San Dieguito Tradition, dating to over 9,000 years ago (Warren 1967; Warren et al. 1998). The San Dieguito Tradition is thought by

most researchers to have an emphasis on big game hunting and coastal resources. Diagnostic material culture associated with the San Dieguito complex includes scrapers, scraper planes, choppers, large blades, and large projectile points.

The San Dieguito complex is followed by the Archaic Period, dating from at least 7,000 years ago. The local cultural manifestation of the Archaic period is called the La Jollan complex along the southern coastal region and brings a shift toward a more generalized economy and an increased emphasis on seed resources, small game, and shellfish. Sites dating to the Archaic Period are numerous along the coast, near-coastal valleys, and around estuaries. The La Jolla complex tool assemblage is dominated by rough cobble tools, especially choppers and scrapers, but also includes manos and metates, biface points, and bone tools. Sites within the La Jolla complex typically include shell middens, terrestrial and marine mammal remains, beads, and flexed burials.

While there has been considerable debate about whether San Dieguito and La Jollan patterns might represent the same people using different environments and subsistence techniques, or whether they are separate cultural patterns (e.g., Bull 1983; Ezell 1987; Gallegos 1987; Warren et al. 1998), abrupt shifts in subsistence and new tool technologies occur at the onset of the Late Prehistoric Period, approximately 1,300-1,500 years ago. Within the City of San Diego, the Late Prehistoric period is represented by the Cuyamaca complex (Yuman forebears of the Kumeyaay) and is characterized by higher population densities and intensification of social, political, and technological systems. Elements of the Cuyamaca complex include small, pressure-flaked projectile points (Desert Side-notched and Cottonwood Triangular series); milling implements (manos, metates, mortars, and pestles); Tizon Brownware pottery; various cobble-based tools (e.g., scrapers, choppers, and hammerstones); arrow shaft straighteners; pendants; Olivella shell beads; and pictographs; and cremations. Subsistence is thought to be focused on the utilization of acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Fish and shellfish were also secondary resources, except immediately adjacent to the coast, where they assumed primary importance (Bean and Shipek 1978; Luomala 1978). The settlement system is characterized by seasonal villages where people used a central-based collecting subsistence strategy.

Ethnohistoric Period

The Brown Field Municipal Airport Area is within the traditional territory of the Kumeyaay people, also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcala). At the time of Spanish contact, Yuman-speaking Kumeyaay bands occupied southern San Diego and southwestern Imperial counties and northern Baja California. The Kumeyaay lived in semi-sedentary villages, or rancherias, with some rancherias containing more than one clan. Kumeyaay villages were located in river valleys with access to water and boulder outcrops and along the shoreline of coastal estuaries (Kroeber 1925; Luomala 1978).

History

Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769, the year that the Royal Presidio of San Diego was founded on a hill overlooking the San Diego River. A small pueblo, now known as Old Town San Diego, developed below the presidio. The Mission San Diego de Alcalá was constructed in its current location five years later. The Spanish period was characterized by religious and military institutions bringing Spanish culture to the area and attempting to convert the Native American population to Christianity. The economy of Alta California during this period was based on cattle ranching at the missions; a minor amount of agriculture and commerce took place in and around San Diego.

Mexican Period

Mexico, including Alta California, gained its independence from Spain in 1821, but Spanish culture and influence remained as the missions continued to operate as they had in the past, and laws governing the distribution of land were also retained for a period of time. Following secularization of the missions in 1834, large ranchos were granted to prominent and well-connected individuals and the society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With numerous new ranchos, cattle ranching expanded and prevailed over agricultural activities. These ranches put new pressures on California's native populations, as grants were made for inland areas still occupied by the Kumeyaay, forcing them to acculturate or relocate farther into the back country.

American Period

The Mexican period ended when Mexico ceded California to the United States after the Mexican-American War (1846–1848), which concluded with the Treaty of Guadalupe Hidalgo. A great influx of settlers to California and the San Diego region occurred during the American Period, resulting from several factors including the discovery of gold in the state in 1849, the end of the Civil War, the availability of free land through passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. The increase in American and European populations quickly overwhelmed many of the Spanish and Mexican cultural traditions.

The 1880s saw "boom and bust" cycles that brought thousands of people to the area of San Diego County. By the end of the decade, many had left, although some remained to form the foundations of small communities based on dry farming, orchards, dairies, and livestock ranching. During the late 19th and early 20th centuries, rural areas of San Diego County developed small agricultural communities centered on one-room schoolhouses.

By the 1890s, the City entered a time of steady growth and subdivisions such as Golden Hill, Sherman Heights, Logan Heights, Banker's Hill, and University Heights were developed. As the City continued to grow in the early 20th century, the downtown's residential character changed. Streetcars and the introduction of the automobile allowed people to live farther from their downtown jobs and new suburbs were developed. The influence of military development, beginning in 1916 and 1917 during World War I, resulted in substantial development in infrastructure and industry to support the military and accommodate soldiers, sailors, and defense industry workers. In the post-World War II years, San Diego grew significantly, with new jobs created in the aircraft industry, shipbuilding, fishing, and other enterprises.

Otay Mesa

Otay Mesa is a unique geographic feature located on a flat mesa between rich biotic zones of riparian valleys, coastal strip, and the mountains of southern San Diego County. The geological area of Otay Mesa is defined by the Linda Vista and Otay formations and contains an abundance of readily available cobble material used for the manufacture of flaked stone tools. As a result, a nearly ubiquitous, shallow, low-density lithic scatter covers the majority of Otay Mesa. Gallegos et al. (1998) suggested that much of the extensive scatter of flaked stone would have been recorded as one incredibly large site had the entire Lindavista Formation been surveyed as one study. Although a few sites in the Otay Mesa area date to the Late Prehistoric period, the majority of radiocarbon-dated localities fall within the Archaic period age range (Gallegos et al. 1998:4-6). The cobble/core-based lithic assemblage is also consistent with La Jolla and Pauma complex materials. Due to the abundant lithic scatters and relative lack of habitation sites within the Otay Mesa area, Otay Mesa may have served primarily as a source of toolstone for Archaic groups that were based at nearby major habitation sites situated in

the Otay River and Tijuana River Valleys (Gallegos et al. 1998).

Otay Mesa has been the focus of considerable archaeological research (e.g., Carrico and Eckhardt 1998; Cook 1989; Cooley et al. 1996; Robbins-Wade 1990), and the wide-spread, low-density lithic scatters that cover Otay Mesa have created a number of resource management issues. In the late 1990s a management plan was developed by Gallegos et al. (1998) to help focus archaeological research efforts by proposing more stringent site definitions. As such, sparse lithic scatters lacking a substantial subsurface deposit and surface artifact density ratios of less than 0.03 per square meter were defined as "non-sites." The Otay Management Plan concludes that these sparse lithic scatters, or "non-sites" be excluded from site comparisons and research efforts within Otay Mesa, due to their lack of artifact diversity, inability to determine site age, and overall lack of research potential and that research questions and efforts should be focused on habitation sites, temporary camps, quarries, and other sites that can provide insight to chronological, settlement, subsistence, technology, and trade related research topics (Gallegos et al. 1998).

Native American Contact Program

A Native American Contact Program has been initiated with local tribes and tribal representatives to identify tribal cultural resources considered significant to the local Native American community. The Native American Heritage Commission (NAHC) was contacted for a search of their Sacred Lands Files on August 22, 2017. A response was received from the NAHC on August 28, 2017; a search of their Sacred Lands File was completed with negative results for the Brown Field Municipal area. Tribal entities and other interested parties identified by the NAHC were contacted regarding the project on August 30, 2017 (**Table 4.11**). As of October, 12, 2017, one response has been received. On September 7, 2017, the Viejas Band of Kumeyaay Indians responded that the Brown Field Municipal Airport area may contain many sacred sites to the Kumeyaay people. They request that these sacred sites be avoided with adequate buffer zones. Additionally, they request that all applicable federal and state laws be followed and that they are immediately contacted on changes or inadvertent discoveries.

Table 4.11 - Native American Contact Program Communication

Affiliation	Name/Title	Date	Response
		8/22/2017	SLF search request sent via email
		8/28/2017	Received results of Sacred Lands search (negative) and Native American contact list via email
Barona Band of Mission Indians	Edwin Romero, Chairperson	8/30/2017	Letter sent
Campo Band of Diegueño Mission Indians	Ralph Goff, Chairperson	8/30/2017	Letter sent
	Robert Pinto, Sr., Chairperson Michael Garcia, Vice Chairperson		
	Virgil Perez, Chairperson Clint Linton, Director of Cultural Resources		

Inaja Band of Mission Indians	Rebecca Osuna, Chairperson	8/30/2017	Letter sent
Jamul Indian Village of California	Erica Pinto, Chairperson	8/30/2017	Letter sent
Kwaaymii Laguna Band of Mission Indians	Carmen Lucas	8/30/2017	Letter sent
	Javaughn Miller, Tribal Administrator Gwendolyn Parada, Chairperson		
	Angela Elliott Santos, Chairperson Nick Elliott, Cultural Resources Coordinator		
Mesa Grande Band of Diegueño Mission Indians	Virgil Oyos, Chairperson	8/30/2017	Letter sent
Mesa Grande Band of Mission Indians	Mario Morales, Cultural Resources Representative	8/30/2017	Letter sent
	Allen E. Lawson, Chairperson John Flores, Environmental Coordinator		
	Cody J. Martinez, Chairperson Lisa Haws, Cultural Resources Manager		
	Robert Welch, Chairperson Julie Hagen, Tribal Historic Office		

Cultural Resources within the Airport Boundary

The results of the archival research and literature review indicated that 46 cultural resources have been recorded within the boundaries of Brown Field Municipal Airport (**Table 4.12**). The resources consist of 16 buildings or structures, the Historic Otay Mesa Road, segments of diagonal runways, three farmstead sites, the Alta School site, 14 prehistoric lithic and/or shell scatters, and 10 prehistoric isolates.

Table 4.12 - Cultural Resources within Brown Field Municipal Airport

Primary (P-37-)	TRINOMIAL (CA-SDI-)	Description	Significance Status
Built Environment			
018246	--	Auxiliary Naval Air Station Brown Field Historic District; composed of five separate buildings consisting of Naval airfield control tower and four nose end hangar repair docks.	Eligible for listing in the NRHP under Criterion A and C; City of San Diego Historic Landmark #405-409.
018247	--	Rectangular shaped bunkers.	Evaluated as not eligible for listing in the NRHP.
018248	--	Single story rectangular buildings (line shacks).	Evaluated as not eligible for listing in the NRHP; both demolished.
018249	--	Single story rectangular store houses.	Evaluated as not eligible for listing in the NRHP; all have been demolished.
018250	--	Naval airfield galley and mess hall. Single story rectangular buildings.	Evaluated as not eligible for listing in the NRHP; both demolished.
018251	--	Wood framed, single story store house.	Evaluated as not eligible for listing in the NRHP
018252	--	Naval airfield barracks. Narrow, rectangular, single story buildings.	Evaluated as not eligible for listing in the NRHP; demolished.
018253	--	Naval airfield gymnasium. Two story rectangular building.	Evaluated as not eligible for listing in the NRHP; demolished.
018254	--	Naval airfield brig. Single story rectangular building.	Evaluated as not eligible for listing in the NRHP; demolished.
018255	--	Naval airfield barracks. Single story rectangular buildings.	Evaluated as not eligible for listing in the NRHP; both demolished.
018256	--	Naval airfield latrine. Rectangular single-story building.	Evaluated as not eligible for listing in the NRHP; City of San Diego Historic Landmark #410
018257	--	Naval airfield fire station.	Evaluated as not eligible for listing in the NRHP.
018258	--	Naval airfield officer's mess hall and gymnasium. Low, rambling, single story, "U" shaped building with a two-story central section.	Evaluated as not eligible for listing in the NRHP; demolished.
018259	--	Naval airfield waves' barracks. Two story rectangular building.	Evaluated as not eligible for listing in the NRHP; demolished.
018260	--	Naval airfield synthetic trainer building. Single story rectangular building.	Evaluated as not eligible for listing in the NRHP; demolished.
018261	--	Storage locker/building of curved corrugated steel resembling a smallo Quonset hut.	Evaluated as not eligible for listing in the NRHP
031491	--	Historic Otay Mesa Road.	Not evaluated.
Archaeological Sites			
010186	10186	Prehistoric lithic scatter with two loci. Most of the site has been destroyed by construction of SR 905.	Determined not eligible for listing on the NRHP

