7.0 Impact Analysis

The impact analysis addresses direct and indirect impacts to vegetation/land cover types, sensitive plant and wildlife and jurisdictional resources. Impacts to wildlife corridors and cumulative impacts are also addressed. The analysis of consistency with the MSCP and VPHCP is provided in Section 6.0. For each issue, analysis is provided for program-level and project-level areas. Additionally, within the project-level areas, impacts are broken down by phase (see Figure 10.1).

7.1 Direct Impacts

7.1.1 Program-level Impacts

Program-level areas are shown in Figures 10 and 11 and include future residential development areas within the Specific Plan in addition to a program-level trail located outside of the Specific Plan boundary.

7.1.1.1 Impacts to Vegetation Communities/Land Cover Types

Future development within the program-level areas would result in impacts to sensitive vegetation communities detailed in Table 2a. Although project-level vegetation surveys have not been done for these areas, it is estimated that the 58 acres of mapped extensive agriculture would likely be mapped as non-native grassland, a sensitive vegetation community. Based on this assumption and the generalized vegetation data, implementation of the program-level areas may impact approximately 97 acres of sensitive habitats predominated by non-native grasslands and Diegan coastal sage scrub. While site-specific surveys have not been completed due to the program-level analysis, anticipated vegetation communities are shown on Figure 22.1. Impacts to Tier I, II and IIIB sensitive vegetation communities would be significant and future development within the program-level areas would require site-specific evaluation and surveys consistent with the City's Biology Guidelines and the OMCP FEIR Mitigation Framework BIO-1 to identify project specific impacts to sensitive vegetation communities.

7.1.1.2 Impacts to Sensitive Plants and Wildlife

Future development would have potentially significant impacts to sensitive plant and animal species known to occur or with a moderate to high potential to occur on-site. Sensitive plant and wildlife occurrences available from CNDDB and other public sources are shown on Figure 37 and include ashy spike-moss, San Diego County viguiera, San Diego fairy shrimp, western spadefoot, grasshopper sparrow, orange-throated whiptail. Species with a moderate to high potential to occur on-site are detailed in Section 5.3 and 5.4 and include the following:

Sensitive plants - bobtail barley, California adolphia, California box-thorn, California Orcutt grass, cliff spurge, decumbent goldenbush, golden-ray pentachaeta, graceful tarplant, Orcutt's bird-beak, Otay tarplant, Plamer's grapplinghook, snake cholla, San Diego goldenstar, San Diego barrel cactus, San Diego bur-sage, San Diego button-celery, small-flowered microseris, San Diego needlegrass,

seaside, cistanthe, south coast saltscale, spreading navarretia, thread-leaved brodiaea, variegated dudleya, and western dichondra.

Sensitive wildlife - Crotch's bumble bee, Riverside fairy shrimp, Quino checkerspot butterfly, coastal whiptail, red diamond rattlesnake, coast horned lizard, Coronado skink, two-striped gartersnake, Cooper's hawk, Bell's sage sparrow, burrowing owl, southern California rufous-crowned sparrow, coastal cactus wren, northern harrier, white-tailed kite, California horned lark, merlin, bald eagle, yellow-breasted chat, loggerhead shrike, coastal California gnatcatcher, yellow-warbler, least Bell's vireo, San Diego desert woodrat, and southern mule deer.

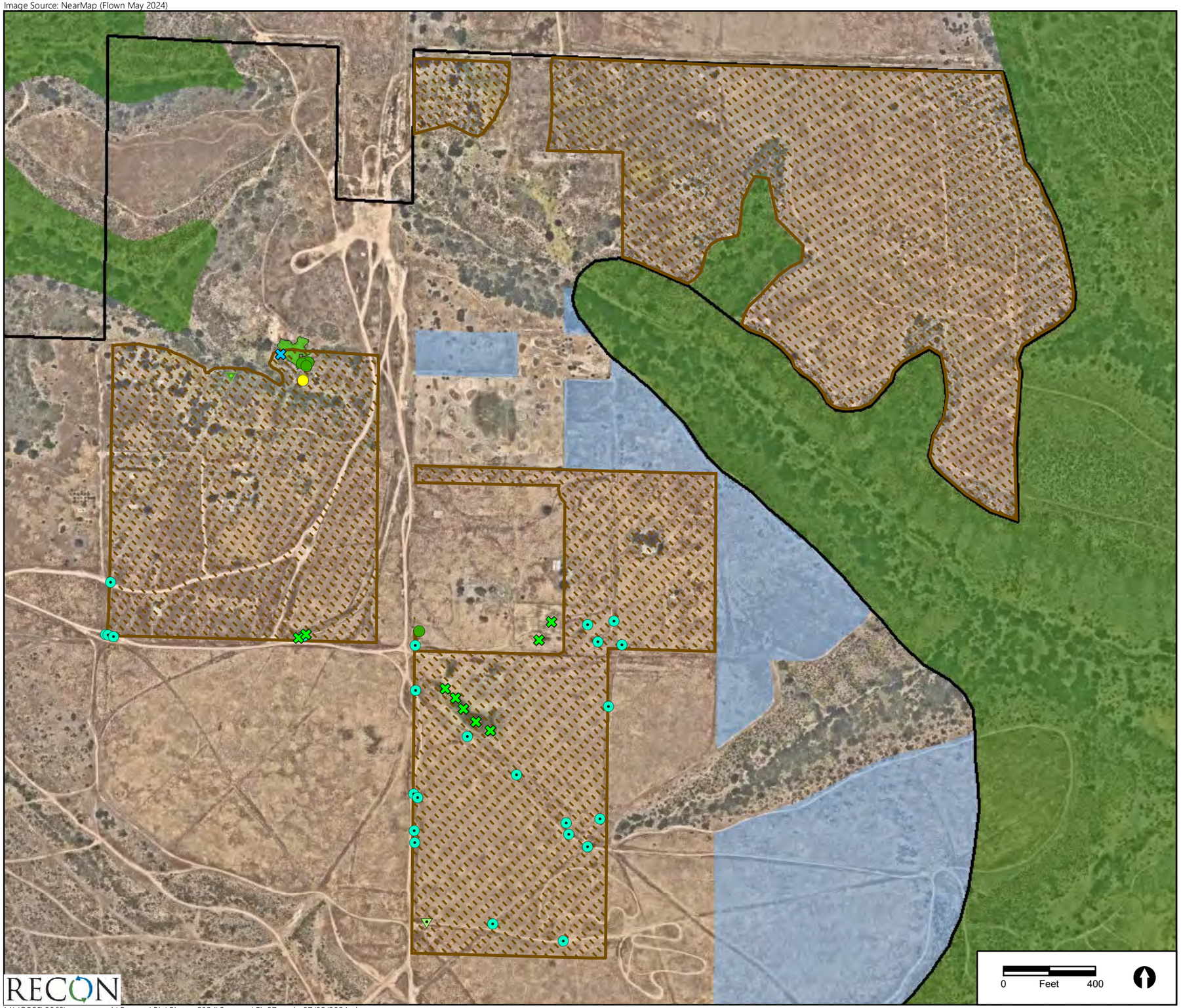
Mapping of sensitive species within the program-level areas has not been completed as part of this current effort; therefore, additional species may be encountered during site-specific surveys. Sensitive plants and wildlife within the program-level areas are reasonably expected to be similar to those species identified as part of the project-level analysis as depicted in Figures 26.1 through 26.11 and 27.1 through 27.11 and discussed in Chapter 5.

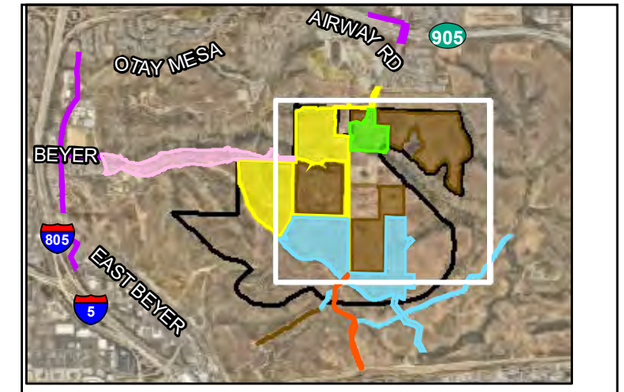
Consistent with the OMCP FEIR Mitigation Framework BIO-1 future site-specific surveys would be required and future project would be required to demonstrate compliance with the City's Biology Guidelines, ESL regulations, and associated MSCP and VPHCP requirements and to identify feasible mitigation measures. Impacts to sensitive wildlife and plant species associated with future development within the program-level areas would be significant.

7.1.1.3 Impacts to Jurisdictional Resources

Implementation of future development areas within the Specific Plan are likely to include direct impacts to jurisdictional resources. Although jurisdictional resource delineations have not been completed for program-level areas, vernal pool resources are known to exist on the mesa within areas planned for future development. Jurisdictional resources such as drainages, wetlands, and seasonal basins may occur within the program-level areas. Consistent with the OMCP FEIR Mitigation Framework BIO-4, future development would be required to address compliance with the City's ESL regulations including requirements for wetland deviations. Program-level impacts to jurisdictional resources would be significant. Restoration of disturbed jurisdictional resources that occur within 50 feet of future trails would also be implemented and mitigation measures detailed in Section 8.2 and Attachment 1 would be implemented concurrent with restoration to ensure avoidance of impacts to sensitive species and jurisdictional resources.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

- Specific Plan Boundary
- City of SD MHPA
- VPHCP MHPA

Program-level Impacts
- Phases 3-7

Sensitive Plants
- Ashy Spike-moss (*Selaginella cinerascens*)
- San Diego County Viguiera (*Bahiopsis laciniata*)

Sensitive Animals
- Grasshopper Sparrow (*Ammodramus savannarum*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Orange-throated Whiptail (*Aspidoscelis hyperythra*)
- Western Spadefoot** (*Spea hammondii*)
- San Diego Fairy Shrimp* (*Branchinecta sandiegonensis*)

*RECON and USFWS Observations

**RECON and SanBIOS Observations

FIGURE 37
Program-level Impacts to Biological Resources - Sensitive Plant and Animal Species

RECON

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7.1.2 Project-level Impacts

7.1.2.1 Impacts to Vegetation Communities/Land Cover Type Impacts

As discussed in Section 1.3 and depicted on Figure 10.1, the project-level analysis area would be built out in phases; therefore, the impacts have been analyzed comprehensively by phase. Overall project-level impacts to vegetation communities/land cover types are summarized in Table 8a and shown on Figures 38.1 through 38.6. While portions of the project-level impacts would occur inside the MHPA, approval of the proposed BLA would ultimately result in all of the project-level impact areas being outside of the MHPA. As detailed in Table 8a, the project-level areas would impact a total of 218.60 acres of the overall 611.99-acre survey area. Specifically, a total of 81.76 acres of Tier I and Tier II vegetation communities, 105.84 acres of Tier IIIB non-native grasslands, and 2.46 acre of wetland vegetation communities would be impacted. Impacts to these resources would be significant.

Specific impacts by phase are discussed in the subsections that follow.

a. Phase 1 Impacts

Phase 1 includes grading required to accommodate construction of the first 920 homes. The impact analysis for Phase 1 assumes that all impacts would occur outside of the MHPA in conjunction with an approved BLA. As detailed in Table 8b, Phase 1 would impact 9.87 acres of Tier I and 32.38 of Tier II vegetation communities (see Figure 38.2). The majority of impacts (42.14 acres) comprises non-native grasslands which is a Tier IIIB community. Impacts to maritime succulent scrub, Diegan coastal sage scrub, disturbed coastal sage scrub, and non-native grassland would be significant. Impacts to eucalyptus woodland, disturbed land, and urban/developed lands are not significant and do not require mitigation.

The project would also result in impacts to 1.62 acres of potential vernal pools, wetlands (including mule fat scrub, southern willow scrub, disturbed riparian and disturbed wetlands), and natural flood channels. Of this, 0.76 acre of jurisdictional resources are located within the Candlelight project area and are covered within the certified Candlelight Environmental Impact Report (Project No. 40329; SCH No. 2013101036) and associated agency permits. The remaining wetland impacts are significant. Certain jurisdictional resources require a wetland deviation, as addressed in Section 7.1.2.4.

As discussed above, Phase 1 includes two nearby projects (Candlelight and Southwind) proposed by other applicants. Phase 1 requires roadway access improvements associated with the construction of Caliente Avenue located north of Central Avenue, which travel through these two nearby projects. Impacts within the Candlelight and Southwind project areas (see Figure 20) are reported separately in Table 8b since the first project to proceed would result in those impacts and would be required to provide the associated mitigation.

Table 8a Direct Impacts to Vegetation Communities/Land Cover Types within the Project-level Survey Areas Assuming an MHPA BLA (acres)								
Vegetation Communities/ Land Cover Types	City of San Diego Tier	Phase 1	Phase 2	Beyer Boulevard West	Phase 4	Emergency Vehicle Access Road	Off-site Improvements	Total Acres
Upland Vegetation Communities								
Maritime Succulent Scrub	I	4.72	6.51	13.88	2.38	0.87	-	28.35
Disturbed Maritime Succulent Scrub	I	5.15	1.58	1.85	0.53	-	-	9.12
Native Grassland	I	-	-	-	0.12	-	-	0.12
Diegan Coastal Sage Scrub	II	24.19	1.62	3.17	4.25	0.01	-	33.24
Disturbed Coastal Sage Scrub	II	8.19	-	0.62	1.29	0.83	-	10.93
Non-native Grassland	IIIB	42.14	57.26	2.48	3.81	0.16	-	105.84
Subtotal		*84.38*	*66.97*	*21.99*	*12.38*	*1.87*	-	*187.59*
Wetland Vegetation Communities								
Natural Flood Channel[1]	-	0.14	0.05	0.08	0.18	-	-	0.46
Mule Fat Scrub	-	0.02	-	0.30	0.01	-	-	0.33
Southern Willow Scrub	-	0.32	-	-	<0.01	-	-	0.33
Tamarisk Scrub	-	-	0.01	-	-	-	-	0.01
Disturbed Riparian	-	0.12	-	-	-	-	-	0.12
Disturbed Wetland	-	0.30	0.04	<0.01	-	-	-	0.34
Vernal Pool	-	0.15	0.07	0.03	-	0.01	-	0.26
Vernal Pool with Fairy Shrimp	-	0.56	0.05	0.01	<0.01	-	-	0.62
Subtotal		*1.62*	*0.23*	*0.41*	*0.20*	*0.01*	-	*2.46*
Disturbed/Developed Vegetation Communities								
Eucalyptus Woodland	IV	0.13	-	-	-	-	-	0.13
Disturbed Land	IV	8.48	5.61	5.49	1.90	1.23	0.51	23.22
Urban/Developed Land	-	0.30	-	0.12	-	0.05	4.73	5.20
Subtotal		*8.92*	*5.61*	*5.61*	*1.90*	*1.28*	*5.23*	*28.55*
Total		94.92	72.80	28.01	14.48	3.16	5.23	218.60

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.

[1]Although ephemeral drainages are not considered a vegetation community, they are captured within the City's designation of "natural flood channel." Note that these are non-wetland waters not regulated by the City of San Diego.

Table 8b Direct Impacts to Vegetation Communities/Land Cover Types within the Phase 1 Project level Areas Assuming an MHPA BLA (acres)					
Vegetation Community/ Land Cover Type					Total
Upland Vegetation Communities					
Maritime Succulent Scrub	I	-	0.05	4.67	4.72
Disturbed Maritime Succulent Scrub	I	-	-	5.15	5.15
Diegan Coastal Sage Scrub	II	-	-	24.19	24.19
Disturbed Coastal Sage Scrub	II	-	0.12	8.07	8.19
Non-native Grassland	IIIB	1.81	0.34	39.98	42.14
Subtotal		*1.81*	*0.50*	*82.07*	*84.38*
Wetland Vegetation Communities					
Natural Flood Channel[2]	-	0.02	-	0.12	0.14
Mule Fat Scrub	-	0.02	-	-	0.02
Southern Willow Scrub	-	0.32	-	-	0.32
Disturbed Riparian	-	0.12	-	-	0.12
Disturbed Wetland	-	0.23	-	0.07	0.30
Vernal Pool	-	-	0.03	0.13	0.15
Vernal Pool with Fairy Shrimp	-	0.04	0.01	0.51	0.56
Subtotal		*0.76*	*0.04*	*0.83*	*1.62*
Disturbed/Developed Vegetation Communities					
Eucalyptus Woodland	IV	0.03	-	0.10	0.13
Disturbed Land	IV	0.77	0.26	7.46	8.48
Urban/Developed	IV	0.30	-	-	0.30
Subtotal		*1.10*	*0.26*	*7.56*	*8.92*
Phase 1 Total		**3.68**	**0.80**	**90.45**	**94.92**

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.

[1]Refer to Figure 22 for the location of the Candlelight and Southwind Project areas located within Phase 1. These areas are reported separately in the event development of these areas proceeds independent of the project, these impacts would be mitigated by other parties. Impacts within the Candlelight project area are addressed in the certified Candlelight Environmental Impact Report (Project No. 40329; SCH No. 2013101036) and associated agency permits.

[2]Natural flood channel are non-wetland waters not regulated by the City of San Diego.

b. Phase 2 Impacts

Phase 2 includes Planning Areas 15-20, the two drainage outfalls, a pump station within the VPHCP preserve area, and implementation of project-level trails including trail restoration efforts within the 100-foot trail buffer as detailed in Section 1.3.2.6.a. As detailed in Table 8c, grading Phase 2 would impact 8.09 acres of Tier I, 6.86 acres of Tier II, and 57.26 acres of Tier IIIB, which would be a significant impact (see Figures 38.2 through 38.4). Impacts to 5.61 acres of disturbed land would not be significant.

This phase would also result in impacts to 0.23 acre of potential vernal pools, tamarisk scrub, and natural flood channels. Wetland impacts are significant and may require a wetland deviation addressed in Section 7.1.2.4.

Phase 2 impacts associated with the pump station are within the VPHCP/MHPA. Impacts within this area would be significant, but this is identified as an allowed use within the VPHCP; therefore, this area would not be deleted from the VPHCP/MHPA as part of the BLA (see Section 6.2.2 for additional discussion of VPHCP consistency).

Table 8c presents the impacts by the project-level trails. Approximately 0.96 linear feet of primitive trail improvements are proposed as part of the Phase 2 project-level implementation (see Figures 11 and 12.3). However, all trail establishment would occur within existing disturbed lands (0.46 acre), avoiding significant impacts to sensitive vegetation communities. Figure 18.1 through 18.7 depicts the project-level trail restoration effort that would be proposed around the primitive trail alignments. As detailed in the Trails Restoration Plan (see Attachment 1), restoration activities would occur within disturbed lands and non-native grasslands habitats. According to the City's Biology Guidelines, impacts to non-native grassland habitats are not significant when they are impacted for restoration purposes. Additionally, restoration and enhancement efforts are proposed within disturbed Diegan coastal sage scrub, disturbed maritime succulent scrub, and within disturbed wetlands and vernal pools; however, restoration efforts would be limited to removal of invasive plant species, and no impacts would occur to native plant species associated with restoration or enhancement efforts. Avoidance measures and protocols to be implemented during implementation of the restoration effort, as detailed in Attachment 1, would ensure adverse impacts to sensitive vegetation communities are avoided during trail restoration efforts.

c. Beyer Boulevard West Impacts

Construction of the Beyer Boulevard West extension is required to provide access to the Specific Plan area from San Ysidro as detailed in Section 1.3.2.3.b. As detailed in Table 8d, Beyer Boulevard West would impact 15.73 acres of Tier I and 3.79 acres of Tier II vegetation communities and 2.48 acres of Tier IIIB nonnative grasslands which would be significant (see Figures 38.1 and 38.2). Impacts to 5.61 acres of disturbed land and urban/development lands would not be significant. A 0.37-acre developed portion of the roadway that runs through the Beyer Park property would be classified as City linear utilities, which is exempt from ESL regulations and considered an MHPA allowed use. This includes 0.24 acre of disturbed habitat and 0.13 acre of disturbed maritime succulent scrub.

Table 8c Direct Impacts to Vegetation Communities and Land Cover Types within the Phase 2 Project-level Areas Assuming an MHPA BLA (acres)						
Vegetation Community/ Land Cover Type	City of San Diego Tier	Development Footprint	Pump Station (in MHPA)[1]	Project-level trails	South Drainage Outfall[2]	Total
Upland Vegetation Communities						
Maritime Succulent Scrub	I	3.55	-	-	2.95	6.51
Disturbed Maritime Succulent Scrub	I	1.43	-	-	0.16	1.58
Diegan Coastal Sage Scrub	II	1.62	-	-	-	1.62
Disturbed Coastal Sage Scrub	II	-	-	-	-	5.24
Non-native Grassland	IIIB	55.26	1.66	<0.01	0.34	57.26
Subtotal		*61.86*	*1.66*	*<0.01*	*3.45*	*66.97*
Wetland Vegetation Communities						
Natural Flood Channel[3]	-	0.06	-	-	-	0.06
Tamarisk Scrub	-	-	-	-	0.01	0.01
Disturbed Wetland	-	0.04	-	-	-	0.04
Vernal Pool	-	0.07	-	-	-	0.07
Vernal Pool with Fairy Shrimp	-	0.05	-	-	-	0.05
Subtotal		*0.22*	-	-	*0.01*	*0.23*
Disturbed/Developed Vegetation Communities						
Disturbed Land	IV	4.69	-	0.46	0.46	5.61
Subtotal		*4.69*	-	*0.46*	*0.46*	*5.61*
Phase 2 Total		**66.76**	**1.66**	**0.46**	**3.92**	**72.80**

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.

