SPECIAL PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**
LOS ANGELES DISTRICT

AVAILABILITY OF PROSPECTUS
Moosa Creek Mitigation Bank

Public Notice/Application No.: SPL-2012-00022-SAS
Project: Moosa Creek Mitigation Bank
Comment Period: January 14, 2014 through February 13, 2014
Project Manager: Shanti Abichandani Santulli; 760-602-4834 Shanti.A.Santulli@usace.army.mil

Applicant/Mitigation Bank Sponsor
Moosa Creek, LLC
c/o Conservation Land Group, Inc.
1505 Bridgeway, Ste. 121
Sausalito, CA 94965

Contact
Amanda McCarthy
WRA, Inc.
2169-G East Francisco Blvd
San Rafael, CA 94901
mccarthy@wra-ca.com

Location
The proposed Moosa Creek Mitigation Bank (Bank or Bank Property) is located in the unincorporated community of Bonsall, San Diego County, south and west of Camino del Rey and east of Mission Road. Old River Road bisects the proposed mitigation bank site (Figure 1). The majority of the site is located in Section 20 of Township 10 South, Range 3 West; the easternmost portion is located in Section 21, Township 10 South, Range 3 West; the south/southwest portions are located in Section 29, Township 10 South, Range 3 West. The entire site is within the Bonsall 7.5-minute United States Geological Survey quadrangle map (Latitude:33.28°, Longitude: -117.22°).

Activity

To establish the proposed mitigation bank pursuant to the requirements of the United States Army Corps of Engineers-United States Environmental Protection Agency (Corps-EPA) Compensatory Mitigation Rule (33 Code of Federal Regulations [CFR] 332.8(d)); the United States Fish and Wildlife Service (USFWS) Guidance for the Establishment, Use, and Operation of Conservation Banks; and the California Department of Fish and Wildlife (CDFW) Fish and Game Code Section 1797. A Final Prospectus has been submitted for consideration by the Interagency Review Team (IRT). The IRT consists of the Corps, EPA, USFWS, San Diego Regional Water Quality Control Board (SDRWQCB), and the CDFW.

Interested parties are hereby notified that a prospectus has been received for a proposed mitigation bank for compensatory mitigation for Department of the Army permits. Interested parties are invited to

provide their views on the proposed prospectus, which will become a part of the record and will be considered in the decision to authorize or not authorize the proposed mitigation bank.

Comments should be mailed to:

U.S. Army Corps of Engineers
Regulatory Division
South Coast Branch, Carlsbad Field Office
Attn: Shanti Abichandani Santulli
5900 La Place Court, Suite 100
Carlsbad, California 92008

Alternatively, comments can be sent electronically to: Shanti.A.Santulli@usace.army.mil.

Evaluation Factors

The decision whether to authorize the proposed mitigation bank will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR 230) as required by Section 404 (b)(1) of the Clean Water Act (CWA).

The Corps is soliciting comments from the public; federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The District Engineer (DE) will review the comments received in response to this notice and make a written initial evaluation as to the potential of the proposed mitigation bank to provide compensatory mitigation. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation, if applicable, of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. In addition, all comments will be distributed to the members of the IRT and the sponsor within 15 days of the close of the comment period. The DE and the IRT members will also have the opportunity to comment to the sponsor. After considering comments from the DE, the IRT, and the public, the bank sponsor will prepare a draft instrument and submit it to the DE.

Background

On April 10, 2008, the Corps and the EPA published the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources ("Mitigation Rule"), which went into effect June 9, 2008. The rule replaced most previous guidance concerning compensatory mitigation.

Consistent with the requirements of the rule at 33 CFR 332.8(d), the bank sponsor has submitted a prospectus to the Corps for the purpose of establishing and managing a mitigation bank consistent with the Mitigation Rule. The Corps seeks comments from interested parties on the prospectus. This public notice provides a summary of the mitigation bank prospectus submitted by the applicant. The full prospectus may be obtained from the Corps by contacting Shanti Abichandani Santulli at Shanti.A.Santulli@usace.army.mil or (760) 602-4834 or by accessing the Corps' Regulatory In-lieu Fee and Bank Information System (RIBITS) website at http://geo.usace.army.mil/ribits/index.html (enter website, filter view to Los Angeles District, click on "Existing Banks & ILF Sites," click on "Moosa Creek Mitigation Bank," click on "Cyber Repository" in top right corner.)

Objectives

The proposed mitigation bank is approximately 185 acres and currently supports approximately 37.96 acres of wetlands and 5.72 acres (5,645 linear feet) of non-wetland waters. Implementation of the proposed mitigation bank will rehabilitate and re-establish riverine wetlands, depressional seasonal wetlands, wetland riparian, and non-wetland riparian, and restore and permanently protect covered habitat to mitigate for impacts authorized under the CWA Section 404 and 401, Section 1602 of the California Fish and Game Code, the Endangered Species Act (ESA), California Endangered Species Act (CESA), and the California Environmental Quality Act (CEQA). Covered Habitat is defined in the Final Prospectus as habitat of concern or habitat upon which a special-status species depends for its continued viability.

The mitigation bank proposes to:

- Re-establish and rehabilitate wetland, stream and riparian habitat.
- Restore and preserve covered habitat for at-risk species known to occur, currently or historically, on the proposed mitigation bank site.
- Assist in the recovery and eventual removal of these species from their respective special-status lists.
- Allow the sale of compensatory mitigation and conservation credits, with approval from appropriate agencies, as off-site mitigation for authorized impacts to regulated resources within the respective service area.

Service Area

The proposed service area for Section 404/ 401 impacts (Figure 2) consists of the following sub-watersheds as described by the 10-digit Hydrologic Unit codes:

1807030303	Lower San Luis Rey River
1807030302	Middle San Luis Rey River
1807030304	Escondido Creek
1807030305	San Marcos Creek—Frontal Gulf of Santa Catalina
1807030205	Santa Margarita River (including Camp Pendleton)
1807030104	San Onofre Creek—Frontal Gulf of Santa Catalina

Establishment and Operation of the Program

After completion of the Public Notice comment period, a BEI will be submitted for review by the IRT.

The Bank establishment requires the following actions:

- The BEI must be fully executed by all of the applicable Signatory Agencies,
- The Conservation Easement has been accepted by a Grantee approved by the Corps and other applicable Signatory Agencies and recorded in the Official Records of the county in which the Bank Property is located, and;
- The Bank Sponsor has complied with its obligation to furnish the following financial assurances:
    - A Construction Security ensures that any construction will be completed as proposed.
    - A Performance Security ensures that constructed habitat will function as planned.
    - An Interim Management Security ensures that the Bank will be managed during habitat establishment.
    - Letters of credit are submitted to and approved by the holding agency to satisfy financial assurance requirements.
    - An Endowment Fund ensures that there is adequate funding to provide for the financial requirements of the long-term management of the Bank in accordance with the Long-term Management Plan.

As part of the process of establishing a mitigation bank, the IRT would determine the types and number of potential credits that may be generated. Upon meeting either administrative milestones (e.g., BEI completion, funding of long-term management endowment) or performance-based milestones (e.g., 1-year, 3-year, 5-year conditional assessments), potential credits then become released credits and are available for sale. In addition to the final IRT approvals of the Prospectus and BEI, the Bank Sponsor would also need to obtain the appropriate federal, state, and local permits required to implement the restoration activities. The Bank Sponsor would submit an application for Department of the Army permit(s) should the proposed bank activities involve a discharge of dredge or fill material within waters of the U.S. The Corps would complete consultation, if appropriate, under the ESA, the National Historic Preservation Act, and other applicable laws, prior to any permit authorization.

Qualifications of the Sponsor

Moosa Creek, LLC, care of Conservation Land Group, Inc. (CLG), is overseeing the bank entitlement process and will serve as the lead contact for consultations with the signatory agencies. CLG will also manage the proposed mitigation bank once it is certified and operational, including handling mitigation credit sales and reporting to the signatory agencies. CLG specializes in facilitating and managing conservation and mitigation land transactions. CLG is thoroughly familiar with issues pertaining to real estate matters including conservation easements, mineral rights, title encumbrances, hazardous waste issues and other related issues that need to be addressed as part of the establishment of a mitigation bank. CLG also has extensive experience working in partnership with non-profit land conservancies that are potential conservation easement holders for the proposed Bank Property.

WRA, Inc. has been selected by the Bank Sponsor to support the entitlement of the Bank. WRA staff has experience with a wide variety of habitat enhancement techniques, management tools, monitoring methods, and bank design and entitlement. WRA has completed over 60 successful restoration and/or mitigation projects that have involved the combined input from hydrologists, engineers, agency staff, and the public. WRA has prepared mitigation plans for a variety of systems, including wetland

habitats (including tidal wetlands, freshwater marshes, vernal pools, and seasonal wetlands) and upland habitats (including riparian habitats and serpentine grasslands).

Additional details are provided in the Prospectus, available online at the following link: http://geo.usace.army.mil/ribits/index.html. After clicking on the link, please follow the below steps:

• Under the Navigation Heading, click on “Banks & ILF Sites”
• Using the yellow drop-down arrow under the Banks and ILF Sites heading, filter state to “CA”
• Scroll down the alphabetized listing and click on “Moosa Creek Mitigation Bank”
• Click on “Cyber Repository” located underneath the frog image
• Click on “Documents for Review”
• Both the Prospectus is available in this folder. Please note that the Prospectus is a large file and may take several minutes to download.

The Prospectus is also available at the Corps’ Los Angeles office at the address above.

For additional information please call Shanti Abichandani Santulli at 760-602-4834 or via e-mail at Shanti.A.Santulli@usace.army.mil . This public notice is issued by the Chief, Regulatory Division.

Regulatory Program Goals:

- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps’ administration of its regulatory program.

U.S. ARMY CORPS OF ENGINEERS – LOS ANGELES DISTRICT
Los Angeles District Corps of Engineers
Regulatory Division, Carlsbad Field Office
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Carlsbad, CA 92008
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EXECUTIVE SUMMARY

Moosa Creek, LLC proposes to establish the Moosa Creek Mitigation Bank ("Bank" or "Bank Property") in north San Diego County, California. The Bank will focus on the re-establishment and rehabilitation of riverine wetland, seasonal depressional wetland, and riparian habitats, as well as federally listed wildlife and plant species. This Final Prospectus is being submitted for consideration by the Interagency Review Team (IRT), consisting of the United States Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), United States Fish and Wildlife Service (USFWS), San Diego Regional Water Quality Control Board (SDRWQCB), California Department of Fish and Wildlife (CDFW), and National Marines Fisheries Service (NMFS).