010196	10196	Prehistoric lithic and shell scatter, extending into CA-SDI-10186. One grinding element on a low-lying boulder also documented.	Determined not eligible for listing on the NRHP
010608	10608	Prehistoric lithic and shell scatter; contiguous with site CA-SDI-10628H (adjacent to the east).	Determined not eligible for listing on the NRHP
010622	10622	Prehistoric lithic scatter.	Recommended as not eligible for listing in the CRHR, NRHP, or local registers
010623	10623	Prehistoric lithic and shell scatter; historic trash scatter, and a historic olive grove	Determined not eligible for listing on the NRHP
010628	10628/H	Foundations and historic debris associated with historic Alta School as well as a prehistoric lithic scatter.	Determined not eligible for listing on the NRHP; a portion of the site is considered significant; City of San Diego Historic Landmark #411
011215/16	11215/11216	Prehistoric lithic scatter. Sites CA-SDI 11,215/ CA-SDI-11216 were combined as one site.	Determined not eligible for listing on the NRHP
014283	14082	Northern extent of CA-SDI-7208; prehistoric lithic scatter.	Evaluated as not eligible for listing in the NRHP; CA-SDI-7208 has been determined ineligible for listing on the NRHP.
015976	14559	Prehistoric lithic scatter.	Not evaluated
015980		Historic farmstead site as shown on historic maps and aerials. No surface features or artifacts observed.	Determined not eligible for listing on the NRHP under Criteria A, B, and C; not evaluated under Criteria D.
015981		Historic farmstead site as shown on historic maps and aerials. No surface features or artifacts observed; however historic artifacts identified within neighboring site (CA-SDI-10623)	Determined not eligible for listing on the NRHP under Criteria A, B, and C; not evaluated under Criteria D.
015982		Historic farmstead site as shown on historic maps and aerials. No surface features or artifacts observed.	Determined not eligible for listing on the NRHP under Criteria A, B, and C; not evaluated under Criteria D.
031948	20226	Concentration of shell, possibly imported	Recommended as not eligible for listing in the CRHR, NRHP, or local registers
031949	20227	Concentration of shell; determined to be a non-cultural secondary deposit	Not eligible for NRHP, CRHR, or local register
031950	20228	Prehistoric lithic scatter and shell scatter. Aerial photographs show that the site area was occupied by military barracks during the 1940s and early 1950s.	Recommended as not eligible for listing in the CRHR, NRHP, or local registers
031951	20229	Concentration of shell, possibly imported	Recommended as not eligible for listing in the CRHR, NRHP, or local registers
031952	20230	Concentration of shell	Recommended as not eligible for listing in the CRHR, NRHP, or local registers

031953	20231	Prehistoric lithic scatter.	Recommended as not eligible for listing in the CRHR, NRHP, or local registers
031954	--	Two segments of the diagonal runways and a segment of a taxiway constructed in 1943 as part of the WWII-era Naval Auxiliary Air Station.	Recommended as not eligible for listing in the CRHR, NRHP, or local registers
Archaeological Isolates			
014298	--	Prehistoric lithic flake	Not eligible for NRHP, CRHR, or local register
015977	--	Prehistoric lithic flake	Not eligible for NRHP, CRHR, or local register
015978	--	Two prehistoric lithic flakes	Not eligible for NRHP, CRHR, or local register
015979	--	Prehistoric core	Not eligible for NRHP, CRHR, or local register
031955	--	Prehistoric lithic scraper	Not eligible for NRHP, CRHR, or local register
031956	--	Two prehistoric lithic scrapers	Not eligible for NRHP, CRHR, or local register
031957	--	Two prehistoric lithic scrapers	Not eligible for NRHP, CRHR, or local register
031958	--	Two prehistoric lithic scrapers	Not eligible for NRHP, CRHR, or local register
031959	--	Prehistoric lithic scraper	Not eligible for NRHP, CRHR, or local register
031960	--	Prehistoric lithic scraper	Not eligible for NRHP, CRHR, or local register

Prehistoric Resources

The prehistoric resources documented within the boundaries of the Airport are all comprised of lithic and/or shell scatters, representing lithic reduction or resource processing areas. Artifacts documented within the sites consist of a light density of lithic debitage and tools.

Habitation sites within the Otay Mesa area are primarily situated at the head of canyons (Gallegos et al. 1998). Moving away from the canyons, extensive lithic scatters take prominence on the mesa, with many of sites overlapping and eventually, being subsumed into neighboring site designations, as seen with CA-SDI-10186/10196, CA-SDI-10608/10628, CA-SDI-11215/11216, and CA-SDI-14082/7208 within the airport property. As mentioned above, it has been suggested that much of the extensive lithic scatter would have been recorded as one incredibly large site had the entire Otay Mesa been surveyed within one study (Gallegos et al. 1998).

The majority of the prehistoric resources within SDM have been documented along the perimeter of the property, in particular in the northern region in, or near, the canyons that lead into the Otay River. It is likely that the construction of airport runways and Naval airfield facilities destroyed much of the light density lithic scatter that undoubtedly existed throughout the majority of the airport area.

Historic-Era Resources

Three of the historic-era resources within the boundaries of the airport are late nineteenth century farms (P-37-015980, P-37-015981, and P-37-015982) that were documented based on information on the 1903 USGS Cuyamaca topographic map, a land ownership map of Otay Mesa (Roll et al. 1985),

and the 1928 aerial. There are no standing structures associated with the farmstead locations. While it was determined by the FAA that these sites are not eligible for listing on the NRHP due to insufficient proof of eligibility, the sites contain the potential for subsurface features or artifacts and it was recommended that evaluation of the resources be conducted in conjunction with specific project plans (Robbins Wade and Van Wormer 1999).

Other historic-era resources include the Alta School Site (CA-SDI- 10628/H), the Historic Otay Mesa Road (P-37-31491), and an historic component of CA-SDI-10623, comprised of a trash scatter and a historic olive grove. The Alta School site is listed as HRB Site #411 for its archaeological significance exemplifying Otay Mesa's unique history. Alta School was constructed in approximately 1885 and was in use until the 1950s. CA-SDI-10623 is located adjacent to P-37-15981 and may represent constituents of the farmstead. The alignment of Otay Mesa Road is shown in its current alignment on the 1903 USGS Cuyamaca topographic map and the 1928 aerial.

Naval airfield facilities that were constructed beginning in the 1940s are primarily clustered in the southwest portion of the airport property. A total of 30 buildings have been documented and evaluated under 16 resource numbers (P-37-18246 through -18261). Five of the buildings comprise the Auxiliary Naval Air Station Brown Field Historic District (P-37-18246) and are listed as HRB Sites #405-409. The District Record form for the resource states the following:

The Auxiliary Naval Air Station Brown Field Historic District is composed of those architecturally significant buildings associated with the use and development of Naval Auxiliary Air Station Otay Mesa and Naval Auxiliary Air Station Brown Field between April 1941, when construction of the facility began, and August 1945 when World War II ended. This period of significance constitutes the years of the national mobilization effort to fight World War II in which the facility played a vital role. The district includes the control tower, and four repair docks known as nose end hangars located along the southern edge of a large concrete aircraft parking apron. Since their construction in 1943 and 1945 these five buildings have been the most prominent and characteristic of Brown Field's World War II era operations. Architectural styles of these buildings constitute utilitarian military designs developed for naval air stations during the war. The buildings were directly associated with aircraft maintenance and repair and station air traffic control during the period of significance. The district's boundaries have been designed to include these five contributing structures and exclude non-contributing elements. While the individual contributing buildings have had varying degrees of alterations they retain a sense of character and function reflective of their role during the period of significance. (Van Wormer 1997).

Additionally, the building recorded as P-37-18256 is documented as HRB Site #410 for its association with the World War II effort.

Figure 4.6 Cultural resources near SDM

This figure is confidential and not for public viewing

Summary and Recommendations

Prior to any future projects that could directly affect an archaeological resource, steps should be taken to determine (1) the presence of archaeological resources and (2) the appropriate mitigation for any significant resources that may be impacted. According the City's HRG, for Purposes of Environmental Review (CEQA), cultural resource surveys are required under the following circumstances:

Historic property (built environment) surveys are required for properties within a project's Area of Potential Effect (APE) which are 45 years of age or older and which have integrity of setting, location, design, materials, workmanship, feeling, and association. In rare instances, properties which have not yet achieved 45 years of age may be historically significant. Among them are: important International Style structures; industrial or military structures significant in Cold War history; buildings, structures, and objects representing significant technological or scientific advances; the works of architectural masters; and roadside-related architecture from the 1950s and 1960s which is fast disappearing. Such resources must be proven to have exceptional significance in their contribution to recent history, as documented by a preponderance of evidence.

Archaeological surveys are required when development is proposed on previously undeveloped parcels, when a known resource is identified on site or within a one-mile radius, when a previous survey is more than five years old if the potential for resources exists, or based on a site visit by a qualified consultant or knowledgeable City staff.

Brown Field Municipal Airport has been categorized into three cultural resource sensitivity levels rated low, moderate, or high. The ratings are based on the archival research, the NAHC Sacred Lands File check, regional environmental factors, and amount of previous disturbance that has occurred.

A low sensitivity rating indicates areas where there is a high level of disturbance or development and few or no previously recorded resources have been documented. Within these areas, the potential for the additional resources to be identified is low. A moderate sensitivity indicates that some previously recorded resources have been identified and the potential for additional resources to be present would be moderate. Areas identified as high sensitivity indicate areas where significant resources are documented.

Even though most of the airport property is developed, the area is within the Otay Mesa where abundant sparse lithic scatters are located, and is situated directly above the Otay River, where buried deposits are possible. Therefore, the undeveloped canyons located within the northern area of the airport are rated with a high sensitivity for cultural resources, as is the Auxiliary Naval Air Station Brown Field Historic District area. Areas where the runways or other development occur are rated with a low sensitivity. The remaining areas, primarily within the eastern and western portion of the airport that are not developed, are rated as a moderate sensitivity.

Land Use

The compatibility of existing and planned land uses with an aviation or aerospace proposal is usually associated with noise impacts, induced socioeconomic impacts or land uses protected under Section 4(f) of the DOT Act. When assessing land use, the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned must be considered.

Regulatory Setting

Airport and Airway Improvement Act

Airport Improvement Program funding for an airport development project may not be approved unless the Secretary of Transportation receives satisfactory written assurance that appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including the landing and takeoff of aircraft.

City of San Diego Municipal Code

The San Diego Municipal Code Land Development Code regulates the use and development of land throughout the city of San Diego. *Chapter 06 Article 08 Division 01, Airports* provides rules and regulations governing the conduct of operations at all City– owned or controlled airports. *Chapter 13 Article 2 Division 15, Airport Approach Overlay Zone* provides additional regulatory guidance surrounding the approach path for San Diego International Airport.

City of San Diego General Plan

The City of San Diego General Plan (June 2015) policies related to airports are set out below. See Land Use and Community Planning Element, G. Airport Land Use Compatibility (p. LU-34 onwards); Noise Element (NE-3 to NE-9 and D. Aircraft Noise NE-12 onwards); and Mobility Element H Airports (ME45 to ME-49):

LU-G.1. Work with the ALUC to develop policies that are consistent with the state and federal regulations and guidelines, that balance airport land use compatibility goals with other citywide and regional goals, and that emphasize the major airport land use compatibility factors.

LU-G.2. Submit all amendments and updates to the General Plan, community plans, specific plans, airport plans, development regulations and zoning ordinances affected by an airport influence area to the ALUC to ensure that they are consistent with the Airport Land Use Compatibility Plan or have the City Council take steps to overrule the ALUC.