[1]The 1.66-acre area associated with the Pump Station is identified as an allowed use within the VPHCP Preserve, therefore is considered an impact within the MHPA.

[2]Although considered a permanent impact, drainage outfall impacts would be revegetated with native vegetation after installation.

[3]Natural flood channel are non-wetland waters not regulated by the City of San Diego.

Table 8d Direct Impacts to Vegetation Communities/Land Cover Types within the Beyer Boulevard Project-level Areas Assuming an MHPA BLA [1] (acres)							
Vegetation Community/ Land Cover Type	City of San Diego Tier	Beyer Boulevard West[2]	Beyer Park[3]	Furby North Preserve	West Otay Mesa A	West Otay Mesa B	Total
Upland Vegetation Communities							
Maritime Succulent Scrub	I	0.03	2.70	3.12	8.03	<0.01	13.88
Disturbed Maritime Succulent Scrub	I	0.01	1.19	0.04	0.61		1.85
Diegan Coastal Sage Scrub	II	-	0.08	-	0.91	2.18	3.17
Disturbed Coastal Sage Scrub	II	-	0.50	-	-	0.12	0.62
Non-native Grassland	IIIB	-	-	-	1.38	1.09	2.48
Subtotal		*0.05*	*4.47*	*3.16*	*10.92*	*3.40*	*21.99*
Wetland Vegetation Communities							
Natural Flood Channel	-	-	0.05	-	0.01	0.02	0.08
Mule Fat Scrub	-	-	0.30	-	-	-	0.30
Disturbed Wetland		-	-	<0.01	<0.01	-	<0.01
Vernal Pool	-	-	-	0.01	0.02	-	0.03
Vernal Pool w/fairy shrimp	-	-	-	0.01	-	-	0.01
Subtotal			*0.34*	*0.01*	*0.03*	*0.02*	*0.41*
Disturbed/Developed Vegetation Communities							
Disturbed Land	IV	0.09	3.57	0.56	1.16	0.11	5.49
Urban/Developed	IV	0.07	0.05	-	-	-	0.12
Subtotal		*0.15*	*3.63*	*0.56*	*1.16*	*0.11*	*5.61*
Beyer Boulevard West Total	-	0.20	8.44	3.72	12.11	3.53	28.01

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.

[1]This area includes only the portions of Beyer Boulevard located outside of the Specific Plan. Other portions of Beyer Boulevard are located within the Specific Plan are addressed as part of the overall development footprint.

[2]This portion includes impacts within the San Ysidro School District parcel located north of the City's Beyer Park parcel.

[3]The 0.37-acre developed portion of the roadway that runs through the Beyer Park property would be classified as City linear utilities, which is exempt from ESL regulations and considered an MHPA allowed use. This includes 0.24 acre of disturbed land and 0.13 acre of disturbed maritime succulent scrub.

Beyer Boulevard West would also result in impacts to 0.41 acre of potential vernal pools, wetlands (including mule fat scrub and disturbed wetlands), and natural flood channels. Wetland impacts are significant and require a wetland deviation addressed in Section 7.1.2.4.

Impacts within the Furby North Preserve, West Otay Mesa A, and West Otay Mesa B associated with Beyer Boulevard West are reported separately in Table 8c due to their conservation status and/or history as mitigation parcels. Impacts on these parcels would be significant and would provide mitigation consistent with the City's Biology Guidelines. Impacts associated with West Otay Mesa A and West Otay Mesa B require additional coordination with CDFW to address existing conservation easements. Associated CDFW requirements associated with impacts to conservation easements are part of the project and are described in Section 1.3.2.5.b.

d. Phase 4 Impacts

Phase 4 (see Figure 9) includes construction of parts of Planning Areas 1 and 7 and the extension of Caliente Avenue south of Central Avenue. As detailed in Table 8e, Phase 4 would impact 3.03 acres of Tier I and 5.54 acres of Tier II vegetation communities and 3.81 acres of Tier IIIB non-native grasslands which would be significant (see Figure 38.2). Impacts to 1.90 acres of disturbed land would not be significant.

Phase 4 would also result in impacts to 0.20 acre of potential vernal pools, wetlands (including mule fat scrub and southern willow scrub), and natural flood channels. Wetland impacts are significant and require a wetland deviation addressed in Section 7.1.2.4.

e. Emergency Vehicle Access Road

Construction of a EVA road is proposed to provide emergency access from the south along an existing dirt road (see Section 1.3.2.3.e). As detailed in Table 8f, the EVA road would impact 0.87 acre of Tier I, 0.84 acre of Tier II, and 0.16 acre of Tier IIIB vegetation communities which would be significant (see Figure 38.3). Impacts to 1.28 acres of disturbed land and urban/developed would not be significant.

The EVA road is proposed in an area of an ancient landslide complex. To address concerns that the proposed EVA road improvements could destabilize the landslide complex that exists in the area, a geotechnical evaluation was conducted by Geocon, Inc. (Attachment 12) which identified the hillside has a slope stability factor of safety of 1.24 in the existing condition. Improvements to the road would not exacerbate this risk and would slightly increase stability due to grading, increasing the factor of safety to 1.25. Additionally, due to the factor of safety being above 1.0, future movement of the landslide in general is not expected to occur within the lifetime of the roadway under existing and proposed conditions. Refer to Attachment 12 for additional information regarding landslide risk and stability.

Table 8e Direct Impacts to Vegetation Communities/Land Cover Types within the Phase 4 Project Survey Areas Assuming an MHPA BLA (acres)		
Vegetation Community/Land Cover Type	City of San Diego Tier	Development Footprint
Upland Vegetation Communities		
Maritime Succulent Scrub	I	2.38
Disturbed Maritime Succulent Scrub	I	0.53
Native Grassland	I	0.12
Diegan Coastal Sage Scrub	II	4.25
Disturbed Diegan Coastal Sage Scrub	II	1.29
Non-native Grassland	IIIB	3.81
Subtotal		*12.38*
Wetland Vegetation Communities		
Natural Flood Channel	-	0.18
Mule Fat Scrub	-	0.01
Southern Willow Scrub	-	<0.01
Vernal Pool with Fairy Shrimp	-	<0.01
Subtotal		*0.20*
Disturbed/Developed Vegetation Communities		
Disturbed Land	IV	1.90
Subtotal		*1.90*
Phase 4 Total		14.48
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.		

Table 8f Direct Impacts to Vegetation Communities/Land Cover Types within the Emergency Vehicle Access Survey Areas Assuming an MHPA BLA (acres)		
Vegetation Community/Land Cover Type	City of San Diego Tier	Emergency Vehicle Access Road
Upland Vegetation Communities		
Maritime Succulent Scrub	I	0.87
Diegan Coastal Sage Scrub	II	0.01
Disturbed Diegan Coastal Sage Scrub	II	0.83
Non-native Grassland	IIIB	0.16
Subtotal		*1.87*
Wetland Vegetation Communities		
Vernal Pool	-	0.01
Subtotal		*0.01*
Disturbed/Developed Vegetation Communities		
Disturbed Land	IV	1.23
Urban/Developed	IV	0.05
Subtotal		*1.28*
EVA Road Total		**3.16**
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.		

The EVA road would be gated and locked at the edge of development to prohibit all but emergency vehicular access; however, pedestrian and non-motorized bicycles would be permitted along the EVA road to allow connection to the proposed primitive trail network. Public access beyond the EVA road and trail access points would be prohibited with signage notifying the public to stay only on designated trails. Signage would also be provided along the edges of the EVA road to provide public notice that access to the surrounding open space is prohibited, with the exception of access to formal primitive trails.

Construction of the EVA road would also result in impacts to 0.01 acre of potential vernal pools. Wetland impacts are significant and require a wetland deviation addressed in Section 7.1.2.4.

f. Off-site Improvements Impacts

The off-site improvements include widening of the existing Beyer Boulevard between Enright Drive and East Beyer Boulevard (see Figure 15.1 through 15.3) and improvements to the SR-905 and Caliente Avenue westbound on-ramp (see Figure 16.1 and 16.2). The widening of the Beyer Boulevard segment between Enright Drive and East Beyer Boulevard would impact a disturbed portion of the existing manufactured slope and would not affect sensitive vegetation communities (Table 8g). Additionally, off-site improvements required to install water and sewer infrastructure would occur within existing disturbed roadway segments (see Figure 17). While no sensitive resources are associated within these off-site improvement areas; portions of the utility line improvements along Otay Mesa Place are located adjacent to MHPA and all construction would be required to comply with the MHPA Land Use Adjacency Guidelines. Therefore, direct and indirect impacts to sensitive vegetation communities due to these off-site improvements would be less than significant.

g. Restoration Activities

Minor grading associated with the implementation of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan would be required within the vernal pool restoration areas to provide micro-recontouring for creation of the new vernal pools, Quino checkerspot butterfly habitat, and an artificial earthen berm for burrowing owl habitat (see Attachment 14). The recontouring would result in impacts to 26.13 acres of non-native grassland, which are not significant pursuant to the City's Biology Guidelines, as these areas would be impacted via mitigation for the creation of vernal pool habitat. The mitigation footprint was designed to avoid all other native vegetation communities (see Attachment 14).

Additionally, 1.0 acre of non-native grassland would be impacted for the implementation of the Otay tarplant and native grassland mitigation (see Attachment 15). These impacts would also be less than significant pursuant to the City's Biology Guidelines due to the impact occurring for restoration purposes.

Table 8g Direct Impacts to Vegetation Communities/ Land Cover Types within the Off Site Improvements Survey Areas Assuming an MHPA BLA (acres)						
Vegetation Community/ Land Cover Type	City of San Diego Tier	SR-905 Westbound On-ramp	Caliente Avenue over SR-905	Water/Sewer Improvements	West Beyer Boulevard	Total
Disturbed/Developed Vegetation Communities						
Disturbed Land	IV	0.04	-	0.05	0.42	0.51
Urban/Developed	IV	0.19	0.93	2.15	1.45	4.73
Off-site Improvements Total		**0.23**	**0.93**	**2.20**	**1.87**	**5.23**
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.						

The proposed Wetland Plan (see Attachment 18) would involve conversion of non-native grassland and non-sensitive land cover types, and removal of non-native, invasive species within Spring Canyon. The City's Biology Guidelines state "Mitigation is not required for impacts to non-native grassland habitat when impacted for the purpose of wetland or other native habitat creation." Thus, these impacts to habitat would be less than significant as impacts would be limited to removal of invasive species and non-native grassland.

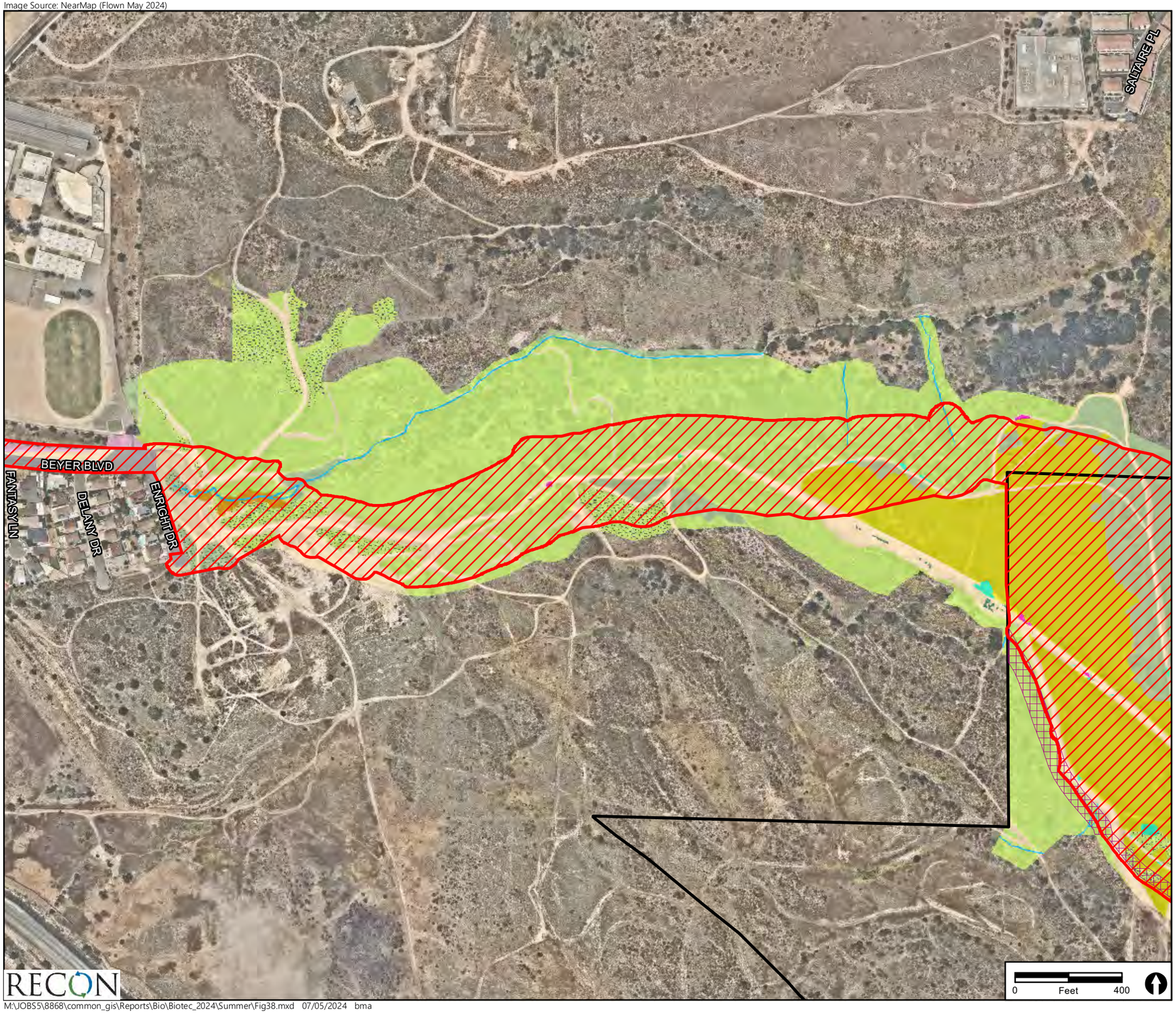
Impacts associated with restoration and enhancement of coastal cactus wren habitat would be less than significant because restoration and enhancement efforts would avoid impacts to native vegetation. The coastal cactus wren habitat mitigation includes restoration through the removal of non-native species and salvage and installation of coast cholla to establish coastal cactus wren habitat within disturbed maritime succulent scrub. Additional mitigation includes habitat enhancement through non-native species control and shrub thinning within existing maritime succulent scrub. Refer to Attachment 13 for details of this restoration effort including measures to ensure impact avoidance during implementation.

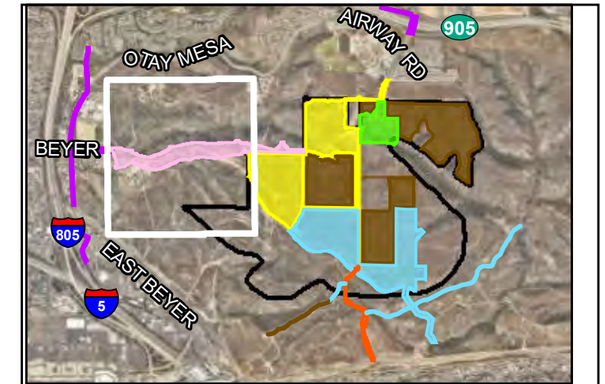
A Trails Restoration Plan is included as Attachment 1 which describes proposed restoration of disturbed and non-native grassland habitats. Impacts to non-native grassland are not significant pursuant to the City's Biology Guidelines when impacted for restoration purposes. The trail restoration effort would additionally enhance disturbed coastal sage scrub and disturbed maritime succulent scrub habitats; however, enhancement would be limited to removal of non-native and invasive species and no native species would be impacted. Enhancement within vernal pools and disturbed wetlands within 50 feet of the trails is also proposed. Measures to ensure avoidance of impacts to sensitive vegetation communities and jurisdictional resources are addressed in the Trails Restoration Plan. A 2.13-acre vernal pool restoration area within West Otay Mesa B is assessed as part of the project as described in Section 1.3.2.5.b. Micro-recontouring for creation of the new vernal pools would result in impacts to 2.13 acres of non-native grassland, which are not significant pursuant to the City's Biology Guidelines, as these areas would be impacted for the creation of vernal pool habitat.

h. Brush Management Zone 2 Outside of the Impact Footprint

An additional 4.74 acres of habitat comprised of 4.05 acres of maritime succulent scrub, 0.01 acre of disturbed maritime succulent scrub, 0.40 acre of Diegan coastal sage scrub, 0.06 acre of non-native grassland, 0.21 acre of disturbed land and 0.01 acre of natural flood channel would be affected due to implementation of BMZ 2 outside of the proposed grading areas. BMZ 2 located outside of the graded footprint is impact neutral pursuant to the City's Biology Guidelines (City of San Diego 2018a) and does not require mitigation. These BMZ 2 areas are shown on Figure 13.3.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Southwest Village Vegetation
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Disturbed Maritime Succulent Scrub
- Mule Fat Scrub
- Non-native Grassland
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Disturbed Wetland
- Natural Flood Channel
- Ornamental
- Disturbed Land
- Developed Land

FIGURE 38.1
Impacts to Biological Resources - Vegetation Communities/Land Cover Types

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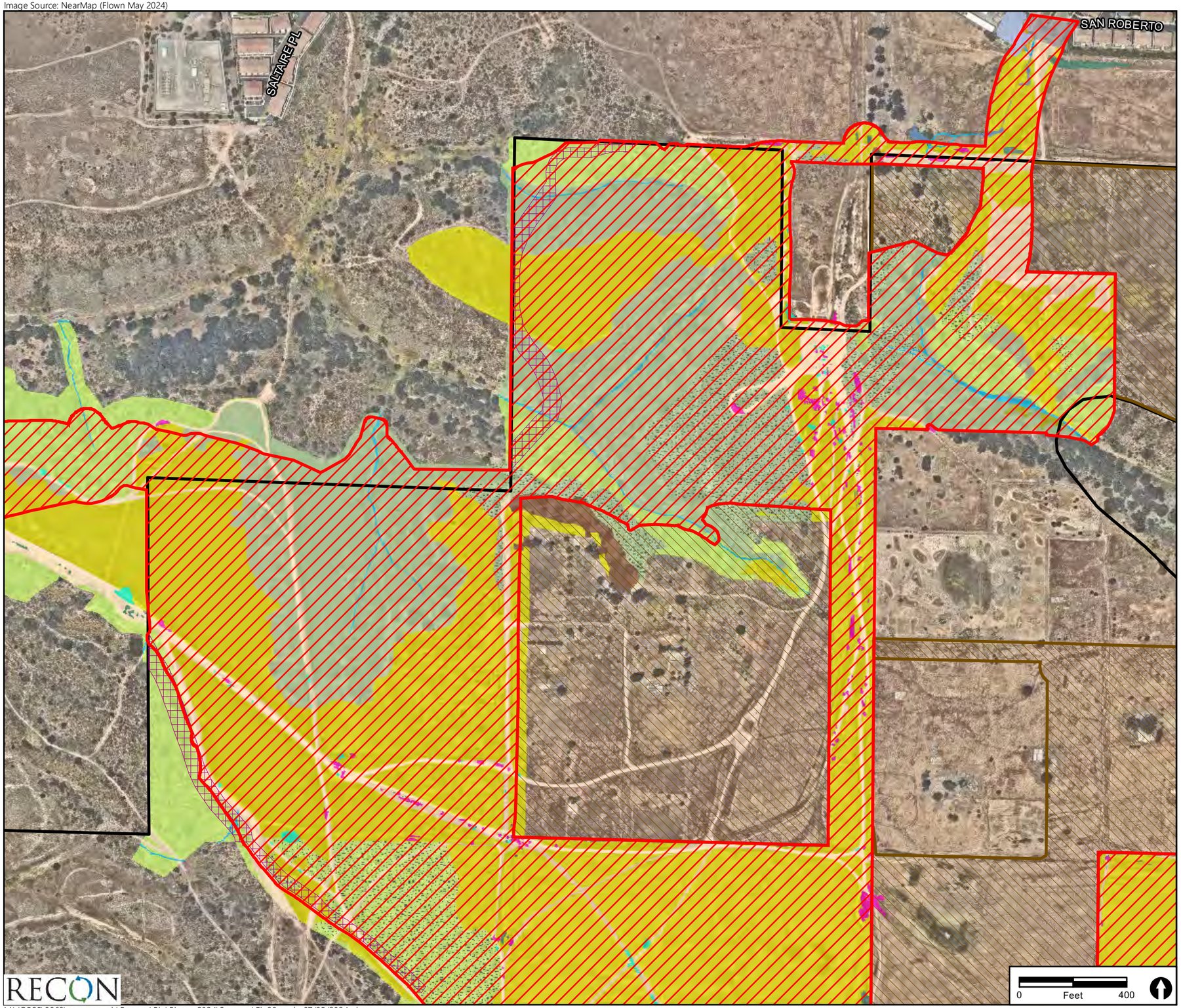
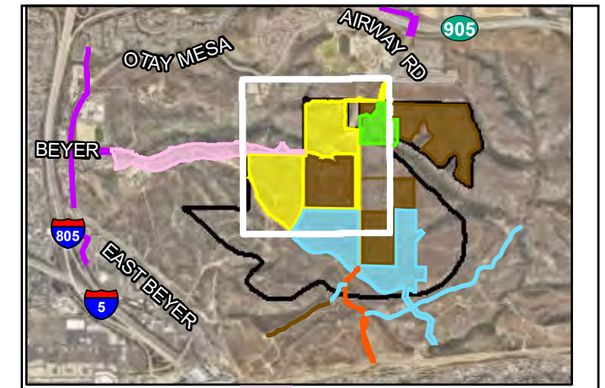
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Program-level Impacts

