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Ms. Gail Getz
County of San Diego Department of Public Works
5510 Overland Avenue, Suite 410
San Diego, California 92123-1237

Re: County of San Diego Department of Public Works 13th Street Bridge Project Conceptual Mitigation Plan, Ramona, CA

Ms. Getz:

The purpose of this Conceptual Mitigation Plan is to identify the proposed mitigation location and describe the methodologies by which the County of San Diego (County) Department of Public Works (DPW), in cooperation with California Department of Transportation (Caltrans), will mitigate for project impacts to Santa Maria Creek and its surrounding habitats associated with the construction of the 13th Street Bridge in Ramona, California. This document has been prepared in compliance with Mitigation Measures BIO-1 and BIO-2 from the *13th Street Bridge Project Natural Environment Study* (AECOM 2020; NES). It will be submitted to the regulatory agencies (California Department of Fish and Game [CDFW], U.S. Army Corps of Engineers [USACE], and California San Diego Regional Water Quality Control Board [RWQCB]) in support of project permitting and to the U.S. Fish and Wildlife Service (USFWS) as part of consultation on preparation of the project's Biological Opinion (USFWS 2021; BO). A full Mitigation and Monitoring Plan (MMP) will be prepared pursuant to regulatory agency standards at a later stage of the project.

The project will result in permanent and temporary impacts to approximately 1.22 acres and 4.12 acres of habitat, respectively. Least Bell's vireo (*Vireo bellii pusillus*; LBVI), a state and federally listed endangered species, and non-listed special status plant and wildlife species habitat would be impacted by the project. Mitigation for project impacts to sensitive biological resources is proposed to take place onsite, within the limits of the project's temporary impact areas. The conceptual mitigation approach and methods to achieve the approximately 3.24 acres of habitat mitigation that would be required to offset project impacts is described herein.

PROJECT DESCRIPTION

The County, in cooperation with Caltrans, proposes to construct a bridge where 13th Street crosses Santa Maria Creek in the unincorporated community of Ramona, in San Diego County, California (Figure 1). The existing corrugated steel culvert does not have enough capacity to convey the creek water during storm events, and flooding at this crossing makes the roadway impassable for motor vehicles and pedestrians during portions of the rainy season.

The 13th Street Bridge Project (project) consists of improvements to 13th Street/Maple Street between Main Street (State Route 67) and Walnut Street and construction of a bridge over Santa Maria Creek to replace the existing corrugated steel culvert. Ground disturbance is

anticipated within and immediately adjacent to Santa Maria Creek. Crews are anticipated to require access to the creek area beneath the proposed bridge, and storm drain systems are proposed directly to the north and south of the bridge to capture runoff and direct it toward the existing creek. An existing bioretention basin, located south of the bridge that currently treats stormwater from the Ramona Library and associated parking lot, would be redesigned to continue treating those existing areas in addition to the proposed paved roads south of Santa Maria Creek. The sections below summarize the project's planned impacts to biological resources, including vegetation communities, jurisdictional waters and wetlands, and special status species.

Impacts to Vegetation Communities

Four sensitive vegetation communities and two land cover types are present within the project area (Table 1). The vegetation communities are southern cottonwood-willow riparian forest (SCWRF); Diegan coastal sage scrub – inland form (DCSS); non-native grassland (NNG); and disturbed wetland (DW). Urban/developed and eucalyptus woodland areas represent the two land cover types. Permanent project impacts to vegetation communities will result from the footprint of the new bridge (pavement and abutments) and storm drain systems to the north and south of the bridge, the installation of permeable pavement on the roads, and an upgraded bioretention pond to treat stormwater from the Ramona Library site and the associated parking lot. Temporary direct impacts to vegetation communities will result from construction access, work areas, and temporary staging.

Table 1 provides the acres of permanent and temporary direct impacts to vegetation communities within the project area. The acreages in Table 1 (and subsequent tables in this document) have been updated from those included in the NES due to minor adjustments to the project footprint to further minimize impacts to sensitive vegetation communities and LBVI habitat. Figure 2 depicts the vegetation communities present within the project area and surrounding biological study area (BSA).

Table 1. Permanent and Temporary Direct Impacts to Sensitive Vegetation Communities (acres)

Vegetation Community[1]	Permanent Impact	Temporary Impact	Total Impacts
Riparian and Wetlands	***0.04***	***0.87***	***0.91***
Disturbed Wetland	-	0.11	0.11
Southern Cottonwood-Willow Riparian Forest	0.04	0.76	0.80
Uplands	***1.18***	***3.25***	***4.43***
Diegan Coastal Sage Scrub - Inland Form	0.05	-	0.05
Non-Native Grassland	1.13	3.25	4.38
Total	**1.22**	**4.12**	**5.34**

[1] Vegetation communities not listed are not impacted by the project.

Impacts to Jurisdictional Waters and Wetlands

Jurisdictional waters and wetlands are found onsite in association with the primary channel of Santa Maria Creek and associated riparian vegetation. In all, the project would result in <0.01 acre and 0.27 acre of permanent and temporary direct impacts to waters under purview of the USACE, CDFW, and RWQCB, respectively. The project would result in 0.05 acre and 0.31 acre of permanent and temporary direct impacts to aquatic resources exclusively under purview of the CDFW, respectively (Table 2). Figure 3 depicts the potential jurisdictional wetlands and waters within the project area.

Table 2. Impacts to Potential Jurisdictional Waters of the U.S. and State

Type of Potential Jurisdictional Aquatic Resources	Permanent		Temporary		Total	
	Acres	LF	Acres	LF	Acres	LF
Potential Jurisdictional Aquatic Resources of the U.S. and State (USACE, CDFW, and RWQCB)						
Non-Wetland (Ordinary High Water) / Unvegetated Streambed[1]	-	-	0.03	-	0.03	-
Wetland (Active Floodplain) / Vegetated Streambed	<0.01	9	0.24	336	0.24	345
Subtotal Jurisdictional Aquatic Resources of the U.S. and State	<0.01	*9*	*0.27*	*336*	*0.27*	*345*
Potential Jurisdictional Aquatic Resources Exclusively CDFW						
Streambanks and Associated Riparian Canopy	0.05	149	0.31	690	0.36	839
Subtotal Jurisdictional Aquatic Resources Exclusively CDFW	*0.05*	*149*	*0.31*	*690*	*0.36*	*839*
Total Potential Jurisdictional Aquatic Resources	**0.05**	**158**	**0.58**	**1,026**	**0.63**	**1,184**

LF = linear feet
[1] LF is not provided for non-wetland waters because the non-wetland waters run parallel to wetland waters. Adding in the LF would result in double counting.

Impacts to Special Status Species

Southern tarplant (*Centromadia parryi* ssp. *australis*), a California Rare Plant Rank 1B.1 species, was detected onsite during focused rare plant surveys, with 27 and 25 individuals (i.e., 52 individuals) located in the permanent and temporary impact areas, respectively. This species is an annual species, meaning the number of individuals within the impact areas will vary from year to year. NNG habitat within the impact areas is considered occupied by this species. Therefore, permanent and temporary direct impacts to NNG habitat acreage (Table 1) provide a better quantification of direct impacts that may occur to this species.

A breeding pair of LBVI was documented within the riparian vegetation onsite during the 2018 LBVI surveys. This pair built two nests; the first was outside the limits of disturbance and

failed. The second nest was located within the temporary impact area and was successful with at least one fledgling. Permanent and temporary impacts would occur to occupied LBVI willow riparian habitat (Table 1).