LU-G.3. Submit the General Plan, community plans, and specific plans affected by an airport influence area to the ALUC after the adoption or amendment to an Airport Land Use Compatibility Plan to ensure that they are consistent or have the City Council take steps to overrule the ALUC.

LU-G.4. Submit development projects affected by an airport influence area to the ALUC after the adoption or amendment to an Airport Land Use Compatibility Plan to ensure that they are consistent up until the time that the ALUC has determined the General Plan, community plans, and specific plans consistent with the Airport Land Use Compatibility Plan or have the City Council take steps to overrule the ALUC.

LU-G.5. Implement the height standards used by the FAA as defined by Code of Federal Regulations Title 14, Part 77 through development regulations and zoning ordinances.

LU-G.6. Require that all proposed development projects (ministerial and discretionary actions) notify the FAA in areas where the proposed development meets the notification criteria as defined by Code of Federal Regulation Title 14, Part 77.

- Require that all proposed development projects that are subject to FAA notification requirement provide documentation that FAA has determined that the project is not a Hazard

to Air Navigation prior to project approval.

- Require that the Planning Commission and City Council approve any proposed development that the FAA has determined to be a Hazard to Air Navigation once state and ALUC requirements are satisfied.

LU-G.7. Evaluate the siting and expansions of airports, heliports, and helipads/helistops on the basis of aviation and land use need and potential safety and noise impacts on existing and planned surrounding land uses.

LU-G.8. Submit all airport/heliport master plans and development plans to the ALUC prior to City Council adoption.

LU-G.9. Coordinate with the Navy and Marine Corps to ensure that future land use and General Plan community plan, specific plan, development regulations and zoning ordinances amendments are consistent with the Air Installation Compatible Use Zone study for military air installations.

LU-G.10. Encourage civilian and military airport operators, to the extent practical, to:

- Ensure safe airport operations to minimize noise and safety concerns;
- Purchase land within the airport runway protection zone, given available funding sources, to protect airport operations; and
- Obtain avigation easements or deed restrictions from property owners within the airport influence area to prevent air navigation obstructions and increase awareness of aircraft operating overhead.

NE-A.1. Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.

NE-A.2. Assure the appropriateness of proposed developments relative to existing and future noise levels by consulting the guidelines for noise-compatible land use (shown on Table NE-3) to minimize the effects on noise-sensitive land uses.

NE-A.3. Limit future residential and other noise-sensitive land uses in areas exposed to high levels of noise.

NE-A.4. Require an acoustical study consistent with Acoustical Study Guidelines (Table NE-4) for proposed developments in areas where the existing or future noise level exceeds or would exceed the "compatible" noise level thresholds as indicated on the Land Use - Noise Compatibility Guidelines (Table NE-3), so that noise mitigation measures can be included in the project design to meet the noise guidelines.

NE-A.5. Prepare noise studies to address existing and future noise levels from noise sources that are specific to a community when updating community plans.

NE-D.1. Encourage noise-compatible land use within airport influence areas in accordance with federal and state noise standards and guidelines.

NE-D.2. Limit future residential uses within airport influence areas to the 65 dBA CNEL airport noise

contour, except for multiple-unit, mixed-use, and live work residential uses within the San Diego International Airport influence area in areas with existing residential uses and where a community plan and the Airport Land Use Compatibility Plan allow future residential uses.

NE-D.3. Ensure that future multiple-unit, mixed-use, and live work residential uses within the San Diego International Airport influence area that are located greater than the 65 dBA CNEL airport noise contour are located in areas with existing residential uses and where a community plan and Airport Land Use Compatibility Plan allow future residential uses.

- Limit the amount of outdoor areas subject to exposure above the 65 dBA CNEL; and;
- Provide noise attenuation to ensure an interior noise level that does not exceed 45 dBA CNEL.

NE-D.4. Discourage outdoor uses in areas where people could be exposed to prolonged periods of high aircraft noise levels greater than the 65 dBA CNEL airport noise contour.

NE-D.5. Minimize excessive aircraft noise from aircraft operating at Montgomery-GIbbs Executive to surrounding residential areas.

- Implement a noise-monitoring program to assess aircraft noise.
- Implement nighttime aircraft noise limits and a weight limit for aircraft using the airport.

NE-D.6. Encourage civilian and military airport operators, to the extent practical, to monitor aircraft noise, implement noise-reducing operation measures, and promote pilot awareness of where aircraft noise affects noise-sensitive land uses.

NE-D.7. Limit future uses within airport influences areas when the noise policies in the compatibility plans are more restrictive for uses affected by aircraft noise than shown on Table NE-3.

NE-I.1. Require noise attenuation measures to reduce the noise to an acceptable noise level for proposed developments to ensure an acceptable interior noise level, as appropriate, in accordance with California's noise insulation standards (CCR Title 24) and Airport Land Use Compatibly Plans.

NE-I.3. Consider noise attenuation measures and techniques addressed by the Noise Element, as well as other feasible attenuation measures not addressed as potential mitigation measures, to reduce the effect of noise on future residential and other noise-sensitive land uses to an acceptable noise level.

The Noise Element identifies that 'Noise levels from Brown Field and Montgomery Field municipal airports are not as extensive as the noise levels from SDIA and MCAS Miramar. Typically, the smaller general aviation aircraft, both propeller and jet aircraft operate from Brown and Montgomery Fields. Due to the length of its runways, Montgomery Field cannot accommodate all types of general aviation aircraft. Noise-compatible commercial and industrial uses are adjacent to the airport. Aircraft noise affects residential areas in surrounding communities. To minimize the impact on surrounding residential areas, Montgomery Field has a noise-monitoring program to assess aircraft noise and regulations, including a nighttime noise limits and a weight limit for aircraft using the airport. General aviation propeller and jet aircraft, as well as law enforcement and military aircraft, use Brown Field. Noise-compatible open space and industrial uses are primarily adjacent to Brown Field. Aircraft noise affects residential uses to the west of the airport.'

ME-H.2. Participate in the development and implementation of long-range regional plans that address regional commercial air carrier capacity to accommodate forecasted air passenger and cargo demands and the integration of multimodal ground connections to the regional aviation system.

ME-H.3. Provide general aviation facilities at Montgomery-Gibbs Executive and Brown Field in accordance with their respective airport master plans or layout plans, City regulations, and FAA requirements.

a. Accommodate forecasted general aviation demand within the limitations of federal, state, and local funding, user fees, and environmental and regulatory constraints.

b. Seek federal and state funding assistance to develop, implement, and update Airport Master Plans, as needed, for Montgomery-Gibbs Executive and Brown Field to support the forecasted demand for general aviation and public safety operations.

Airport Layout Plan

The FAA required Airport Layout Plan (ALP) serves as a record drawing and future development guide for the airport. The ALP contains an airport airspace plan, runway protection zone plan and a property inventory map. The ALP includes a series of drawings that precisely illustrates the layout of existing airport facilities and proposed facilities.

Existing Conditions

Major federal lands within the county, include Camp Pendleton Marine Corps Base, and numerous U.S. Navy facilities adjacent to San Diego Bay (North Island Naval Air Station, Naval Amphibious Base, Naval Station San Diego and Naval Submarine Base).

According to the City of San Diego General Plan, the Airport is designated as Institutional & Public and Semi-Public Facilities land use.

The boundary of Review Area 1 of the AIA encompasses land within the City of San Diego, the City of Chula Vista, and unincorporated San Diego County. Review Area 2 includes the same jurisdictions, in addition to the City of National City and the City of Imperial Beach. The U.S./Mexico border is located one mile south of Airport and delineates the southern edge of the AIA.

Generally, areas to the east, west and south are developed but less developed in other areas. Regarding existing airport area land uses from the runways:

- East (Runway 26L and 26R) - La Media Road; S.R. 125; Transportation and Utilities; and
- West (Runway 8L and 8R) - Heritage Road Transportation and Utilities; Industrial; Warehouse/Storage; Open Space.

According to the ALUCP, regarding County of San Diego planned airport area land use:

- East: Specific Plan Area, Rural Residential (Estate), Public/Semi-Public

According to the ALUCP, regarding City of San Diego planned airport area land use:

- North: Open Space, Light Industrial

- South: Industrial, Commercial, and Open Space
- East: Light Industrial
- West: Light Industrial, Commercial, Residential (various densities), Education and Public facilities, and Open Space

According to the ALUCP, regarding City of Chula Vista planned airport area land use:

- North/Northeast: Open Space, Residential (various densities), Education and Public facilities, Commercial, and Light Industrial

Further details on the ALUCP for the airports, including Compatibility Policy Maps for Noise, Safety, Airspace protection, Overflight, AIA, Avigation Easement and Overflight Notification Areas can be found on the San Diego County Regional Airport Authority's website (http://www.san.org/Airport-Projects/Land-Use-Compatibility#118076-alucps).

Existing and Future Noise Exposure Contours

Noise levels in the vicinity of the Airport are expected to stay fairly constant, despite the projected increase in aircraft operations. The similarity between the existing conditions noise contours and future noise contours can be attributed to anticipated changes in the type of business jets operating at the Airport. With the anticipated increase in business jet activity at the Airport, it is assumed that the older and noisier business jets that operated in 2006 will gradually be replaced with quieter turbojet aircraft in the future.

Summary and Recommendations

The master plan update will need to be mindful of existing and planned land use and the associated plans for Noise, Safety, Airspace protection, Airport Impact Areas, Avigation Easement and Overflight Notification Areas and would need to ensure compatibility with the ALUCP's for the airports, along with plans and planned developments in neighboring community plan areas.

A plan indicating ownership of the land surrounding the airports will also need to be produced.

Noise and noise compatible land use

The Aviation Environmental Design Tool, Version 2c SP2, (AEDT) was used to generate noise contours for existing conditions.

Regulatory Setting

The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1968 and the Noise Control Act of 1972

This Act established regulations to abate noise and authorized the FAA to prescribe standards for the measurement of aircraft noise.

The Noise Control Act of 1972 amended the Control and Abatement of Aircraft Noise Sonic Boom Act of 1968 to add consideration of the protection of public health and welfare and to add the EPA to the rulemaking process for aircraft noise and sonic boom standards.

Aviation Safety and Noise Abatement Act of 1979

The Act (as amended) aids airport operators in the preparation and undertaking of noise compatibility programs, helps to provide assistance to assure continued safety in aviation, and provides assistance to aircraft operators to aid them in complying with noise standards.

Compatible land use essentially means the use of the land is normally compatible with the outdoor noise environment at the location (14 CFR §150.7). Compatible land use analysis considers the effects of noise on special management areas, such as national parks, national wildlife refuges, and other sensitive noise receptors.

Airport and Airway Improvement Act of 1982

This Act authorizes funding for noise mitigation and noise compatibility planning and projects, and establishes certain requirements related to noise-compatible land use for Federally-funded airport development projects.

Airport Noise and Capacity Act of 1990

This Act mandated the phaseout of Stage 2 jet aircraft over 75,000 pounds, and establishes requirements regarding airport noise and access restrictions for Stage 2 and 3 aircraft.

Prohibition on Operating Certain Aircraft Weighing 75,000 Pounds or Less Not Complying with Stage 3 Noise Levels [Section 506 of the FAA Modernization and Reform Act of 2012]

After December 31, 2015, a person may not operate a civil subsonic jet airplane with a maximum weight of 75,000 pounds or less unless the Secretary of Transportation finds that the aircraft complies with stage 3 noise levels.

FAA Order 1050.1F: Environmental Impacts: Policies and Procedures

Order 1050.1F provides the most recent FAA for NEPA documentation for an EA (Environmental Assessment) which is a requirement to understand the impact of an action (e.g. a change to the operation of the airport). The Order provides guidance that any action (e.g. a change to the operation of an airport, for example) undergo an assessment which compares results of that change against a 'No Action Alternative,' and provides guidelines for what is considered a 'Significant Impact' under FAA guidance. If there is an impact identified, this would trig another round of NEPA documentation and review, called an EIS (Environmental Impact Statement).