Phases 3-7

Southwest Village Vegetation
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Eucalyptus Woodland
- Maritime Succulent Scrub
- Disturbed Maritime Succulent Scrub
- Mule Fat Scrub
- Native Grassland
- Non-native Grassland
- Southern Willow Scrub
- Disturbed Riparian
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland
- Disturbed Wetland
- Natural Flood Channel
- Disturbed Land
- Developed Land

FIGURE 38.2
Impacts to Biological Resources - Vegetation Communities/Land Cover Types

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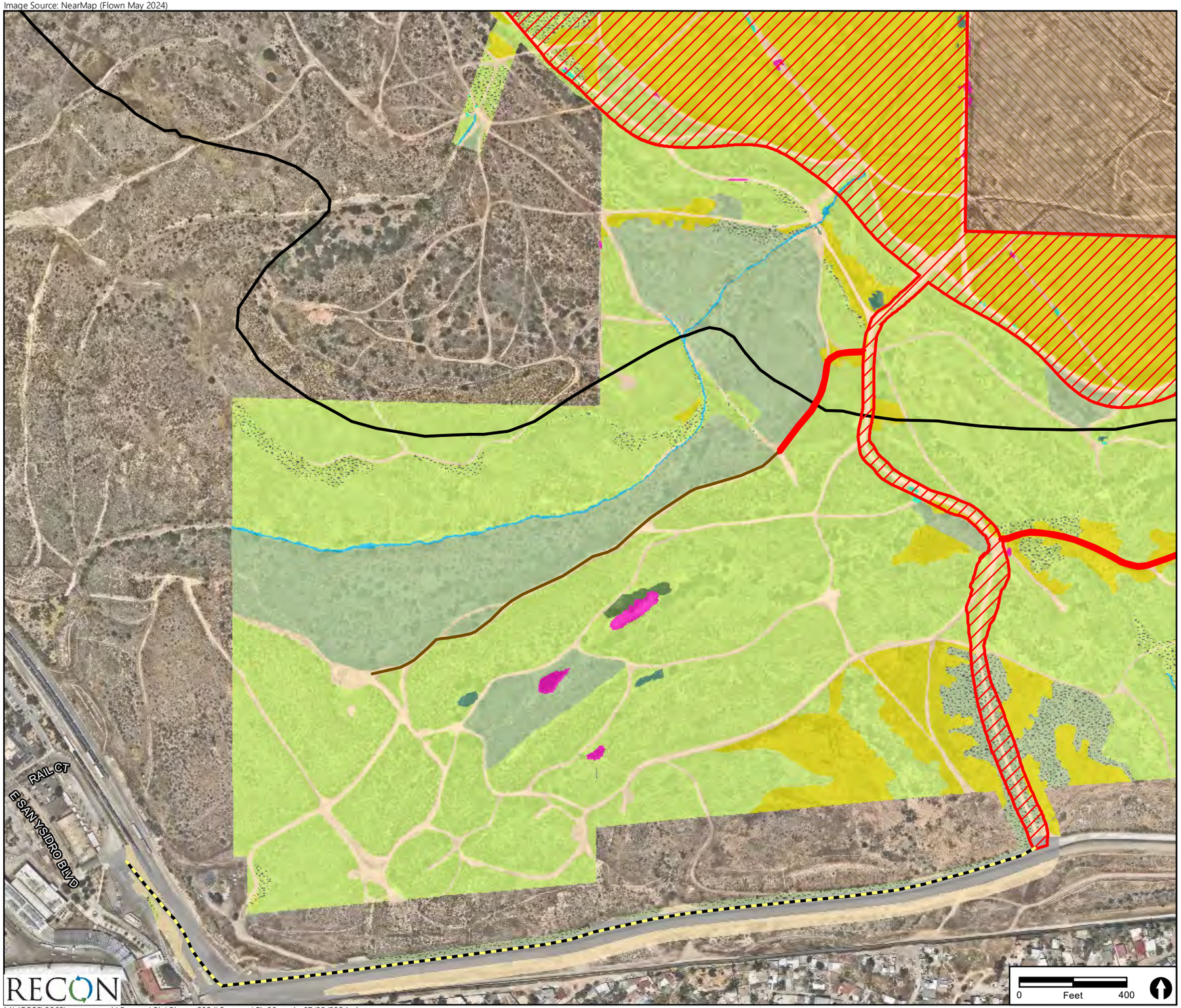
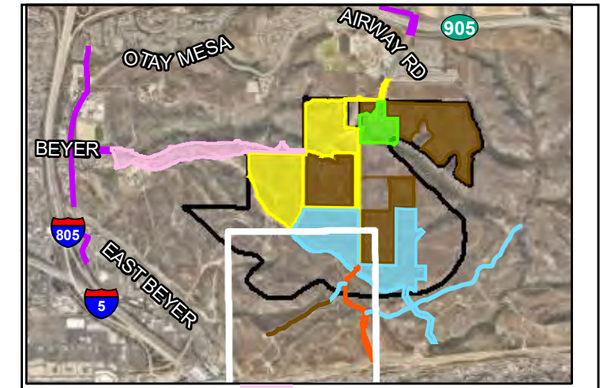
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2
- Emergency Vehicle Access Road - No Improvements Required (Existing Road)

Program-level Impacts
- Phases 3-7

Southwest Village Vegetation
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Disturbed Maritime Succulent Scrub
- Tamarisk Scrub
- Non-native Grassland
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Disturbed Wetland
- Natural Flood Channel
- Disturbed Land
- Developed Land

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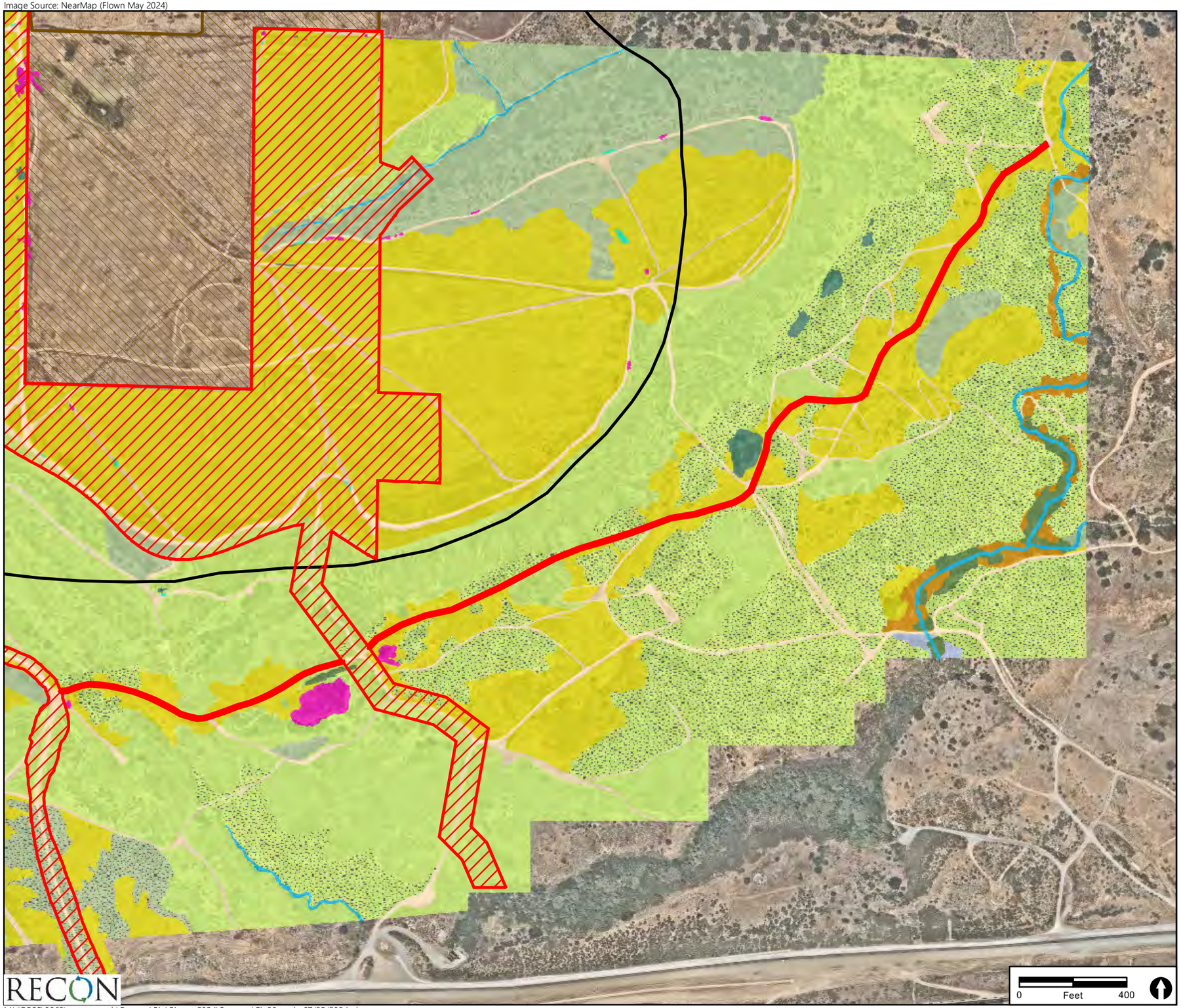
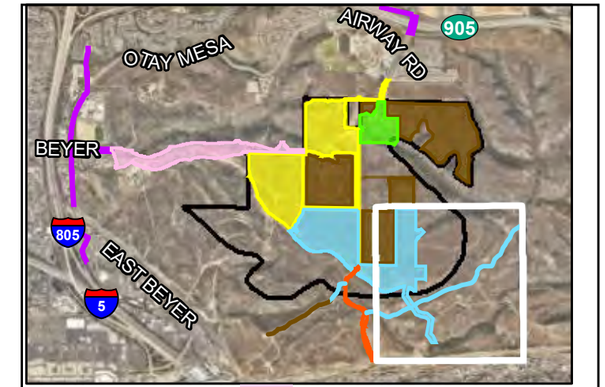
FIGURE 38.3
Impacts to Biological Resources - Vegetation Communities/Land Cover Types

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Emergency Vehicle Access Road - No Improvements Required (Existing Road)

Program-level Impacts
- Phases 3-7

Southwest Village Vegetation
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Disturbed Maritime Succulent Scrub
- Mule Fat Scrub
- Tamarisk Scrub
- Non-native Grassland
- Southern Willow Scrub
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Disturbed Wetland
- Natural Flood Channel
- Disturbed Land
- Developed Land

FIGURE 38.4
Impacts to Biological Resources - Vegetation Communities/Land Cover Types

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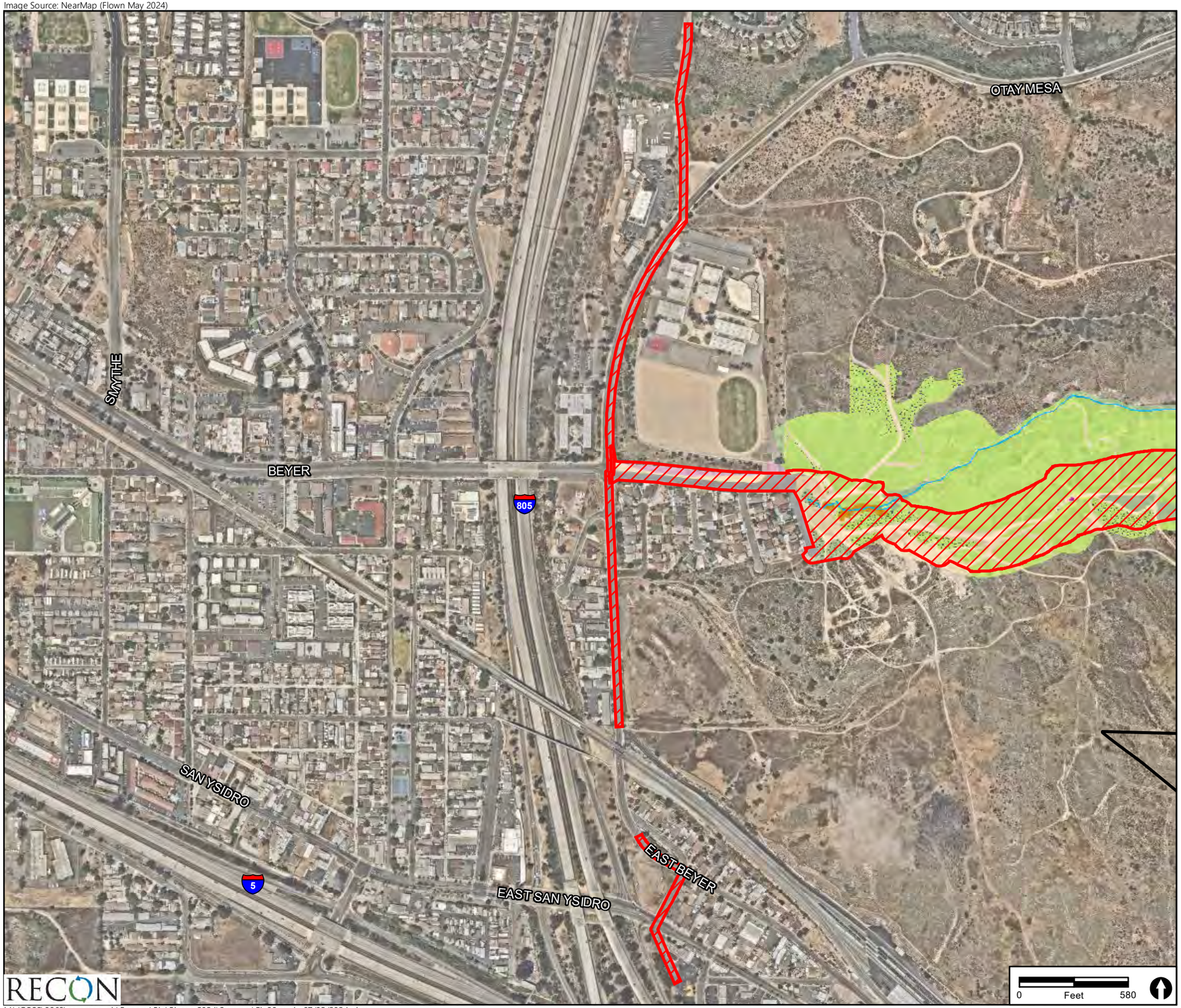
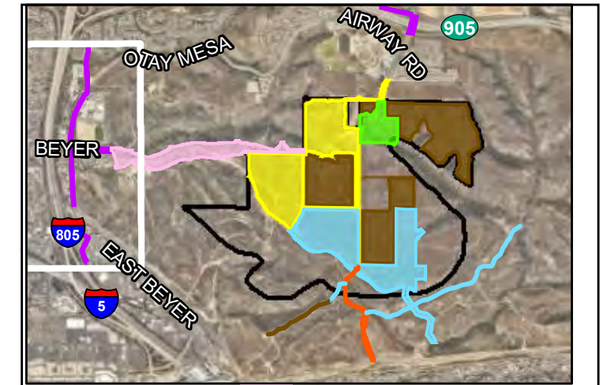
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Southwest Village Vegetation
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Disturbed Maritime Succulent Scrub
- Mule Fat Scrub
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Disturbed Wetland
- Natural Flood Channel
- Ornamental
- Disturbed Land
- Developed Land

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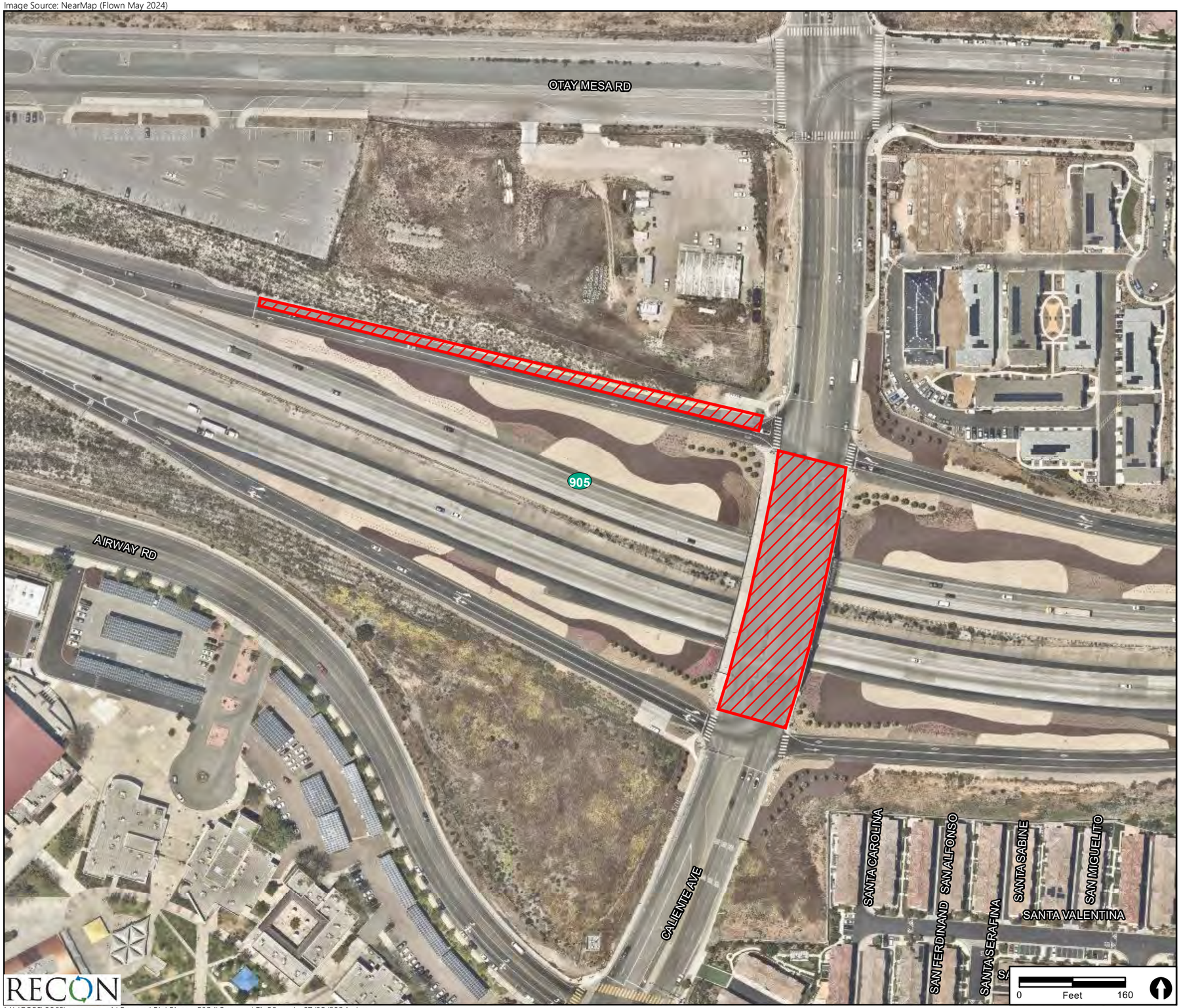
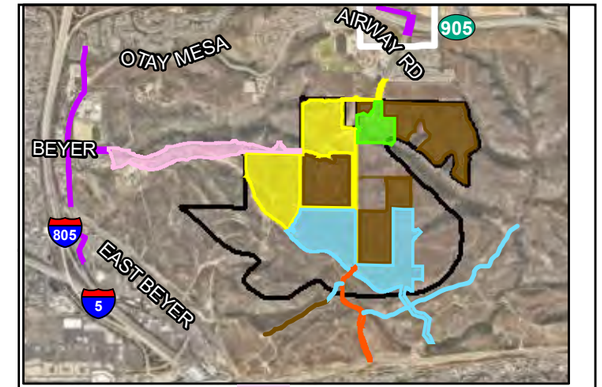
FIGURE 38.5
Impacts to Biological Resources - Vegetation Communities/Land Cover Types

Image Source: NearMap (Flown May 2024)





Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Project-level Impacts

- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Southwest Village Vegetation

- Disturbed Land
- Developed Land

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FIGURE 38.6
Impacts to Biological Resources - Vegetation Communities/Land Cover Types

7.1.2.2 Impacts to Sensitive Plants

Rare plant surveys were conducted throughout the project-level areas to identify the presence of sensitive plant species. Nineteen sensitive plant species were detected within the survey area including California adolphia, San Diego bur-sage, south coast saltscale, San Diego County viguiera, seaside cistanthe, western dichondra, Otay tarplant, variegated dudleya, San Diego button-celery, cliff spurge, snake cholla, San Diego barrel cactus, Palmer's grapplinghook, bobtail barley, decumbent goldenbush, California box-thorn, golden-ray pentachaeta, ashy spike-moss, and San Diego needlegrass (Figure 39.1 through 39.6).