Four non-listed special status wildlife species that forage and breed within the project area were detected during surveys: orange-throated whiptail (*Aspidoscelis hyperythra*), Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Setophaga petechia*), and western bluebird (*Sialia mexicana*). Two special status species detected, turkey vulture (*Cathartes aura*) and great blue heron (*Ardea herodias*), are only expected to forage onsite because no nesting habitat is present for these species. Permanent and temporary impacts would occur to riparian and upland habitat suitable to support orange-throated whiptail (Table 1). In addition, permanent and temporary impacts would occur to riparian habitat suitable to support Cooper's hawk, yellow warbler, and western bluebird (Table 1).

MITIGATION REQUIREMENTS

Table 3 provides the acres of mitigation that are required as a result of permanent and temporary impacts to the vegetation communities within the project area. Mitigation ratios for permanent impacts to vegetation communities are based on *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Biological Resources* (County of San Diego 2010). Temporary direct impacts will be mitigated in-place at a 1:1 ratio (with the exception of NNG at a 0.5:1 ratio) through onsite restoration.

Table 4 summarizes the mitigation requirements for permanent and temporary impacts to jurisdictional waters and wetlands. Permanent impacts to jurisdictional waters and wetlands will be mitigated at a 3:1 ratio, through restoration or creation of wetland or riparian habitats. Final mitigation ratios would need to be reviewed and determined through coordination with USACE, RWQCB, and CDFW. Temporary impacts to jurisdictional waters and wetlands will be mitigated in place at a 1:1 ratio, via restoration following construction.

Compensatory mitigation for permanent and temporary impacts to occupied LBVI habitat is included in the total acreages of mitigation for SCWRF (Table 3). The permanent impacts to LBVI habitat will be mitigated at a 3:1 ratio and temporary impacts to LBVI habitat will be mitigated in place at a 1:1 ratio.

Compensatory mitigation for permanent and temporary impacts to southern tarplant habitat and habitat for non-listed special status wildlife species will be implemented through habitat-based mitigation for impacts to upland and riparian habitat (Table 3).

Table 3. Mitigation for Permanent and Temporary Direct Impacts to Sensitive Vegetation Communities

Vegetation Community	Permanent			Temporary			Total Mitigation Acreage Required
	Impact Acreage	Mitigation Ratio	Mitigation Acreage	Impact Acreage	Mitigation Ratio	Mitigation Acreage	
Riparian and Wetlands							
Disturbed Wetland[1]	-	-	-	0.11	1:1	0.11	0.11
Southern Cottonwood-Willow Riparian Forest	0.04	3:1	0.12	0.76	1:1	0.76	0.88
Uplands							
Diegan Coastal Sage Scrub - Inland Form[2,3]	0.05	1:1	0.05	-	-	-	0.05
Non-Native Grassland[3]	1.13	0.5:1	0.57	3.25	0.5:1	1.63	2.20
Total	**1.22**		**0.74**	**4.12**		**2.50**	**3.24**

[1] Although the disturbed wetland is within the project's permanent footprint, it is considered a temporary impact because the existing bioretention basin in which it is located will be redesigned and replaced with a larger basin that will allow for the in situ restoration of additional wetland habitat.
[2] The County's Guidelines mitigation ratios for coastal sage scrub habitat types are subject to the Natural Community Conservation Planning Process guidelines and are typically 1:1 to 3:1 depending on habitat value for long-term conservation. The coastal sage scrub within the biological study area is very small and surrounded by non-native grasslands and would not support species dependent on coastal sage scrub habitat. It therefore has a low value for long-term conservation as coastal sage scrub habitat and a mitigation ratio of 1:1 will be used to offset impacts.
[3] Mitigation for Diegan coastal sage scrub and non-native grassland may be out of kind through enhancement and/or restoration of riparian and wetland communities.

Table 4. Mitigation for Permanent and Temporary Direct Impacts to Potential Jurisdictional Waters of the U.S. and State

Type of Potential Jurisdictional Aquatic Resources	Permanent			Temporary			Total Mitigation Acreage Required
	Impact Acreage	Mitigation Ratio	Mitigation Acreage	Impact Acreage	Mitigation Ratio	Mitigation Acreage	
Potential Jurisdictional Aquatic Resources of the U.S. and State (USACE, CDFW, and RWQCB)							
Non-Wetland (Ordinary High Water) / Unvegetated Streambed	-	-	-	0.03	1:1	0.03	0.03
Wetland (Active Floodplain) / Vegetated Streambed	<0.01*	3:1	<0.01	0.24	1:1	0.24	0.24
Subtotal Jurisdictional Aquatic Resources of the U.S. and State	*<0.01*	-	<0.01	*0.27*	-	*0.27*	*0.27*
Potential Jurisdictional Aquatic Resources Exclusively CDFW							
Streambanks and Associated Riparian Canopy	0.05	3:1	0.15	0.31	1:1	0.31	0.46
Subtotal Jurisdictional Aquatic Resources Exclusively CDFW	*0.05*	-	*0.15*	*0.31*	-	*0.31*	*0.46*
Total	***0.05***	***-***	***0.15***	***0.58***	***-***	***0.58***	***0.73***

*66 square feet

PROPOSED MITIGATION APPROACH

Standard methods for mitigating for impacts to biological resources include onsite permittee-responsible mitigation, offsite permittee-responsible mitigation, or the purchase of mitigation credits at a mitigation bank, or through an in-lieu fee program. In the case of this project, onsite mitigation is feasible for all impacts to sensitive biological resources, including sensitive vegetation communities, jurisdictional waters and wetlands, and special status species.

Mitigation for permanent and temporary direct impacts to riparian and wetland vegetation communities and NNG will be "in-kind," while mitigation for direct impacts to DCSS will be "out of kind." The County's Guidelines (County of San Diego 2010) note that mitigation using an "out of kind" habitat type may be appropriate in cases that meet the following criteria:

- The biological function and value of the habitat used for mitigation is similar to that which was impacted.
- For non-native grassland habitats that have been created by past legal human activity, it may be appropriate to mitigate with the native habitat type that the land formerly supported.

Mitigation for impacts to jurisdictional waters and wetlands and special status species will be provided via habitat-based mitigation for the corresponding vegetation community, as detailed in Tables 3 and 4.

On October 14, 2020, AECOM restoration ecologists Julia Groebner and Alexandra Fowler conducted a reconnaissance visit to the project site and surrounding areas to assess opportunities for mitigation on or near the project site. Following this site visit, AECOM provided DPW with an analysis of potential areas that could be used for mitigation of project impacts, both onsite and immediately adjacent to the site. Based on AECOM's analysis and consultation with USFWS during preparation of the project's BO (USFWS 2021), DPW selected a mitigation option that allows for all mitigation to take place onsite (e.g., within the footprint of the project's temporary impact areas). The proposed mitigation approach is described in more detail below. Figure 4 depicts the proposed mitigation approach for sensitive vegetation communities and Figure 5 depicts the proposed mitigation approach for jurisdictional waters and wetlands. Mitigation for these resources will be accomplished via the overarching approach described below.

Mitigation for Permanent Impacts

Mitigation for permanent impacts to 0.04 acre of SCWRF is proposed to take place onsite within suitable NNG temporary impact areas adjacent to Santa Maria Creek (Table 3 and Figure 4). This is feasible because temporary impacts to NNG are mitigated at 0.5:1, leaving area available for other habitats to be mitigated. The NNG temporary impact areas proposed for use are suitable for riparian vegetation (e.g., within the lower Santa Maria Creek floodplain and adjacent to existing riparian vegetation) and will provide associated special status wildlife species with additional habitat in the riparian corridor. These NNG temporary impact areas will be restored to SCWRF habitat through the installation of cuttings, container plants, and seed. To fully satisfy the project's

mitigation requirement for permanent impacts to SCWRF, 0.12 acre of NNG temporary impact areas adjacent to Santa Maria Creek will be restored with SCWRF habitat (Table 3 and Figure 4).