The Bank Property is approximately 184.7 acres and currently supports approximately 37.96 acres of wetlands and 5.72 acres (5,645 linear feet) of non-wetland waters predominantly within an area currently functioning as the San Luis Rey Downs Resort Golf Course ("Golf Course"). Implementation of the Bank's development plan will result in the construction of approximately 41.9 acres of rehabilitated riverine wetlands, 3.5 acres of re-established riverine wetlands, 3.6 acres of re-established depressional seasonal wetlands, 73.0 acres of re-established wetland riparian, 21.1 acres of re-established non-wetland riparian to mitigate for impacts authorized through the Clean Water Act (CWA) Section 404 and 401 and Section 1602 of the California Fish and Game Code, and lastly 41.6 acres of re-established Covered Habitat. For the purpose of this document, Covered Habitat is defined as habitat of concern or habitat upon which a special-status species depends on for their continued viability. Rehabilitated and re-established habitats proposed at the Bank Property and their corresponding acreages are summarized in Table I.

Table I. Moosa Creek Mitigation Bank Credit Summary

		Credits		
Credit Summary*	**Acres**	**Waters of the U.S.**	**Section 1602**	**Covered Habitat**
Rehabilitated Riverine Wetland	41.9	41.9	41.9	41.9
Re-established Riverine Wetland	3.5	3.5	3.5	3.5
Re-established Depressional Seasonal Wetlands	3.6	3.6	3.6	3.6
Re-established Wetland Riparian	73.0	73.0	73.0	73.0
Re-established Non-wetland Riparian/ *Covered Habitat	21.1		21.1	21.1
*Covered Habitat	184.7			184.7
Bank Total	**184.7**	**122.0**	**143.1**	**184.7**

*Overlaid credit may be sold as a single credit type or a combination of credit types. When a credit is sold, it will be debited from overlaid credit types.

In addition, the Bank Property contains critical habitat for the arroyo toad (*Anaxyrus*

californicus), San Diego ambrosia (*Ambrosia pumila*), and coastal California gnatcatcher (*Polioptila californica californica*), all federally listed species. Furthermore, southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell's vireo (*Vireo bellii pusillus*), both federally and state listed species, have been detected on the Bank Property. The presence of critical habitat and the observation of southwestern willow flycatcher and least Bell's vireo may allow the Bank the opportunity to provide special-status species credits under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) for the above-mentioned species. Mitigation may also be provided under the California Environmental Quality Act (CEQA); the Multiple Species Conservation Program ("the MSCP"; County of San Diego 1998) for other special-status species; and Covered Habitat.

A conceptual bank development design has been prepared based on hydrologic and habitat rehabilitation/re-establishment goals. Grading and removal of topsoil associated with the Golf Course will restore floodplain connectivity along the San Luis Rey River and Moosa Creek. Riparian and upland areas will be replanted with a combination of cuttings and nursery container plants and seeds to restore native vegetation.

The Bank will be established in a minimum of two phases to meet market demand for mitigation within the proposed service areas. This document and the conceptual design apply to the entire Bank Property. However, the Development Plan, corresponding securities, and conservation easements will be implemented in phases based on future conditions and mitigation needs. The Bank will be established through approval of a Bank Enabling Instrument ("BEI"), implementation of a Development Plan for re-establishment and rehabilitation activities, and the recordation of conservation easements over the Bank Property. The Bank Property will be managed in perpetuity for the benefit of the Bank's conservation values with funding provided by a non-wasting endowment, known as the Endowment Fund.

1.0 INTRODUCTION

On behalf of Moosa Creek, LLC, WRA, Inc. (WRA) is submitting this Final Prospectus ("Prospectus") to the Interagency Review Team ("IRT") to establish the Moosa Creek Mitigation Bank ("Bank" or "Bank Property") in San Diego County, California. The IRT consists of the United States Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), United States Fish and Wildlife Service (USFWS), San Diego Regional Water Quality Control Board (SDRWQCB), California Department of Fish and Wildlife (CDFW), and National Marines Fisheries Service (NMFS). The Bank Property is under exclusive option to Moosa Creek, LLC, the Bank Sponsor, and WRA is the lead consultant for the Bank Sponsor. Bank Sponsor and Lead Consultant qualifications are included in Section 2.1.2.

All figures for the Prospectus are provided in Appendix A. All technical reports, in adherence with the September 2010 Multi-Agency Product Delivery Team Prospectus Checklist, are provided in Appendices B through I. Technical reports completed by WRA include the Biological Resources Inventory ("BRI", WRA 2013a) and the Delineation of Potential Jurisdictional Wetlands and Non-Wetland Waters under Section 404 of the Clean Water Act (WRA 2013b). Protocol-level species surveys performed by Blackhawk Environmental and Cummings and Associates, and other technical reports in support of this Prospectus, are also appended.

The Bank Property is composed of two adjacent portions of the existing San Luis Rey Downs Resort Golf Course ("Golf Course"). The eastern portion is referred to as Phase 1, while the western portion is referred to as Phase 2 (Figure 1). Together, Phases 1 and 2 total approximately 184.7 acres of golf course, natural, and partially developed land. Approximately 110 acres of the Bank Property are currently used for the Golf Course and are developed with several storage/maintenance buildings, tennis courts, cart paths, bridges, and culverts. The remaining portion of the Bank Property consists of stream channels and wooded floodplains of the San Luis Rey River, which runs along the western edge of Phase 2, and Moosa Creek, which runs through the length of Phase 1. The Moosa Creek and San Luis Rey River floodplains will be rehabilitated and re-established through removal of artificial fill, channel recontouring, and construction of additional channel features. Moosa Creek will also have native species planted to increase riparian cover and removal of invasive non-native species.

2.0 BANK ESTABLISHMENT AND OPERATION

2.1 Responsible Parties

Contact information for the Bank is provided below.

2.1.1 Bank Sponsor and Property Owner Contact Information

Moosa Creek, LLC is the Bank Sponsor and will become the Property Owner upon the exercise of its purchase option rights.

Contact information for the Bank Sponsor is provided below.

Moosa Creek, LLC
c/o Conservation Land Group, Inc.
1505 Bridgeway, Ste. 121
Sausalito, CA 94965
Office: (415) 331-3130
Fax: (415) 331-5130

Contacts:
Kevin Knowles
kevin@conserveland.com

Ed Flynn
1022flynn@gmail.com

Lead Consultant

WRA, Inc.
9815 Carroll Canyon Rd, Ste. 206
San Diego, CA 92131
(858) 842-1800

Contact:

Amanda McCarthy
mccarthy@wra-ca.com

2.1.2 Bank Sponsor Qualifications

The Bank Sponsor has assembled a highly qualified team to develop, establish and operate the Bank. The qualifications of the team members are summarized below.

Moosa Creek, LLC is overseeing the bank entitlement process and will manage the Bank once it is certified and operational, including handling all mitigation credit sales and reporting to the signatory agencies. **Kevin Knowles**, a Co-Manager of Moosa Creek, LLC, is the President of Conservation Land Group Inc. ("CLG"), and has been involved in the permanent protection of over 100,000 acres in California since 1989, including numerous properties in San Diego County. CLG specializes in facilitating and managing conservation and mitigation land

transactions. and is thoroughly familiar with issues pertaining to real estate matters including conservation easements, mineral rights, title encumbrances, hazardous waste issues and other related issues that need to be addressed as part of the establishment of a mitigation bank. CLG also has extensive experience working in partnership with non-profit land conservancies and endowment holders..

CLG is involved in two other pending conservation/mitigation banks in California: the La Purisima Conservation Bank in Santa Barbara County and the Lazy K Ranch Mitigation Bank in Merced and Madera Counties. The former will preserve critical habitat for California tiger salamander (*Ambystoma californiense*, Federal Endangered) and other listed species, while the latter will restore vernal pools on historically farmed land as well as preserve listed species habitat. Both banks involve extensive planning, restoration and species management, and both will require the same high-level agency review as the Bank. Examples of CLG off-site mitigation projects include Rincon/San Luis Rey River (acquired by the City of Oceanside and SANDAG), Topaz Solar Farm/Little San Juan Ranch, Orange County Transportation Agency Freeway Mitigation Program acquisitions, and the Delta Shores/Swainson's hawk preserve.

Brian Sweeney is a Co-Manager of Moosa Creek, LLC. Mr. Sweeney is a real estate developer and investor with many years of experience working with public land management entities in California.

Edward Flynn is the third member of the Moosa Creek, LLC. Mr. Flynn is a partner with Wetland Resources, LLC, which operates the largest multi-species mitigation/conservation bank in California, the Elsie Gridley Multi-Species Conservation Bank in Solano County. Mr. Flynn provided oversight for the bank formation and has handled over 100 separate mitigation credit sales for wetlands and listed species since it was approved in 2006.

WRA, Inc. has been selected by the Bank Sponsor to support the entitlement of the Bank and will serve as the lead contact for consultations with the signatory agencies. WRA staff has experience with a wide variety of habitat enhancement techniques, management tools, monitoring methods, and bank design and entitlement. WRA has completed over 60 successful restoration and/or mitigation projects that have involved the combined input from hydrologists, engineers, agency staff, and the public. WRA has prepared mitigation plans for a variety of systems, including wetland habitats (including tidal wetlands, freshwater marshes, vernal pools, and seasonal wetlands) and upland habitats (including riparian habitats and serpentine grasslands).

2.1.3 Conservation Easement Holder

The Conservation Easement will be held by a non-profit conservancy or governmental entity that is approved to hold an interest in mitigation lands as defined by California Government Code §65965 and California Civil Code Section 815. The Conservation Easement Holder has not yet been finalized but will be either the San Diego Habitat Conservancy or Fallbrook Land Conservancy, with approval by the IRT.

2.1.4 Endowment Holder

The selected Conservation Easement Holder, either the San Diego Habitat Conservancy or Fallbrook Land Conservancy, will be the long-term endowment holder, with approval by the IRT.

2.2 Bank Establishment

After completion of the Public Notice comment period, a BEI will be submitted for review by the IRT.

The Bank establishment requires the following actions:

- The BEI must be fully executed by all of the applicable Signatory Agencies,
- The Conservation Easement has been accepted by a Grantee approved by the USACE and other applicable Signatory Agencies and recorded in the Official Records of the county in which the Bank Property is located, and;
- The Bank Sponsor has complied with its obligation to furnish the following financial assurances:
    - A Construction Security ensures that any construction will be completed as proposed.
    - A Performance Security ensures that constructed habitat will function as planned.
    - An Interim Management Security ensures that the Bank will be managed during habitat establishment.
    - Letters of credit are submitted to and approved by the holding agency to satisfy financial assurance requirements.
    - An Endowment Fund ensures that there is adequate funding to provide for the financial requirements of the long-term management of the Bank in accordance with the Long-term Management Plan.