In addition to those observed, there are five sensitive plant species with a moderate to high potential to occur, including graceful tarplant, Orcutt's bird's-beak, San Diego goldenstar, thread-leaved brodiaea, and small-flowered microseris.

A discussion of impacts to all sensitive plant species detected or with a moderate or high potential to occur within the project-level impact area is provided below.

a. Direct Impacts to Federally and State Listed Plant Species

Otay Tarplant

Direct impacts to Otay tarplant are anticipated based on observations of these species within the project-level impacts areas. This species is both federally and state listed as endangered and an MSCP narrow endemic.

Otay tarplant impacts would be associated with the proposed Beyer Boulevard West alignment (see Figure 39.2) within the Beyer Park parcel and the Furby North Preserve on north-facing slopes in areas mapped as maritime succulent scrub and disturbed land. Approximately 1,900 individuals (0.21 acre) were mapped within the proposed Beyer Boulevard West improvement area. This population total was calculated by counting individuals where they occurred in small numbers and by estimating the number of individuals where they occurred in large groups. For large groups, the number of individuals was calculated by estimating the density within an area and extrapolating that density to larger areas. Survey updates for Otay tarplant were completed in June 2023. The survey found populations of Otay tarplant were reduced compared to the originally observed plant density; however, the impact analysis assumes the highest observed population estimates since this annual species is influenced by rainfall and weather conditions and populations may fluctuate year to year. The reduced populations in 2023 may be related to two drought years (2021 and 2022) and the plants being outcompeted by invasive species such as crown daisy and tocalote (*Centaurea melitensis*). Therefore, the original calculations of 0.21 acre and 1,900 individuals are assumed impacted. This impact would be significant.

San Diego Button-Celery

Direct impacts to San Diego button-celery are anticipated based on observations of these species within the project-level impacts areas. This species is both federally and state listed as endangered and an MSCP narrow endemic.

Implementation of the project would result in direct impacts to 28 San Diego button-celery located in two vernal pools at the northeastern side of Phase 1, totaling approximately 0.01 acre (see Figure 39.2). This impact would be significant.

Thread-leaved Brodiaea

While not detected during rare plant surveys, a moderate potential remains for this plant to occur on-site and impacts, if present, would be significant. This species is both federally and state listed as endangered and an MSCP narrow endemic.

b. Direct Impacts to MSCP-Covered Plant Species

San Diego Barrel Cactus

Impacts to MSCP-covered San Diego barrel cactus located within Phases 1, 2, and 4 and Beyer Boulevard West are anticipated. These impacts would be significant.

Snake Cholla

Impacts to snake cholla, an MSCP-covered and narrow endemic species, are anticipated. These impacts would be significant.

Orcutt's Bird's-beak

Orcutt's bird's beak is an MSCP-covered species and all four known populations within the MSCP boundary are being conserved (City of San Diego 1997). The observation within the vicinity of the project occurs within a City parcel which is also being conserved. In addition, the loss of suitable habitat within the project impact area comprises a small portion of the suitable habitat available to these species on a local level and on a regional scale; therefore, this loss of habitat outside the MHPA is not expected to impact the regional long-term survival of this species and would therefore not be significant.

San Diego Goldenstar

San Diego goldenstar is an MSCP-covered species. Coverage was based on the fact that over 70 percent of the major populations, over 80 percent of the known occurrences, and 38 percent of the grasslands would be conserved and that the City would avoid any populations within the 25 percent MHPA encroachment areas (County of San Diego 1998a). Species-specific conditions are related only to monitoring of a specific transplanted population and protection against edge effects within the preserved areas (County of San Diego 1998a). No San Diego goldenstar was observed in the project-level area during the rare plant survey or update 2023 rare plant survey conducted on the site. Based on this level of MSCP coverage, current known occurrences of this species within southern California (Jepson Flora Project 2023), and that the loss of suitable habitat within the project impact area comprises a small portion of the suitable habitat available to this species on a local level and on a regional scale; this loss of habitat outside the MHPA would not be a significant impact for these species. Therefore, the project is not expected to impact the regional long-term survival of this species and would therefore not be significant.

Variegated Dudleya

No direct impacts to variegated dudleya, an MSCP-covered and narrow endemic species, would occur, as the species is not located within the project-level impact area and is not expected to occur based on the level of rare plant survey efforts conducted.

No narrow endemic plant species other than those discussed above were observed within the project-level areas; therefore, no additional impacts to narrow endemic species are anticipated due to project implementation, including BMZ 2 activities.

c. Direct Impacts to Sensitive Non-MSCP Covered Plant Species

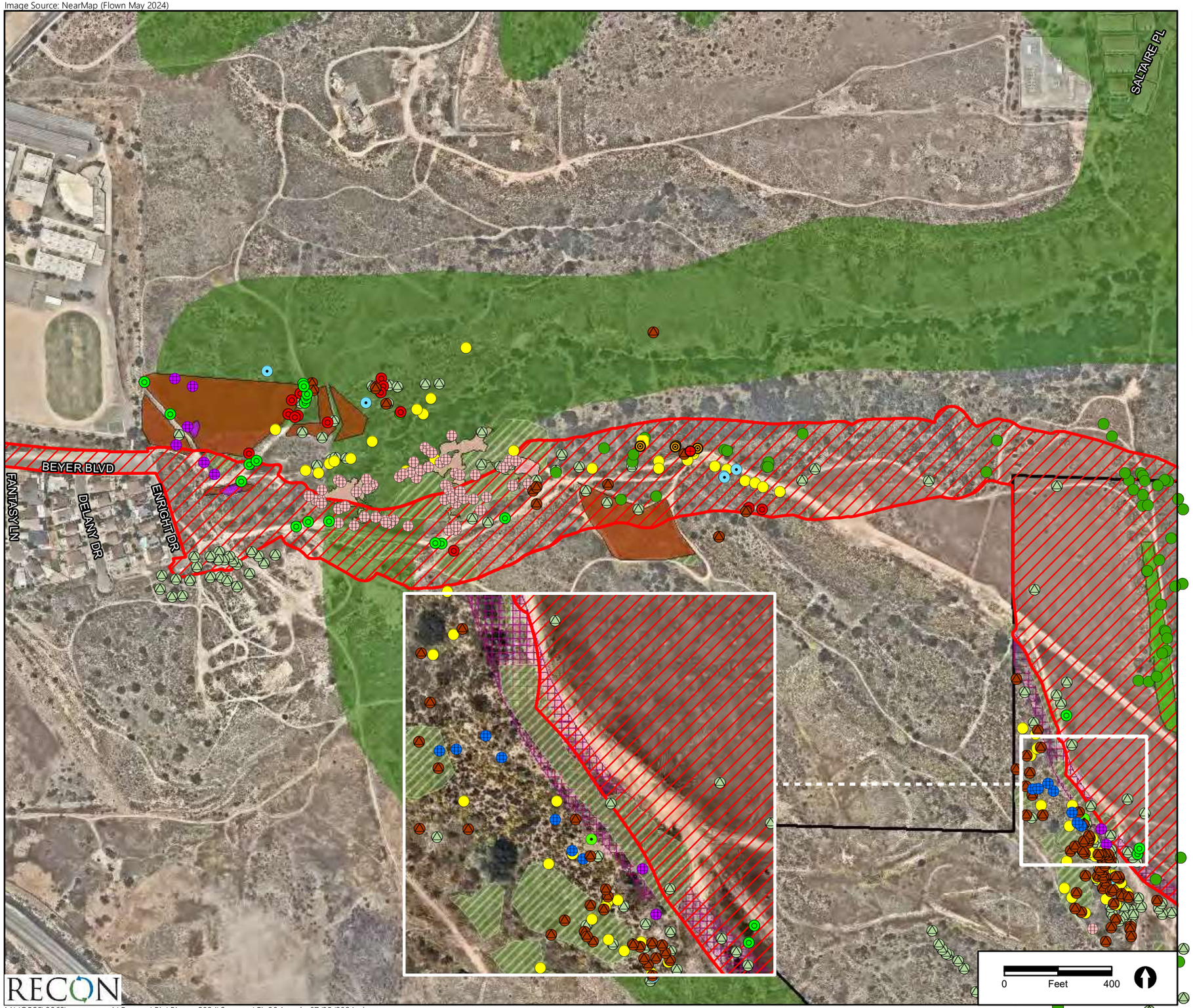
The following sensitive plants not covered by the MSCP were observed during surveys: California adolphia, San Diego bur-sage, south coast saltscale, San Diego County viguiera, seaside cistanthe, western dichondra, cliff spurge, Palmer's grapplinghook, bobtail barley, decumbent goldenbush, California box-thorn, ashy spike-moss, and San Diego needlegrass. These would be impacted within project-level areas as detailed on Figures 39.1 through 39.4.

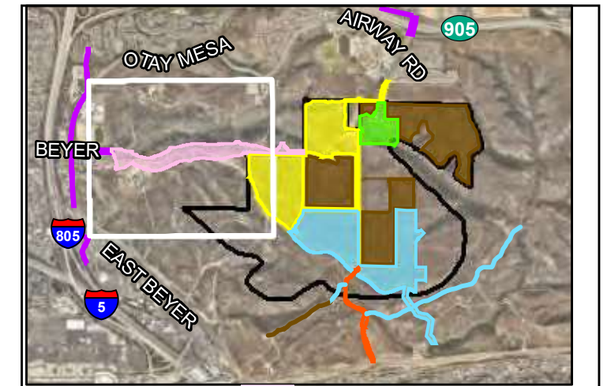
California adolphia, San Diego bur-sage, San Diego County viguiera, seaside cistanthe, cliff spurge, Palmer's grapplinghook, bobtail barley, California box-thorn, ashy spike-moss, and San Diego needlegrass were detected both within the impact area and within the survey area outside of the project-level impact limits, demonstrating that these species are abundant locally and would continue to persist in the area after impacts occur. Only south coast saltscale, western dichondra, and decumbent goldenbush were not detected within the survey area outside of the project-level impact limits. However, all of these species including south coast saltscale, western dichondra, and decumbent goldenbush are represented abundantly within the southern coastal California on eFlora (Jepson Flora Project 2023). In addition, the loss of suitable habitat within the project impact area comprises a small portion of the suitable habitat available to these species on a local level and on a regional scale; therefore, this loss of habitat outside the MHPA would not be a significant impact for these species. Therefore, the project is not expected to reduce the populations to below self-sustaining levels or not significantly increase the likelihood of any uncovered species to be listed under either the federal or state endangered species act; therefore, direct impacts are less than significant.

Graceful tarplant and small-flowered microseris were not observed but have a moderate to high potential to occur; however, these species are represented abundantly within the southern coastal California on eFlora (Jepson Flora Project 2023). In addition, the loss of suitable habitat within the project impact area comprises a small portion of the suitable habitat available to these species on a local level and on a regional scale; therefore, this loss would not be a significant impact for these species. Therefore, the project is not expected to reduce the populations of graceful tarplant and small-flowered microseris to below self-sustaining levels or not significantly increase the likelihood of any uncovered species to be listed under either the federal or state endangered species act; therefore, impacts to these species are less than significant.

No direct impacts to golden-ray pentachaeta would occur, as it is not located or expected to occur within the project-level impact area.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

- Specific Plan Boundary
- City of SD MHPA

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Sensitive Plants
- San Diego Bur-sage (*Ambrosia chenopodiifolia*)
- Ashy Spike-moss (*Selaginella cinerascens*)
- California Boxthorn (*Lycium californicum*)
- Cliff Spurge (*Euphorbia misera*)
- Otay Tarplant (*Deinandra conjugens*)
- San Diego Barrel Cactus (*Ferocactus viridescens*)
- San Diego County Viguiera (*Bahiopsis laciniata*)
- Decumbent Goldenbush (*Isocoma menziesii* var. *decumbens*)
- Palmer's Grapplinghook (*Harpagonella palmeri*)
- San Diego County Needle Grass (*Stipa diegoensis*)
- Snake Cholla (*Cylindropuntia californica* var. *californica*)
- Western Dichondra (*Dichondra occidentalis*)
- Seaside Cistanthe (*Cistanthe maritima*)
- South Coast Saltscale (*Atriplex pacifica*)

FIGURE 39.1
Impacts to Biological Resources - Sensitive Plant Species

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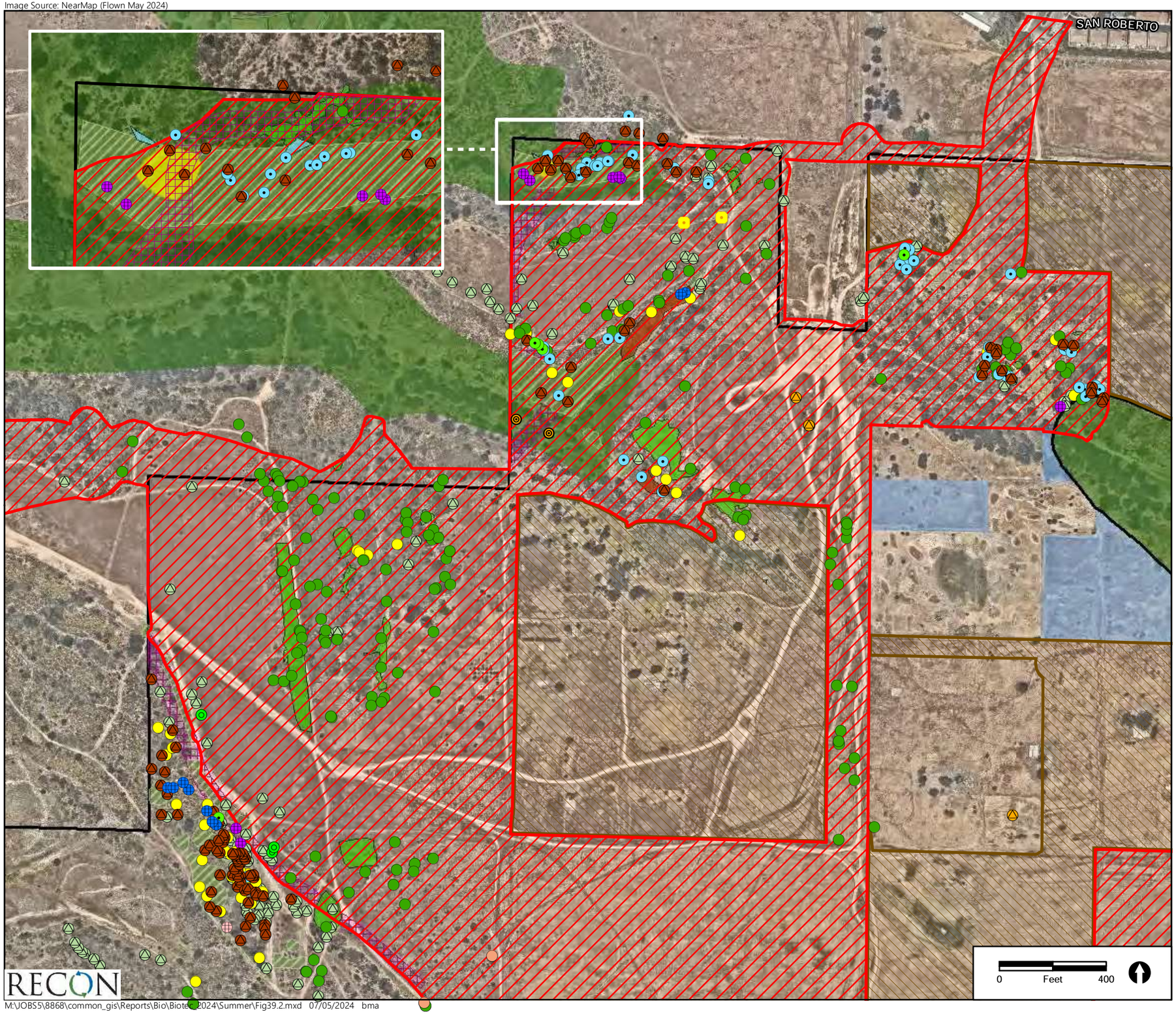
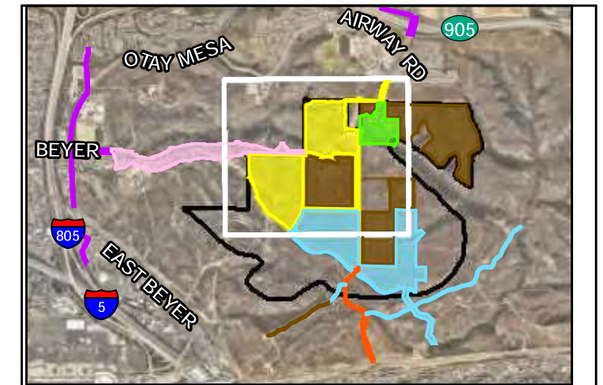
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

- Specific Plan Boundary
- City of SD MHPA
- VPHCP MHPA

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Program-level Impacts
- Phases 3-7

Sensitive Plants
- San Diego Bur-sage (*Ambrosia chenopodiifolia*)
- Ashy Spike-moss (*Selaginella cinerascens*)
- California Boxthorn (*Lycium californicum*)
- Cliff Spurge (*Euphorbia misera*)
- Otay Tarplant (*Deinandra conjugens*)
- San Diego Barrel Cactus (*Ferocactus viridescens*)
- San Diego County Viguiera (*Bahiopsis laciniata*)
- Decumbent Goldenbush (*Isocoma menziesii* var. *decumbens*)
- San Diego Button Celery (*Eryngium aristulatum* var. *parishii*)
- San Diego County Needle Grass (*Stipa diegoensis*)
- California Adolphia (*Adolphia californica*)
- Palmer's Grapplinghook (*Harpagonella palmeri*)
- Seaside Cistanthe (*Cistanthe maritima*)
- South Coast Saltscale (*Atriplex pacifica*)

FIGURE 39.2
Impacts to Biological Resources - Sensitive Plant Species

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Image Source: NearMap (Flown May 2024)