Historical aerial imagery on Google Earth indicates that the DCSS habitat was established recently within the project area. The patch of DCSS that will be impacted is very small and is surrounded by NNG. It is not expected to support species dependent on DCSS habitat and is of low long-term conservation value. Therefore, it is proposed that permanent impacts to 0.05 acre of DCSS be mitigated through restoration of 0.05 acre of suitable NNG temporary impact areas to SCWRF, thereby increasing the function and value of the onsite section of the Santa Maria Creek corridor (Table 3 and Figure 4).

Proposed mitigation for permanent impacts to 1.13 acres of NNG will take place via restoration of 0.57 acre of NNG temporary impact areas with NNG habitat (Table 3 and Figure 4). These areas will be seeded with a native upland seed mix following construction for stabilization purposes; however, it is anticipated that they will eventually revert to NNG habitat without extensive active restoration activities. The native seed mix for these areas will include southern tarplant; therefore, restoration of these NNG temporary impact areas with NNG habitat will also provide mitigation for southern tarplant and the non-listed special status wildlife species associated with this habitat onsite.

Mitigation for permanent impacts to 66 square feet of jurisdictional waters of the U.S. and state will be provided via the removal of the existing road and culvert that currently bisect Santa Maria Creek and their replacement with a bridge that will allow the creek to flow freely under it (Table 4). Mitigation for permanent impacts to 0.05 acre of aquatic resources under exclusive jurisdiction of CDFW will be provided via the restoration of 0.15 acre of temporary impact areas with SCWRF habitat (Table 4). Removal of the existing road will allow for approximately 0.09 acre of wetlands/waters/streambed to be restored underneath the new bridge and enhance current conditions to encourage better water quality within Santa Maria Creek. In total, 0.21 acre of mitigation will be achieved, which is above the 0.15 acre of mitigation required for permanent impacts to jurisdictional waters of the U.S. and state (Figure 5).

Once construction is complete, operation and maintenance of the bridge is expected to provide a net benefit to sensitive biological resources in the surrounding area. Flooding across the existing dirt road that currently occurs during the rainy season likely degrades vegetation communities and habitat downstream of the road as result of erosion and sedimentation. Construction of the bridge and discontinuing use of the existing at-grade dirt road would allow water to move under the bridge during rain events, and installation of storm drain systems will minimize erosion and sedimentation downstream of the bridge.

Mitigation for Temporary Impacts

Mitigation for temporary impacts to 0.76 acre of SCWRF will be provided via in situ restoration following construction, as this habitat acts as a critical component of the riparian corridor (Table 3 and Figure 4). Mitigation for temporary impacts to 0.11 acre of DW will also be provided via in situ restoration, as this habitat is associated with an existing bioretention basin that will be redesigned in its current location as part of project construction (Table 3 and Figure 4).

Temporary impacts to 3.25 acres of NNG will be mitigated for via in situ restoration of 1.63 acres of NNG habitat (Table 3 and Figure 4). As with the mitigation for permanent impacts to NNG, a simple native seed mix will be applied after construction to stabilize the temporary impact areas planned for restoration, with subsequent passive restoration of NNG via regrowth from the existing seedbank. These areas would be subject to a post-construction monitoring period, but additional restoration or maintenance activities would likely not be needed. The acreage of NNG temporary impacts available for in situ restoration exceeds the mitigation requirement for temporary impacts to this habitat. Therefore, only 1.63 acres of the NNG temporary impact areas would require reseeding, although stabilization of the remaining NNG temporary impact areas will be needed for erosion control purposes following construction (Table 3, Figure 4, and Figure 6).

Mitigation for temporary impacts to 0.27 acre of jurisdictional waters of the U.S. and state and 0.31 acre of aquatic resources under the exclusive jurisdiction of CDFW will be provided via the restoration of the corresponding temporary impact areas with SCWRF habitat in situ (Table 4 and Figure 5).

Summary

As described above, all mitigation for project impacts to sensitive biological resources is proposed to take place onsite, within the limits of the project's temporary impact areas. To provide the most ecologically beneficial and easily maintainable habitat, the temporary impact areas proposed for use as mitigation have been grouped into a contiguous block of habitat, to the extent feasible (Figure 4). In summary, 0.80 acre of permanent and temporary impacts to SCWRF and 0.05 acre of permanent impacts to DCSS will be mitigated through restoration of 0.93 acre of SCWRF within suitable NNG temporary impact areas adjacent to Santa Maria Creek (Table 5). Temporary impacts to 0.11 acre of DW will be mitigated through in situ restoration via the installation of a new bioretention basin (Table 5). Permanent and temporary impacts to 4.38 acres of NNG will be mitigated through restoration of 2.20 acres of NNG within the project's remaining NNG temporary impact areas (Table 5). An additional, 0.89 acre of habitat will be stabilized with a native seed mix that will likely become NNG (Table 5).

Mitigation for 0.27 acre of permanent and temporary impacts to potential jurisdictional waters and wetlands of the U.S. and state mitigation for 0.46 acre of permanent and temporary impacts to aquatic resources under the jurisdiction of CDFW will be provided via restoration of SCWRF habitat as outlined above and through creation of habitat under the bridge by removing the existing road (Table 6).

Mitigation for impacts to special status species, including LBVI, southern tarplant, and non-listed special status species, will be provided via habitat-based mitigation for the corresponding vegetation community. Therefore, the proposed mitigation approach described above accommodates all mitigation identified in the NES for impacts to sensitive vegetation communities, jurisdictional waters and wetlands, and special status species, pending regulatory agency approval.

Table 5. Summary of Sensitive Vegetation Communities Mitigation

Vegetation Community	Permanent and Temporary Impacts	Mitigation Required	Actual Habitat Restored
Riparian and Wetlands			
Disturbed Wetland[1]	0.11	0.11	0.11
Southern Cottonwood-Willow Riparian Forest	0.80	0.88	0.93
Uplands			
Diegan Coastal Sage Scrub - Inland Form[2,3]	0.05	0.05	-
Non-Native Grassland[3,4]	4.38	2.20	3.09
Total	**5.34**	**3.24**	**4.13**

[1] Although the disturbed wetland is within the project's permanent footprint, it is considered a temporary impact because the existing bioretention basin in which it is located will be redesigned and replaced with a larger basin that will allow for the in situ restoration of additional wetland habitat.
[2] The County's Guidelines mitigation ratios for coastal sage scrub habitat types are subject to the Natural Community Conservation Planning Process guidelines and are typically 1:1 to 3:1 depending on habitat value for long-term conservation. The coastal sage scrub within the biological study area is very small and surrounded by non-native grasslands and would not support species dependent on coastal sage scrub habitat. It therefore has a low value for long-term conservation as coastal sage scrub habitat and a mitigation ratio of 1:1 will be used to offset impacts.
[3] Mitigation for Diegan coastal sage scrub and non-native grassland may be out of kind through enhancement and/or restoration of riparian and wetland communities.
[4] NNG temporary impact areas that are not used for project mitigation will be seeded once with a native stabilization seed mix at construction close-out but will not be restored further. The seed mix will be similar to what is used for NNG restoration and it is expected this area will return to NNG.