The Bank proposes:

- To re-establish and rehabilitate wetland and riparian habitat
- To re-establish and preserve Covered Habitat for at-risk species known to occur, currently or historically, on the Bank Property
    - For the purpose of this document, Covered Habitat is defined as habitat of concern or habitat upon which a special-status species depends on for their continued viability.
- To assist special-status species in their recovery and eventual removal from their respective lists
- To allow the sale of compensatory mitigation and conservation credits, with approval from appropriate agencies, as off-site mitigation for authorized impacts to the following regulated resources within the respective service areas:
    - Waters of the United States, including wetland and riparian habitat, under Section 404 of the Clean Water Act (“Section 404”) and California Fish and Game Code Section 1602 (“Section 1602”)
    - Federally listed threatened or endangered species under Section 7 and 10a of the Federal Endangered Species Act (FESA) and/or occupied habitat
    - State of California-listed threatened or endangered species under the California Endangered Species Act (“CESA”), Fish and Game Code Section 2050 et seq.
    - Sensitive habitats and wildlife resources under the applicable sections of the California Environmental Quality Act (“CEQA”), Public Resources Code Section 21000 et seq.
    - Waters of the State of California under Section 401 of the Clean Water Act and the Porter Cologne Act (“Section 401”)

2.3 Bank Ownership and Long-term Management

The Bank Property will be owned and managed by the Bank Sponsor. Conveyance of the Bank Property or the Conservation Easement will be subject to the applicable provisions of the Conservation Easement and written concurrence by the IRT and Bank Sponsor. A Management Plan, including plans for interim and long-term management periods, will be submitted for IRT review with the BEI. Long-term management will continue in perpetuity and will be funded by the endowment.

2.4 Anticipated Need

The Bank Sponsor is expecting the demand in the Bank's proposed service area to be sufficient to justify the development of the Bank. In addition, the Bank would provide a variety of credit types not currently offered at other existing mitigation banks in the service area, namely the San Luis Rey River and Daley Ranch mitigation banks. The Bank proposes to offer a combination of rehabilitated and re-established wetland and riparian habitat along with breeding habitat for listed species, specifically least Bell's vireo and Southwestern Willow Flycatcher.

As discussed in Appendix F, immediate demand is expected to be derived mainly from the improvement of current infrastructure, as the real estate market recovers from the recession. The widening of state and local transportation corridors and planned electrical transmission projects by San Diego Gas & Electric are expected to have significant impacts that could be offset by the Bank. The United States Marine Corps Base Camp Pendleton has also indicated the potential need for a number of credits for wetland, stream, and species mitigation that likely cannot be fulfilled by other banks in the service area.

In the longer term, the Bank Sponsor is expecting the overall demand for credits to grow as the need for new infrastructure continues, cities such as San Marcos and Escondido experience considerable new growth, and the local real estate market continues to improve.. Improvements to the transportation network will reduce commute times to job centers that may spur residential growth in areas to the east and north of the Bank Property. A 2008 SANDAG study estimates that there will be approximately one million additional residents and 290,000 new homes in San Diego County by 2030.

The MSCP may also generate additional demand for mitigation. The North County Subarea Plan of the MSCP ("Plan" or "North County Plan") will serve as a multiple species Habitat Conservation Plan (HCP) pursuant to section 10(a)(1)(B) of the FESA, as well as a Natural Community Conservation Plan (NCCP) under the California NCCP Act (County of San Diego 2009). The Plan has been submitted to federal and state agencies in support of applications for permits and authorizations for incidental take of listed, threatened, or endangered species or other species of concern. The County will be issued an incidental take permit for species that are found to be covered by implementation of the plan. The County, as the take authorization holder, may share the benefits of the authorization by using it to permit public or private projects that comply with the Plan. Mitigation will be encouraged within the Pre-Approved Mitigation Areas ("PAMA") and might include additional requirements for mitigation of sensitive resources not covered by other federal or state protection (County of San Diego 2009). Mitigation under the MSCP will be required if an impact site is in a Biological Resource Core Area, which includes the PAMA, as defined by §85.506 (Habitat Based Mitigation) of the Biological Mitigation Ordinance and Figure 2-2 of the MSCP (County of San Diego 2010).

Other proposed/pending mitigation and conservation banks and sites within the vicinity do not offer the diversity of resources and credit types that will be available at the Bank. The Daley Ranch Mitigation Site (a conservation bank), located approximately 12 miles to the southeast of the Bank Property, was initially identified as a potential source of credits for the MSCP, but may not provide suitable habitat for mitigating impacts to both wetlands and those special-status species that would be covered by the Bank Property (City of Escondido 2001). Daley Ranch was established with the intention of offering credits for chaparral and coastal sage scrub, oak woodlands, wetlands, and non-native grassland. Likewise, the proposed Brook Forest Conservation/Mitigation Bank, the Moody Creek Farm Mitigation Bank, and the pending San Luis Rey Mitigation Bank, located to the west and southeast respectively of the Bank Property, are not proposing to offer species credits. Accordingly, the Bank will meet much-needed demand for mitigation credits in its proposed service areas.

2.5 Anticipated Schedule

It is anticipated that rehabilitation and re-establishment activities of the Bank will occur in one or more phases beginning in the spring of 2015. Rehabilitation and re-establishment activities will include removal of existing infrastructure, excavation and grading, installation of in-stream structures, and planting. Habitat rehabilitation and re-establishment within Phase I will begin in March of 2015. Planting and seeding will begin in the fall of 2015. Phase II will be implemented as demand arises.

2.6 Anticipated Permits, Agreement, and Consultations

Review and approval of the Bank will involve a multi-agency process to ensure adherence with federal and state guidance and regulations protecting water resources, species, and their habitats. As such, the Bank will adhere to all federal, state, and local statutes and permits required for construction and operation. A list of anticipated permits, agreements, and consultations is provided in Table 1. This list will be updated, as necessary, during the Bank entitlement process. The USACE has the authority to approve the wetlands component of the Bank and the USFWS has the authority to approve the uplands component of the Bank. However, other IRT agencies may choose to participate in the process and become Signatory Agencies or Parties to the BEI, if deemed appropriate.

Table 1. Anticipated Permits, Agreements and Consultations

Agency	Approval, Permit, Agreement or Consultation	Approval or Permit Status
U.S. Army Corps of Engineers	Approval of the wetlands mitigation bank. Clean Water Act (CWA) Section 404 nationwide permit.	BEI will be submitted Wetland delineation has been verified Section 404 nationwide permit to be submitted.
U.S. Environmental Protection Agency	Review of the wetlands mitigation bank; possible Signatory Agency	BEI will be submitted
State Office of Historic Preservation (OHP)	Section 106 consultation with the Corps	USACE is responsible for section 106 consultation

Table 1. Anticipated Permits, Agreements and Consultations

U.S. Fish and Wildlife Service (USFWS)	Review of the wetlands mitigation bank. possible Signatory Agency. Possible section 7 consultation\	BEI will be submitted USACE is responsible for section 7 compliance
National Marine Fisheries Service (NMFS)	Possible review of the wetlands mitigation bank; possible Signatory Agency Possible section 7 consultation with the USACE	BEI will be submitted USACE is responsible for section 7 compliance
California Department of Fish and Game (DFG)	Possible review of the wetlands mitigation bank; possible Signatory Agency A Section 1602 streambed alteration agreement is required because the project requires construction in the San Luis Rey River which is subject to DFG jurisdiction	BEI will be submitted Streambed alteration agreement will be submitted
Federal Emergency Management Agency (FEMA)	Approval of a Conditional Letter of Map Revision (CLOMR) (conditional modification of the 100-year floodplain before construction) Approval of a Letter of Map Revision (LOMR) (modification of the 100-year floodplain after construction)	CLOMR will be submitted (No effect on approval of Bank)
San Diego Regional Water Quality Control Board (Regional Board)	All Section 404 permits require a Clean Water Act Section 401 water quality certification from the Regional Board; possible Signatory Agency Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) requires enrollment into the Statewide Construction General Permit	Applications will be submitted
San Diego County	Approval of grading plans Approval of the CEQA document	Development plans will be submitted.

3.0 PROPERTY DESCRIPTION

3.1 Location

The Bank Property is located in the unincorporated community of Bonsall, San Diego County, south and west of Camino del Rey, north of Golf Club Drive and east of Old River Road. (Appendix A, Figure 1). The Bank Property address is 31474 Golf Club Drive, Bonsall, California 92003. Access to the Bank Property is available from Golf Club Drive.

The majority of the Bank Property is located in Section 20 of Township 10 South, Range 3 West; the easternmost portion is located in Section 21, Township 10 South Range 3 West; the south/southwest portions are located in Section 29, Township 10 South, Range 3 West. The entire Bank Property is within the Bonsall 7.5-minute United States Geological Survey quadrangle map.

The Bank Property consists of approximately 184.7 acres in 15 assessor's parcels:
126-06-047, 126-060-50, 126-060-71, 126-060-73, 126-300-37, 126-300-48, 127-460-15, 126-070-20, 126-100-09, 126-100-20, 126-100-23, 126-120-30, 126-230-15, 126-230-48, and 126-300-50.

The Bank Property is located in the PAMA of the North County Plan of the MSCP (Appendix A, Figure 2).

3.2 Ownership Status

The Bank Sponsor has an exclusive option to purchase the Bank Property from San Luis Rey Downs Enterprises, LLC, current owner and operator of the Golf Course. The Bank Sponsor will execute its option and purchase the Bank Property prior to the recordation of conservation easements on the Bank Property. It is proposed that the Bank Property will be owned by the Bank Sponsor or an entity managed by the Bank Sponsor.

3.3 Historical, Current, and Adjacent Land Uses

Prior to the existing Golf Course development, the majority of the Bank Property functioned as floodplain habitat associated with Moosa Creek and the San Luis Rey River. Aerial photographs from 1946 depict Moosa Creek draining into the Bank Property from the southeast and show pasture and woodlands on the site (WRA 2013b). In 1963, the Golf Course was developed. The Golf Course and associated infrastructure including several storage/maintenance buildings, a parking lot, tennis clubhouse and courts, cart paths, bridges and culverts encompass approximately 110 acres of the Bank Property. The balance of the Bank Property, approximately 75 acres, consists of a relatively degraded stream channel and riparian forest community dominated by bulrush (*Scirpus* spp.), cattail (*Typha* sp.), and willows (*Salix* spp.). Moosa Creek runs east to west through the Bank Property and the majority is channelized and/or modified. The Bank Property also contains two ponds that were created to embellish the Golf Course. The western boundary of the Bank Property includes the San Luis Rey River that was narrowed by the construction of a berm that maximized the area utilized for the Golf Course. The vast majority of the Bank Property is zoned Open Space-Recreation, while a small portion is zoned Rural Commercial (adjacent to the Golf Course clubhouse, hotel and parking lot which are not a part of the Bank Property).

Land use in the greater vicinity of Bonsall and within the San Luis Rey River contributing watersheds is primarily open space or low intensity human use classes. Agricultural or cultivated cropland is the second most common land use. There is limited medium and high intensity development. Natural lands consisting of forest and woodland are also common along the San Luis Rey River.(Sanborn Mapping 2008; Appendix A, Figure 4).