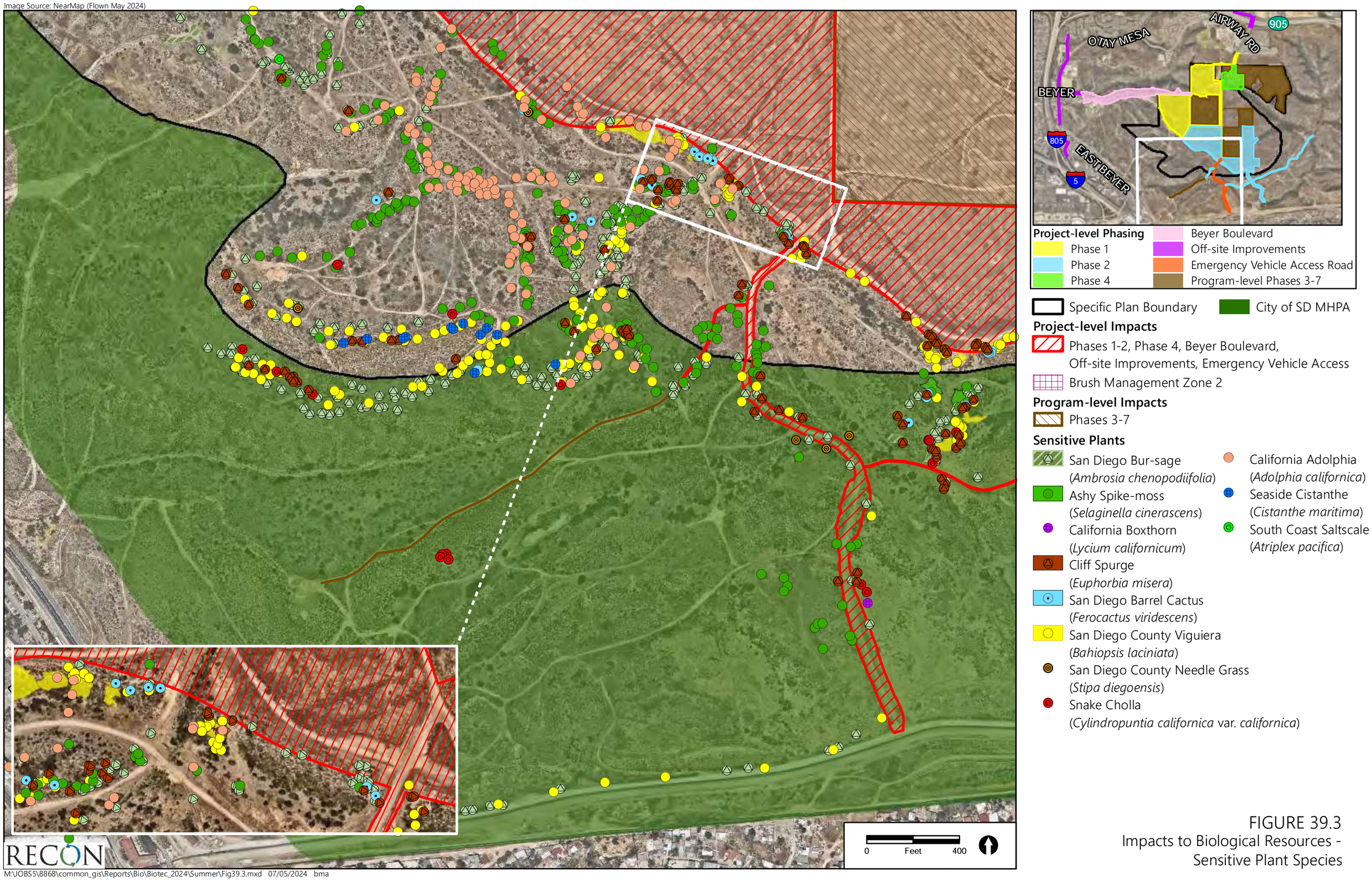

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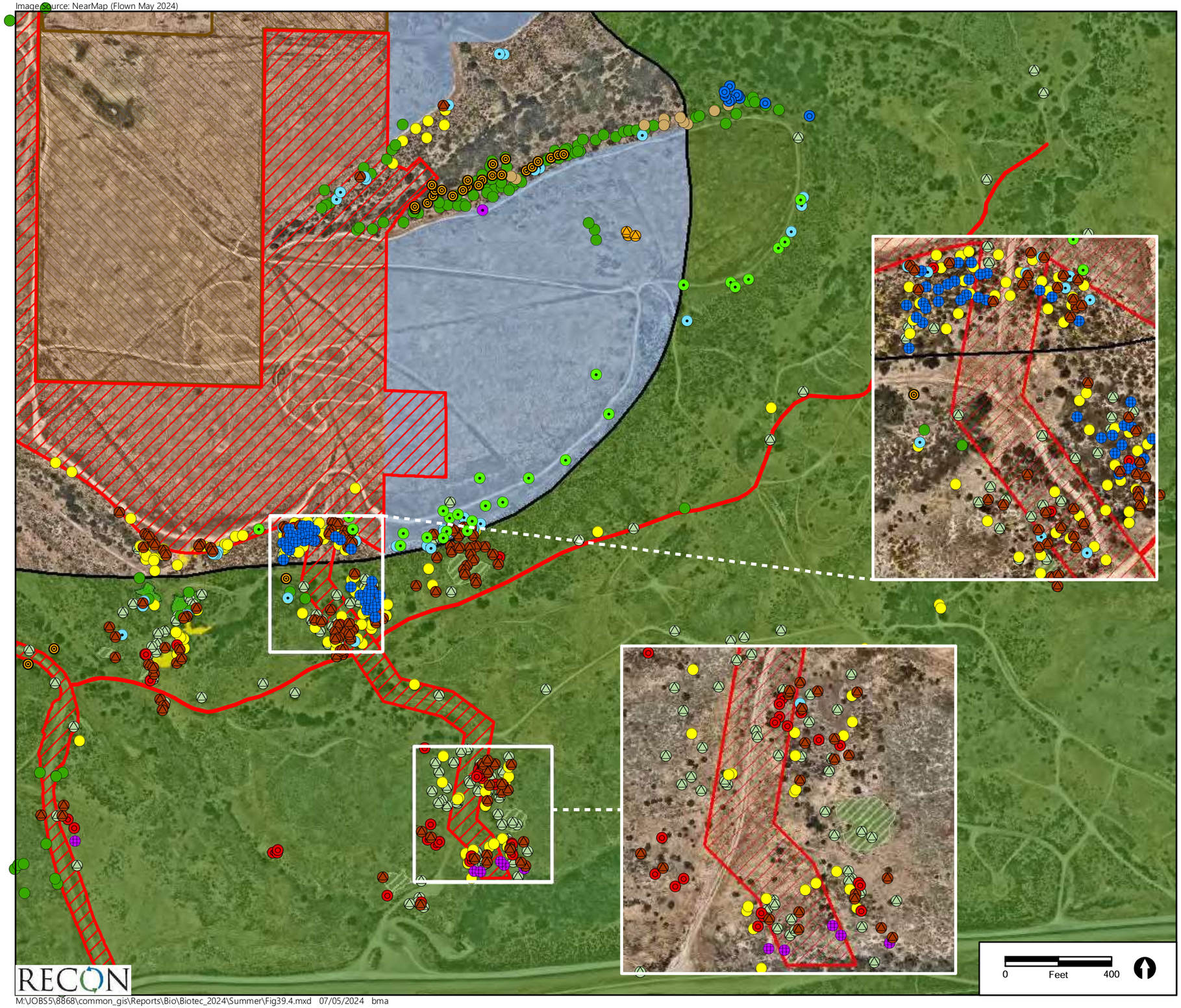
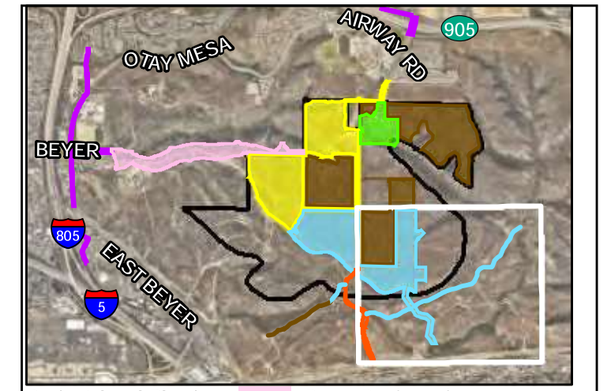
FIGURE 39.3
Impacts to Biological Resources - Sensitive Plant Species

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

VPHCP MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Program-level Impacts

Phases 3-7

Sensitive Plants
- San Diego Bur-sage (*Ambrosia chenopodiifolia*)
- Ashy Spike-moss (*Selaginella cinerascens*)
- Golden-ray Pentachaeta (*Pentachaeta aurea* ssp. *aurea*)
- San Diego County Viguiera (*Bahiopsis laciniata*)
- California Boxthorn (*Lycium californicum*)
- Cliff Spurge (*Euphorbia misera*)
- San Diego Barrel Cactus (*Ferocactus viridescens*)
- San Diego Button Celery (*Eryngium aristulatum* var. *parishii*)
- San Diego County Needle Grass (*Stipa diegoensis*)
- Snake Cholla (*Cylindropuntia californica* var. *californica*)
- Bobtail Barley (*Hordeum intercedens*)
- Palmer's Grapplinghook (*Harpagonella palmeri*)
- Seaside Cistanthe (*Cistanthe maritima*)
- Variegated Dudleya (*Dudleya variegata*)

FIGURE 39.4
Impacts to Biological Resources - Sensitive Plant Species

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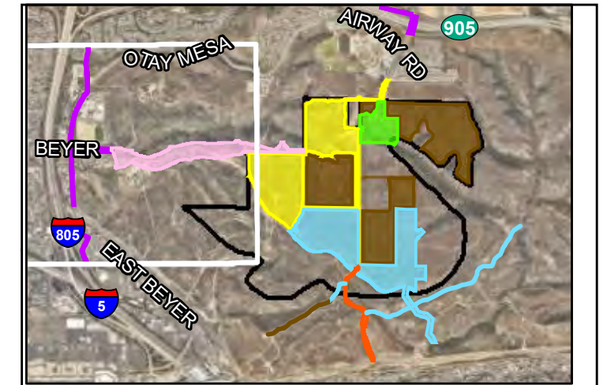
Image Source: NearMap (Flown May 2024)



Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Sensitive Plants (SanBIOS)

California Box Thorn (*Lycium californicum*)

Coast Barrel Cactus (*Ferocactus viridescens*)

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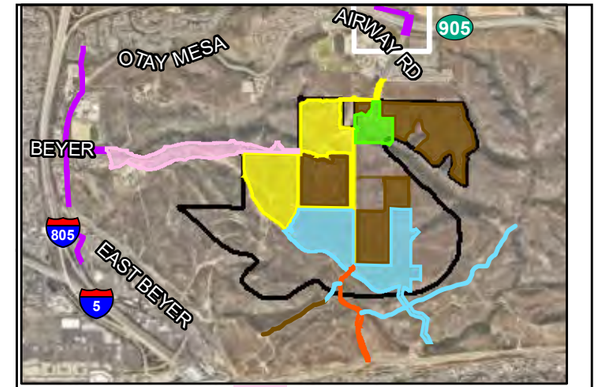
FIGURE 39.5
Impacts to Biological Resources - Sensitive Plant Species

Image Source: NearMap (Flown May 2024)



Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

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FIGURE 39.6
Impacts to Biological Resources - Sensitive Plant Species

7.1.2.3 Impacts to Sensitive Wildlife

As described in Section 5.4.2, twenty-five sensitive wildlife species were detected within the project-level analysis area including Quino checkerspot butterfly, San Diego fairy shrimp, Riverside fairy shrimp, Crotch's bumble bee, western spadefoot, coastal California gnatcatcher, orange-throated whiptail, coast horned lizard, coastal whiptail, burrowing owl, red diamond rattlesnake, two-striped gartersnake, Cooper's hawk, northern harrier, white-tailed kite, merlin, bald eagle, golden eagle, California horned lark, least Bell's vireo, yellow-breasted chat, yellow warbler, southern California rufous-crowned sparrow, grasshopper sparrow, and San Diego desert woodrat (Figure 40.1 through 40.6). Although not observed, coastal cactus wren is assumed present within the areas along the western portion of the Beyer Boulevard West alignment based on previous detections during the surveys conducted for the Beyer Park Project (RECON 2019c). Additionally, the following species were not observed but are considered to have a moderate potential to occur: Coronado skink, Bell's sage sparrow, loggerhead shrike, and southern mule deer. Potential project impacts to each of these species from construction and restoration activities are addressed below.

a. Direct Impacts to Federally Listed Wildlife Species

Quino Checkerspot Butterfly

Direct impacts to Quino checkerspot butterfly during construction grading would occur as a result of the removal of host and nectar plants (0.93 acre) within the project-level areas (see Figure 29.1). Impacts to these suitable habitat areas would be significant. Direct impacts to Quino checkerspot habitat during implementation of proposed restoration activities would be significant and would be mitigated through measures designed to map and avoid removing host and nectar plants (see Section 8.2.4.2 and Attachment 14).

San Diego and Riverside Fairy Shrimp

Impacts to San Diego and Riverside fairy shrimp within the project-level survey area are significant. All ponding basins within the project-level survey area were surveyed for fairy shrimp between the years 2018 and 2020, including wet and dry season surveys. Jurisdictional resources found to contain fairy shrimp based on focused surveys are detailed in Table 9. As shown, a total of 0.90 acre with Candlelight area impacts and 0.63 acre without Candlelight area impacts of vernal pool and disturbed wetland surface area was found to contain fairy shrimp based on survey results. Of the 0.90-acre occupied ponding basins, all support San Diego fairy shrimp and two basins totaling 0.20 acre supports both San Diego and Riverside fairy shrimp. For purposes of this analysis and due to the age of surveys, all ponding basins are assumed to contain San Diego fairy shrimp. There is a low likelihood of Riverside fairy shrimp to be present in additional project-level ponding basins due to the longer ponding requirements for this species; thus, the direct impact to this species is assumed to be limited to the 0.20 acre of vernal pool surface area. Therefore, assuming occupancy of all basins with San Diego fairy shrimp, the project-level areas would result in a significant direct impact to 1.21 acres with Candlelight area impacts or 0.94 acre without Candlelight area impacts of San Diego fairy shrimp, of which 0.20 acre also supports Riverside fairy shrimp. Whichever project proceeds first (i.e., Southwest Village or Candlelight) would result in the impacts to the Candlelight

area, and would therefore be responsible for mitigating the impact to San Diego and Riverside fairy shrimp in that area.

Direct impacts to San Diego fairy shrimp could occur during trail restoration and vernal pool mitigation activities, which would be significant.

Table 9
Resources within the Project-level Areas Containing Fairy Shrimp Based on Survey Results

Area	Disturbed Wetland		Vernal Pools		Total
	With Fairy Shrimp	Without Fairy Shrimp	With Fairy Shrimp	Without Fairy Shrimp	
Phase 1					
Candlelight[1]	0.23	-	0.04	-	0.27
Southwind[1]	-	-	0.01	0.02	0.04
Development	0.03	0.04	0.51[2]	0.12	0.70
Subtotal Phase 1	*0.26*	*0.04*	*0.56*	*0.15*	*1.00*
Phase 2 Development	-	0.04	0.05	0.07	0.16
Beyer Boulevard West					
Furby North	<0.01	-	0.01	-	0.01
West Otay Mesa A	-	<0.01	-	0.02	0.02
Subtotal Beyer Boulevard West	*<0.01*	*<0.01*	*0.01*	*0.02*	*0.03*
Phase 4	-	-	<0.01	-	<0.01
EVA Road	-	-	0.02	-	0.02
Total Direct Impacts with Candlelight	*0.26*	*0.08*	*0.64*	*0.23*	*1.21*
Total Direct Impacts without Candlelight[1]	0.03	0.08	0.60	0.23	0.94

NOTE: Totals may not add due to rounding.
[1]Whichever project proceeds first (i.e., Southwest Village or Candlelight) would result in the impacts to the Candlelight area, and would therefore be responsible for mitigating the impact to San Diego and Riverside fairy shrimp in that area.
[2]Two basins in Phase 1 contains both Riverside fairy shrimp and San Diego fairy shrimp totaling 0.20 acre. All other resources with shrimp contained San Diego fairy shrimp only.

Bald Eagle and Golden Eagle

One bald eagle was observed passing through the site. No direct impacts to bald eagle are anticipated as the project-level area lacks suitable nesting habitat for this species (tall trees and cliffs), and potential foraging habitat surrounding the project-level area will be conserved.

One golden eagle juvenile was observed incidentally during a Quino checkerspot butterfly survey in April 2022. This lone bird was observed flying over the disturbed land and non-native grassland within Phase 1 and has not been observed in subsequent surveys. No direct impacts to golden eagle are anticipated as the project-level area lacks suitable nesting habitat for this species (tall trees and cliffs), and potential foraging habitat surrounding the project-level area will be conserved.

Least Bell's Vireo

Impacts to federally and state listed endangered, MSCP-covered least Bell's vireo would occur within the western portion of the proposed Beyer Boulevard West extension in the area of mule fat scrub habitat if construction were to occur near a nesting site. Direct impacts to least Bell's vireo individuals

during construction would be significant and would require implementation of ASMDs detailed in Section 6.2.1.2.g and mitigation as described in Section 8.2.4.4. Significant direct impacts would also result from removal of approximately 0.28 acre of available foraging and nesting habitat outside of the MHPA for which habitat-based compensatory mitigation would be required as described in Section 8.2.5.

Least Bell's vireo was also detected by vocalization within the mule fat scrub within and surrounding Spring Canyon, outside of the project impact limits, where restoration activities are proposed. Direct impacts to least Bell's vireo individuals during any restoration activities would be significant and would require mitigation. Mitigation measures are provided in Section 8.2.4.4 and included in the Wetland Plan (see Attachment 18). Specifically, the mitigation measure and Wetland Plan require that any removal of habitat that supports active nests in the mitigation area should occur outside the breeding season (February 1 to September 15) for identified as a listed, candidate, sensitive, or special status species in the MSCP.

Coastal California Gnatcatcher

Impacts to nesting and foraging habitat for the coastal California gnatcatcher would result from the removal of coastal sage scrub and maritime succulent scrubs habitats as part of project grading. Significant direct impacts would result from removal of approximately 27.25 acres of available foraging and nesting habitat within the MHPA (including 100% conservation and VPHCP lands) for which habitat-based compensatory mitigation would be required. Habitat-based compensatory mitigation is described in Section 8.2.2. In addition, implementation of ASMDs would be required as detailed in Section 6.2.1.2.g.

Direct impacts to coastal California gnatcatcher individuals outside of the MHPA are covered by MSCP and do not require specific avoidance or minimization measures during construction. Direct impacts to coastal California gnatcatcher individuals within MHPA are subject to breeding season restrictions as described in Section 6.2.1.2.d.

b. Direct Impacts to California Fully Protected Wildlife Species

White-Tailed kite

White-tailed kite has a potential to nest within the trees found in mule fat scrub, southern willow scrub, tamarisk woodland, disturbed riparian, and eucalyptus woodland. Direct impacts to nesting individuals would be significant. Significant impacts to California fully protected white-tailed kite would also result from the removal of 190 acres of foraging habitat within the project-level survey area. Habitat-based preservation and nesting avoidance would mitigate project impacts, as specified in Sections 8.2.2 and 8.2.4.9. Any loss of non-native grassland through restoration activities such as in the vernal pool preserve or conservation easement replacement lands would be less than significant considering the habitat would continue to provide foraging opportunities for this species.

c. Direct Impacts to CDFW Candidate for Listing Species

Crotch's Bumble Bee

Crotch's bumble bee is a State candidate for listing as endangered and was observed within the mitigation lands in the southern portion of the project-level survey areas during habitat assessments conducted during the spring of 2024 (see Figure 29.2). Crotch's bumble bee is a generalist species and much of the project-level analysis area is potentially suitable for foraging and nesting. Approximately 190 acres of suitable nesting and foraging habitat is present within the project-level analysis area, 42 acres of which supports moderate to high cover of nectar resources. Direct impacts to this species and foraging and nesting habitat from construction and restoration activities would be significant and require mitigation, as specified in Section 8.2.4.8.

Burrowing Owl

One incidental sighting of burrowing owl occurred during focused Quino checkerspot butterfly surveys; however, no burrows suitable for nesting or ground squirrel activity were observed within the project-level survey areas during subsequent focused survey efforts and the project site is not currently occupied by burrowing owls. The site has a moderate potential to support burrowing owl.

Due to the moderate potential for burrowing owl to colonize and nest at the site prior to construction, direct impacts to burrowing owl could occur during construction if burrowing owl were to take up residence, resulting in a significant impact to this species. Pre-construction burrowing owl surveys would be required consistent with the OMCP FEIR Mitigation Framework BIO-2, as further specified in Section 8.2.4.6. If detected, a translocation plan will be required for any owls discovered within the impact area prior to or during construction, with coordination and the approval of the Wildlife Agencies, EAS, and MSCP.

Additionally, although the project would not result in impacts to known burrows, the project includes the incorporation of a berm with artificial burrows as a project design feature within the vernal pool and Quino checkerspot butterfly restoration areas as detailed in Section 1.3.2.6.b and Attachment 14.

Grading and development would remove non-native grassland that is potentially utilized as foraging habitat by burrowing owl. Impacts to burrowing owl related to loss of 103.77 acres of potential foraging habitat are significant and would be mitigated via habitat-based mitigation as described in Section 8.2.2. Any loss of non-native grassland through restoration activities such as in the vernal pool preserve or conservation easement replacement lands would be less than significant considering the habitat would continue to provide foraging opportunities for this species. In addition, implementation of ASMDs would be required as detailed in Section 6.2.1.2.g.

d. Direct Impacts to MSCP-Covered Wildlife Species

Coastal Cactus Wren

Direct impacts to coastal cactus wren individuals are possible as this species is assumed present along the western portion of Beyer Boulevard West. Although the cactus wren habitat in the area

of impact is overgrown which reduces suitability for the species, coastal cactus wren was assumed to have a high potential to nest in the maritime succulent scrub within the western extent of the Beyer Boulevard West phase due to the presence of large cholla thickets and the previous observations made in 2017 (RECON 2019c). Direct impacts to nesting individuals would be significant. The project would impact 0.63 acre of maritime succulent scrub habitat dominated by large coast cholla. Impacts to any individual wrens and their habitat would be a significant impact to the species. The project would provide habitat restoration mitigation as described in Section 8.2.4.7 and Attachment 13. In addition, implementation of ASMDs would be required as detailed in Section 6.2.1.2.g.

The project also would impact potential foraging habitat for this species, consisting of approximately 20 acres of coastal sage scrub and maritime succulent scrub in the vicinity of the Beyer Boulevard West project component, which would be significant. Habitat-based mitigation would be provided, as detailed in Section 8.2.2.

Orange-Throated Whiptail and Coast Horned Lizard

Direct impacts to orange-throated whiptail and coast horned lizard are anticipated through potential incidental mortality during construction and removal of suitable habitat within the project impact areas within all phases and restoration. However, these are mobile species and likely occur on-site in low numbers, and the project would be expected to result in the loss of very few individuals, if any. These species are also adequately covered by the MSCP with habitat conserved in the MHPA. Suitable habitat within the project impact area comprises a small fraction of the habitat available to this species both at a local level and on a regional scale. In addition, implementation of ASMDs would be required as detailed in Section 6.2.1.2.g. Therefore, the potential loss of these individuals would not reduce their populations to less than self-sustaining and would not be significant.