Table 6. Summary of Potential Jurisdictional Waters of the U.S. and State Mitigation

Type of Potential Jurisdictional Aquatic Resources	Permanent and Temporary Impacts	Mitigation Required	Actual Habitat Restored
Potential Jurisdictional Aquatic Resources of the U.S. and State (USACE, CDFW, and RWQCB)			
Non-Wetland (Ordinary High Water) / Unvegetated Streambed	0.03	0.03	0.04
Wetland (Active Floodplain) / Vegetated Streambed	0.24	0.24	0.33
Potential Jurisdictional Aquatic Resources Exclusively CDFW			
Streambanks and Associated Riparian Canopy	0.46	0.46	0.60
Total	**0.73**	**0.73**	**0.97**

MITIGATION METHODS

Goal

The goal of the proposed mitigation program is to restore riparian habitat and upland habitat within the confines of the project's temporary impact areas to mitigate for the project's permanent and temporary impacts to sensitive vegetation communities, jurisdictional waters and wetlands, and

special status species habitat. Restoration of these areas will consist of planting and seeding with native species, weed control, erosion control, and other maintenance activities. No grading is proposed. The mitigation areas will be subject to a maintenance and biological monitoring period of up to 5 years, unless success criteria are met earlier and artificial water supplies have been off for at least 2 years.

Site Preparation and Schedule

Because mitigation is taking place within the project's temporary impact areas, it is anticipated that these areas will have low vegetative cover following construction. If any treatments are needed for stabilization purposes at the end of construction (e.g., hydromulching), these will be combined with restoration activities to the extent feasible. For example, the native seed mix may be raked into the mitigation areas immediately prior to hydromulching. If needed, an initial weed treatment or removal visit (methods described below) will be conducted prior to installation of seed, cuttings, or container plants. Site preparation work will be completed outside of the breeding season for LBVI (defined as March 15 through August 31 in the project's BO) to the extent feasible. Any preparation or maintenance that occurs within the LBVI breeding season will be consistent with the project's BO.

The basic schedule of an onsite mitigation program is outlined in Table 7.

Site Protection

It is recommended that the mitigation areas be protected from outside disturbance (human, equestrian, pet, etc.) by signs describing the sensitive nature of the resources in those areas and prohibiting trespassing. These signs should be installed at 200-foot intervals along the perimeter of the mitigation areas in all locations where the areas adjoin a road. If needed, temporary construction fencing may also be installed along the perimeter of the mitigation areas where they adjoin a road. Rogue trails should have temporary fencing installed to close access points and signs posted prohibiting trespassing.

Non-native Species Treatment

The treatment of annual and perennial non-native species will primarily consist of hand-pulling and herbicide application. Hand-pulling should focus on small occurrences of annual weeds and seedlings of perennial species that can be completely removed (including the root system). Hand-pulling is especially effective in the winter and early spring, when annual weeds have just germinated and are fairly small, and when wet soils allow easy removal of the entire plant. Herbicide use should be limited to localized applications, rather than foliar applications, to limit the possibility for drift and impacts to neighboring native species. Only aquatic-approved herbicides will be used within the mitigation areas, by personnel trained in the application of herbicide. Treatment of non-native grasses or dethatching will not be conducted in the mitigation areas that will be restored with NNG, as it is intended that these areas regrow with NNG.

Table 7. Onsite Mitigation Program Conceptual Schedule

Activity	Timing	Activities	Frequency
Site Protection	After construction and prior to seeding or planting	Installation of temporary fencing, signs, rogue trail closures	One time
Non-native Species Removal	Initial effort prior to seeding or planting	Line trimming, woody non-native perennial removal	One time
Non-native Species Treatment	Approximately January through July of each year of the mitigation program	Hand weeding and herbicide application	As needed throughout mitigation program
Planting and Seeding	November–December	Installation of cuttings or container plants, native seed application	At beginning of mitigation program and if needed as part of remedial actions
Irrigation	As needed	Hand watering cuttings and container plants	As needed
Maintenance	Throughout mitigation program	Trash collection, best management practice installation, repairs to site protection	Quarterly for years 1–2, then semi-annually until the end of the program
Quarterly Monitoring	Beginning post planting and seeding	Assessment of vegetation and maintenance needs	Quarterly until final success standards are met
Annual Monitoring	Early summer after plant installation, then early summer each subsequent year	Quantitative assessment of extant cover	Annually until final success standards are met

Non-native Species Removal

Mitigation areas not intended to be restored with NNG will be dethatched in any places where they support a dense thatch of NNG or other non-native species. This process removes the accumulated weedy biomass by line trimming and/or raking the area, opening up the soil for recruitment of native species. As noted above, it is likely that dethatching will not be needed, as the temporary impact areas where mitigation is taking place are anticipated to have low vegetative cover following construction. Following initial dethatching (if needed), mitigation areas not being restored with NNG will be subject to follow-up weed control treatments for the remainder of the maintenance and monitoring period using the methods described above under “Non-native Species Treatment.”

Planting and Seeding

Planting and seeding should occur following the initial round of exotics treatment and removal in all mitigation areas. Planting and seeding should occur in the late fall, immediately prior to the onset of the winter rainy season and outside of the LBVI breeding season, to take advantage of the full growing season and allow the planted and seeded species to become well established. Planting and seeding should be at rates appropriate to the intended final habitat. Tables 8 and 9 include lists of species suitable for planting and/or seeding within the onsite mitigation areas by proposed habitat type. These tables are based on the species observed on or near the site and the restoration ecologist's assessment of additional species that are appropriate for the onsite mitigation areas. Formal plant palettes and seed mixes for the proposed mitigation areas will be included in the MMP. Final plant palettes and seed mixes will be limited to locally native species (e.g., species found in or near the BSA for the project). Figure 6 depicts the proposed plant palettes and seed mixes that will be used in each area of the project site. Potential species to be included in the plant palettes and seed mixes are identified in Table 8.

Table 8. Potential Southern Cottonwood-Willow Riparian Forest Species for Planting/Seeding

Scientific Name	Common Name
*Artemisia douglasiana**	California mugwort
Baccharis salicifolia	mule fat
Distichlis spicata	saltgrass
Epilobium ciliatum	willow herb
*Erythranthe guttata**	yellow monkey flower
Heliotropium curassavicum	Chinese parsley
Isocoma menziesii	Menzies' goldenbush
Oenothera elata	evening primrose
Platanus racemosa	California sycamore
Populus fremontii	Fremont's cottonwood
*Rosa californica**	California wild rose
Salix exigua	narrowleaf willow
Salix goodingii	Gooding's willow
Salix laevigata	polished willow
Verbena lasiostachys	common verbena

* Species appropriate for planting in areas that will be shaded by the bridge.

Approximately 0.14 acre of the SCWRF proposed for restoration onsite will consist of low-growing shade-tolerant understory species that will be planted under the bridge where there is between 8.5 and 15 feet of clearance. Since the baseline condition is an Arizona crossing on fill, this low-growing shade-tolerant native riparian habitat is considered an improvement in quality over existing conditions (USFWS 2021). Species appropriate for planting in the shaded areas are identified in Table 8.

Additionally, NNG temporary impact areas that are not proposed for restoration as part of the mitigation program will be seeded with a native stabilization seed mix at construction close-out.

These areas are shown in Figure 6. Species appropriate for the native stabilization mix are identified in Table 9. This mix may be used for other nonpaved temporary impact areas that require stabilization following construction if other treatments (e.g., landscaping, decomposed granite, etc.) are not proposed.