Within Order 1050.1F, the determination of an impact for an Environmental Impact Category, of which one is Noise and Noise Compatible Land Use, is reliant on defined significance thresholds. For Noise and Noise Compatible Land Use, the significance threshold that would constitute a Significant Impact is an increase noise levels by 1.5 dB DNL or more for noise sensitive site as defined by Title 14 Code of Federal Regulations Part 150 (14 CFR Part 150)[12] that is currently exposed to a noise level of 65 dB DNL or greater. Categories under this include residential uses, public use like schools, hospitals, nursing homes, and places of worship, and so on. In short, if the No Action case shows a noise sensitive area, like a home (a residential land use), is exposed to a level of 65 dB DN and the Action Case shows that noise sensitive site experiences an increase of 1.5 dB DNL or greater, it is considered a Significant Impact. For example, a home experiences a noise level of 67 dB DNL in the No Action Case and in the Action Case experiences a noise level of 69 db DNL. This is an increase of 2 dB DNL and is by definition a Significant Impact. This is because it is an increase of 2 dB, and therefore is greater than the significance threshold of 1.5 dB DNL within the 65 dB DNL area.

12 14 CFR Part 150 Appendix A, Part B, Sec. A150.101(f)4 Table 1 - Land Use Compatibility With Yearly Day-Night Average Sound Levels. https://www.ecfr.gov/cgi-bin/text-idx?SID=f8e6df268e3dad2edb848f61b9a0fb51&mc=true&node=pt14.3.150&rgn=div5

Further, Order 1050.1F defers to Section (f)[13] in consideration of what is defined as a noise sensitive site for consideration beyond the normal scope including, noise sensitive areas within national parks and national wildlife and waterfowl refuges, or historic sites and traditional cultural properties. 14 CFR Part 15 does not consider these noise sensitive sites as it does not include the relevance of the value, enjoyment, or cultural or historical significance of the areas mentioned above. Therefore, special guidance utilized for consideration as the 65 dB DNL does not adequately address the impacts of aircraft noise in areas where ambient noise be much quieter, such as a national park or wildlife refuge. In these cases, the Secretary of Transportation of the United States Government makes a determination of whether or not the Action Case impact versus to No Action Case impact is a *de minimis* impact, meaning not significant impact or if it will be considered a Significant Impact.

Existing Conditions

The Airport is located within San Diego County and the City of San Diego directly north of California Route 905 (Otay Mesa Freeway), and west of California Route 125 (South Bay Expressway). The Airport has two parallel runways: Runway 08L/26R and Runway 08R/26L.

A separate Baseline Noise and Air Quality Modeling Assumptions Technical Memorandum has been produced to summarize the baseline aircraft noise assumptions, inputs, and results for the Airport Master Plan for calendar year 2017.

Contour Results

Figure 4.7 presents the 2017 Master Plan CNEL baseline contours and **Table 4.13** presents the residential population and housing impacts at Brown Field Municipal Airport.

Table 4.13 - Population and Housing Units within SDM's 2017 Baseline Contour

Contour	Population	Housing Count
CNEL 65-70	0	0
CNEL 70-75	0	0
CNEL >75	0	0

13 49 U.S.C. § 303 was originally enacted as Section 4(f) of the Department of Transportation Act of 1966 and is still commonly referred to as "Section 4(f)".

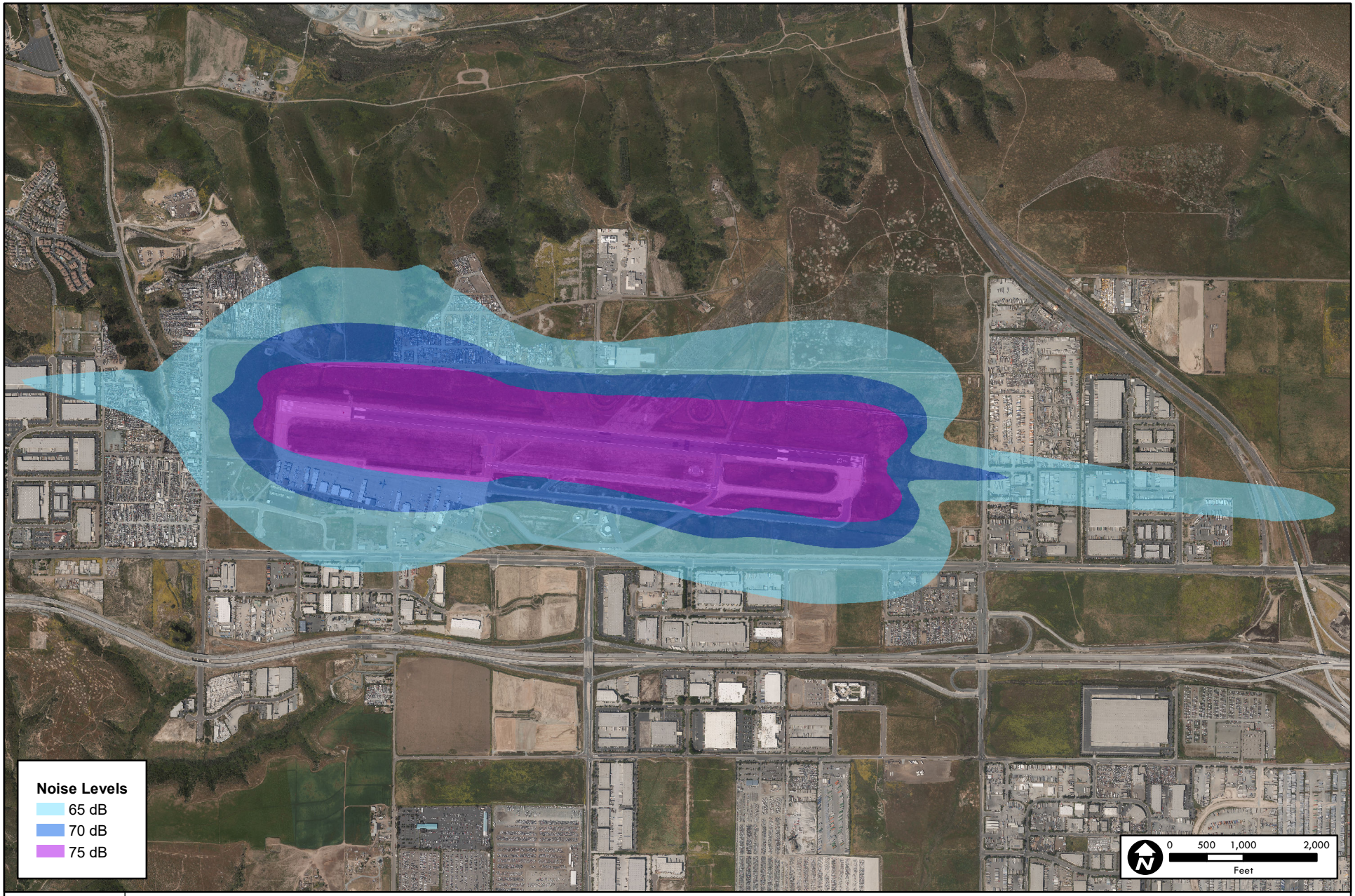

FIGURE 4.7

CNEL Baseline Contour for SDM

Sources: HMMH 2017, SanGIS 2017

100054723 MYF/SDM Master Plans

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Summary and Recommendations

Further assessment of noise sensitive receptors and potential impact to these receptors is required, especially in light of the change to the 65 db CNEL contours. Sensitive receptors include resources such as those identified within the Department of Transportation Section 4(f) chapter, cultural and biological resources, parks and recreational areas, residential dwellings and educational, health, and religious structures. In the context of noise from airplanes and helicopters, noise sensitive areas include such areas within the DNL 65 dB noise contours. The Area Equivalent Method (AEM) may be used to determine if it is possible to screen out aircraft noise. As specified by the FAA's 1050.1F Desk Reference, if AEM calculations indicate that the action would result in less than a 17 percent (approximately a DNL 1 dB) increase in the DNL 65 dB contour area, there would be no significant impact over noise sensitive areas and no further noise analysis would be required. While the AEDT has been used in this instance, which is a more thorough type of screening tool, it is necessary to qualify whether there are impacts to those aforementioned noise sensitive receptors and acoustic survey may assist in quantifying ambient noise levels in the vicinity of the airports.

4.6 Key Resources with No Significant Impact

Climate

Regulatory Setting

Clean Air Act

As per the details in the Air Quality section, the Clean Air Act regulates greenhouse gas (GHG) emissions from on-road surface transportation vehicles and stationary power generation sources.

Executive Order 13514 Federal Leadership in Environmental Energy and Economic Performance; and Executive Order 13653, Preparing the United States for the Impacts of Climate Change

Executive Order 13514 ensured that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. It has since been revoked and replaced by Executive Order 13653 to establish direction for federal agencies on how to improve on climate preparedness and reliance strategies.

Existing Conditions

According to the U.S. Department of Transportation's report on U.S. Airport Greenhouse Gas Emissions Inventories, airports that have estimated all sources of GHG emissions at their airports have found that Scope 3 (indirect emissions from aircraft and ground vehicles) contribute the largest share, approximately 80-90 percent of total carbon dioxide equivalents (CO_{2e}), the standard unit of GHGs, while direct Scope 1 and 2 emissions[14] collectively represent 10-20 percent. San Diego International Airport has over 90 percent of Scope 3 emissions, according to the same report.

According to the 2013 San Diego County Greenhouse Gas Inventory, civil aviation, mainly interstate flights from San Diego International Airport (SDIA), is the fourth highest emitting category (six percent). There are no details on the GHG emissions at the Airport; however, it is likely that these will be a fraction of the GHGs of SDIA due to the fact there are considerably smaller and less powerful aircraft using the two reliever airports.

14 Scope 1 emissions are emissions owned and controlled by the airport operator, such as fuel needed to power the aircraft and airport vehicles and airport facilities. Scope 2 emissions are those emissions from the offsite generation of energy purchased by the airport operator such as purchased electricity.

The City of San Diego developed its own Climate Action Plan to reduce GHG emissions and achieve long-term resiliency and sustainability. The plan, approved in 2015, includes a goal of reducing GHG emissions by 50 percent by 2035. A major action aimed at meeting this goal is reducing energy consumption in municipal facilities.

Summary and Recommendations

The U.S. Department of Transportation's report on U.S. Airport Greenhouse Gas Emissions Inventories indicates that using the Aviation Environmental Design Tool (AEDT) is a reliable and effective way to estimate aircraft GHG emissions. Since this tool has been used to assess Air Quality emissions, including CO_2 as a GHG, it is therefore proposed that any future GHG assessment will be covered by future air quality analysis.

Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

Socioeconomic impacts are experienced when the proposed action and alternative(s) might affect population, employment, housing, and public services.

Environmental justice ensures fair treatment of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Federal agencies are directed to identify and assess environmental health risks and safety risks that may disproportionately affect children.

Regulatory Setting

Uniform Relocation Assistance and Real Property Acquisition Policies Act

If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, must be met for federal projects and projects involving federal funding. Otherwise, all state and local laws, regulations, and ordinances concerning zoning, transportation, economic development, housing, etc. when planning, assessing, or implementing the proposed action or alternative(s) must be observed.

Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The purpose of Executive Order (EO) 12898 is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities, including addressing the disproportionately high and adverse human health or environmental effects on minority and low-income populations. Subsequent Orders at the federal level, including DOT Order 5610.2(a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (DOT 2012), have reinforced the directives outlined in EO 12898.

The EO also makes clear that its provisions apply fully to programs potentially affecting American Indian tribes. EO No. 12898 requires a consideration of "environmental justice" for communities that are primarily composed of minority and/or low-income residents or those geographies that contain a "meaningfully greater" proportion of minority and/or low-income residents than the surrounding

population (i.e., a regional concentration). Thus, geographies with minority and/or low-income populations that compose 50 percent or more of the total population are considered environmental justice populations.

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks

EO 13045, requires federal agencies to identify disproportionately high and adverse impacts to children. Children may suffer disproportionately more environmental health and safety risks than adults because of various factors such as: children's neurological, digestive, immunological, and other bodily systems are still developing; children eat more food, drink more fluids, and breathe more air in proportion to their body weight than adults; children's behavior patterns may make them more susceptible to accidents because they are less able to protect themselves; and children's size and weight may diminish their protection from standard safety features.