Cooper's Hawk

Cooper's hawk has a moderate potential to nest within the eucalyptus woodland, southern willow scrub, and mule fat scrub within the Phase 1 and Phase 4 project impact areas. Direct impact to nesting individuals would be significant. Establishment of the 300-foot impact avoidance area identified within the MSCP ASMDs as detailed in Section 6.2.1.2.g would be required as a project condition of approval.

Cooper's hawk also has potential to forage within approximately 190 acres of the impacted project-level area, consisting of maritime succulent scrub, Diegan coastal sage scrub, non-native grassland, mule fat scrub, southern willow scrub, tamarisk scrub, disturbed riparian, and disturbed land. Project impacts to approximately 190 acres of sensitive Cooper's hawk foraging habitat would be significant. The project would provide habitat-based mitigation as described in Section 8.2.2.

Any loss of foraging habitat through restoration activities such as in the vernal pool preserve or conservation easement replacement lands would be less than significant considering the habitat would continue to provide foraging opportunities for this species.

Northern Harrier

Northern harrier has a high potential to nest within the non-native grassland within the project-level analysis area. Direct impact to nesting individuals would be significant. Establishment of the 900-foot impact avoidance area identified within the MSCP ASMDs as detailed in Section 6.2.1.2.g would be required as a project condition of approval.

Northern harrier also has potential to forage within approximately 190 acres of the impacted project-level area, consisting of maritime succulent scrub, Diegan coastal sage scrub, non-native grassland, mule fat scrub, southern willow scrub, tamarisk scrub, disturbed riparian, and disturbed land. Project impacts to approximately 190 acres of northern harrier sensitive foraging would be significant. The project would provide habitat-based mitigation as described in Section 8.2.2. Any loss of foraging habitat through restoration activities such as in the vernal pool preserve or conservation easement replacement lands would be less than significant considering the habitat would continue to provide foraging opportunities for this species.

Other MSCP Covered Species

Southern California rufous-crowned sparrow has a high potential to nest and forage within the non-native grassland, maritime succulent scrub, and Diegan coastal sage scrub in project-level impact areas. Direct impact to nesting individuals and approximately 190 acres of foraging habitat would be significant. The project would be providing habitat-based compensatory mitigation is described in Section 8.2.2. Any loss of foraging habitat through restoration activities such as in the vernal pool preserve or conservation easement replacement lands would be less than significant considering the habitat would continue to provide foraging opportunities for this species.

Southern mule deer have a moderate potential to occur within the project areas, based on presence of suitable habitat; however, no sign of this species has been made during surveys conducted, including the wildlife movement study (see Attachment 2). Suitable habitat within the project impact area comprises a small fraction of the habitat available to this species both at a local level and on a regional scale. Therefore, any potential impact, if present, would not reduce their populations to less than self-sustaining and would not be significant.

e. Direct Impacts to Sensitive Non-Covered Wildlife Species

Western Spadefoot

Direct impacts to western spadefoot toad are anticipated through potential incidental mortality of adults and/or larvae (tadpoles) during construction activities due to the presence of suitable breeding habitat. Assuming that all disturbed wetlands and vernal pools proposed for direct and indirect impact support this species, there is a potential impact to 1.33 acres of habitat for this species. Impacts to this species would be significant.

Restoration and enhancement efforts within the vernal pool restoration area and within the trail restoration buffer could result in direct impacts to western spadefoot which would be significant. Mitigation as noted in Section 8.2.4.3 includes a monitoring component for the species during construction and restoration.

Yellow-Breasted Chat and Yellow Warbler

Yellow-breasted chat and yellow warbler were observed within the survey area, but not within the project impact area. These species have moderate potential to nest within the southern willow scrub and mule fat scrub habitats of the project impact area within the Beyer Boulevard West and Caliente Avenue footprints. The project impacts to approximately 0.77 acre of yellow-breasted chat and yellow warbler habitat and nesting would be potentially significant. The project would be providing habitat-based compensatory mitigation is described in Section 8.2.5. Additionally, compliance with MBTA and California Fish and Game Codes 3503 and 3503.3 would ensure none of these species are directly impacted during grading, restoration, or construction activities.

Coastal whiptail, Red Diamond Rattlesnake, Two-Striped Garter Snake, Coronado Skink, and San Diego Desert Woodrat

Direct impacts to coastal whiptail, red diamond rattlesnake, two-striped garter snake, Coronado skink, and San Diego desert woodrat through incidental mortality during construction and restoration activities and removal of suitable habitat are anticipated. However, these are mobile species and likely occur within the project-level area in low numbers, resulting in the loss of very few individuals, if any. Therefore, the potential loss of these individuals would not be significant. Impacts to approximately 190 acres of suitable habitat within the project-level impact area consisting of maritime succulent scrub, disturbed maritime scrub, Diego coastal sage scrub, disturbed coastal sage scrub, non-native grassland, and vernal pool habitats comprises a small fraction of the habitat available to these species on a regional scale. Additionally, as detailed in Table 10, 169.94 acres of habitat mitigation (which includes upland, wetland, and disturbed lands) in addition to approximately 36 acres of land associated with the Otay tarplant/native grassland, vernal pool and Quino checkerspot butterfly, and wetland plans, would be dedicated to the City for long-term management in areas south and southeast of the impact location, ensuring adequate habitat availability for these species. In addition, there are several project design features that include habitat restoration of approximately 17 acres, i.e., trail restoration and wetland plan areas, that would provide additional habitat for these species. Any loss of habitat through restoration activities such as in the vernal pool preserve would be less than significant considering the restored habitat would continue to provide foraging opportunities for this species. Therefore, loss of habitat within the project-level area would be less than significant for these species.

Merlin, California Horned Lark, Bell's Sage Sparrow, Loggerhead Shrike, and Grasshopper Sparrow

These species either occur or have a potential to occur within various habitats within the project-level areas. Direct impacts to nesting individuals would be significant.

Foraging habitat for all of these species would be impacted. Suitable habitat within the project impact area comprises a small fraction of the habitat available to this species both at a local level and on a regional scale. Therefore, the loss of foraging habitat would not reduce any of their populations to less than self-sustaining and would be less than significant for these species.

f. Restoration Activity Impacts to Sensitive Wildlife Species

Potential impacts to individual species from restoration activities are discussed above. Potential use of each of the proposed restoration and mitigation areas as foraging habitat for avian/raptor, invertebrate, amphibians, reptile, and mammal species, would be ongoing after completion of the restoration activities, and therefore impacts on foraging habitat from restoration activities would be less than significant.

7.1.2.4 Impacts to Jurisdictional Resources with Potential to be Jurisdictional

a. Jurisdictional Resources

USACE, CDFW, RWQCB, and City jurisdictional resources are regulated by the federal, state, and local governments under a no-net-loss policy, and all impacts are significant and need to be avoided to the greatest extent possible. Direct impacts to the potential wetlands (mule fat scrub, southern willow scrub, disturbed southern willow scrub, disturbed riparian and disturbed wetlands), vernal pools, and natural flood channels (non-wetland waters/streambed), within the project-level areas are reported in Tables 11a–11f and the location of impacts are presented in Figures 41.1 through 43.7. Direct impacts to jurisdictional resources would be addressed through applicable permitting through USACE, CDFW, and RWQCB.

As detailed in Section 2.2, the project-level area includes portions of the previously entitled Candlelight project and the planned Southwind project. As the timing of project implementation is not known, the project-level analysis evaluates jurisdictional impacts within those project sites. The first project to proceed would implement required mitigation. The location of the Candlelight, Southwind, and overlapping areas of the project-level analysis areas in relation to jurisdictional resources is depicted on Figure 44.

Table 10 Mitigation and Project Design Feature Summary[1]										
Vegetation Communities	Cactus Wren Restoration Area	Upland Mitigation[2]	Otay Tarplant/ Native Grassland Restoration Area	Vernal Pool/ Quino Checkerspot Butterfly Restoration Area	Wetland Plan Mitigation[3]	Wetland Plan Project Design Features[5]	Additional Potential Habitat Preservation (Project Design)	Trail Restoration Area (Project Design)[4]	Furby North Replacement Land	Total
Maritime Succulent Scrub	0.72	89.94	-	0.94	-	-	43.35	2.18	7.80	144.93
Disturbed Maritime Succulent Scrub	1.82	24.82	-	-	-	0.76	24.59	1.86	-	53.85
Diegan Coastal Sage Scrub	-	24.93	-	4.52	-	0.03	13.66	0.41	-	43.55
Disturbed Coastal Sage Scrub	-	2.36	-	-	-	-	0.92	-	-	3.28
Non-native Grassland	-	18.89	0.93	26.13	0.75	0.44	6.16	6.02	-	59.32
Mule Fat Scrub	-		-	-	-	1.93	-	-	-	1.93
Natural Flood Channel	-	0.34	-	-	0.14	0.63	0.20	-	-	1.31
Southern Willow Scrub	-	-	-	-		0.21	-	-	-	0.21
Tamarisk Scrub	-	0.46	-	-	0.53	0.64	-	0.08	-	1.71
Disturbed Wetland	-	0.30	-	-	-	-	0.07	0.44	0.06	0.87
Vernal Pool	-	0.02	-	0.03	-	-	-	-	-	0.05
Vernal Pool with Fairy Shrimp	-	0.76	-	0.03	-	-	0.16	0.09	-	1.04
Disturbed Land	-	7.12	0.03	2.06	0.02	0.03	6.19	1.10	0.11	16.66
Total	**2.54**	**169.94**	**0.96**	**33.71**	**1.45**	**4.66**	**95.29**	**12.18**	**7.98**	**328.71**

NOTE: Totals may not add due to rounding; Refer to Figure 51

[1]All areas detailed above would be dedicated to the City of San Diego for long-term management except the Cactus Wren Mitigation Area would remain in County of San Diego ownership and would be managed by the County of San Diego. The Furby North Replacement Lands would be conveyed to the County in fee title and managed by the City consistent with the City's MSCP Subarea Plan (see Figure 52).

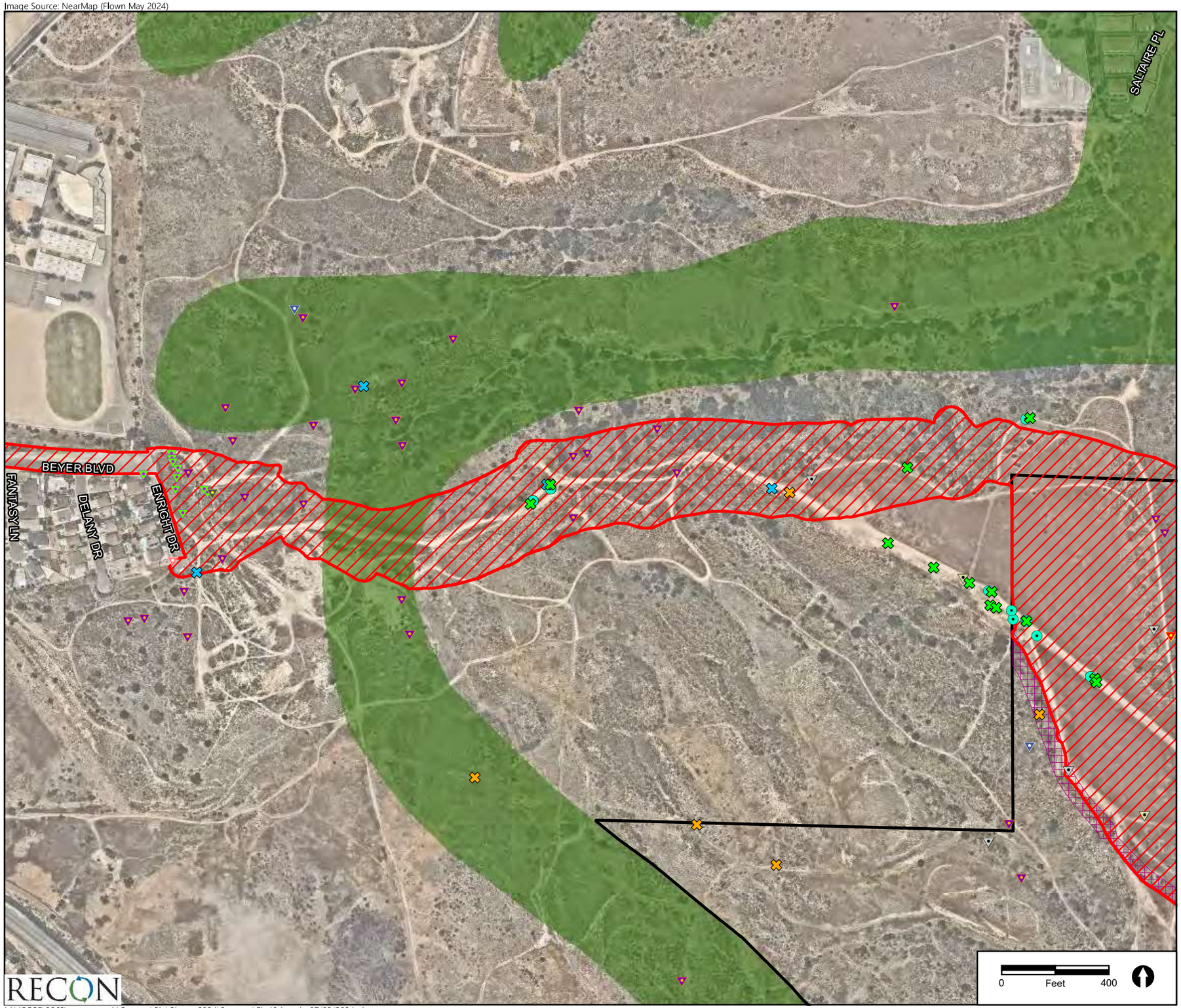
[2]The upland mitigation acreage reported includes disturbed land and wetland vegetation communities not proposed as uplands mitigation. Of the 169.94-acre upland mitigation area, a total of 153.23 acres of upland mitigation is provided to meet the mitigation requirements for impacts to sensitive upland vegetation communities (refer to Table 15a).

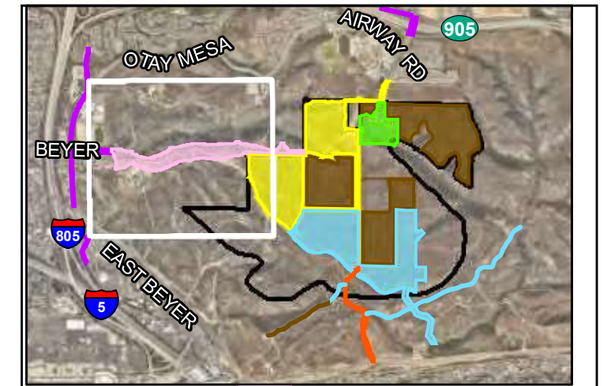
[3]Total proposed wetland mitigation as presented in the Southwest Village Wetland Plan is reported here (see Table 3 in Attachment 18). A portion of the Southwest Village wetland creation mitigation requirements will be implemented within the Nakano Wetland Plan (RECON 2024f). The Southwest Village Wetland Plan would require implementation of the 3.46-acre Nakano Plan area prior to implementation of the Southwest Village Plan area due to its upstream location. The first project to proceed would implement all components of the Nakano Plan.

[4]Disturbed land, non-native grasslands and disturbed uplands habitats within the Trail Restoration Area would be restored to Diegan coastal sage scrub or maritime succulent scrub habitat to support trail closures.

[5]Total proposed project design components as presented in the Southwest Village Wetland Plan is reported here (see Table 3 in Attachment 18). This includes an approximate 1.20 acre area of weed control and an additional 3.46-acre area associated with the Nakano Wetland Plan. The Southwest Village Wetland Plan would require implementation of the 3.46-acre Nakano Plan area prior to implementation of the Southwest Village Plan area due to its upstream location. The first project to proceed would implement all components of the Nakano Plan.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Sensitive Animals

Birds

- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- California Horned Lark (*Eremophila alpestris actia*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Cooper's Hawk (*Accipiter cooperii*)
- Northern Harrier (*Circus hudsonius*)
- (Yellow-breasted Chat (*Icteria virens*)

Reptiles and Amphibians

- Orange-throated Whiptail (*Aspidoscelis hyperythra*)
- Coast Horned Lizard (*Phrynosoma blainvillii*)
- Western Spadefoot (*Spea hammondii*)

Crustaceans

- San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

FIGURE 40.1
Impacts to Biological Resources - Sensitive Animal Species

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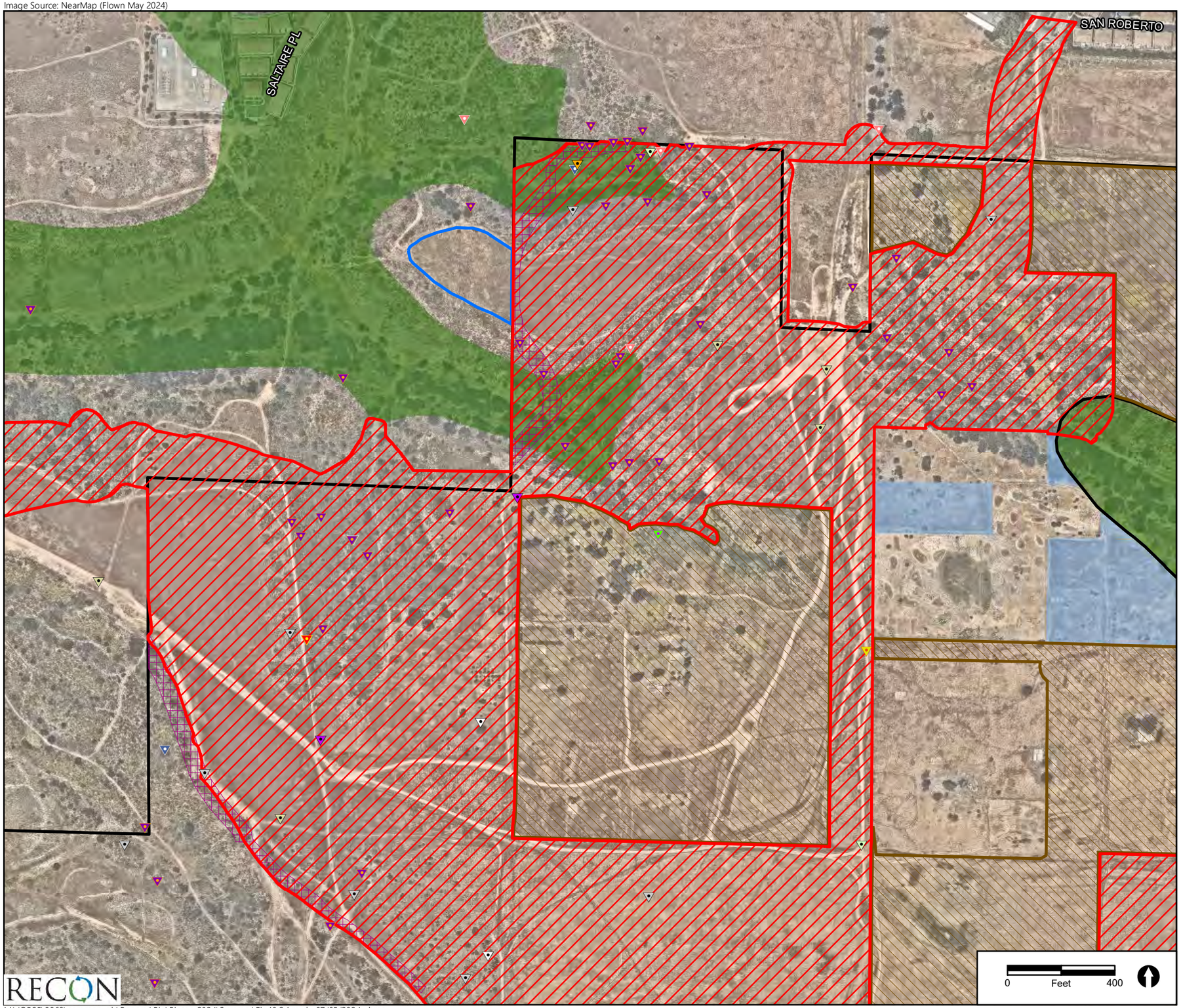
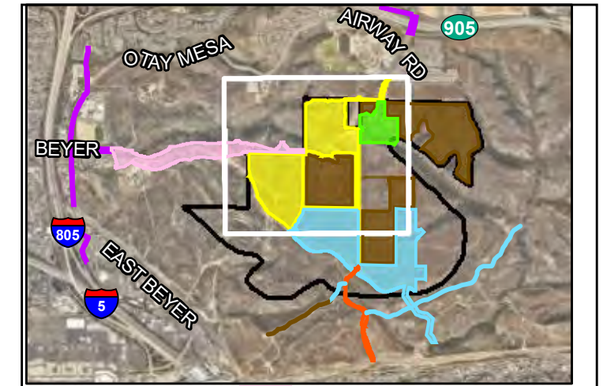
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary
City of SD MHPA
VPHCP MHPA