Table 9. Potential Grassland and Stabilization Species for Seeding[1]

Scientific Name	Common Name
Acmispon americanus	Spanish lotus
Acmispon glaber	deerweed
Ambrosia psilostachya	bursage
Amsinckia menziesii	fiddleneck
Castilleja exserta	purple owl's clover
Centromadia parryi ssp. *australis* [2]	southern tarplant
Croton setiger	turkey-mullein
Distichlis spicata	saltgrass
Festuca microstachys	small fescue
Eschscholzia californica	California poppy
Heterotheca grandiflora	telegraph weed
Lupinus bicolor	lupine
Phacelia cicutaria	caterpillar phacelia
Plantago erecta	California plantain
Pseudognaphalium californicum	Ladies' tobacco
Stipa pulchra	purple needlegrass

[1] Species suitable for seeding temporary impact areas that will be restored with NNG and temporary impact areas that will not be restored but require stabilization following construction. Container plants are not recommended for these areas.
[2] Species may be included in seed mix for NNG mitigation areas if available.

Cuttings and container plants should originate from within 25 miles of the mitigation site or as close to the San Dieguito watershed as possible. Cuttings of willows (*Salix* spp.) and mule fat (*Baccharis salicifolia*) may be taken from healthy specimens in and around the mitigation areas and either installed as cuttings or grown as container plants in a nursery setting. Cuttings should be taken when plants are dormant and should be installed in the late fall or early spring. To maximize cutting success, cuttings should be at least ¾ inch in diameter and should be planted to a depth of 2 feet. This depth may be achieved using a drill-mounted auger. Standard planting procedures will be used for installing the container plants. A qualified biologist will inspect all container plants for viability and general health prior to installation and will provide guidance on installation locations and spacing for specific species. Container plants will be installed in a way that mimics natural plant distribution and not in rows. Holes approximately twice the size of the rootball of the plant will be dug with a shovel, posthole digger, or power auger. Holes will be filled with water and allowed to drain two times immediately prior to planting. Leaf litter from the adjoining SCWRF may be collected and mixed with the backfill soil to be placed in the planting holes following soaking. Container plants will be installed so that the top of the rootball is at or slightly above grade. Plants will be monitored for signs of stress or mortality.

Seeds will be collected locally or sourced from as close to the San Dieguito watershed area as possible. The seed mixes should be hand broadcast within the corresponding mitigation areas after cuttings or container plants have been installed. The seed mix will then be raked into the topsoil. Care will be taken during this process to avoid damaging the container stock or seedlings of southern tarplant, if applicable. The source locations of all plant material and seed used in the mitigation program will be provided to the Carlsbad USFWS Office prior to planting or seeding.

Irrigation

Permanent irrigation is not expected to be necessary for this site based on wet season surveys and evidence of ponding and temporary inundation in the proposed mitigation areas adjacent to Santa Maria Creek. Supplemental hand watering of container plants and cuttings within the SCWRF mitigation areas could be performed if drought conditions develop during the course of the mitigation program.

SPECIAL STATUS SPECIES CONSIDERATIONS DURING RESTORATION

LBVI, southern tarplant, non-listed special status wildlife species, and avian species protected under the Migratory Bird Treaty Act are known or have the potential to be present within the proposed onsite mitigation areas. These species could be affected by restoration and maintenance activities (e.g., site preparation, plant installation, non-native species treatments, etc.) associated with the onsite and offsite mitigation options. Therefore, to avoid potential impacts to special status species and their habitat known to occur within the temporary impact areas, certain conservation and avoidance measures to protect these species should be observed during restoration and maintenance activities. These should include the following:

- Any preparation or maintenance that occurs within the LBVI breeding season (March 15 through August 15) will be consistent with the project's BO.
- An employee education program will be developed and implemented by the qualified biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of federal and state laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area. A qualified biologist will be onsite at least once a day during initial exotics treatment and removal activities to flag any southern tarplant, check on the restoration, and provide guidance to the field crews.
- A qualified biologist will be onsite at least once a day during planting and seeding of the mitigation areas to check on planting activities and provide guidance to the field crews. The qualified biologist will be present during harvesting of willow and mulefat cuttings to oversee this process.
- Herbicide application will be accomplished by licensed contractors.

- Herbicide will be tinted with a biodegradable dye to facilitate visual control of spray.
- Herbicide will be approved for aquatic use.
- Disposal of any materials, wastes, effluent trash, garbage, and oil will be done in accordance with federal, state, and local regulations.
- No work will occur immediately prior to or during rain events.

Additional or revised conservation and avoidance measures to be implemented during restoration may be determined as part of the project permitting process. A final list of conservation and avoidance measures for special status species to be implemented during the mitigation program will be included in the MMP.

MAINTENANCE, MONITORING, AND REPORTING

Maintenance

A 120-day plant establishment period (PEP) will be implemented following initial container plant installation and seeding to ensure that the container plants are becoming established and the mitigation areas are free of major weed infestations or erosion problems. During the 120-day PEP, maintenance of the mitigation areas will occur on a monthly basis. Maintenance of the mitigation areas will occur as needed or at least quarterly after the 120-day PEP for the first 2 years of the maintenance and biological monitoring period. Thereafter, maintenance of the mitigation areas will occur semi-annually for the remainder of the maintenance and biological monitoring period, although the frequency of maintenance may be increased if needed. Maintenance activities will include hand weeding, spot herbicide treatments, and other forms of non-native control, as needed. To maximize the effectiveness of weed treatments, treatment may occur more frequently in the spring. All work will be performed on foot.

Maintenance will also include removal of trash and debris from the mitigation areas, installation of erosion-control measures, and repairs to the site protection measures, as needed.

If deemed necessary by the qualified biologists (see below), maintenance may also include supplemental hand-watering of installed container plants and cuttings.

Monitoring Methods

Biological monitoring will be conducted by the qualified biologists for the duration of the maintenance and biological monitoring period. Monitoring will involve the surveys and methods described below.

<u>Quarterly Monitoring</u>

Qualified biologists will conduct qualitative monitoring of the mitigation areas on a quarterly basis during each year of the mitigation program. Qualitative monitoring will consist primarily of vegetation monitoring, as well as informal monitoring to determine maintenance needs for the next quarter. Vegetation monitoring will include an assessment of the presence and approximate

cover of exotic species, general health and approximate cover of native plant species, survivorship and condition of the container stock, erosion problems, and unauthorized site access. In addition, photos will be taken at established photo-points on a quarterly basis. Photo-points should be established prior to the implementation of mitigation to provide before and after photographs of installation.

Annual Monitoring

Annual biological monitoring will be completed at the end of the growing season each year (generally early summer). Year 1 monitoring will be conducted the summer following site preparation activities. Annual monitoring will include quantitative measures of native and non-native vegetation cover and diversity, such as quadrats, relevé, or transects, as well as appropriate photo documentation. Annual monitoring methods will be finalized in the MMP.

Annual Monitoring Reports

Annual monitoring reports will be prepared and submitted each year for the duration of the mitigation program. The first annual monitoring report will be submitted in the fall following the completion of Year 1 annual monitoring. Monitoring reports will be submitted to the County, who will then transmit as needed to Caltrans, USFWS, CDFW, USACE, and RWQCB. Monitoring reports will contain the results of the quarterly and annual monitoring and will summarize maintenance activities that took place over that year, including the following:

- Assessment of presence and approximate cover of exotic species, general health and approximate cover of native plant species, survivorship and condition of the container stock, evidence of natural recruitment, erosion problems, and unauthorized site access for each quarter of the year.
- Photos taken from the permanent photo points during annual monitoring.
- Results and analysis of the quantitative measures of vegetation conditions, including site performance in relation to that year's success standards.
- Summary of the maintenance activities conducted within the mitigation areas that year.
- Discussion of any problems noted in the mitigation areas during that year and proposed activities for the upcoming year of monitoring, including any adaptive management activities deemed necessary.