Existing Conditions

Baseline demographics

The most reliable information is available within the 2010 U.S. Census. This data contains the most recent information on minority and low-income populations.

As per the Airport Land Use Compatibility Plan, the maximum airport-related noise level considered compatible for new residential development in the environs of the airports is 65 dB CNEL. To ascertain the demographics, the specific data (minority[15] and low-income[16] populations) associated with each census tract that touches and contains the 65 dB CNEL noise contour was analyzed. It should be noted that correlating census tract information with the 65 dB CNEL and higher noise contours at each of the airports may result in an overestimation of the number of people contained within that contour. This is because the census tracts that intersect with the 65 dB CNEL noise contour cover an area that is larger than the contour itself. It is the intersection of the Census Tracts with the 65 dB CNEL noise contour that yields the total population and the minority and low-income percentages set out in the following section.

The Airport falls within the San Diego-Carlsbad Metropolitan Statistical Area (MSA).

Acquisition and relocation

As the Airport is revising its master plan, there is no direct acquisition and relocation associated with the master plan process. For social impacts associated with acquisition and relocation, the existing community plans for Otay Mesa were reviewed for land use compatibility, along with the respective ALUCPs.

In addition to the land use recommendations as set out in the Otay Mesa Community Plan, the ALUCP for the Airport sets out safety zones surrounding the runway and approaches which prohibit certain development. These are standardized. For example, in Safety Zone 1 no new residential developments are allowed; in Safety Zone 2 and 5, new residential development at a density greater than four dwelling units (DU)/gross acre is classed as incompatible and in Safety Zone 3, new residential development at a density greater than 16 DU/gross acre is classed as incompatible. There are also additional specifications for each of the Safety Zones 1 through 6 as set out in the ALUCP.

15 US Census data states minorities are individuals who are a member of one of the following population groups: Black (not of Hispanic origin), Hispanic, Asian, American Indian or Native Alaskan.
16 Consistent with DOT Order 5610.2, "low-income persons" were defined as those whose "median household income is below the DHHS poverty guidelines.

Brown Field Municipal Airport

The Airport is situated within Otay Mesa, with San Ysidro and Otay Mesa-Nestor communities to the west, the City of Chula Vista and the Otay Valley Regional Park to the north, the jurisdictional boundary of the County of San Diego to the east and the U.S./Mexico border and the City of Tijuana to the south. The Airport and its 65 dB CNEL is entirely within San Diego County Census Tract 100.14, an 11-square-mile area.

Overview of Minority (by Race and by Ethnicity) Population

Using 2010 U.S. Census and ArcGIS data, information contained within the census tract for the area within the 65 dB CNEL was tabulated. The total population within the project area is 17,679. Of this population, 60 percent (10,700 people) is identified as minority (by race).

Using 2010 U.S. Census and ArcGIS data information for the area as noted above; of this population, 50 percent (8,943 people) is identified as Hispanic or Latino.

Based on the census data, census tract 100.14 is considered an environmental justice community as the total minority racial and ethnic population is greater than 50 percent of the population.

Overview of Low-Income Population

Using 2010 U.S. Census and ArcGIS data, information contained within the census tract for the area was tabulated. The total number of households within the project area is 3,523. Of these households, three percent (360 people) are identified as being in poverty. According to EPA's Environmental Justice Screening and Mapping Tool (Version 2016), 18 percent are classed as low-income.

Based on available data, the residents of census tract 100.14 are not considered a low-income or impoverished population as the percentage of persons living in poverty is less than 50 percent of the total census tract population.

Overview of Population by Age

According to 2010 census data, there were 4,084 people (2,131 male, 1,953 female) under 18 in census tract 100.14. This is 23.1 percent of the population of the census tract. There were also 654 people (302 male, 352 female) 65 and over. This is 3.7 percent of the population of the census tract. Due to the fact that only 26.8 percent of the population is under 18 or 65 and older, it is unlikely that environmental health and safety risks would be disproportionate to children or the elderly.

Overview of Relevant Community Plans

The majority of the land within the airport boundary is classed as Special Airport Study Area on the Otay Mesa Vision Map, within the Otay Mesa Community Plan. Additional areas include open space.

To the north of the site lies an area envisioned for Light Industrial, Open Space and a U.S. Government facility (U.S. Border Patrol), this extends to the City of San Diego boundary with the City of Chula Vista. Within the City of Chula Vista Greenbelt Master Plan, the area immediately north of the airport boundary is classed as greenbelt. The County of San Diego's Otay Community Planning Area is also situated north of the Airport's boundary and they also designate the land as Open Space (Conservation).

To the east of the airport boundary lies areas envisioned as a mixture of Heavy and Light Industrial by the Otay Mesa Community Plan. Beyond the City of San Diego municipal boundary, areas of Public/Semi-public Facilities as set out in the Otay Community Planning Area and Light Industrial,

Technology Business Park and Mixed Industrial and Heavy Industrial are interspersed with Conservation/Limited Land Use as specified by the East Otay Mesa Business Park Specific Plan.

To the immediate south of the Airport lies an envisioned Industrial Center, with Parks, Heavy Commercial on the north side of the Route 905 and to the south of Route 905 and up to the Mexican border, a mixture of Business Parks, Open Space, Parks, Community Village and Light and Heavy Industrial and Heavy Commercial land use. Additionally, a Community Village Center is proposed as part of the Otay Mesa Central Village Specific Plan.

To the west, more Light and Heavy Industrial is planned, with Open Space, Regional Commercial and a mixture of Low (5-9 DU/acre) and Medium Residential (15-29 DU/acre) surrounding the Education/Recreation Activity Center of the San Ysidro High School.

Summary and Recommendations

Potential construction and operation activities could cause potential environmental effects to environmental justice communities, such as those within census tract 100.14 which encompasses the Airport, as the community is considered this as the total minority racial and ethnic population is greater than 50 percent of the population within the socioeconomic study area. Further assessment of whether a disproportionately high and adverse effect on minority populations is therefore needed. However, since census tract 100.14 has limited residential dwellings it is likely there will be limited impact on minority populations.

It is unlikely there would be impacts associated with relocation or property acquisition; impacts associated with low-income or impoverished communities; or from environmental health risks and safety risks to children's health.

Visual effects (including light emissions)

Visual effects are associated with the extent to which the proposed action would:

- Produce light emissions that create annoyance or interfere with activities; or
- Contrast with, or detract from, the visual resources and/or the visual character of the existing environment.

Visual effects are broken into two categories:

- Light Emission Effects; and
- Visual Resources and Visual Character

Light emissions

Light emissions refer to the combined light that shines from artificial types of outdoor lighting. With regard to aviation and aerospace actions, these light emissions can entail airfield and apron flood lighting, navigational aids, terminal lighting, parking facility lighting, roadway lighting, safety lighting on launch pads, additional lighting to support nighttime commercial space launches, and light generated from such launches. Glare is also a type of light emission that occurs when light is reflected off a surface (e.g., window glass, solar panels, or reflective building surfaces).

Light emissions can affect human actions such as sleep and the enjoyment of recreation areas. They can create skyglow, which is a background illumination of the night sky that often occurs when light is scattered by water droplets in the form of rain, snow, fog, clouds, or high humidity.

Visual Resources and Visual Character

Visual resources encompass all visible natural features in the landscape, such as mountains, forests, rocks, open water, estuaries, and streams, along with existing human-made structures on the landscape, such as buildings, sites, traditional cultural properties, and other natural or human-made landscape features that are visually important or have unique characteristics. Visual resources may include structures or objects that obscure or block other landscape features.

Visual character refers to the overall visual makeup of the existing environment where the proposed action and alternative(s) would be located. In proximity to densely populated areas, these generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, or deserts, etc.

Regulatory Setting

There are no federal special purpose laws or requirements specific to light emissions and visual effects, although there may be relevant laws and requirements such as Section 106 of the National Historic Preservation Act (NHPA), Section 4(f) of the DOT Act, the Wild and Scenic Rivers Act, the Coastal Zone Management Act, and state and regional coastal protection acts. Visual resources are also protected and managed on federal resource lands, such as under U.S. Forest Service Resource Management Plans and the Bureau of Land Management Visual Resource Management System.

Additionally, there are typically no formal required federal consultation processes, permits, or other approvals related to visual effects.

Existing Conditions

Light emissions

As per FAA policy guidance on light emissions and visual resources, the unique resources of the area that could be affected by light emissions and unique characteristics of the area should be considered. There are several resources within one-half mile of the Airport, including one school, one place of worship and one fire station. There is also greenbelt and trails to the north of the airport site (Wolf Canyon) associated with the Otay Valley Regional Park (East) segment.

Additionally, there are numerous cultural resources in the vicinity of the Airport that could be impacted by light emissions, including 16 buildings or structures, the Historic Otay Mesa Road, segments of diagonal runways, three farmstead sites and the Alta School site.

There are sensitive on-site biological resources including vernal pools, San Diego fairy shrimp populations, San Diego button-celery populations, wetlands, Tier I habitat (maritime succulent scrub), and occupied burrowing owl burrows.

Visual Resources and Visual Character

The visual character of the Brown Field Municipal Airport area is that of a moderately-developed landscape, interspersed with Open Space. To the east, west and south is a mix of Commercial, Industrial, and Open Space land use. North of the Airport, there is also Industrial and Open Space, as well as a block of Military use. Residential use encroaches off the northwest end of the Airport. To the far east, Otay Mountain, part of the San Ysidro Mountains, rises to an elevation of 3,566 feet and is a major scenic vista for the region.

The Otay Mesa Community Plan identifies seven view corridors in the vicinity of the Airport, three to

the south, including a "gateway" at the entrance of the Airport and one in the southeast and southwest corners of the airport perimeter, and four view corridors to the north to northwest associated with the Open Space south of the Otay River. Policy 4.12-4 of the Community Plan states "Locate viewpoints to the Otay River Valley within the Brown Field redevelopment area north of Aviator Road."

There are no designated state scenic highways within the view shed of the proposed action area.

Summary and Recommendations

Light emission impacts on biological resources, including migratory birds, properties protected under Section 4(f) and historic properties under Section 106 of the NHPA are considered to an extent within the relevant chapters of this report. However, it is likely that once the Airport Master Plan is finalized and in advance of future projects being developed under the master plan, details of light-emitting sources will need to be considered in greater detail, and will be subject to further environmental review to ensure there is no adverse impact on these resources.

Since the Airport is already located within its respective community, it is imperative that the master plan does not create an incompatible land use which would create an annoyance for people in the vicinity or interfere with their normal activities, including work and recreation.

Consideration of future proposed above-ground structures should ensure that any new structure would not be a dominant physical feature in the area. Any new development areas within the master plan should ensure aesthetical consistency with existing industrial and commercial development in the surrounding areas. Additionally, the proposed action should specify the following for future development:

- Would not include any large expanses of reflective material, such as glass commonly used for office building;
- That all exterior lighting would be motion-sensitive rather than steady burning, and would be downcast and shielded/baffled to keep light within the footprint of the facilities;
- That all lighting would comply with relevant Light Pollution Code and ordinances and would not create a new source of night lighting or glare; and
- Consider ways that the application of design, art, architecture, and landscape architecture to could visually enhance or obscure potentially intrusive or adverse visual impacts.

As there are no scenic highways in the vicinity of the airport, the proposed action would not result in impacts on existing scenic resources within a state scenic highway, nor is it likely that future development would inhibit existing highways to be designated as scenic in future.

Due to the seven view corridors in the vicinity of the airport site, master plan development should be mindful of these and aim to augment, rather than detract from these view corridors.

Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

Water resources include surface waters and groundwater, which provide drinking water and support associated functions such as recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems.

Surface water, groundwater, floodplains, and wetlands do not function as separate and isolated components of the watershed, but rather as a single, integrated natural system. Disruption, or reduction in quality, of any one part of this system can have consequences to the functioning of the entire system.