Aerial photographs depicting the current land use on the Bank Property and immediate adjacent properties are included in Appendix A, Figure 3. The Bank Property is surrounded by a mix of commercial, residential, and public lands. To the northeast is the San Luis Rey Downs racetrack and several housing developments, all of which are zoned Village Residential. Areas immediately to the north, west and south are zoned Open Space-Recreation with surrounding areas zoned Village Residential, Semi-Rural Residential, and Rural Lands (County of San Diego 2012).To the west of the Phase 1 portion are the Bonsall School, Bonsall Community Church, and a proposed 94-lot residential subdivision (San Diego County TM 5498 RPL3). To the west of the Phase 2 portion is State Highway 76. To the north of the Bank Property across Camino Del Rey is the balance of the Golf Course (approximately 60 acres). Portions of the San Luis Rey River Park, operated by San Diego County Parks, are to the southwest and to the north of Phase 2. State Highway open space/mitigation parcels (*e.g.*, the former Tabata property at the intersection of State Highway 76 and Camino Del Rey) are to the north.

3.4 Climate

The Bank Property is characterized by a Mediterranean climate, with hot dry summers and cool wet winters. The average daily maximum temperature of Vista, approximately 4 miles south southwest of the Bank Property is 74.6 degrees Fahrenheit, while the average daily minimum temperature is 52.3 degrees Fahrenheit. The warmest months are July through September, with average daily maximum temperatures of 82.2 degrees to 82.7 degrees Fahrenheit during these months. The coolest months are December through March, with average daily minimum temperatures of 44.3 degrees to 46.7 degrees Fahrenheit (USDA 2013).

The total yearly average precipitation for the Bank Property region averages 13.45 inches (USDA 2013). Rain-bearing weather systems are predominantly from the west, with the majority of rain falling between January and March (USDA 2013). Despite these relatively warm, dry conditions, the vegetation communities within the Bank Property generally do not consist of arid, drought tolerate communities but rather communities consisting of riparian vegetation. This is in large part due to the continuous hydrologic input into the site from upstream irrigation practices. In addition, the developed golf course portions of the Bank Property are irrigated year-round, resulting in the lush greens characteristic of developed golf courses.

3.5 Topography and Hydrology

The entire Bank Property is within the Bonsall 7.5-minute U.S. Geological Survey quadrangle map (Appendix A, Figure 5). The topography of the Bank is relatively flat with elevations ranging from approximately 160 to 185 feet above mean sea level.

The Bank Property is located at the mouths of the Moosa Canyon (180703030301) and Monserate Mountains-San Luis Rey River (180703030302) sub-watersheds of the Lower San Luis Rey River watershed (1807030303) within the Escondido Creek-San Luis Rey River sub-basin (18070303) (Appendix A, Figure 6). The Bank Property is bounded to the west by the San Luis Rey River and Moosa Creek, an intermittent stream (USGS 2004) drains through the Bank

Property from northeast to southwest. The Moosa Canyon sub-watershed is 35 square miles and Monserate Mountains-San Luis Rey River sub-watershed is 33 square miles; therefore, approximately 68 square miles of the 702-square mile Escondido - San Luis Rey River sub-basin drain through the Bank Property. The Bank Property is within the 100-year floodplain limits along both waterways (Appendix A, Figure 7).

Natural hydrological sources for the Bank Property include precipitation and surface run-off from adjacent lands. There are two sizeable waterways that pass through the Bank Property, Moosa Creek and the San Luis Rey River. Moosa Creek runs east to west through Phases 1 and 2, while the San Luis Rey River runs north to south along the western edge of Phase 2. Moosa Creek connects with the San Luis Rey River in the southern corner of Phase 2. The San Luis Rey River drains to the Gulf of Santa Catalina near Oceanside. Five smaller channels or storm drainage outfalls from the surrounding area also empty into Moosa Creek within the Bank Property, along with an outfall from one of the man-made golf course ponds. Two smaller channels or storm drainage outfalls empty into the San Luis Rey River.

Much of the Bank Property is a historic floodplain, and wrack lines indicate that both Moosa Creek and the San Luis Rey River occasionally flood at high levels. During the January 2013 site visit by WRA, Moosa Creek had flowing surface water, while the San Luis Rey River had saturated areas and areas of standing water, but not flowing water. Both waterways appear to flow mostly during the rainy season. Flowing surface water may not be present during the remainder of the year, but these areas are likely to have a relatively high water table and potential sub-surface flow year-round. Water from Moosa Creek and the San Luis Rey River support the majority of wetland features within the Bank Property.

In addition to natural hydrology, the Golf Course within the Bank Property is irrigated year-round. The Golf Course is generally well-drained, although low areas and micro topographic depressions may collect excess irrigation. Otherwise, excess irrigation generally drains into Moosa Creek. Two man-made ponds within the Golf Course area are also artificially maintained.

WRA initiated a hydrologic study in 2012. Eighteen (18) groundwater monitoring wells were installed throughout the Bank Property to access current water table depths for modeling pre-restoration hydrology on the site (Appendix A, Figure 8). Preliminary findings suggest the lowest elevations within the main channels of Moosa Creek and the San Luis Rey River are at or below groundwater. The groundwater table was detected at ranges from 0 to 7 feet below the surface elevation in riparian areas of the Bank Property.

cbec, Inc. (cbec) completed a hydrology study in July 2013. cbec assisted in developing the proposed concept design for Phase 1 and 2 by assessing the geomorphic and hydraulic feasibility of the proposed concept design. Thy hydrology study, which describes field data collection, proposed concept design and rational, hydrodynamic model development, and hydrodynamic model findings, is included as Appendix B.

3.6 Geology and Soils

The Bank Property is split by two geologic units according to the State Geologic Map of California (California Department of Conservation 2010). The northern portion of the Bank Property resides within the younger alluvium, Quaternary, “Q”, geologic unit. The Quaternary is characterized by alluvium, lake, playa, and terrace deposits. It is unconsolidated and semi-consolidated sedimentary rock, mostly nonmarine, but it does include marine deposits near the coast. The southern portion of the Bank Property is located within the Mesozoic granite, “gr^{Mz}”,

characterized by plutonic rocks, granite, quartz monzonite, granodiorite, and quartz diorite (Jennings, modified 2010).

The soil survey of San Diego County (USDA 1973) indicates that the Bank Property contains 12 soil types within nine USDA soil series (Appendix A, Figure 9; Table 1). The soil types are further described in Appendix C "Delineation of Potential Jurisdictional Wetlands and Non-wetland Waters under Section 404 of the Clean Water Act" (WRA 2013b).

Table 2: Soil Types (SSURGO Soil Types) within Study Area

Soil Type	Acreage	Percentage	Distribution within the Bank Property
Bonsall sandy loam, 2 to 9 percent slopes, eroded	0.24	0.13%	One very small patch on the eastern boundary with adjacent neighborhood
Fallbrook sandy loam, 9 to 15 percent slopes, eroded	0.18	0.1%	One very small patch at the northern corner along Camino Del Rey
Fallbrook-Vista sandy loams, 15 to 30 percent slopes	3.23	1.75%	Very limited occurrences on the eastern boundary of the Bank
Grangeville fine sandy loam, 0 to 2 percent slopes	22.21	12.04%	Covers almost the entire northeastern quadrant of the Bank
Placentia sandy loam, 5 to 9 percent slopes, eroded	0.13	0.07%	One very small patch adjacent to the far western boundary, west of San Luis Rey River
Placentia sandy loam, 9 to 15 percent slopes, eroded	3.83	2.08%	Very limited occurrences on edges near the developed area of the Bank
Ramona sandy loam, 9 to 15 percent slopes, eroded	2.22	1.2%	One very small patch at the southern tip of the Bank Property
Riverwash	45.04	24.42%	Abundant along San Luis Rey River corridor
Tujunga sand, 0 to 5 percent slopes	102	55.29%	Covers almost the entire interior portion of the Bank Property along Moosa Creek and the Golf Course
Visalia sandy loam, 0 to 2 percent slopes	1.91	1.04%	Limited occurrence on the easternmost edge
Visalia sandy loam, 2 to 5 percent slopes	0.06	0.03%	Small patch exist in the northwest corner
Visalia sandy loam, 5 to 9 percent slopes	3.42	1.85%	Small patch exists in the southeast corner

3.7 Jurisdictional Areas

WRA (2013b; See Appendix C) conducted a delineation of the Bank Property with site visits on January 14 and 15, 2013 and with the USACE on February 28, 2013. The approximately 185-acre Study Area currently supports 37.96 acres of wetlands and 5.72 acres (5,645 linear feet) of non-wetland waters (Appendix A, Figure 10a and 10b). These quantities are based on the initial site boundary and final quantities will change upon completion of an official boundary survey and final location of reserved easements. For the purposes of the delineation, all wetlands and non-wetland waters identified within the Study Area are considered jurisdictional under Section 404.

The wetland features within the Bank Property were dominated by hydrophytic vegetation with plants classified as FAC, FACW and OBL. They also contained hydric soil and wetland hydrology indicators. Waters features were identified through the presence of ordinary high water mark indicators. Most of the wetlands and non-wetland waters are tributary to a "navigable waters of the U.S." and therefore meet the definition of jurisdictional wetlands and non-wetland waters under Section 404.

Table 3. Summary of Potential Section 404 Jurisdictional Areas within the Study Area

Habitat Type		**Potential Jurisdictional Waters of the U.S. (acres)**
Wetlands:		
	Emergent Wetlands (PEMC; PSSC; PFOC)	37.96 acres*
Non-wetland Waters:		
	Intermittent creeks/drainages (R4SB5; R4SB7)	3.51 acres (4,550 linear feet)
	Ephemeral streams/drainages (R4SB7; R4r)	0.08 acres (1,050 linear feet)
	Maintained ponds (PUBHx)	2.13 acres
	Drainage channel for maintained pond	<0.01 acres (45 linear feet)
TOTAL		43.68 acres (5,645 linear feet)

Note: Quantities are subject to change based on official boundary survey. Approximately 4,150 linear feet of the San Luis Rey River (PSSC/PFOC) are present within the Bank Property. This waterway is almost entirely vegetated, meaning that it technically qualifies as a wetland rather than a typical waters feature. The linear feet of the San Luis Rey River therefore do not appear in Table 2. Similarly, Moosa Creek is present for approximately 7,610 linear feet within the Bank Property, of which 3,060 linear feet are considered wetland (PEMC). The linear feet for the wetland portion of Moosa Creek do not appear in Table 2.

3.8 Watershed Benefits

The Bank Property is located at the confluence of Moosa Creek and the San Luis Rey River. The San Luis Rey River and Moosa Creek floodplains are important because they provide critical habitat for federally and state endangered sensitive animal and plant species as described below in Section 3.9. The San Luis Rey River's rich riparian habitat within the 100-year flood plain provides critical habitat for several regional threatened and endangered species. Removal of harmful land uses and rehabilitation/re-establishment to address prior anthropogenic impacts will provide the following benefits in the watershed:

- Improvement of wetland functions through restored and protected floodplain and riverine herbaceous emergent wetlands along Moosa Creek and the San Luis Rey River
- Maintenance and improvement of water quality;
- Increased flood storage and attenuation;
- Increased quantity and quality of riparian and aquatic habitat for a wide variety of plant and wildlife species;
- Protection of wildlife corridors to link habitat blocks;
- Restoration of native habitat for imperiled species.