Success Standards

Success standards for mitigation will be determined based on reference vegetation (e.g., mature riparian and native floodplain habitat) on the mitigation parcel. Success standards will vary based on habitat type and will be established with yearly standards that will help gauge whether remedial actions are needed, or if the mitigation areas are on track to meet final success criteria. The success criteria will be laid out and finalized in the MMP but will include container plant survivorship targets for Years 1 and 2 and annual percent cover targets for native and non-native

species, including California Invasive Plant Council “Invasive Plant Inventory” species and other exotic species.

The mitigation areas will be maintained and monitored for a minimum of 5 years, unless final success standards are met earlier and all artificial water supplies have been off for at least 2 years. When the mitigation areas have met all of the success standards described in the final MMP, the County will request a final review of the mitigation areas and written confirmation of success from USFWS, CDFW, USACE, and RWQCB.

If you have any questions, please contact me at (303) 638-4716.

Thank you,

Alexandra Fowler
Restoration Ecologist

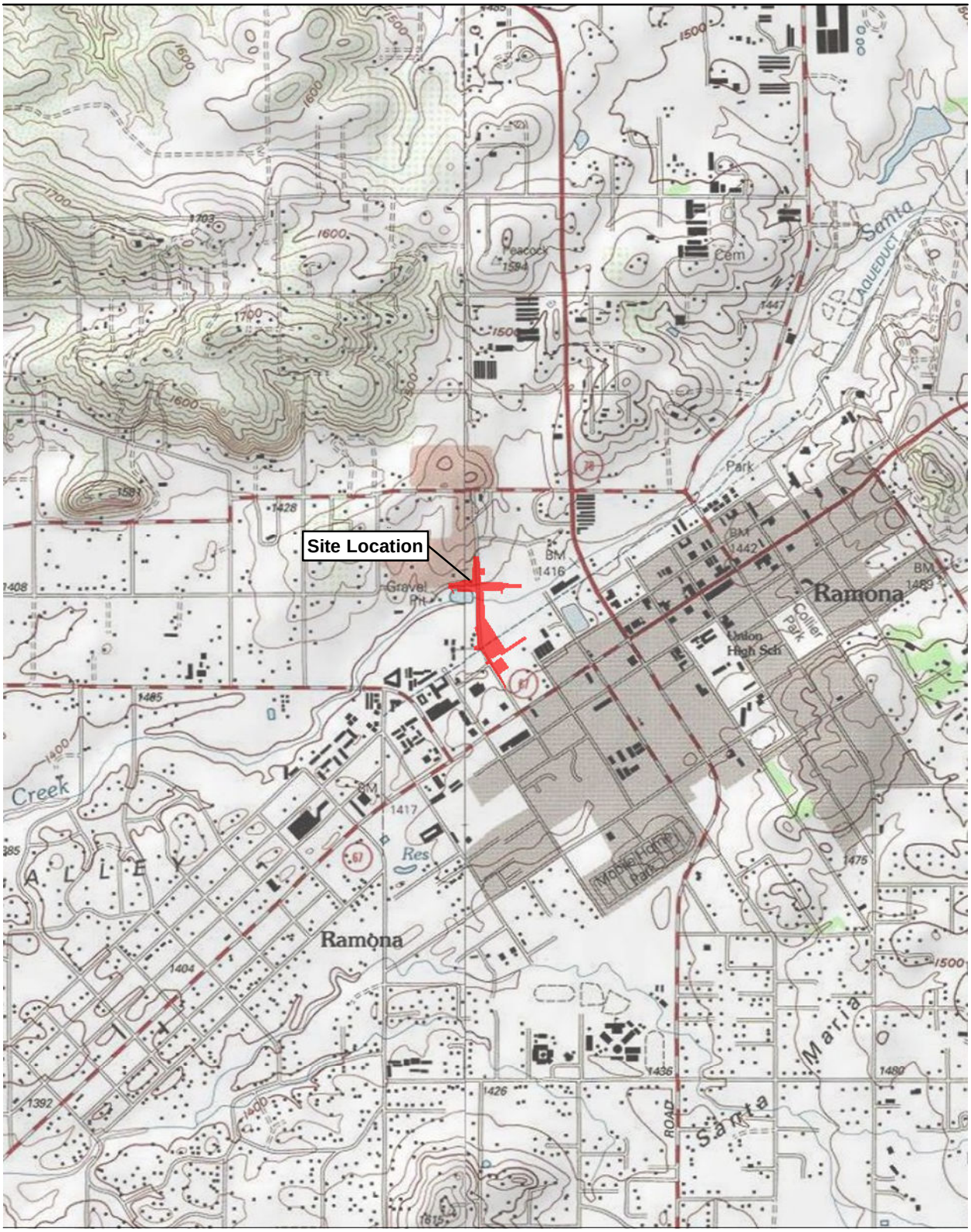
Attachments: Figure 1 – Regional Location
Figure 2 – Vegetation Communities and Land Cover Types within Project Area
Figure 3 – Jurisdictional Wetlands and Waters within Project Area
Figure 4 – Proposed Mitigation Approach for Sensitive Vegetation Communities
Figure 5 – Proposed Mitigation Approach for Jurisdictional Wetlands and Waters
Figure 6 – Proposed Planting and Seeding Areas

Literature Cited

AECOM. 2020. *13th Street Bridge Project Natural Environment Study*. October.

County of San Diego. 2010. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements, Biological Resources*. Fourth Revision. September 15.

U.S. Fish and Wildlife Service. 2021. Biological Opinion for the 13th Street Bridge over Santa Maria Creek, Ramona, California. FWS-SDG-20B0242-21F0057. March 25.



Source: USA Topo Maps.