Project-level Impacts
Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
Brush Management Zone 2

Program-level Impacts
Phases 3-7

Sensitive Animals

Birds
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- California Horned Lark (*Eremophila alpestris actia*)
- Golden Eagle (*Aquila chrysaetos*)
- Cooper's Hawk (*Accipiter cooperii*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Northern Harrier (*Circus hudsonius*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Burrowing Owl (*Athene cunicularia*)
- Merlin (*Falco columbarius*)
- White-tailed Kite (*Elanus leucurus*)

FIGURE 40.2.1
Impacts to Biological Resources - Sensitive Animal Species

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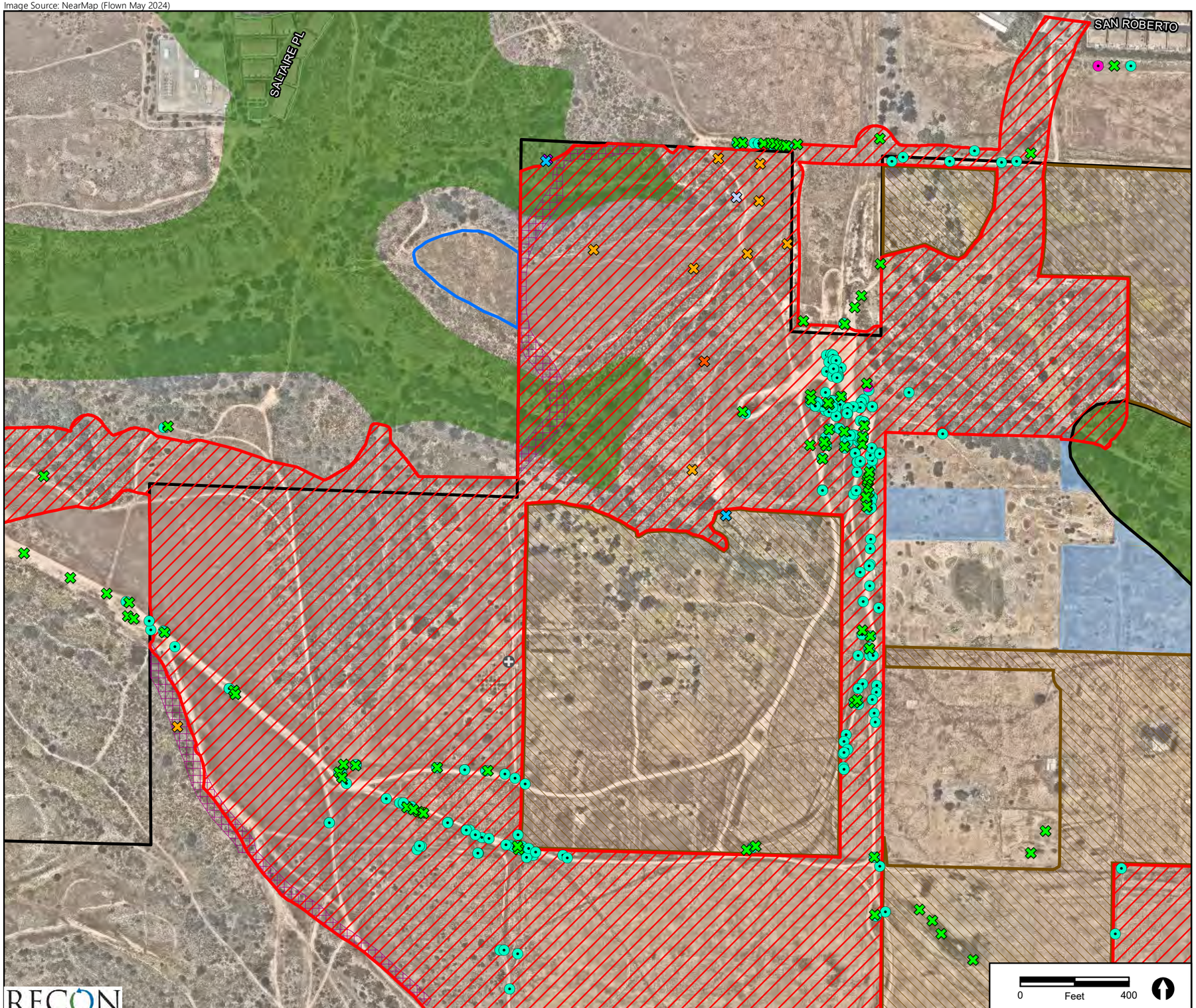
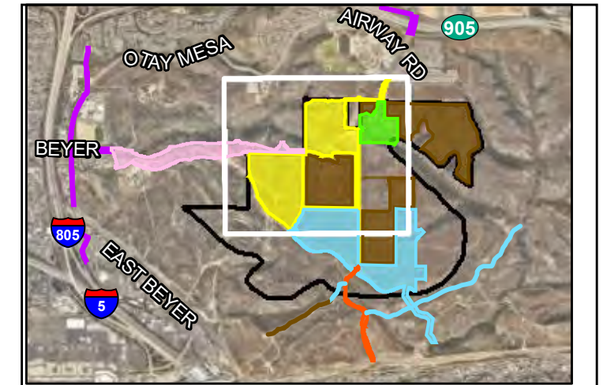
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

VPHCP MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Program-level Impacts

Phases 3-7

Sensitive Animals

Mammals

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

Reptiles and Amphibians

Orange-throated Whiptail (*Aspidoscelis hyperythra*)

Red Diamond Rattlesnake (*Crotalus ruber*)

Two-striped Garter Snake (*Thamnophis hammondii*)

Coronado Skink (*Plestiodon skiltonianus interparietalis*)

Coastal Whiptail (*Aspidoscelis tigris steinegeri*)

Coast Horned Lizard (*Phrynosoma blainvillii*)

Western Spadefoot (*Spea hammondii*)

Crustaceans

Riverside Fairy Shrimp (*Streptocephalus woottoni*)

San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

FIGURE 40.2.2

Impacts to Biological Resources - Sensitive Animal Species

RECON

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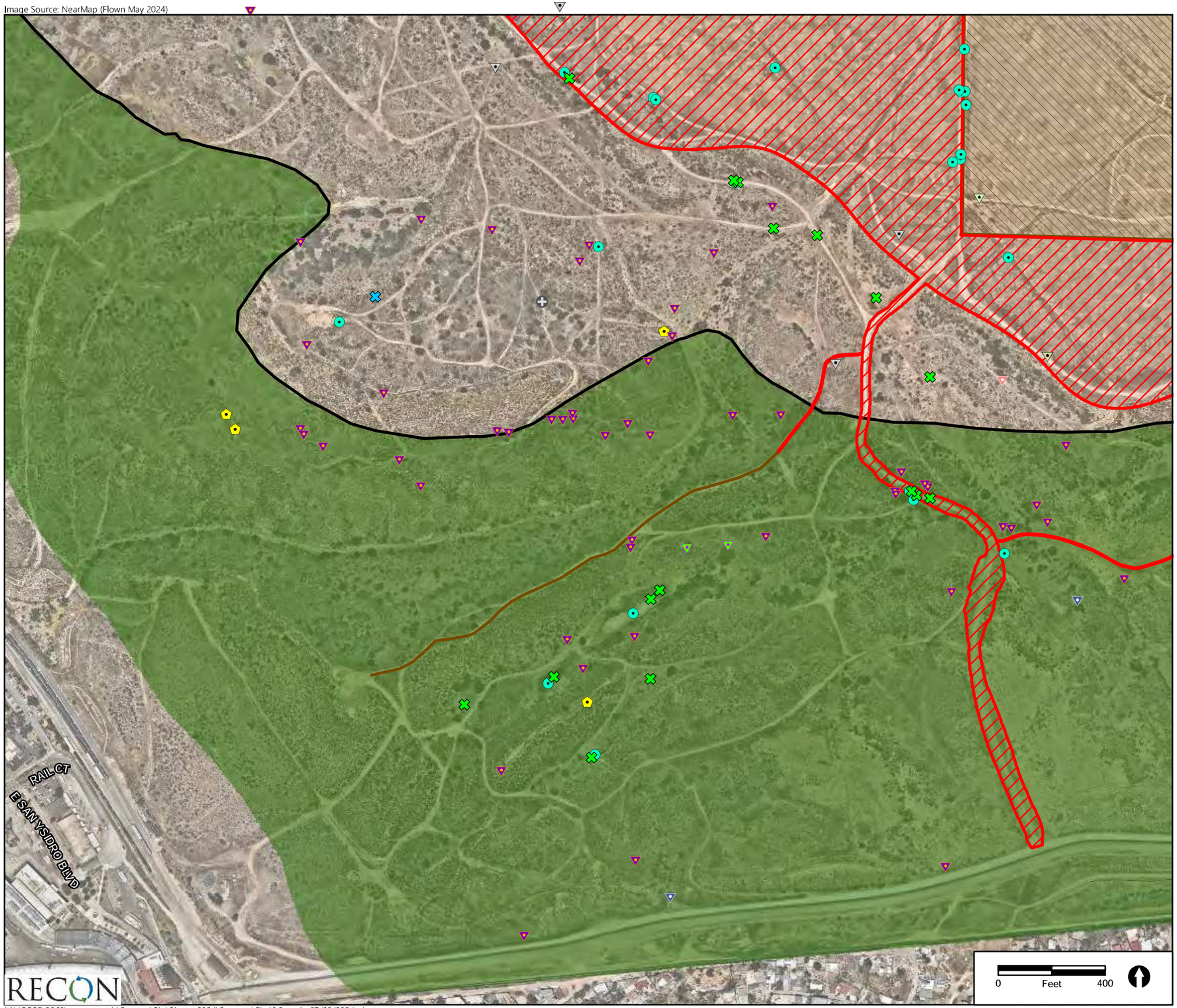
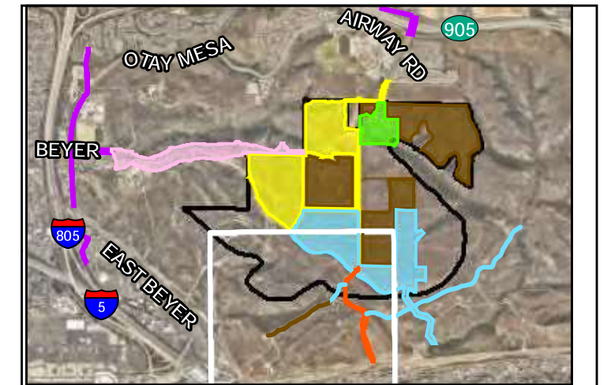
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Program-level Impacts

Phases 3-7

Sensitive Animals

Birds
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- Cooper's Hawk (*Accipiter cooperii*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- California Horned Lark (*Eremophila alpestris actia*)
- Northern Harrier (*Circus hudsonius*)

Mammals
- San Diego Desert Woodrat (*Neotoma lepida intermedia*)

Reptiles and Amphibians
- Orange-throated Whiptail (*Aspidoscelis hyperythra*)
- Western Spadefoot (*Spea hammondii*)

Insects
- Crotch's Bumble Bee (*Bombus crotchii*)

Crustaceans
- San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

FIGURE 40.3
Impacts to Biological Resources - Sensitive Animal Species

RECON

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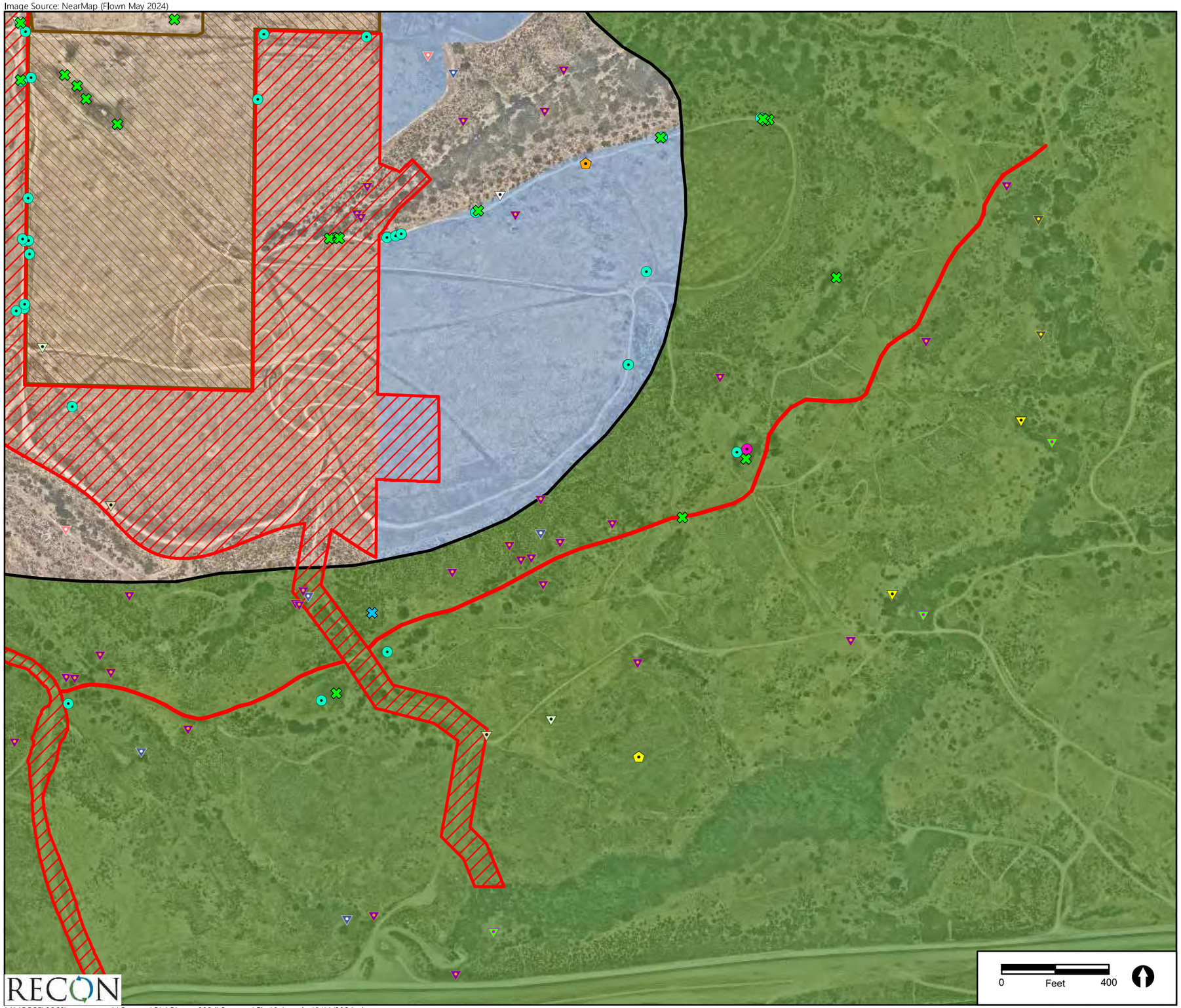
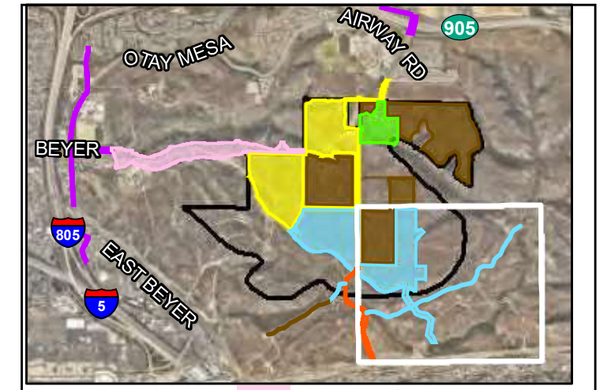
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

VPHCP MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Program-level Impacts

Phases 3-7

Sensitive Animals

Birds
- Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- California Horned Lark (*Eremophila alpestris actia*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Cooper's Hawk (*Accipiter cooperii*)
- White-tailed Kite (*Elanus leucurus*)
- Yellow Warbler (*Setophaga petechia*)
- (Yellow-breasted Chat (*Icteria virens*)

Reptiles and Amphibians
- Orange-throated Whiptail (*Aspidoscelis hyperythra*)
- Western Spadefoot (*Spea hammondii*)

Insects
- Crotch's Bumble Bee (*Bombus crotchii*)
- Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Crustaceans
- Riverside Fairy Shrimp (*Streptocephalus woottoni*)
- San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

FIGURE 40.4
Impacts to Biological Resources - Sensitive Animal Species

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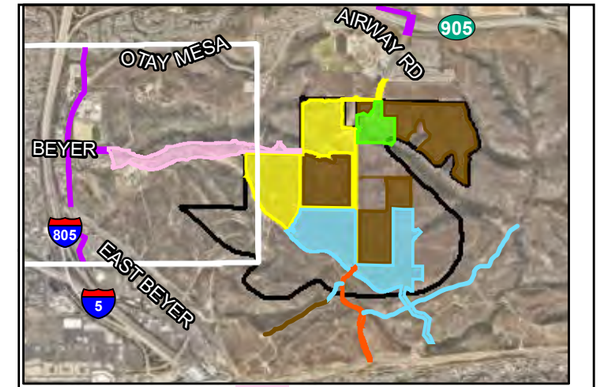
Image Source: NearMap (Flown May 2024)



Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

City of SD MHPA

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Sensitive Animals (SanBIOS)

California Gnatcatcher (*Polioptila californica*)

San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*)

White Tailed Kite (*Elanus leucurus majusculus*)

Yellow-breasted Chat (*Icteria virens*)

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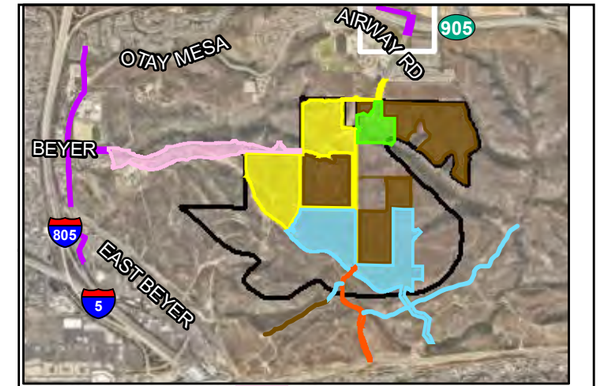
FIGURE 40.5
Impacts to Biological Resources - Sensitive Animal Species

Image Source: NearMap (Flown May 2024)



Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

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FIGURE 40.6
Impacts to Biological Resources - Sensitive Animal Species

Table 11a Summary of Impacts to Potential Jurisdictional Resources within the Project-level Survey Areas (acres)						
Jurisdictional Resource	Phase 1[1]	Phase 2	Beyer Boulevard West	Phase 4	Emergency Vehicle Access Road	Total Impacts
Waters of the U.S. – USACE						
Non-wetland Waters						
Ephemeral Stream Channel (Non-vegetated Channel)	0.14	0.06	0.07	0.17	-	0.44
Subtotal Non-wetland Waters	*0.14*	*0.06*	*0.07*	*0.17*	-	*0.44*
Wetland Waters						
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	0.50	0.04	<0.01 (19 sq ft)	-	-	0.54
Vernal Pools	0.15	0.07	0.02	-	-	0.23
Vernal Pools with Fairy Shrimp	0.56	0.05	0.01	<0.01 (35 sq ft)	0.02	0.64
Subtotal Wetland Waters	*1.21*	*0.16*	*0.03*	*<0.01*	*0.02*	*1.41*
Total Potentially Jurisdictional Area	**1.35**	**0.21**	**0.10**	**0.17**	**0.02**	**1.85**
Waters of the U.S. – CDFW						
Non-wetland Waters/Streambed						
Ephemeral Stream Channel (Non-vegetated Channel)	0.14	0.06	0.08	0.17	-	0.45
Subtotal Non-wetland Waters/Streambed	*0.14*	*0.06*	*0.08*	*0.17*	-	*0.45*
Wetland or Riparian Areas						
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	0.46	-	0.35	0.01	-	0.82
Vernal Pools[2]	0.01	-	-	-	-	0.01
Subtotal Wetland/Riparian	*0.47*	-	*0.35*	*0.01*	-	*0.83*
Total Potentially Jurisdictional Area	**0.61**	**0.06**	**0.43**	**0.19**	**-**	**1.29**
Waters of the U.S. – RWQCB						
Non-wetland Waters						
Ephemeral Stream Channel (Non-vegetated Channel)	0.14	0.06	0.08	0.17	-	0.45
Subtotal Non-wetland Waters	*0.14*	*0.06*	*0.08*	*0.17*	-	*0.45*
Wetland or Riparian Areas						
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	0.50	0.04	<0.01 (19 sq ft)	-	-	0.54
Vernal Pools	0.15	0.07	0.02	-	-	0.23
Vernal Pools with Fairy Shrimp	0.56	0.05	0.01	<0.01 (35 sq ft)	0.02	0.64
Seasonal Basins	0.26	<0.01 (179 sq ft)	<0.01 (54 sq ft)	-	-	0.26
Subtotal Wetland/Riparian	*1.47*	*0.16*	*0.03*	*<0.01 (35 sq ft)*	*0.02*	*1.67*
Total Potentially Jurisdictional Area	**1.61**	**0.22**	**0.11**	**0.17**	**0.02**	**2.12**

Table 11a Summary of Impacts to Potential Jurisdictional Resources within the Project-level Survey Areas (acres)						
Jurisdictional Resource	Phase 1[1]	Phase 2	Beyer Boulevard West	Phase 4	Emergency Vehicle Access Road	Total Impacts
City of San Diego Wetlands						
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-	-	0.35	0.01	-	0.36
Disturbed Wetlands	0.07	0.04	<0.01 (73 sq ft)	-	-	0.11
Vernal Pools	0.68[2]	0.12	0.03 (1,111 sq ft)	<0.01 (35 sq ft)	0.02	0.85
Total Potentially Jurisdictional Area	**0.75**	**0.16**	**0.38**	**0.01**	**0.02**	**1.32**

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.
[1]A portion of Phase 1 impacts are located in the Southwind project area. Within this area, the first project to proceed (i.e., Southwind or Southwest Village) would result in impacts and would be responsible for mitigation.
[2]Includes the two vernal pools (0.01 acre) that support a state-listed endangered plant species, San Diego button-celery.