Mitigation at the Bank Property is consistent with other local community conservation objectives, as well. The Bonsall Community Plan (2011) identified Moosa Creek as a valuable and scarce resource, an important focus for maintaining community character and connecting open space. The Bank Property provides connectivity between existing protected lands. San Diego County's San Luis Rey River Park is a planned 8-mile long, 6,000-acre regional park that includes County Parks lands to the southwest of the Bank Property and to the west and north of the remaining portion of the Golf Course (north side of Camino Del Rey; also under contract to the Bank Sponsor). The plan for this regional park balances the needs of active and passive recreation, habitat restoration, and cultural/environmental education. Additional properties under management and protection for habitat and open space in the vicinity of the Bank Property include Bonsall, Hellers Bend, and Los Jigueros Preserves, all owned and managed by the Fallbrook Land Conservancy, and State mitigation and open space lands (Appendix A, Figure 11).

Furthermore, as previously discussed, the Bank Property is located within the PAMA of the North County MSCP (Appendix A, Figure 2). The North County MSCP allows the county to organize land conservation efforts to create an efficient network of protected areas. Preserve design criteria have been adopted to protect natural habitats and sensitive species. Mitigation for impacts within the Plan area shall occur within the Plan area and mitigation shall be within a tier equal to or greater than the impact site, with Tier I of greatest importance. The Bank Property is considered a Tier I mitigation area based on the presence of wetlands, freshwater marsh, and riparian woodlands and scrubs (County of San Diego 2010). Mitigation actions will restore connectivity between the riparian areas of the two waterways, both of which have "Very High" ecological value based on the North County MSCP GIS Habitat Evaluation Model (Appendix A, Figure 11). The Habitat Evaluation Model shows relative values within the North County MSCP with rankings based on physical landscape features, key species distributions (modeled habitat value for California gnatcatcher, Stephens' kangaroo rat (*Dipodomys stephensi*), and arroyo toad), sensitive species locations, and grassland habitat values (County of San Diego 2008).

3.9 Biological Resources

WRA, Inc. conducted a BRI (See Appendix C) in the spring of 2013. Database searches were conducted for known occurrences of special-status species with the potential to occur within the Bonsall 7.5-minute USGS quadrangle and the eight surrounding USGS 7.5-minute quadrangles. Special-status species are those formally listed, candidates, or proposed for listing under the FESA and/or CESA. Additionally, CDFW Species of Special Concern, USFWS Birds of Conservation Concern, and species covered by the North County MSCP are considered special-status species for the purpose of this Prospectus. WRA performed field studies to identify and classify natural communities and restoration units.

3.9.1 Existing Conditions

The Bank Property is characterized largely by landscaped nonnative grasses associated with the Golf Course. However, degraded mixed riparian forest, riverine freshwater marsh, and open water are present (Appendix A, Figure 12). The San Luis Rey River bounds the Bank Property to the west. This system was historically braided; however, urban runoff and development has resulted in single and defined channels isolated from the floodplain. Existing habitat and development are presented in Table 3.

Table 4: Existing Habitat and Conditions

Habitat Area	Acreage	Distribution
Riverine Forested Wetland	37.75	Fremont cottonwood – Arroyo willow alliance within San Luis Rey River corridor and Moosa Creek
Riverine Herbaceous Emergent Wetland	2.08	Riverine herbaceous emergent wetland within Moosa Creek
Riparian scrub/ Arroyo willow and mulefat thickets	13.04	Within less disturbed areas at the confluence of the San Luis Rey River and Moosa Creek and the northeast corner of the Bank Property
Streams	3.51	Portions of Moosa Creek
Open water ponds	2.13	Two ponds and drainage channel
Non-native woodland – landscaping (golf course)	38.06	Irrigated ornamental plants interspersed throughout fairways
Non-native grassland – landscaping (golf course)	70.28	Annual bluegrass turf, prevalent throughout interior of the Bank Property
Developed	3.3	Golf cart storage building/parking lot, tennis courts/clubhouse, roads and bridges. Along southern boundary of the northeast corner of the Bank.
Ruderal weeds	14.4	Along the edge of the Bank Property and within transition zones between the golf course and unmanaged areas

Despite relatively warm, dry conditions, the vegetative communities within the Bank Property generally do not reflect the climatic conditions of a Mediterranean climate, such as chaparral and oak woodlands predominate in this region. Because of continuous water contributed to the

site from upstream irrigation practices, many of the natural communities are riparian in nature despite the topsoil that was added to construct the fairways and amenities. In addition, the developed golf course portions of the Bank Property are irrigated year-round, resulting in the lush fairways and greens characteristic of developed golf courses (Appendix C). Mitigation activities will restore natural onsite hydrologic conditions to maintain existing riparian vegetation and restore degraded riparian areas, as discussed below.

3.9.2 Special-status Species: Plants

A background information search was conducted to identify potential special-status plant species that may occur in the Bank Property. Sources for this search included USFWS Species Lists (2013), Consortium of California Herbarium ("CCH"; CCH2013) records, California Natural Diversity Database ("CNDDB"; CDFW 2013) records, and the California Native Plant Society Electronic Inventory of Rare and Endangered Vascular Plants of California (2013). All searches included the Bonsall, Fallbrook, Morro Hill, Pala, Pechanga, San Luis Rey, San Marcos, Temecula, and Valley Center USGS 7.5-minute quadrangles. Of the 75 special-status plant species that have been recorded in the greater vicinity of the Bank Property, nine were determined to have a moderate to high potential to occur. Figure 13 illustrates the locations of special-status plant species near the Bank Property as documented in the CNDDB (CDFW 2013). Appendix C, the BRI, summarizes the potential for each of these species to occur. The following nine special-status plant species have a moderate potential to occur on the site: chaparral sand-verbena (*Abronia villosa* var. *aurita*), San Diego ambrosia (*Ambrosia pumila*), San Diego sagewort (*Artemisia palmeri*), Brewer's calandrinia/ red maids (*Calandrinia breweri*), Payson's jewel-flower (*Caulanthus simulans*), southern tarplant (*Centromadia parryi* ssp. *australis*), paniculate tarplant (*Deinandra paniculata*), mud nama (*Nama stenocarpum*), white rabbit-tobacco (*Pseudognaphalium leucocephalum*). No special-status plant species have been detected in the Bank Property during protocol-level rare plant surveys to date. These surveys will continue through June to ensure accurate results.

3.9.2.1 San Diego Ambrosia

A protocol-level rare plant survey is currently underway for San Diego ambrosia. This survey is occurring during peak blooming periods for these species to ensure proper identification. Three surveys took place in May 2013 and will continue through June 2013. Thus far, San Diego ambrosia has not been located. Protocol-level rare plant surveys for San Diego Ambrosia took place on May 8, 21, and 31, 2013 and will continue through June 2013. The exact date of these surveys is based on the blooming period of a reference population in the adjacent Critical Habitat near the intersection of highway 76 and Olive Hill Road. The protocol-level survey consists of walking parallel transects in suitable habitat for San Diego ambrosia. All species observed during the surveys conducted to-date can be found in Appendix C.

There are 17 recorded occurrences of the Federal-Endangered San Diego Ambrosia within the greater vicinity of the Bank Property and San Diego County (CDFW 2013, CCH 2013). The nearest documented occurrence is from May 2010, just west of Bonsall, less than one mile from the Bank Property. This species has a high potential to occur in the Bank Property due to the presence of sandy loam soils and the ability for this plant to withstand some disturbance. Although chaparral, coastal scrub, and vernal pools are not present within the Bank Property and the grasslands that are present, are frequently disturbed by maintenance, San Diego Ambrosia has been reported along the San Luis Rey River off Mission Road, adjacent to the Bank (CCH 2013). The close proximity of recent recorded occurrences suggests that this species is likely to occur within the Bank Property.

3.9.3 Special-status Species: Wildlife

In general, a relatively large number of special-status species have at least a moderate potential to occur within the Bank Property due to the fact that the site is in a semi-rural setting, contains valuable riparian habitat, is located along two large stream corridors within an otherwise arid landscape, and appears to be contiguous with a fairly large area of natural habitat. A total of 85 special-status wildlife species were assessed for their potential occurrence within the Bank Property, based on occurrence records, range maps, and on-site observations. Appendix C summarizes the potential for each of these species to occur within the Bank Property. Six of these species were determined to be present within the Bank Property, including two species listed as endangered under both the FESA and CESA. A total of 30 special-status species were determined to have a moderate or high potential for occurrence, including four FESA- or CESA-listed species. Special-status species occurrence data as reported in the CNDDB (CDFW 2013) is depicted in Appendix A, Figure 14.

Six special-status wildlife species are known to occur within the Bank Property. Five of these species were detected during protocol-level surveys performed by Cummings and Associates and Blackhawk Environmental and include sightings of endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell's vireo (*Vireo bellii pusillus*), along with sightings of vermillion flycatcher (*Pyrocephalus rubinus*), Nuttall's woodpecker (*Picoides nuttallii*), and yellow-breasted chat (*Icteria virens*). Additionally, a flock of white-faced ibis (*Plegadis chihi*), were observed within the Bank Property during preliminary field work in January 2013 and scat with appearance of being from a mountain lion (*Puma concolor*) was observed. Numerous additional special-status species have potential to occur. White-faced ibis and mountain lion are proposed for coverage under the North County MSCP. Protocol-level surveys for least Bell's vireo, arroyo toad (*Anaxyrus californicus*), and southwestern willow flycatcher are currently underway in the Bank Property. The methodology for these surveys is described in the appropriate species descriptions in Appendix C.

3.9.3.1 Coastal California Gnatcatcher

Coastal California gnatcatcher is a small blue-gray songbird and is listed as threatened by the USFWS under FESA. It is usually found in coastal sage scrub plant communities, especially those dominated by coastal sagebrush (*Artemisia californica*). The Bank Property is immediately adjacent to critical habitat for this species. There are numerous occurrences of the species documented in the CNDDB around the Bank Property with the nearest occurrence approximately 0.3 mile west of Phase 2. This species has not been documented within the Bank Property.

3.9.3.2 Least Bell's vireo

Least Bell's vireo is a small greenish to blue-gray songbird and is listed as endangered by the USFWS under the FESA and endangered under CESA. It is usually found near the water in willow-dominated riparian woodlands. In addition, the Bank Property is directly adjacent to critical habitat for this species. Least Bell's vireo has been confirmed to occur on the Bank Property with 47 sightings of this species, of which three pairs were determined to be nesting pairs.