2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

Figure 1
Regional Location

13th Street Bridge Project Conceptual Mitigation Plan

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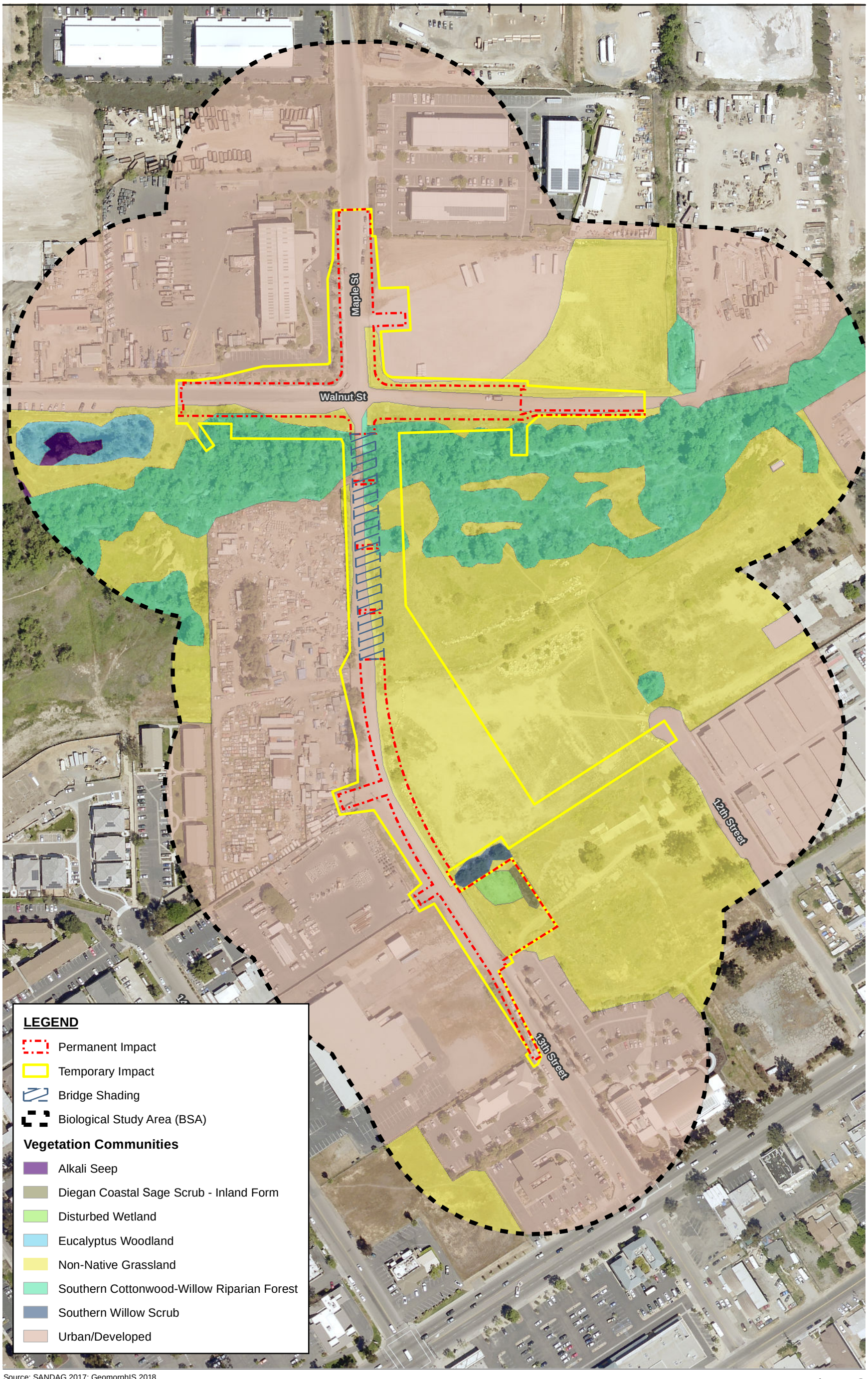

Source: SANDAG 2017; GeomorphIS 2018

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Scale: 1:2,400; 1 inch = 200 feet

Figure 2
Vegetation Communities and Land Cover Types within Project Area

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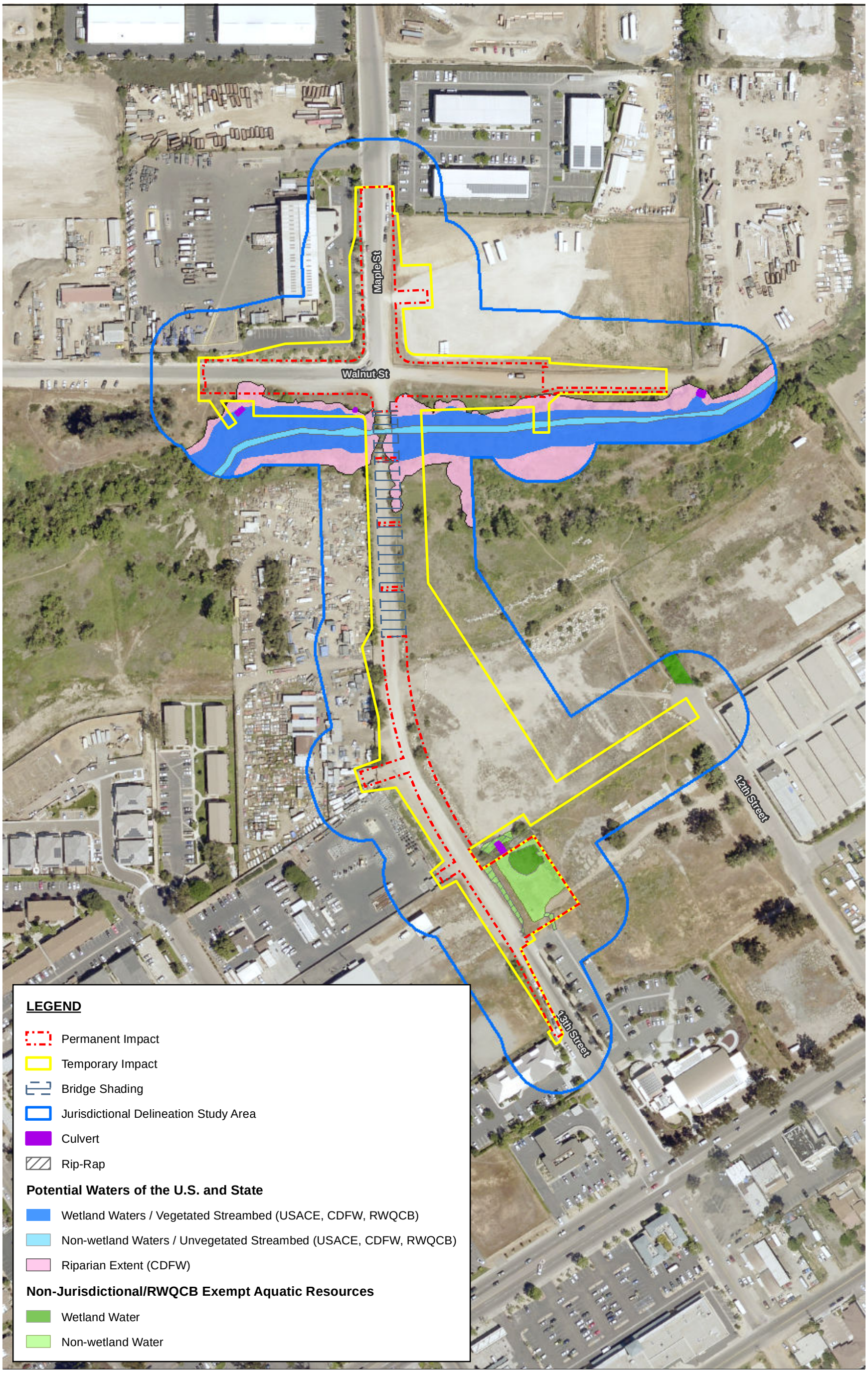

Source: SANDAG 2017

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Scale: 1:2,400; 1 inch = 200 feet