Because of the close and integrated relationship of these resources, analysis of this resource is conducted under an all-encompassing impact category, water resources. Wild and Scenic Rivers are included because impacts to these rivers can result from obstructing or altering the free-flowing characteristics of a designated river, an impact more closely resembling an impact to a water resource.

Regulatory Setting

Executive Order 11988: Floodplain Management

Executive Order 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by floodplains. Under Order DOT 5650.2, Floodplain Management and Protection, agencies are required to make a finding that there is no practicable alternative before taking action that would encroach on a base floodplain based on a 100-year flood.

Executive Order 11990: Protection of Wetlands

Executive Order 11990 requires federal agencies to avoid adverse impacts associated with the Destruction/ modification of wetlands and to avoid direct/indirect support of new construction in wetlands wherever there is a practicable alternative. DOT Order 5660.1A, Preservation of the Nation's Wetlands implements the guidelines in Executive Order 11990.

National Flood Insurance Act

The National Flood Insurance Act established the National Flood Insurance Program, a voluntary Federal Emergency Management Agency (FEMA)-implemented floodplain management program for communities (cities, towns, or counties). Any action within a FEMA-mapped floodplain in a participating community must follow the community's FEMA-approved floodplain management regulations.

Code of Federal Regulations (CFR), Title 44—Emergency Management and Assistance, Chapter I—FEMA

Contains the policies and procedures for FEMA to regulate floodplain management and to analyze, identify, and map floodplains for the National Flood Insurance Program (NFIP)

Clean Water Act

The Clean Water Act establishes the structure for regulating the discharge of pollutants into waters of the United States (a jurisdictional surface water or wetland). Section 401 of the Act states that to ensure a project does not violate state or tribal water quality standards, a Water Quality Certificate is

required.

Fish and Wildlife Coordination Act

This Act requires federal agencies to coordinate with USFWS if a project may result in control or modification of the water of any stream or other water body (including wetlands).

Safe Drinking Water Act

Prohibits federal agencies from funding actions that would contaminate an EPA-designated sole source aquifer or its recharge area.

Wild and Scenic Rivers Act

This Act created the National Wild and Scenic Rivers System to preserve certain rivers with outstanding natural, cultural, and recreational values. Four federal agencies administer the Wild and Scenic Rivers Act for rivers within the National System; the US Department of the Interior Bureau of Land Management (BLM), the US National Park Service (NPS), the US Fish and Wildlife Service (USFWS), and the US Forest Service (USFS).

Existing Conditions

Floodplains are lowland areas adjoining inland and coastal waters which are periodically inundated by flood waters, including flood-prone areas of offshore islands. Floodplains are often discussed in terms of the 100-year flood and these are set out on FEMA maps.

According to the Clean Water Act, wetlands are areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support…a prevalence of vegetation typically adapted for life in saturated soil conditions."

Surface waters include streams, rivers, lakes, ponds, estuaries, and oceans.

Floodplains

According to the FEMA maps (map references 06073C2178G and 06073C2179G), while the Otay River is situated due north, and Johnson Canyon Creek is to the east, the Airport and land surrounding its border is within Zone X - areas determined by FEMA to be outside 0.2-percent annual chance floodplain.

Surface waters

The USGS's National Hydrography Dataset indicates two ephemeral rivers/streams running to the north of Pogo Row, flowing towards the Otay River.

Wetlands

According to the USFWS NWI, the following wetland types are mapped within the study area:

- PEM1A - Palustrine, Emergent, Persistent, Temporary Flooded
- PEM1Cx - Palustrine, Emergent, Persistent, Seasonally Flooded, Excavated
- PSSA - Palustrine, Scrub-Shrub, Temporary Flooded
- PUSAx - Palustrine, Unconsolidated Shore, Temporary Flooded, Excavated
- R4SBA - Riverine, Intermittent, Streambed, Temporary Flooded
- R4SBC - Riverine, Intermittent, Streambed, Seasonally Flooded

The majority of NWI mapped wetlands within the study area occur to north of the site, and are

associated with the Otay River. However, there are two freshwater ponds listed as being on site, to the north of Runway 26R and a riverine intermittent streambed to the north of Runway 8L.

Groundwater
There are no Sole Source Aquifers in the vicinity of the Airport; however, Campo/Cottonwood Creek Aquifer SSA is approximately six miles to the east of the Airport. This does not appear to be in hydraulic connectivity with the Airport site or the Otay River.

Wild and Scenic Rivers
There are no designated Wild and Scenic Rivers in the vicinity of the Airport. The closest are Bautista Creek, Fuller Mill Creek, North Fork San Juan and Palm Canyon Creek, proximal to Palm Springs, California and situated within the San Bernardino National Forest. This is a considerable distance away from the Airport and would not be impacted.

Summary and Recommendations
The Airport is not within a floodplain, so no further assessment is required regarding Floodplains. Further consideration of the ephemeral rivers/streams may be required as USGS's National Hydrography Dataset and USFWS indicates ephemeral rivers/streams are in the vicinity. Any future potential construction activities towards the northern side of the SDM site (north of Pogo Row) would need to consider the impact on the ephemeral river/stream and the fact that this drains into the Otay River.

Section 404 of the Clean Water Act regulates impacts to waters of the U.S., including wetlands and open water features. To ensure there is no net loss of functionality or values to the wetlands, impacts must be avoided, minimized, or mitigated. To the greatest extent practicable, future planning and design will incorporate avoidance and minimization of impacts to known wetland areas. Where avoidance and minimization would not be practicable, mitigation for impacts to wetlands could be achieved through the use of temporary and permanent Best Management Practices (BMPs). A Wetland delineation should be undertaken in order to determine if any areas are present in the affected environment that meet a regulatory definition of a wetland.

Whilst not applicable to a master plan proposed action, it should be noted that a Section 404 permit would potentially be required from the USACE to authorize placement of dredge and fill material in any water of the U.S., including wetlands. Impacts under 0.5 acre often are permitted under existing Nationwide Permits (NWP), such as NWP 14, which covers linear transportation projects. Impacts greater than 0.5 acre would require obtaining an Individual Permit. An Individual Permit includes a public notice and would trigger a NEPA clearance for the USACE. Generally, mitigation would be required under either permit type for impacts exceeding 0.1 acre of jurisdictional waters of the U.S., including wetlands. Prior to application for a permit, a wetland delineation survey would need to be conducted to document wetland boundaries and impact footprints. It should be noted that before the USACE can issue a Section 404 permit, a Section 401 water quality certification must first be obtained from the State Water Resources Control Board. This serves to highlight that there would potentially be project delays if the timeline for permit application is not considered within the proposed action timeline.

Whilst not applicable to a master plan proposed action, it should be noted that if any future proposed action or alternative(s) has the potential to discharge pollutants into waters of the United States through a point source, a National Pollutant Discharge Elimination System (NPDES) permit will likely need to be obtained.

4.7 Environmental Constraints Figures

The following images present a subset of all the resources at the Airport that may trigger additional review and design alternatives, or present health or safety issues. For example, if during NEPA review, design proposes demolition of a Section 4(f) resource, it will trigger an additional individual evaluation, and the need for avoidance alternatives, and perhaps a least overall harm analysis. Similarly, impacts to biological resources may trigger lengthier consultation under Section 7 of the Endangered Species Act. Planners and designers should be aware of these constraints in order to make informed decisions. Hazardous materials are included for safety purposes and the potential costs associated with clean-up. Sensitive noise receivers are included as well, although most noise impacts are expected to be mitigable.