3.9.3.3 Southwestern Willow Flycatcher

The southwestern willow flycatcher is a small brownish-olive migrating bird and is listed as endangered by the USFWS under the FESA and endangered under the CESA. It is present in California from late April to September and migrates in the fall to Mexico and South America, where it stays until springtime. It is usually found near the water in willow-dominated riparian

woodlands as well as in scrubby and brushy areas. Five Southwestern willow flycatcher individuals have been confirmed to occur on the Bank Property; however, no definite breeding pairs have yet to be detected.

3.9.3.4 Arroyo Toad

Arroyo toad is listed as endangered by the USFWS under the FESA. It is typically found on sandy banks in riparian woodlands (willow [*Salix* spp.], cottonwood [*Populus* spp.], sycamore [*Platanus* spp.], and/or coast live oak [*Quercus agrifolia*]). Four occurrences of the arroyo toad have been documented in the CNDDB upstream of the Bank Property and near the San Luis Rey River. The Bank Property is directly adjacent to the critical habitat unit #14 (USFWS 2011). Protocol-level surveys conducted within the Bank Property have not encountered this species to date.

3.9.4 Additional Special-status Species Habitat

Over 50 acres of sensitive woodland, scrubland, and herbaceous sensitive vegetation communities exist on the Bank Property. These biological communities are comprised of eight vegetation alliances containing 11 vegetation associations. Of the 11 vegetation associations, only five are considered sensitive. These biological communities, vegetation alliances, and vegetation associations are described in Appendix C. Sensitive vegetation associations include:

- Fremont cottonwood / arroyo willow association
- Mulefat / arroyo willow
- Arroyo willow
- Arroyo willow / mugwort
- Blue elderberry

The Bank Property would be appropriate mitigation for Biological Resource Core lands under the MSCP as an agency approved mitigation and conservation bank in the PAMA, as land of a very high value based on the Habitat Evaluation Map (Appendix A, Figure 11), and due to the sensitive vegetation communities and Covered Habitat currently present on site and proposed for rehabilitation/ re-establishment (County of San Diego 2010).

3.10 Cultural Resources

The Bank Sponsor hired Brian F. Smith & Associates, Inc. (“BFSA”) to complete a cultural resources survey of the Bank Property and it was completed in March 2013 (Appendix E). The Class III archaeological assessment for the project was negative; no unrecorded cultural resources were identified. Many areas across the Bank Property have already been disturbed by construction of the Golf Course and the development of surrounding roads. BFSA recommended that the project be allowed to proceed with the implementation of archaeological and tribal monitoring during grading to identify any inadvertent discoveries.

3.11 Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment was prepared by Advantage Environmental Consultants, LLC in March 2013 to identify “recognized environmental conditions” including hazardous substances or petroleum products that could be released from activities on the Bank Property. The assessment was performed in conformance with ASTM Practice E 152705 and

revealed no evidence of recognized environmental conditions in connection with the property (Appendix F).

3.12 Assurance of Mineral Rights and Sufficient Water Rights

The Bank Property appears to have all surface water rights attached to the property. A search of the State Water Resources Control Board (2013) Water Rights Information Management System ("eWRIMS") was conducted to determine the extent of water rights within the Bank Property. This system did not indicate any appropriative water rights issued within the Bank Property, nor on upstream parcel within the sub-watershed. The results of the search are included in Appendix H. In addition, no surface water or groundwater diversion points have been observed within the Bank Property or on adjoining upstream properties. Information provided by the property owner and the title company, indicate that all surface and sub-surface mineral rights are attached to the Bank property (Appendix H).

4.0 DEVELOPMENT PLAN

4.1 Project Goals

Development of the Bank would involve the rehabilitation and re-establishment of stream, riparian, floodplain, wetland and upland habitat, including habitat for sensitive and special-status species, within the historic floodplain of Moosa Creek and the San Luis Rey River. The Bank Property occupies an existing golf course, and as such, much of the site consists of a graded, landscaped topography with hardscape features such as cart paths, bridges and culverts, tennis courts, and roads. The proposed mitigation actions will address these impacts and rehabilitate and re-establish native habitat.

The overall goals of the project for Moosa Creek, the San Luis Rey River, and the surrounding upland buffer on the site are as follows:

<u>Moosa Creek</u>

- Re-establish secondary stream channel in former channel alignment of Moosa Creek
- Reconnect and improve hydrologic connectivity between Moosa Creek and its floodplain
- Re-establish wetland depressions in floodplain by filling man-made ponds
- Plant riparian, wetland, and floodplain areas with native species

<u>San Luis Rey River</u>

- Lower berm and create floodplain terraces to reconnect and improve hydrologic connectivity between San Luis Rey River and floodplain

<u>Wetland and Non-wetland Riparian</u>

- Plant surrounding floodplain of Moosa Creek and San Luis Rey with native riparian species

<u>Covered Habitat</u>

- Plant surrounding uplands with native coastal sage scrub and other appropriate native species
- Create soil disposal mounds and micro-topography if needed to reduce potential flood hazards and soil export

4.2 Conceptual Development Design

The Development Plan for the Bank Property includes the rehabilitation of Moosa Creek and the San Luis Rey River and adjacent historic floodplains, and the re-establishment of seasonal wetland, riparian floodplain, and coastal sage scrub. Rehabilitation and re-establishment activities will return Moosa Creek and the San Luis Rey River to unconstrained and dynamic systems similar to historic conditions (Appendix A, Figure 15).

The Bank's mitigation activities will remove a highly landscaped golf course established through fill of historic floodplain and re-connect the historic floodplain through the removal of up to 350,000 cubic yards of fill materials (See Appendix B). Credits are proposed for the rehabilitation of existing portions of Moosa Creek as well as for the re-establishment of secondary channels and floodplain wetlands and riparian habitat. Secondary channels will maximize available terraces receiving more frequent inundation as well as encouraging lateral percolation into riparian areas. The Bank Sponsor is also intending to remove infrastructure that is currently impacting the stream, such as bridge piles and road crossings.

4.2.1 Waters of the U.S.

4.2.1.1 Re-established and Rehabilitated Riverine Wetland

The re-established and rehabilitated riverine wetland will be developed through a combination of earthwork and grading, planting, and active and passive restoration within lower elevation areas in the floodplain. The number of mitigation credits earned will be based upon the number of acres of re-established and rehabilitated habitat.

Riverine wetland re-establishment and rehabilitation are proposed for the upstream reach of Moosa Creek and within the San Luis Rey River. Historically these systems shared an active floodplain with a mix of active riparian floodplain and wetland conditions. Today, due to development of the Golf Course, they have been disconnected from the floodplain.

Several locations have been identified along the San Luis Rey River and Moosa Creek corridors to provide better connection between the stream and floodplain. These locations will be graded to provide increased hydrologic connectivity between the stream and floodplain and will provide increased riparian habitat. A berm was built along the San Luis Rey River that narrowed its channel, reduced overbank flooding, and resulted in perennial flow. The channel rehabilitation will involve lowering the berm along the downstream area of the San Luis Rey to reconnect the river with the floodplain. This berm will be removed or lowered in areas and the channel widened. A broad, terraced riparian corridor will be constructed in the San Luis Rey floodplain to receive floodwaters at the 5-year storm recurrence interval elevation and higher.

Portions of the existing Moosa Creek floodplain terraces will be broadened and two secondary low flow channels will be re-established to mimic the historic alignment shown in the 1946 aerial photograph (Appendix A, Figure 16), re-establish habitat complexity, and increase flood capacity of the system. Cross sections of the channel design and floodplain rehabilitation and re-establishment are shown in Figure 17 and 18. The secondary channels will maintain a similar pattern, profile, and dimensions as the existing channel and will be created to receive low flows and encourage riparian and wetland habitat in the floodplain. Terraces will be inundated more frequently under the proposed conditions and increase lateral percolation in riparian areas.

4.2.1.2 Re-established Seasonal Wetland

Re-established seasonal wetlands will be constructed in lower elevation areas within the floodplain to encourage wetland and riparian vegetation, increase habitat functions, manage storm flows, and improve water quality. Supplemental ground water may contribute to the hydrology of these wetlands.

4.2.1.3 Re-established Wetland Riparian

Riparian areas will be re-established through restored hydrology with overbank flood events and planting of native riparian vegetation communities, such as red willow (*Salix laevigata*) or Fremont cottonwood (*Populus fremontii*) stands. Riparian extent is based roughly on the 10-year flood extent and where near surface ground water may supplement hydrology and promote riparian vegetation. Currently, stands of Fremont cottonwoods exist within portions of the riparian areas and attention will be given to maintaining these large, mature cottonwoods where possible.

4.2.2 Non-wetland Riparian and Covered Habitat

4.2.2.1 Re-established Non-wetland Riparian/ Covered Habitat

Non-wetland riparian areas are particularly important for nesting birds and wildlife usage due to the cover provided by shrubs or trees, the close proximity to water sources, and riparian corridors that act as habitat linkages (Fischer and Fischenich 2000; Montgomery 1996). Additionally, The Bank Property's non-wetland riparian areas are located at the confluence of two major drainages and the quality of the habitat in these riparian areas significantly influences the hydrology and water quality downstream. Non-wetland riparian areas will be planted with a variety of native trees and shrubs, including such species as coast live oak, California sycamore, and blue elderberry. Due the presence of the sensitive vegetation communities and habitat in these areas, the Bank Property may be appropriate to provide credits to meet mitigation requirements under Section 1602, CEQA, and/or the MSCP.

4.2.2.2 Re-established Covered Habitat

Healthy riparian buffers are essential to the improvement and maintenance of the aquatic resources and providing habitat for sensitive and listed species within the Bank Property. Covered habitat will be composed primarily of coastal sage scrub habitat. These areas are identified as the areas at the highest elevations on the site. Excavated soils obtained during the re-establishment and rehabilitation of riverine wetland, floodplain, or riparian areas may be placed in some portions of these areas. The areas will be the subject of habitat restoration for sensitive upland habitats such as coastal sage scrub or mixed chaparral habitats and will provide valuable habitat for the species listed below and other sensitive species covered by CEQA and the MSCP.

4.2.3 Special-status Species Habitat

The Bank Sponsor is requesting credits for the following species based upon occurrences on site or through restoration of suitable habitat within the Bank Property for coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and arroyo toad. As the Development Plan becomes finalized, the Sponsor will coordinate with the IRT to determine how many credits will be awarded for each species based on the acreage of suitable habitat that will be re-established and rehabilitated. Where impacts occur within the area covered by the North County Plan, mitigation will follow the Biological Mitigation Ordinance for the plan.

Mitigation is required to take place in the PAMA and as such, the Bank will be eligible to provide mitigation.

4.2.3.1 Coastal California Gnatcatcher

The San Diego MSCP California Gnatcatcher Habitat Evaluation Model (County of San Diego 2008) suggests that the area south of the Bank Property has very high value for the coastal California gnatcatcher. The upland portion of the Bank would be restored to match the habitat found south of the Bank Property to provide appropriate habitat for this species.