Figure 3
Jurisdictional Wetlands and Waters within Project Area

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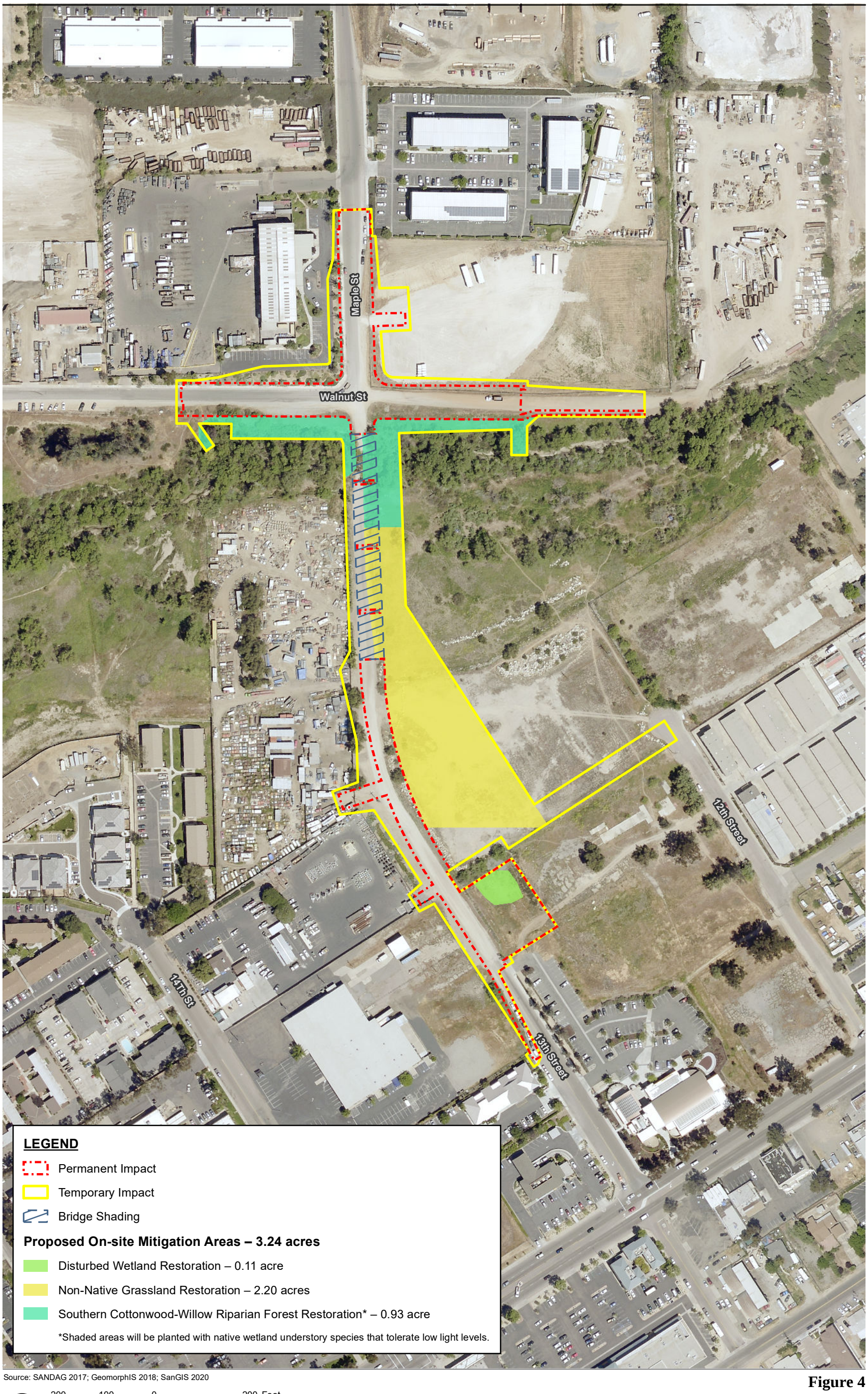

Source: SANDAG 2017; GeomorphIS 2018; SanGIS 2020

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Scale: 1:2,400; 1 inch = 200 feet

Figure 4
Proposed Mitigation Approach for Sensitive Vegetation Communities

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Source: SANDAG 2017

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Scale: 1:2,400; 1 inch = 200 feet

Figure 5
Proposed Mitigation Approach for Jurisdictional Wetlands and Waters

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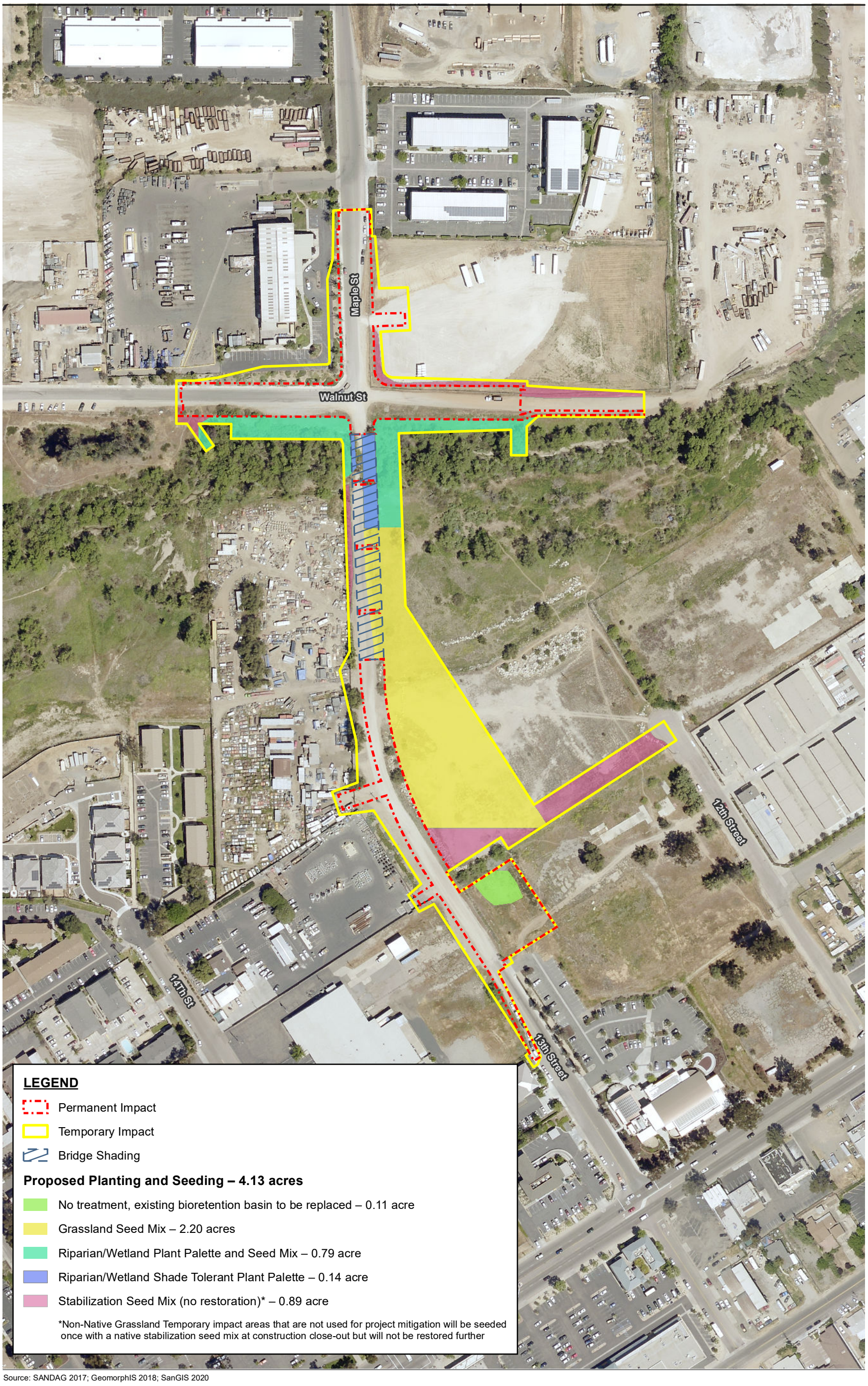

Source: SANDAG 2017; GeomorphIS 2018; SanGIS 2020

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Scale: 1:2,400; 1 inch = 200 feet

Figure 6
Proposed Planting and Seeding Areas

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