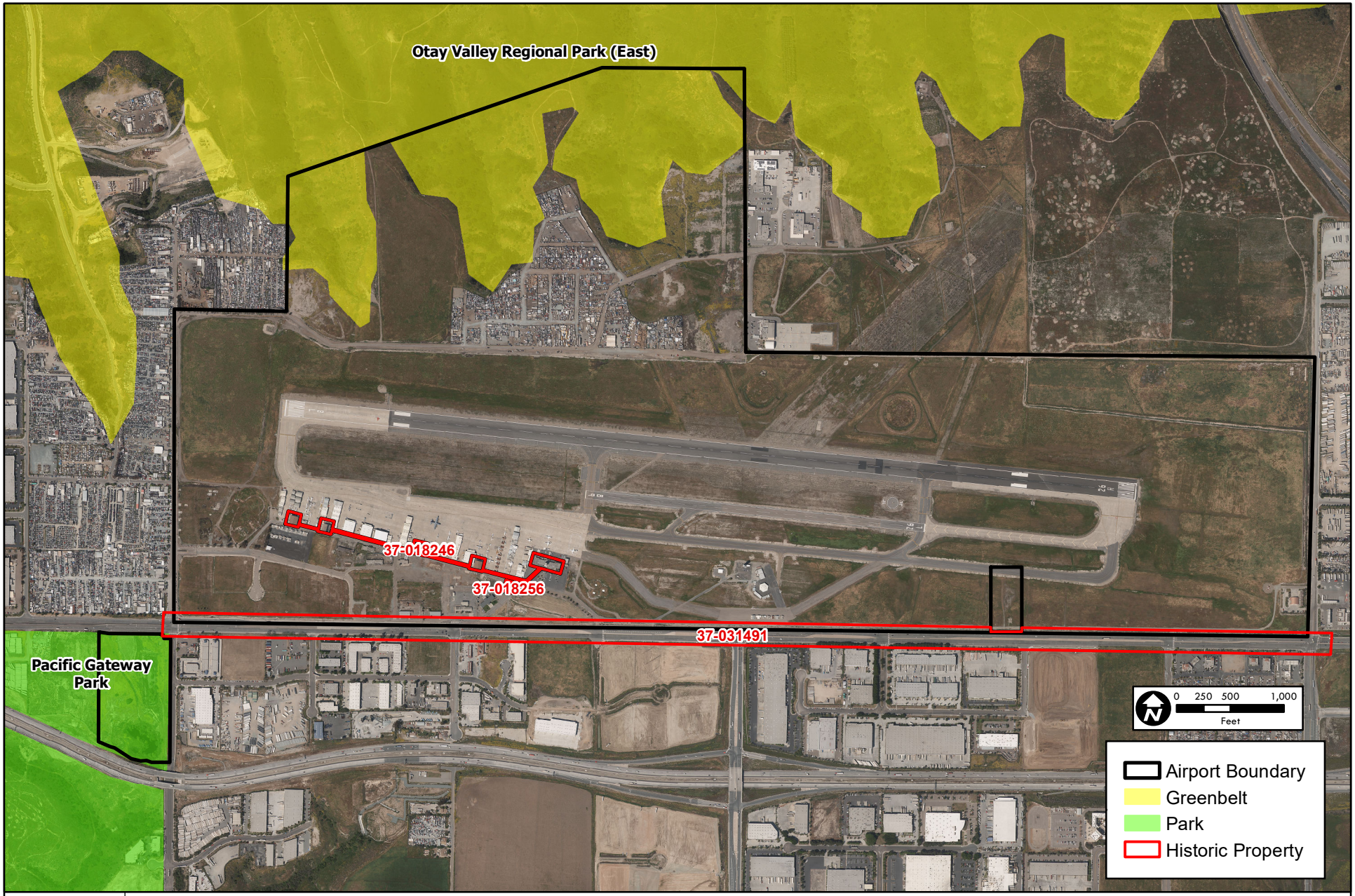

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FIGURE 4.8

Section 4(f) Constraints for SDM

Sources: CHRIS 2017, City of Chula Vista Greenbelt Master Plan 2017, SanGIS 2017

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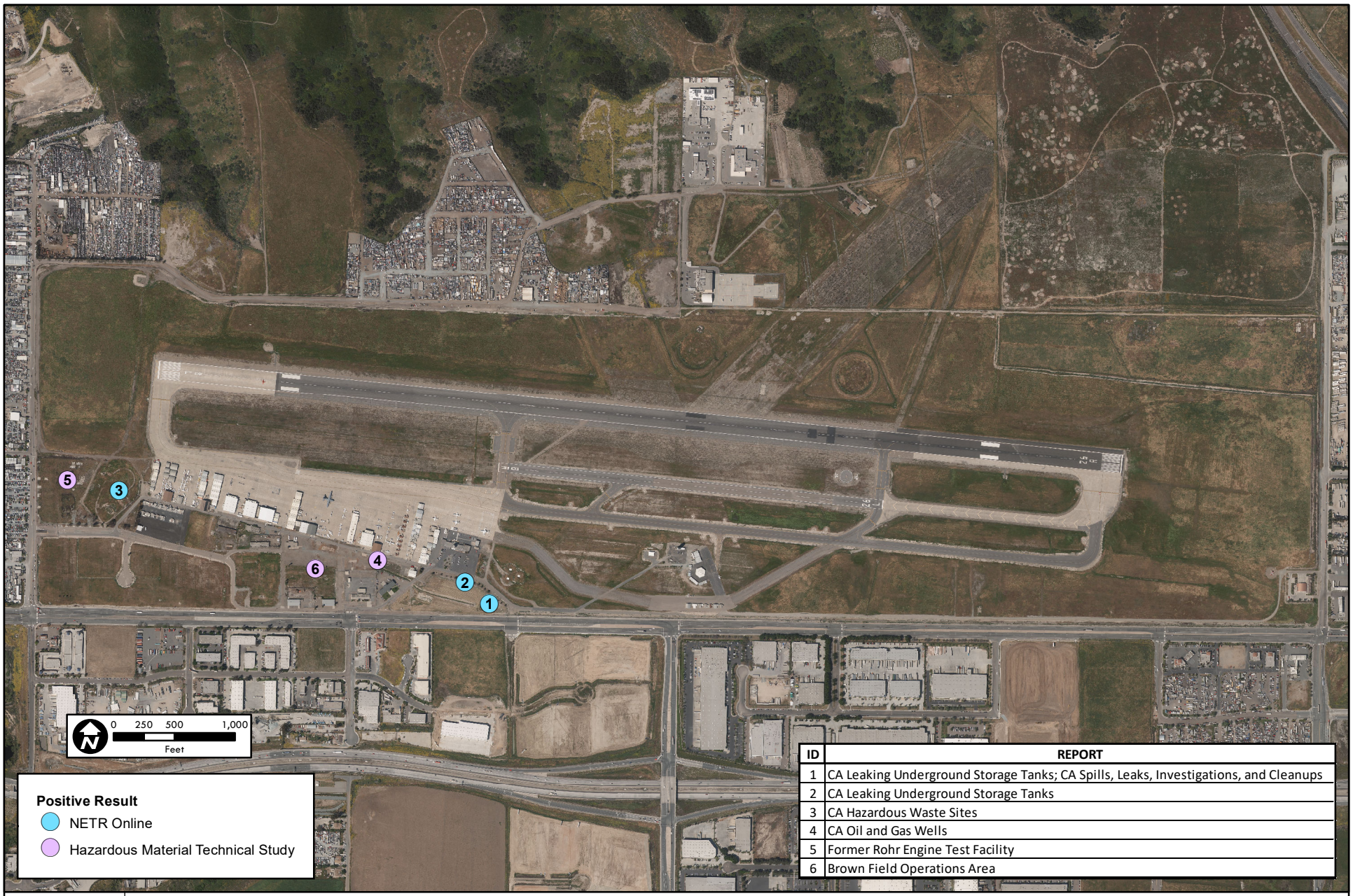

ID	REPORT
1	CA Leaking Underground Storage Tanks; CA Spills, Leaks, Investigations, and Cleanups
2	CA Leaking Underground Storage Tanks
3	CA Hazardous Waste Sites
4	CA Oil and Gas Wells
5	Former Rohr Engine Test Facility
6	Brown Field Operations Area

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FIGURE 4.9

HazMat for SDM

100054723 MYF/SDM Master Plans

Sources: NETR Online 2017, Otay Mesa Community Plan Update 2012, SanGIS 2014

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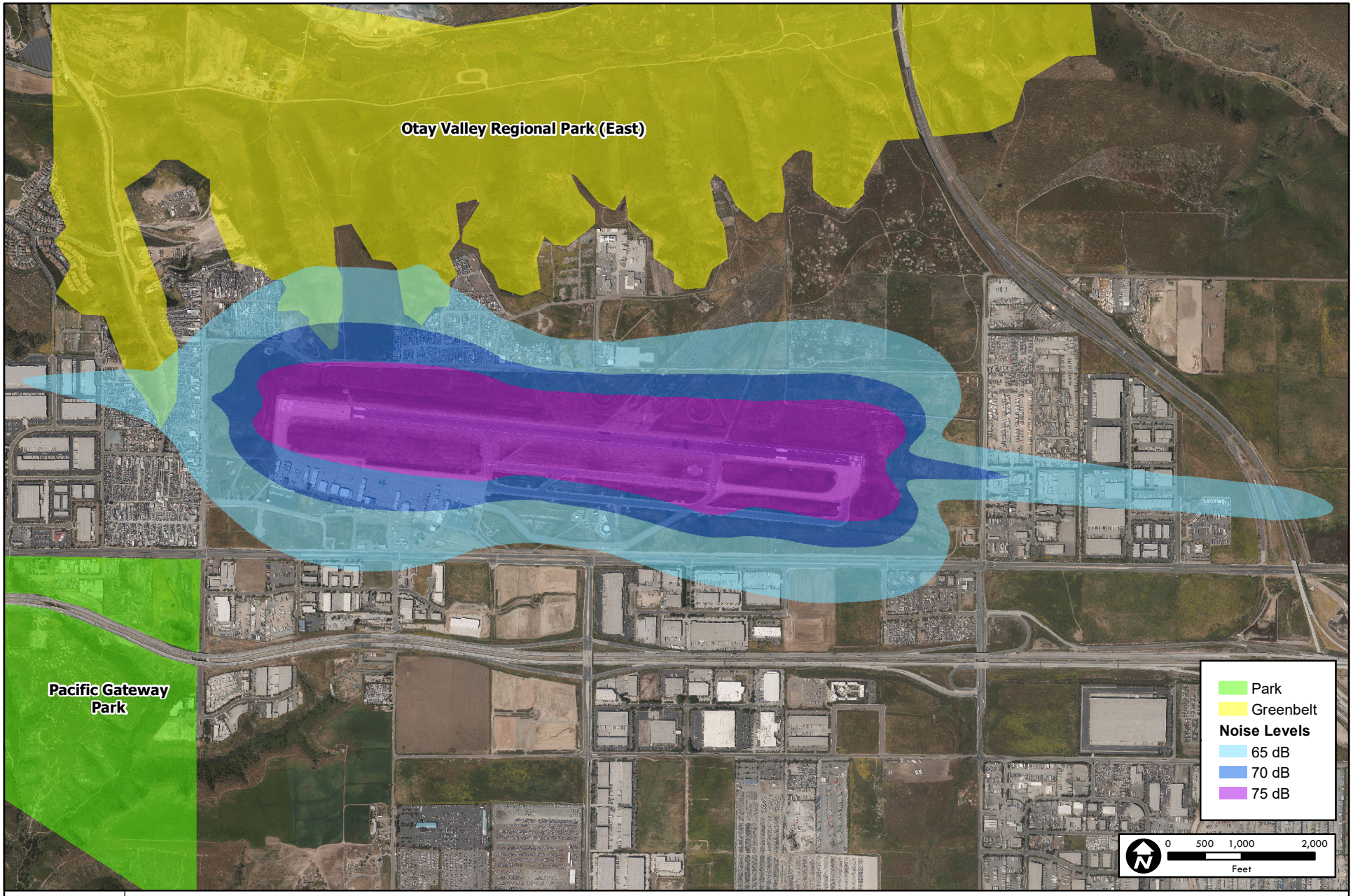

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FIGURE 4.10

Sensitive Noise Receivers for SDM

Sources: HMMH 2017, City of Chula Vista Greenbelt Master Plan 2017, SanGIS 2017

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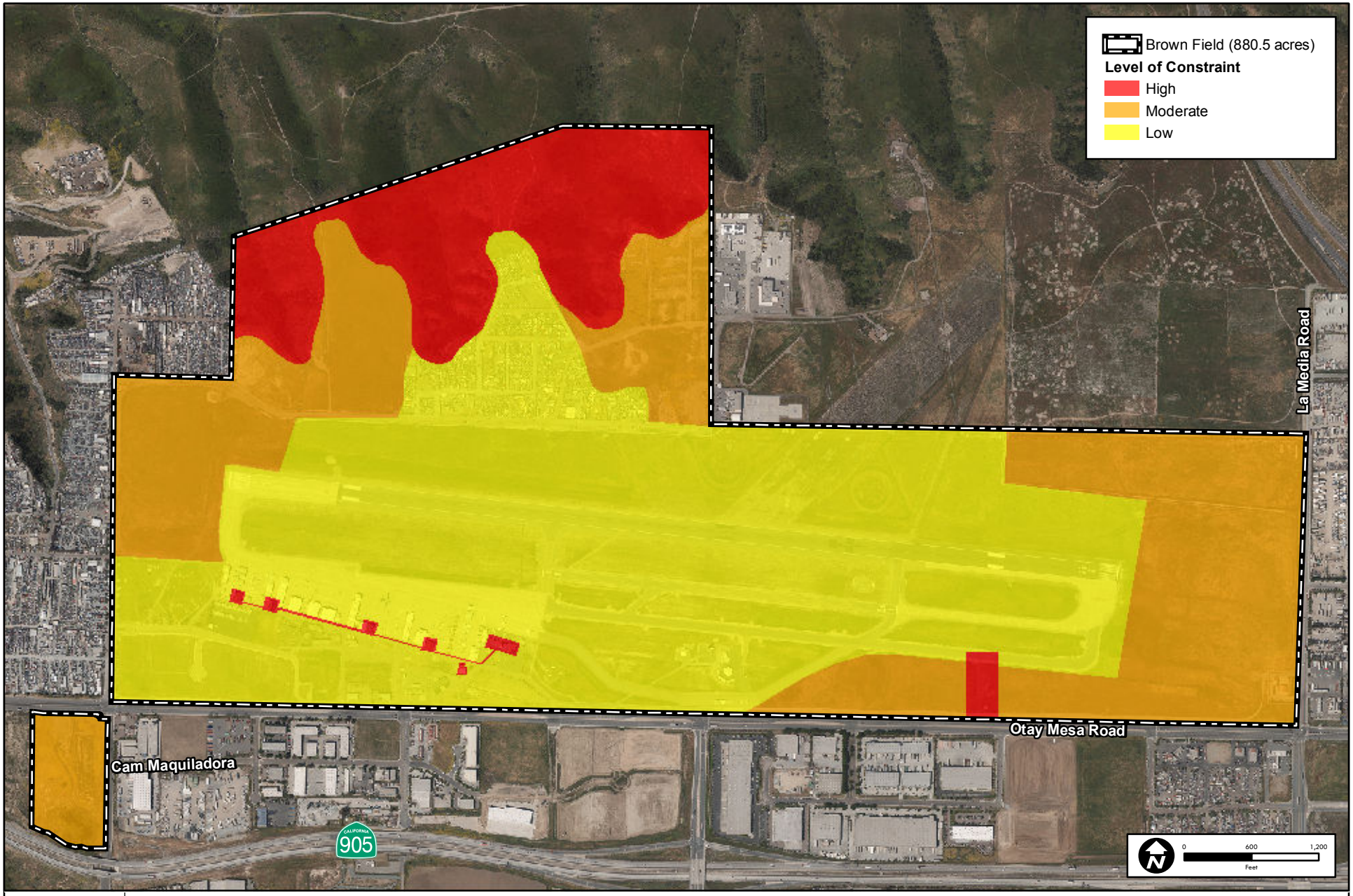