4.2.3.2 Least Bell's vireo

The rehabilitated and re-established wetland and riparian areas of the Bank Property, as well as the currently existing eight-acre patch of willow would provide appropriate habitat for this species.

4.2.3.3 Southwestern Willow Flycatcher

The rehabilitated and re-established wetland and riparian areas and coastal sage scrub would provide appropriate habitat for this species.

4.2.3.4 Arroyo Toad

The San Diego MSCP Arroyo Toad Habitat Evaluation Model suggests that areas near Moosa Creek and the San Luis Rey River have excellent value for the arroyo toad. The Bank Property once restored will contain the sandy banks in riparian woodlands (willow, cottonwood, sycamore, and/or coast live oak) that serve as habitat for the arroyo toad.

4.3 Earthwork and Planting

Riparian and wetland construction activities will be conducted using heavy equipment that may include scrapers, bulldozers, skiploaders, backhoes, and water trucks. Topsoil consisting of the upper 8 to 12 inches of soil will be harvested and stockpiled on site and placed in disturbed and graded locations.

A conceptual planting plan will be included in the BEI. The site will be planted with a combination of cuttings, nursery grown container plants, and seed. Temporary irrigation may be required during the first three years of the plant establishment period.

The following plant species are being evaluated for the various habitat zones at the site:

Riverine Wetland (300 plants per acre)

- Fremont cottonwood (*Populus fremontii*)
- Black willow (*Salix gooddingii*)
- Arroyo willow (*Salix lasiolepsis*)
- Sandbar willow (*Salix hindiana*)
- Mugwort (*Artemisia douglasiana*)
- Mule fat (*Baccharis salicifolia*)

Seasonal Wetland

- Beardless wild rye (*Elymus triticoides*)
- Common bog rush (*Juncus effusus*)
- Wire rush (*Juncus balticus*)
- Hairgrass (*Deschampsia elongata*)

- Meadow barley (*Hordeum brachyantherum*)

Wetland Riparian (300 plants per acre)
- Fremont cottonwood (*Populus fremontii*)
- Mule fat (*Baccharis salicifolia*)
- Coast live oak (*Quercus agrifolia*)
- Sycamore (*Platanus racemosa*)
- Blue elderberry (*Sambucus nigra* ssp. *caerulea*)
- California rose (*Rosa californica*)
- California blackberry (*Rubus ursinus*)
- Desert wild grape (*Vitis girdiana*)

Non-wetland Riparian
- Coast live oak (*Quercus agrifolia*)
- Sycamore (*Platanus racemosa*)
- Blue elderberry (*Sambucus nigra* ssp. *caerulea*)
- Coyote brush (*Baccharis pilularis*)
- Sticky monkeyflower (*Mimulus aurantiacus*)
- Toyon (*Heteromeles arbutifolia*)

Covered Habitat
- California buckwheat (*Eriogonum fasciculatum*)
- Coast sagebrush (*Artemisia californica*)
- Coyote brush (*Baccharis pilularis*)
- Menzies' goldenbush (*Isocoma menziesii* var. *vernonioides*)
- Toyon (*Heteromeles arbutifolia*)
- White sage (*Salvia apiana*)
- Coast live oak (*Quercus agrifolia*)

4.4 Performance Standards and Monitoring

4.4.1 Performance Standards

Performance standards are preliminarily proposed as follows. The Bank Sponsor will continue to refine the performance standards before bank approval based on the South Pacific Division's Uniform Performance Standards for Compensatory Mitigation and input from the IRT.

4.4.1.1 Re-established and Rehabilitated Riverine Wetland

Stream stability should be achieved in re-established and rehabilitated riverine wetlands within Moosa Creek and the San Luis Rey River. All re-established and rehabilitated riverine wetlands should allow for overbank flooding or access to high-flow channels in the active floodplain while still maintaining channel stability. Stability will be measured based on slope and longitudinal profiles. Both shall not deviate significantly from as-built conditions during the monitoring period. Annual cross-section surveys shall not deviate significantly from design parameters in terms of channel width to depth ratio (bankfull surface width/bankfull mean depth), entrenchment ratio (floodprone width/bankfull width) and cross-sectional area.

4.4.1.2 Re-established Seasonal Wetland

Performance success of seasonal wetlands will be based on water table level below surface or number of consecutive days of inundation during the growing season. Hydric soil conditions,

indicative of wetland hydrology, shall be considered present, and the habitat shall be dominated by native hydrophytic species.

4.4.1.3 Re-established Wetland Riparian

To ensure the riparian areas are dominated by native vegetation and have undisturbed soils, the riparian areas shall be comprised of a majority of native vegetation with limited absolute cover of woody invasive exotics throughout each year of the monitoring period.

4.4.1.4 Re-established Non-wetland Riparian/ Covered Habitat

To ensure the riparian areas are dominated by native vegetation and have undisturbed soils, the riparian areas shall be comprised of a majority of native vegetation with limited absolute cover of woody invasive exotics throughout each year of the monitoring period.

4.4.1.5 Re-established Covered Habitat

Success of plantings in the buffer will be based on survivorship of planted tree, shrub, and herb strata container plants in buffer areas. Percent survivorship will be used to assess success in buffer areas annually throughout the monitoring period.

4.4.2 Monitoring

4.4.2.1 Re-established and Rehabilitated Riverine Wetland

Hydrogeomorphic surveys, longitudinal profile, and cross-sections of streambed features will be conducted annually. Visual inspections to assess surface water storage following return to baseflow will be conducted following storm events to assess surface water storage.

4.4.2.2 Re-established Seasonal Wetland

Groundwater monitoring wells will be used to routinely monitor and assess the hydrologic characteristics of the wetland areas to determine if success has been met. An automatic data collection device will be in place throughout the five-year monitoring period and monitoring results will be reported annually. Vegetation surveys will be performed annually during the growing season to assess survivorship of planted natives during the monitoring period.

4.4.2.3 Re-established Wetland Riparian

Vegetation surveys will be performed annually during the growing season to assess survivorship of planted natives and cover.

4.4.2.4 Re-established Non-wetland Riparian/ Covered Habitat

Vegetation surveys will be performed annually during the growing season to assess survivorship of planted natives and cover.

4.4.2.5 Re-established Covered Habitat

Vegetation surveys will be performed annually throughout the monitoring period to assess survivorship of planted natives and cover.

5.0 SERVICE AREA

5.1 Waters of the U.S. and Wetland Riparian Service area

The 2008 federal mitigation rule (33 CFR Parts 325 and 332) requires use of a watershed approach for compensatory mitigation. The IRT has proposed guidance on defining service areas under a watershed approach and by the 10-digit Hydrologic Unit Codes (HUC-10). The guidance states that the HUC-10 in which the Bank Property is located is the starting point for developing a service area and that additional HUC-10's should be added using justifications based on the sub-basin (HUC-8) and eco-region needs. For eco-region, the guidance recommends using the United States Department of Agriculture's Major Land Resource Areas (MLRA).

5.1.1 Step 1: HUC-10 Containing the Bank Property

- Lower San Luis Rey River Basin; 136 square miles

The minimum service area (defined by the Corps as the HUC-10 watershed containing the Bank Property) was identified as the Lower San Luis Rey River Basin HUC-10 (HUC 1807030303). The Bank Property itself is in the Southern California Coastal Plain MLRA (MLRA 19), an area characterized by sloping, dissected coastal and alluvial plains bordered by steep hills, and is on the border of the Southern California Mountains MLRA (MLRA 20), an area characterized by steep mountains and valleys and streams with actively eroding channels. The sediment contributed by streams and washes in the Southern California Mountains MLRA create colluvial slopes and alluvial fans in the larger valleys and on the coastal plains to which they drain. The coastal plain between the Pacific Ocean and the Vallecito Mountains is narrow, and colluvial slopes from the mountains form the eastern boundary. Nearly two-thirds of the Southern California Coastal Plain MLRA consists of urban or developed areas, with undeveloped lands quickly becoming urbanized. A major portion of the Southern California Mountains MLRA is made up of the Cleveland National Forest (USDA 2006).

5.1.2 Step 2: HUC-10s requiring minimal justification

The guidance states that minimal justification is required for HUC-10s where all of the following are true:

1. Watersheds abutting the HUC-10 in which the Bank is located;
2. Watersheds within the same HUC-8 sub-basin as the Bank; and
3. Watersheds within the same ecoregion (defined as the same MLRA) as the Bank.

The following HUC-10s meet all three criteria for requiring minimal justification:

- Middle San Luis Rey River; 218 square miles
- Escondido Creek; 85 square miles
- San Marcos Creek- Frontal Gulf of Santa Catalina; 129 square miles

Middle San Luis Rey River

Management of the San Luis Rey River watershed and restoration of the San Luis Rey River focus on the implementation of the San Luis Rey Watershed Management Project and the Watershed Urban Runoff Management Plan ("WURMP"; City of Oceanside, 2008). The purpose of the WURMP is to comply with the region's Municipal Permit issued by the SDRWQCB and to

improve water quality within the San Luis Rey Watershed. The WURMP identifies Biological Oxygen Demand (BOD) as an issue in the San Luis Rey River. Moosa Creek is identified as a major tributary in the WURMP. The proposed restoration of portions of the existing creek and re-establishment of a secondary channel will increase floodplain and riparian bench habitats, which will allow for more filtration and cleansing of water from upstream agricultural areas, which will improve water quality as it leaves Moosa Creek and enters the San Luis Rey River.

Escondido Creek and San Marcos Creek-Frontal Gulf of Santa Catalina

The Escondido Creek watershed is located approximately 15 miles south of the Bank, the largest within the Carlsbad Hydrologic Unit, originating in Bear Valley in north central San Diego County and terminating at San Elijo Lagoon (www.projectcleanwater.org). The San Marcos Creek-Frontal Gulf of Santa Catalina watershed is the second-largest sub-watershed within the Carlsbad Hydrologic Unit, originating in west central San Diego and discharging into Batiquitos Lagoon (ibid). San Marcos Creek freshwater marsh, riparian forest, and natural flood channels, which are habitats present within the Bank Property, are all identified biological core and linkage areas in the North County MSCP and draft subarea plans for Escondido, Encinitas, and Oceanside and the City of San Marcos Creek Specific Plan as are the three special-status species proposed for credit generation in the Bank. Coastal California gnatcatcher is also identified as a focal species in the Escondido Creek Watershed Restoration Action Strategy (San Elijo Lagoon Conservancy 2005).

5.1.3 Step 3: HUC-10s requiring additional justification

The following HUC-10s are within the same MLRAs as the Bank, are adjacent to the Minimum Service Area, but are not within the same HUC-8 sub-basin as the Bank:

- Santa Margarita River ; 156 square miles
- San Onofre Creek- Frontal Gulf of Santa Catalina; 103 square miles

The Santa Margarita River watershed encompasses approximately 750 square miles, approximately 202 of which lie within San Diego County (Project Clean Water 2012). The river itself is an approximately 30-mile long, intermittent river beginning just south of the City of Temecula in Riverside County, 14 miles from the Bank. Large portions of the river flow through Camp Pendleton and the Santa Margarita Ecological Reserve administered by San Diego State University (Friends of the River 2012). The portion of the Santa Margarita River watershed within Camp Pendleton (approximately 38,150 acres) is located within 6 miles of the Bank Property and the San Onofre Creek—Frontal Gulf of Santa Catalina watershed within Camp Pendleton (approximately 66,200 acres), where the river terminates, is located within 12 miles of the Bank Property.