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FIGURE 4.11

Cultural Constraints for SDM

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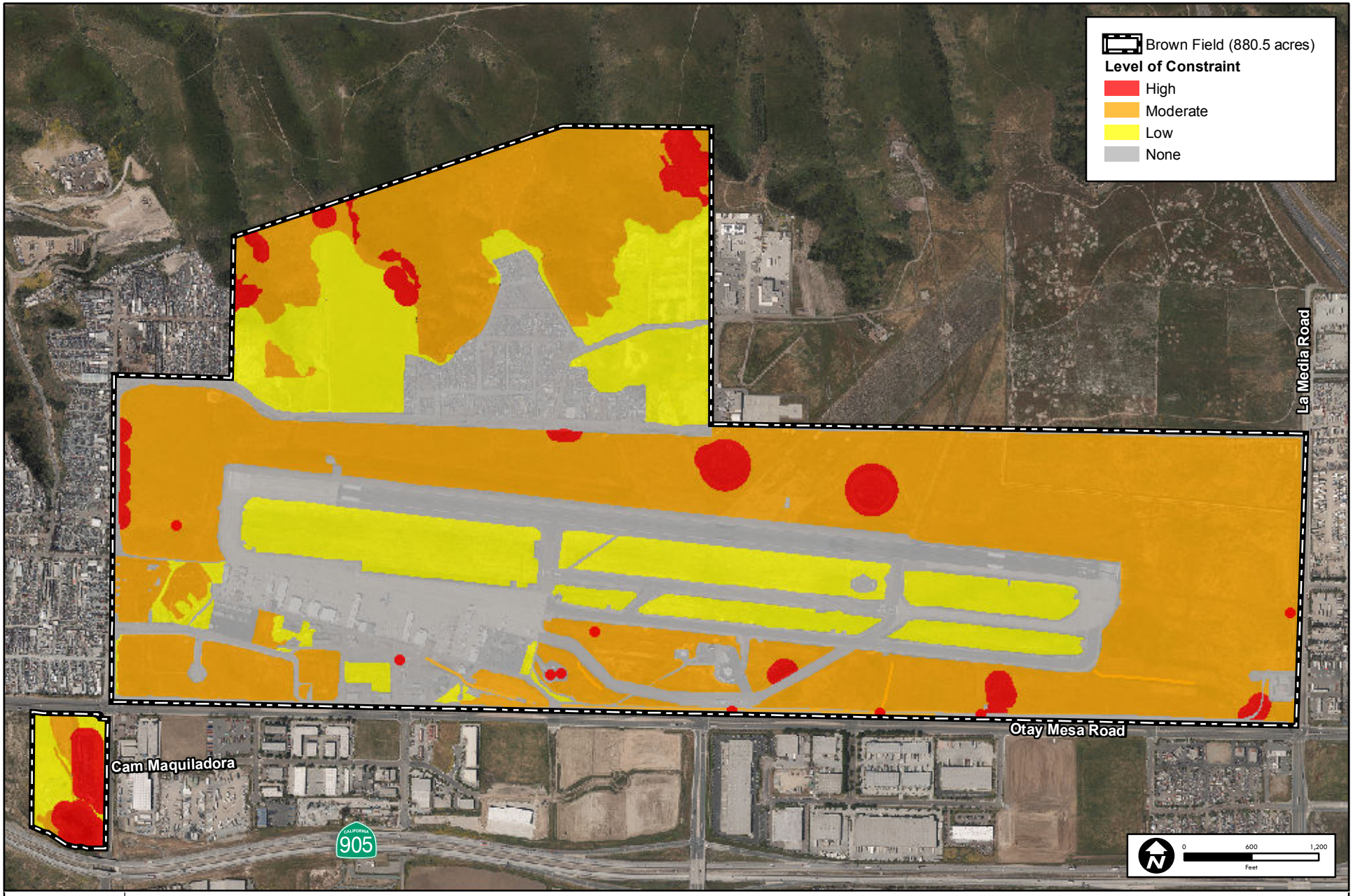

FIGURE 4.12

Biological Constraints for SDM

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4.8 Conclusion and Recommendation

This document sets out initial environmental baseline conditions and makes recommendations for action or further assessment for each of the 14 impact categories within FAA Order 1050.1F.

From an initial review of available environmental resources, there are several resources in the Airport study area that could be potentially affected by the proposed master plan amendment, such as:

- Air Quality
- Biological resources
- Department of Transportation, Section 4(f) resources
- Farmland
- Hazardous Materials;
- Historical, architectural, archaeological and cultural resources;
- Land use;
- Noise and noise compatible land use
- Environmental Justice communities; and
- Wetlands

Under FAA Order 1050.1F, certain planning activities may be subject to a Categorical Exclusion. However, due to the possibility that the proposed action may have one or more significant impacts, it is likely an EA will need to be prepared to satisfy FAA requirements. However, as further development of the master plan at the airport occurs, it may be possible to mitigate some of the identified environmental constraints and thus a categorical exemption may be permissible.

This Environmental Overview document enables further environmental review to be focused on the topic areas where potential impacts lie, and scopes out the need to assess resources that do not lie in the vicinity of the Airport.

Appendix A - Resources with negligible impact or not present

A.1 Coastal Resources

Coastal resources are natural resources that occur within coastal waters and their adjacent shore. These areas can include islands, transitional and intertidal areas, salt marshes, wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs. This definition extends to fish and wildlife and their respective habitats within these areas.

Regulatory Setting

Coastal Barrier Resources Act

The Coastal Barrier Resources Act (CBRA) of 1982 and subsequent amendments designated relatively undeveloped coastal barriers along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Island, and Puerto Rico coasts as part of the Coastal Barrier Resources System (CBRS). CBRA encourages the conservation of hurricane prone, biologically rich coastal barriers by restricting federal expenditures and financial assistance that encourage development, such as federal flood insurance. The CBRA does not prohibit or regulate development.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 encourages coastal states to develop and implement coastal zone management plans. The Act is administered by the National Oceanic and Atmospheric Administration (NOAA).

National Marine Sanctuaries Act

The National Marine Sanctuaries Act (NMSA) authorizes the designation and protection of areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries.

Executive Order 13089 - Coral Reef Protection

President Clinton issued Executive Order (E.O.) 13089 on Coral Reef Protection on June 11, 1998. The Order established the interagency U.S. Coral Reef Task Force, which is charged with developing and implementing a comprehensive program of research and mapping to inventory, monitor, and identify the major causes and consequences of degradation of coral reef ecosystems.

As per the text of EO 13089, federal agencies whose actions may affect U.S. coral reef ecosystems need to identify actions that may affect U.S. coral reef ecosystems; protect and enhance the conditions of such ecosystems; and ensure that any actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems.

Executive Order 13547 – Stewardship of the Ocean, Our Coasts, and the Great Lakes

Based on the recommendations of the National Ocean Council, EO 13547 establishes a national policy to ensure the protection, maintenance, and restoration of the health of ocean, coastal, and Great Lakes ecosystems and resources. The EO aims to enhance the sustainability of ocean and coastal economies, preserve maritime heritage, support sustainable uses and access, provide for adaptive management to enhance understanding of and capacity to respond to climate change and ocean acidification, and coordinate with national security and foreign policy interests.

Existing Conditions

Coastal Barrier Resources System

The official Coastal Barrier Resources System (CBRS) maps indicate that all the designated Coastal Barrier Resources Systems are relatively undeveloped coastal barriers along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Island, and Puerto Rico. There are no designated Coastal Barrier Resources System units on the California, or west coast of the USA.

State and San Diego Coastal Zone Boundaries

According to NOAA, California's coastal zone generally extends 1,000 yards inland from the mean high tide line. In significant coastal estuarine habitat and recreational areas it extends inland to the first major ridgeline or five miles from the mean high tide line, whichever is less. In developed urban areas, the boundary is generally less than 1,000 yards.

The San Diego County coastal zone extends south from the Orange County line to the Mexican border and the Tijuana River National Estuarine Research Reserve. The county shoreline, (including the shoreline of San Diego Bay and Mission Bay but excluding the lagoons), is approximately 177 miles long. The coastal zone area is approximately 87,888 acres (137 square miles). This area contains coastal resources including major state and local beaches, marine terraces, bluffs, coastal marshes, estuaries and lagoons, canyon-cut mesas, seaside beach communities, urban development, cultural resources, recreational harbors, and the Port of San Diego.

According to the City of San Diego's General Plan Conservation Element, the Airport is not within the Coastal Zone Boundary. At the closest point to the designated Coastal Zone Boundary, the Airport is approximately 2.9 miles inland.

National Marine Sanctuaries

The closest National Marine Sanctuary, as designated under the NMSA is the Channel Islands National Marine Sanctuary located 25 miles (22 nautical miles) off the coast of Santa Barbara. This is approximately 180 miles northwest of the Airport.

Coral Reefs

According to United States Geological Survey (USGS), there are no coral reefs on the Pacific coast of California.

Summary and Recommendations

There are no Coastal Barrier Resources Systems or coral reefs on the Pacific Coast, and the Airport is outside the Coastal Zone, and a significant distance from any National Marine Sanctuary so there is no direct impact to Coastal Resources and no further assessment work is likely to be needed.

Under the CZMA, the FAA may, however, need to provide a negative determination to the California Coastal Commission, which is the FAA's written determination that an FAA action will have no reasonably foreseeable effect on any coastal use or resource. This is dependent whether the action was previously identified by the state agency responsible as an action that would result in reasonably foreseeable coastal effects or uses; or if it is similar to other activities that have required a consistency determination previously; or the agency has prepared a consistency assessment for the action and has later determined that it would not result in coastal effects.

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A.2 Natural resources and energy supply

Natural resources and energy supply assesses a project's consumption of natural resources (such as water, asphalt, aggregate, wood, etc.) and use of energy supplies (such as coal for electricity; natural gas for heating; and fuel for aircraft, commercial space launch vehicles, or other ground vehicles).

Regulatory Setting

Energy Independence and Security Act

This Act requires federal agencies to take actions to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy greenhouse gas (GHG) capture and storage options, and to improve the energy performance of the federal government.

Energy Policy Act

The Energy Policy Act addresses energy production in the United States, including: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Tribal energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance

Establishes an integrated strategy towards sustainability in the federal government and to make reduction of GHG emissions a priority for federal agencies. Executive Order 13514 also requires agencies to coordinate with regional ecosystem, watershed, and environmental management programs.

Existing Conditions

Gas & Electricity

San Diego Gas & Electric (SDG&E) is the regulated public utility that provides natural gas and electricity/energy services to 3.6 million people through 1.4 million electric meters and 873,000 natural gas meters in San Diego and southern Orange counties. Their service area spans 4,100 square miles.

Water

According to the California Public Utilities Commission (CPUC), there are two regulated water utilities in San Diego County, California-American Water Company and the Live Oak Springs Water & Power Co. The California-American Water Company serves 615,000 people with the Live Oak Springs Water & Power Co serving approximately 95 residential and commercial water customers in east San Diego County.

The San Diego County Water Authority is a water wholesaler that purchases and imports water from various sources and sells the water to 24 retail member agencies in San Diego County, with up to 80 percent of the region's water being imported from the Colorado River and Northern California. The Metropolitan Water District of Southern California (MWD) is the Water Authority's largest supplier. By 2020, local water supplies are projected to meet 36 percent of the region's water demand.

Wastewater

The Metropolitan Sewerage sub-system treats wastewater from the City of San Diego and 15 other cities and districts (called Participating Agencies) from a 450-square-mile area with a population of

over 2.2 million. The Municipal Wastewater Collection sub-system is responsible for the collection and conveyance of wastewater from residences and businesses in the City of San Diego, serving a 330 square mile area with a population of 1.2 million people.

Wastewater facilities include the Point Loma Wastewater Treatment Plant; the North City Water Reclamation Plant; the South Bay Water Reclamation Plant and the Metro Biosolids Center located adjacent to the Miramar landfill site.

Aggregates and raw materials

There are numerous local suppliers throughout San Diego County who supply asphalt, aggregate, and wood. Additionally, the Tenth Avenue Marine Terminal receives inbound dry bulk cargo such as soda ash, aggregate and cement for construction use.

Summary and Recommendations

The Airport Master Plan could increase use of natural resources and energy, such as through creation of additional on-site business units and runway and apron enhancements. Additional businesses could increase demand for energy and utility services. However, it is likely that any such increase would be negligible and future projects would be subject to environmental review for their use of energy and utilities. It is therefore likely that use of natural resources and energy is not considered for further assessment as this topic would be considered at an individual project level.

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