Camp Pendleton is located within the same ecoregions as the Bank Property and has a similar climate and similar soils, watershed characteristics and biology including endangered species. Section 4.5.3 of the Integrated Natural Resources Management Plan for Camp Pendleton (USMC 2012) notes that suitable mitigation sites on Camp Pendleton that will not conflict with military operation requirements is becoming difficult. Sensitive resources and species identified on Camp Pendleton include wetland and riparian habitats, arroyo toad, least Bell's vireo, and southwestern willow flycatcher. The Santa Margarita River Watershed Management Plan (Anchor Environmental 2005) identifies San Diego ambrosia as a targeted species in its management plan. Accordingly, the Bank will enable Camp Pendleton to maintain required operations while providing in-kind mitigation for future impacts.

The entire service area for wetland and wetland riparian for Section 404 mitigation is shown below in Table 5 and in Appendix A, Figure 19.

Table 5: Moosa Creek Mitigation Bank Section 404 Service Area

Cataloguing Unit	Watershed Name	Type	Area (square miles)
1807030303	Lower San Luis Rey River	minimum service area	136
1807030302	Middle San Luis Rey River	minimal justification	218
1807030304	Escondido Creek	minimal justification	85
1807030305	San Marcos Creek—Frontal Gulf of Santa Catalina	minimal justification	129
1807030205	Santa Margarita River (including. Camp Pendleton)	Additional justification required	156
1807030104	San Onofre Creek—Frontal Gulf of Santa Catalina	Additional justification required	103
		Total service area	737 square miles

5.2 Non-wetland, Species and Covered Habitat Service Areas

5.2.1 Non-wetland Riparian

Based on Section 1786 part b.2 of the California Fish and Game code, the service area for impacts to aquatic resources through Section 1602 of the California Fish and Game code will include a 40-mile radius around the Bank Property (Appendix A, Figure 20).

5.2.2 San Diego Ambrosia

San Diego ambrosia typically occurs in sandy loam or clay, often in disturbed areas, and sometimes in alkaline soils. Communities where it is typically found include chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats (CNPS 2013, CDFW 2013). It is distributed in southern California from northwestern Riverside County, south through western San Diego County, to northwestern Estado de Baja California, Mexico (CDFW 2013). It is generally found at or below elevations of 1,600 feet in Riverside County, and 600 feet in San Diego County (CDFW 2013).The Bank Property has elevations ranging from approximately 140 to 170 feet. Therefore, the Bank may be appropriate mitigation for the San Diego ambrosia wherever found in San Diego County and Camp Pendleton (Appendix A, Figure 21).

5.2.3 Least Bell's vireo

The least Bell's vireo has a range that is restricted from Santa Barbara to San Diego County. Critical habitat was designated in 1994 and encompasses a total of 38,000 acres at 10 localities in portions of these six counties in southern California (USFWS 1994). Evidence shows that the birds have an ability to disperse long distances between drainages, as great as 130 miles (USFWS 1998). The least Bell's vireo populations interact as metapopulations and individuals may exploit previously unoccupied and suitable riparian areas. The San Luis Rey River and the

Camp Pendleton/Santa Margarita River populations (USFWS 1998) are nearest to the Bank Property. The least Bell's vireo has been documented in both Phase 1 and Phase 2 of the Bank Property. Therefore, the Bank is appropriate to provide least Bell's vireo credits throughout San Diego County and Camp Pendleton (Appendix A, Figure 22).

5.2.4 Southwestern willow flycatcher

The southwestern willow flycatcher is a neotropical migratory bird, with breeding territories restricted to dense growths of trees and shrubs in riparian ecosystems in the arid southwestern United States and possibly northwestern Mexico. In California, southwestern willow flycatcher currently has approximately 256 breeding territories, with the largest population being along the Kern River (fluctuating between 38 and 23 territories). The next three largest populations are located in southern California: along the Owen's River from below Pleasant Valley Reservoir to Warm Springs Road, along the San Luis Rey River downstream of Lake Henshaw, and along the Santa Margarita River at Camp Pendleton (USFWS 2002). Nonetheless, the populations along the San Luis Rey and Santa Margarita Rivers are relatively limited, with 40 territorial males documented along the San Luis Rey River in 1999. The Camp Pendleton area had consistently maintained fewer than 24 territories despite the presence of suitable habitat. In addition, there are scattered populations throughout southern California, most of which have fewer than five territories. Critical habitat was designated in 2013 for the southwestern willow flycatcher and includes certain stream segments and riparian areas within the 100-year floodplain of flood-prone areas within San Diego County, including segments of the San Luis Rey River. The service area for southwestern willow flycatcher would include all territories covered in San Diego County and Camp Pendleton (Appendix A, Figure 23).

5.2.5 Arroyo toad

The arroyo toad current range extends along coastal California from Ventura County down into Baja California. In the San Diego area, arroyo toads utilize a variety of habitats for breeding and dispersal, including shallow pools and open areas in medium-to-large sized perennial and intermittent streams, smaller streams, deep canyons, and upland areas. There are documented metapopulations of arroyo toad along the Santa Margarita, San Luis Rey and San Dieguito rivers and their associated tributaries. In San Diego County, adult toads are frequently found up to 1.2 miles (2.0 kilometers) upland of streams and more than 0.5 mile up and downstream of known populations, indicating that the toads are fairly mobile within each metapopulation (USFWS 1999). Four occurrences of the arroyo toad have been documented in the CNDDB upstream of the Bank Property near the San Luis Rey River. The Bank Property is directly adjacent to the critical habitat unit #14 (USFWS 2011). In addition, the San Diego MSCP Arroyo Toad Habitat Evaluation Model (County of San Diego 2008) suggests that areas near Moosa Creek and the San Luis Rey River have excellent value for the arroyo toad. Due to the connectivity of Moosa Creek to the greater San Luis Rey watershed, its proximity to the Santa Margarita River watershed, as well as the documented wide dispersal patterns of arroyo toad, the Bank is appropriate mitigation for San Diego County and Camp Pendleton (Appendix A, Figure 24).

5.2.6 Coastal California gnatcatcher

The coastal California gnatcatcher has a range extending from southern Ventura County into northern Mexico. Although it is a resident, territorial species, juveniles have been described as dispersing long distances up to 14 miles across fragmented sage scrub habitat, although the species prefers to travel short distances over contiguous habitat (USFWS 2000). The Bank

Property is immediately adjacent to critical habitat for this species. There are numerous occurrences of the species documented in the CNDDB around the Bank Property. In addition, the San Diego MSCP California Gnatcatcher Habitat Evaluation Model (County of San Diego 2008) suggests that the area south of the Bank Property has very high value for the coastal California gnatcatcher. The upland portion of the Bank Property would be restored to match the habitat found south of the Bank Property to provide appropriate habitat for this species. The service area for the coastal California gnatcatcher is the northern segment and the Fallbrook Naval Weapons Station of the Draft North County MSCP as shown in Appendix A, Figure 25. The remainder of western San Diego County may provide compensation for projects having impacts to coastal California gnatcatcher on a case-by-case basis, as approved by the USFWS.

5.2.7 Other Covered Habitats Service Area

The service area for other Covered Habitat includes San Diego County and Camp Pendleton. The bank is within the PAMA as identified by the MSCP, which is makes it appropriate for use as mitigation within the MSCP Plan area (Appendix A, Figure 26). Impact sites may be subject to case-by-case determinations and analysis approved by the Director within the Plan area (County of San Diego 2010). The Bank may also provide mitigation for special-status species and sensitive habitat covered by CEQA within San Diego County and Camp Pendleton.

6.0 BANK CREDITING AND CREDIT RELEASES

The Bank will provide a highly diverse complex of habitats following restoration activities along the San Luis Rey River and Moosa Creek. Rehabilitation and re-establishment are being performed along Moosa Creek to generate Section 404 credits for riverine wetland and riparian and Section 1602 non-wetland riparian mitigation credits, as described above. Riverine and seasonal wetland will also be rehabilitated and re-established in the floodplain. Credit generation for stream and wetland habitat and Covered Habitat is presented below on a per-acre basis. Again, these quantities are based on the initial site boundary and final quantities may change upon completion of an official boundary survey and final location of reserved easements.

Table 6: Moosa Creek Mitigation Bank Crediting

Credit Summary	Acres	Credits		
		Waters of the U.S.	Section 1602	Covered Habitat
Phase I				
Rehabilitated Riverine Wetland	10.04	10.04		
Re-established Riverine Wetland	2.36	2.36		
Re-established Seasonal Wetlands	3.63	3.63		
Re-established Wetland Riparian	25.59	25.59	25.59	
Re-established Non-wetland Riparian/ Covered Habitat	19.77		19.77	19.77
Re-established Covered Habitat	5.36			5.36
Total	**66.76**	**41.62**	**45.36**	**25.13**
Phase II				
Rehabilitated Riverine Wetland	31.87	31.87		
Re-established Riverine Wetland	1.19	1.19		
Re-established Seasonal Wetlands				
Re-established Wetland Riparian	47.38	47.38	47.38	
Re-established Non-wetland Riparian/ Covered Habitat	1.33		1.33	1.33
Re-established Covered Habitat	36.22			36.22
Total	**117.98**	**80.44**	**48.71**	**37.55**
Grand Total	**184.74**	**122.06**	**94.07**	**62.68**

The previous section outlines the basic types of credits that the Bank Property will support. Credits for Waters of the U.S. and Covered Habitat will be release based on a credit release schedule, as shown in Table 6, upon which credits are released as performance standards and endowment funding milestones are met.

Table 7: Credit Release Schedule

Credit Type	Credit Release Number	Credits Released	Credit Release Schedule
Waters of the U.S. and Covered Habitat	1	15%	Upon • Bank Establishment Date and approval of BEI, and • Recorded Conservation Easement, and evidence of financial assurances
	2	25%	Upon • Submission of the as-built drawings, and • Funding of 15% or more of the Endowment Principal
	3	15%	Upon • Attainment of Year Two Performance Standards, and • Funding of 40% or more of the Endowment Principal
	4	15%	Upon • Attainment of Year Three Performance Standards, and • Funding of 70% or more of the Endowment Principal
	5	15%	Upon • Attainment of Year Four Performance Standards, and • Funding of 100% of the Endowment Principal
	6	15%	Upon • Attainment of Year Five Performance Standards, and • Verified Waters of the U.S. jurisdictional determination
		100%	All Bank credits released

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Appendix H

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Appendix I

Preliminary Title Report