Table 11b Summary of Impacts to Potential Jurisdictional Resources within the Phase 1 Project-level Survey Areas (acres)				
Jurisdictional Resource	Phase 1	Phase 1 – Candlelight[1]	Phase 1 - Southwind	Total Acres
Waters of the U.S. – USACE				
Non-wetland Waters				
Ephemeral Stream Channel (Non-vegetated Channel)	0.12	0.02	-	0.14
Subtotal Non-wetland Waters	*0.12*	*0.02*	-	*0.14*
Wetland Waters				
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	0.04	0.46	-	0.50
Vernal Pools	0.12	-	0.02	0.15
Vernal Pools with Fairy Shrimp	0.52	0.03	0.01	0.56
Subtotal Wetland Waters	*0.68*	*0.49*	*0.04*	*1.21*
Total Potentially Jurisdictional Area	**0.81**	**0.51**	**0.04**	**1.35**
Waters of the U.S. – CDFW				
Non-wetland Waters/Streambed				
Ephemeral Stream Channel (Non-vegetated Channel)	0.12	0.02	-	0.14
Subtotal Non-wetland Waters/Streambed	*0.12*	*0.02*	-	*0.14*
Wetland or Riparian Areas				
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-	0.46	-	0.46
Vernal Pools	0.01	-	-	0.01
Subtotal Wetland/Riparian	*0.01*	*0.46*	-	*0.47*
Total Potentially Jurisdictional Area	**0.13**	**0.46**	**-**	**0.61**
Waters of the U.S. – RWQCB				
Non-wetland Waters				
Ephemeral Stream Channel (Non-vegetated Channel)	0.12	0.02	-	0.14
Subtotal Non-wetland Waters	*0.12*	*0.02*	-	*0.14*
Wetland or Riparian Areas				
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	0.04	0.46	-	0.50
Vernal Pools	0.12	-	0.02	0.15
Vernal Pools with Fairy Shrimp	0.52	0.03	0.01	0.56
Seasonal Basins	0.03	0.23	-	0.26
Subtotal Wetland/Riparian	*0.71*	*0.72*	*0.04*	*1.47*
Total Potentially Jurisdictional Area	**0.83**	**0.74**	**0.04**	**1.61**
City of San Diego Wetlands				
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-	-	-	-
Disturbed Wetlands	0.07	-	-	0.07
Vernal Pools	0.64	-	0.04	0.68
Total Potentially Jurisdictional Area	**0.71**	**-**	**0.04**	**0.75**

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.
[1]A portion of Phase 1 is within the Candlelight and Southwind project areas (see Figure 22). In these areas, the first project to proceed (i.e., Candlelight/Southwind or Southwest Village) would result in impacts and would be responsible for mitigation.

Table 11c Summary of Impacts to Potential Jurisdictional Resources within the Phase 2 Project-level Survey Areas (acres)	
Jurisdictional Resource	Phase 2 Development Area[1]
Waters of the U.S. – USACE	
Non-wetland Waters	
Ephemeral Stream Channel (Non-vegetated Channel)	0.06
Subtotal Non-wetland Waters	*0.06*
Wetland Waters	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	0.04
Vernal Pools	0.07
Vernal Pools with Fairy Shrimp	0.05
Subtotal Wetland Waters	*0.16*
Total Potentially Jurisdictional Area	**0.21**
Waters of the U.S. – CDFW	
Non-wetland Waters/Streambed	
Ephemeral Stream Channel (Non-vegetated Channel)	0.06
Subtotal Non-wetland Waters/Streambed	*0.06*
Wetland or Riparian Areas	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-
Vernal Pools	-
Subtotal Wetland/Riparian	*0.06*
Total Potentially Jurisdictional Area	**0.06**
Waters of the U.S. – RWQCB	
Non-wetland Waters	
Ephemeral Stream Channel (Non-vegetated Channel)	0.06
Subtotal Non-wetland Waters	*0.06*
Wetland or Riparian Areas	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	0.04
Vernal Pools	0.07
Vernal Pools with Fairy Shrimp	0.05
Seasonal Basins	<0.01 (179 sq ft)
Subtotal Wetland/Riparian	*0.16*
Total Potentially Jurisdictional Area	**0.22**
City of San Diego Wetlands	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-
Disturbed Wetlands	0.04
Vernal Pools	0.12
Total Potentially Jurisdictional Area	**0.16**
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1. [1] Includes the project level trails and south drainage outfall	

Table 11d Summary of Impacts to Potential Jurisdictional Resources within the Beyer Boulevard Project-level Survey Areas (acres)					
Jurisdictional Resource	Beyer Park	Furby North	West Otay Mesa A	West Otay Mesa B	Total Acres
Waters of the U.S. – USACE					
Non-wetland Waters					
Ephemeral Stream Channel (Non-vegetated Channel)	0.05	-	-	0.02	0.07
Subtotal Non-wetland Waters	*0.05*	-	-	*0.02*	*0.07*
Wetland Waters					
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	-	-	<0.01 (19 sq ft)	-	<0.01 (19 sq ft)
Vernal Pools	-	-	0.02	-	0.02
Vernal Pools with Fairy Shrimp	-	0.01	-	-	0.01
Subtotal Wetland Waters	-	*0.01*	*0.02*	-	*0.03*
Total Potentially Jurisdictional Area	**0.05**	**0.01**	**0.02**	**0.02**	**0.10**
Waters of the U.S. – CDFW					
Non-wetland Waters/Streambed					
Ephemeral Stream Channel (Non-vegetated Channel)	0.05	-	0.01	0.02	0.08
Subtotal Non-wetland Waters/Streambed	*0.05*	-	*0.01*	*0.02*	*0.08*
Wetland or Riparian Areas					
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	0.35	-	-	-	0.35
Vernal Pools	-	-	-	-	-
Subtotal Wetland/Riparian	*0.35*	-	-	-	*0.35*
Total Potentially Jurisdictional Area	**0.40**	**-**	**0.01**	**0.02**	**0.43**
Waters of the U.S. – RWQCB					
Non-wetland Waters					
Ephemeral Stream Channel (Non-vegetated Channel)	0.05	-	0.01	0.02	0.08
Subtotal Non-wetland Waters	*0.05*	-	*0.01*	*0.02*	*0.08*
Wetland or Riparian Areas					
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	-	-	<0.01 (19 sq ft)	-	<0.01 (19 sq ft)
Vernal Pools	-	-	0.02	-	0.02
Vernal Pools with Fairy Shrimp	-	0.01	-	-	0.01
Seasonal Basins	-	<0.01 (54 sq ft)	-	-	<0.01 (54 sq ft)
Subtotal Wetland/Riparian	-	*0.01*	*0.02*	-	*0.03*
Total Potentially Jurisdictional Area	**0.05**	**0.01**	**0.03**	**0.02**	**0.11**
City of San Diego Wetlands					
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	0.35	-		-	0.35
Disturbed Wetlands	-	<0.01 (54 sq ft)	<0.01 (19 sq ft)	-	<0.01 (73 sq ft)
Vernal Pools	-	0.01 (264 sq ft)	0.02 (847 sq ft)	-	0.03 (1,111 sq ft)
Total Potentially Jurisdictional Area	**0.35**	**0.01**	**0.02**	**-**	**0.38**
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.					

Table 11e Summary of Impacts to Potential Jurisdictional Resources within the Phase 4 Project-level Survey Areas (acres)	
Jurisdictional Resource	Phase 4 Development Area
Waters of the U.S. – USACE	
Non-wetland Waters	
Ephemeral Stream Channel (Non-vegetated Channel)	0.17
Subtotal Non-wetland Waters	*0.17*
Wetland Waters	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	-
Vernal Pools	-
Vernal Pools with Fairy Shrimp	<0.01 (35 sq ft)
Subtotal Wetland Waters	*0.17*
Total Potentially Jurisdictional Area	**0.17**
Waters of the U.S. – CDFW	
Non-wetland Waters/Streambed	
Ephemeral Stream Channel (Non-vegetated Channel)	0.17
Subtotal Non-wetland Waters/Streambed	*0.17*
Wetland or Riparian Areas	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	0.01
Vernal Pools	-
Subtotal Wetland/Riparian	*0.01*
Total Potentially Jurisdictional Area	**0.19**
Waters of the U.S. – RWQCB	
Non-wetland Waters	
Ephemeral Stream Channel (Non-vegetated Channel)	0.17
Subtotal Non-wetland Waters	*0.17*
Wetland or Riparian Areas	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	-
Vernal Pools	-
Vernal Pools with Fairy Shrimp	<0.01 (35 sq ft)
Seasonal Basins	-
Subtotal Wetland/Riparian	<0.01 (35 sq ft)
Total Potentially Jurisdictional Area	**0.17**
City of San Diego Wetlands	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	0.01
Disturbed Wetlands	-
Vernal Pools	<0.01 (35 sq ft)
Total Potentially Jurisdictional Area	**0.01**
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.	

Table 11f Summary of Impacts to Potential Jurisdictional Resources within the Emergency Vehicle Access Road Project-level Survey Areas (acres)	
Jurisdictional Resource	EVA Road
Waters of the U.S. – USACE	
Non-wetland Waters	
Ephemeral Stream Channel (Non-vegetated Channel)	-
Subtotal Non-wetland Waters	-
Wetland Waters	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	-
Vernal Pools	-
Vernal Pools with Fairy Shrimp	0.02
Subtotal Wetland Waters	*0.02*
Total Potentially Jurisdictional Area	**0.02**
Waters of the U.S. – CDFW	
Non-wetland Waters/Streambed	
Ephemeral Stream Channel (Non-vegetated Channel)	-
Subtotal Non-wetland Waters/Streambed	-
Wetland or Riparian Areas	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-
Vernal Pools	-
Subtotal Wetland/Riparian	-
Total Potentially Jurisdictional Area	**-**
Waters of the U.S. – RWQCB	
Non-wetland Waters	
Ephemeral Stream Channel (Non-vegetated Channel)	-
Subtotal Non-wetland Waters	-
Wetland or Riparian Areas	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Wetlands, Disturbed Riparian)	-
Vernal Pools	-
Vernal Pools with Fairy Shrimp	0.02
Seasonal Basins	-
Subtotal Wetland/Riparian	0.02
Total Potentially Jurisdictional Area	**0.02**
City of San Diego Wetlands	
Wetland (Mule Fat Scrub, Southern Willow Scrub, Disturbed Riparian)	-
Disturbed Wetlands	-
Vernal Pools	0.02
Total Potentially Jurisdictional Area	**0.02**
NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.	

b. City of San Diego Wetlands Outside of the Coastal Overlay Zone

For projects in the City, outside of the coastal overlay zone, impacts to wetlands require a deviation from the ESL wetland regulations (City of San Diego 2018a). Impacts to vernal pools outside of the MHPA do not require a deviation from the wetland regulations as all impacts would be mitigated consistent with the VPHCP. Deviations from the wetland regulations shall not be granted unless the development qualifies to be processed as one or more of the following three options: Essential Public Projects Option, Economic Viability Option, and BSO. Although Tables 11a-11f identify wetland

impacts per phase, the wetland deviation analysis that follows combines all phases and evaluates all City wetlands subject to a deviation within the project-level analysis area as a whole, as impacts within phases would need to be approved in order for the wetland deviation to be processed.

As detailed in Table 12 and shown on Figure 45.1, the project-level areas would result in impacts to 0.52 acre of City wetlands subject to evaluation through the wetland deviation. Impacts to wetlands within the Beyer Boulevard West and Caliente Avenue alignments would be processed under the Essential Public Projects Option (Figure 45.2 and 45.3) due to these roadways being City Mobility Element roadways with regional function. All other wetland impacts would be addressed under the BSO (Figure 45.4 and 45.5). The respective analyses for each option is provided below and requires City and the Wildlife Agency concurrence. Two vernal pools within and immediately adjacent to the EVA Road are included in the BSO analysis because they are located within the MHPA and subject to the Wetland Deviation process.

Table 12
City of San Diego Wetlands Subject to a Wetland Deviation

Wetland Vegetation Community	EPP		BSO	Total Acres Subject to Wetland Deviation
	Caliente Avenue, South of Central Avenue	Beyer Boulevard West	Remainder of Project-level Area	
Wetland (disturbed riparian, mule fat scrub, southern willow scrub, tamarisk scrub)	0.01 (<0.01 acre of mule fat scrub and <0.01 acre southern willow scrub)	0.35 (mule fat scrub)	<0.01 (mule fat scrub)	0.36
Disturbed Wetland[1]	0.01	-	0.12	0.13
Vernal Pool[2]	-	-	0.03	0.03
Total	0.02	0.35	0.15	0.52

NOTE: total may not add due to rounding;
EPP = Essential Public Projects Option; BSO = Biologically Superior Option
[1]Disturbed wetlands in the project-level areas are isolated wetlands and are reported separately as they would be mitigated as vernal pools. None of these pools support any state endangered species and thus are not considered jurisdictional under CDFW.
[2]Only vernal pools within the MHPA are subject to a wetland deviation. The 0.03-acre vernal pool is associated with the EVA road and represents three basins, one directly impacted and the other two partially or indirectly impacted. Given that any impact to vernal pools, direct or indirect, would affect the entire basin, the 0.03 acre is the total area of all three vernal pools.

Essential Public Projects Option

A wetland deviation consistent with the Essential Public Projects Option is requested for impacts to City wetland areas located within the proposed Beyer Boulevard West and Caliente Avenue extension, south of Central Avenue (see Figure 45.2 and 45.3). These roadways are City Mobility Element roadways identified in the Otay Mesa Community Plan. Per the City's Biology Guidelines, a deviation to the ESL wetland regulations under the Essential Public Projects Option may be granted provided the project serves the community at large and not just a development project or property. To meet the definition of an Essential Public Project, it must be essential in both location and need. To qualify under this option, the project must be:

1. Any public project identified in an adopted land use plan or implementing document and identified on the Essential Public Projects List per Appendix III of the Biology Guidelines; or

2. A linear infrastructure, including but not limited to major roads and land use plan circulation element roads and facilities including bike lanes, water and sewer pipelines including appurtenances, and stormwater conveyance systems including appurtenances; or

3. Maintenance of existing public infrastructure; or

4. State and federally mandated projects.

Both Caliente Avenue and Beyer Boulevard West are linear infrastructure identified as Mobility Element roadways in the adopted Otay Mesa Community Plan, which meets qualifications 1 and 2 above. These roadways additionally include bicycle facilities and water and sewer infrastructure that will serve the entirety of the Specific Plan area. Therefore, they qualify as Essential Public Projects. A deviation under this option is only allowed where no feasible alternative exists that would avoid impacts to wetlands. Additionally, a deviation is only allowed where there are no feasible measures to further minimize impacts to ESL and the proposed deviation is the minimum necessary to afford relief from special circumstances or conditions applicable to the land and not of the applicant's making.

Biological alternatives to these roadway alignments are analyzed including the: (1) a no project alternative; (2) a wetlands avoidance alternative, including an analysis of alternative sites irrespective of ownership; and (3) an appropriate range of substantive wetland impact minimization alternatives. Substantial consideration was given to the proposed alignment of Beyer Boulevard West, including an extensive alternatives analysis provided in Attachment 11. This alternatives analysis informs and supports the wetland deviation analysis demonstrating that no feasible alternative exists that would completely avoid impacts to wetlands. Each biological alternative is discussed below:

No Project Alternative

The wetland deviation Essential Public Project option includes 0.02 acre of wetland impacts located within Caliente Avenue south of Central Avenue (see Figure 45.3). Under the no project alternative, Caliente Avenue south of Central Avenue would not be constructed and 0.1 acre of wetlands and 0.01 acre of disturbed wetlands would not be impacted under the No Project Alternative.

The segment of Caliente Avenue south of Central Avenue includes impacts to 0.01 acre of City wetlands, specifically the resources labeled as G-1 and G-2 as shown on Figure 45.3. An additional 0.01 acre of disturbed wetlands (isolated ponding features) would be impacted along the southern extent of the Caliente extension where it meets the proposed Beyer Boulevard West, as shown on Figure 45.3. In the no project alternative, the disturbed wetlands (isolated pond features) at the southern extent of the Caliente Avenue alignment would be avoided. However, they would also continue to be subject to disturbance by unauthorized entry. Additionally, without the project, the proposed vernal pool and Quino checkerspot butterfly restoration effort would not be undertaken. Compared to the low-quality isolated ponding features (disturbed wetlands lacking vernal pool indicator species) to be impacted, the vernal pool restoration effort would provide a large-scale restoration project that would ultimately support vernal pools containing sensitive plants and vernal

pool indicator species, surrounded by native habitats and plant species. Biologically, the proposed mitigation for impacts to these wetland features would be superior. Additionally, the proposed vernal pool restoration area would be protected from disturbance and would have funding for long term management. Refer to Attachment 14 for details of the proposed Vernal Pool and Quino Checkerspot Mitigation Plan. Additionally, refer to Attachment 17 for the Vernal Pool and Quino Checkerspot Habitat Management Plan which demonstrates the biological quality of the proposed mitigation lands.

Similarly, impacts to the wetland features within Beyer Boulevard West would be avoided under the no project alternative. The 0.35 acre of wetlands (primarily mule fat scrub) located at the western end of Beyer Boulevard West would be avoided if the proposed Beyer Boulevard West extension were not constructed (see Figure 45.2). Without the project, these resources would continue to exist in their current condition, being potentially subject to ongoing disturbance from off-road vehicular activity.

The isolated wetlands would continue to provide the same low level of biological function in relation to the surrounding landscape, with the wetland resources located at the western end of Beyer Boulevard West being subject to extensive disturbance from unauthorized trespass. The existing wetland features were created due to the adjacent development blocking flows from Moody Canyon, which allowed wetland species to thrive. Without the project, these conditions would persist. Additionally, without the project, the proposed wetland restoration effort in Spring Canyon (see Attachment 18) would not be implemented. Spring Canyon is a large regional drainage located within a wildlife corridor surrounded by protected open space lands. The restoration effort would substantially improve the existing conditions along that drainage by removing invasive species and restoring disturbed areas with wetland species. Non-native removals in upstream areas of the drainage are also proposed. Without the project, the improvements within Spring Canyon would not occur and the drainage would continue to support non-native and invasive species and disturbed areas.

A no project alternative for Caliente Avenue south of Central Avenue would also be infeasible due to the fact that the northern segment of Caliente north of Central Avenue is already entitled as part of the Candlelight Tentative Map 114999; PTS 633633. Additionally, from a planning perspective, without these roadways, the Specific Plan area could not be developed as access to the site would not be available. This alternative would conflict with City General Plan and OMCP goals as discussed below in the Biological Superior Option — No Project Alternative.

Wetlands Avoidance Alternatives

Various alternative locations and alternative alignments have been considered for the location of Beyer Boulevard West which are documented in Attachment 11. Compared to the original proposed Beyer Boulevard West alignment, the proposed Beyer Boulevard West would reduce wetland impacts by 32 percent. As detailed in Attachment 11, the current Beyer Boulevard West alignment was determined to be the only feasible alignment due to landslide constraints, circulation, and access needs for the overall Otay Mesa and San Ysidro communities, in addition to fire and emergency response needs.

Although elimination of Beyer Boulevard West and Caliente Avenue south of Central Avenue, would avoid 0.36 acres of City wetlands (mule fat and southern willow scrub), and 0.01 acre of an isolated disturbed wetland, the roadway is necessary to both serve the development and provide circulation for the broader San Ysidro and Otay Mesa communities. Due to the scattered nature of the disturbed, isolated wetlands along the Beyer Boulevard West extension, no feasible alternative is available that would completely avoid wetlands. Additionally, the disturbed wetlands and vernal pools are located within roadways and subject to ongoing disturbance. The City wetlands (see O-1, O-2 and O-3 on Figure 45.2) are located immediately east of the current terminus of Beyer Boulevard West, which would make accommodating an extension of the roadway with complete avoidance of these resources infeasible.

An alternative Beyer Boulevard West alignment was originally proposed that was shifted further north; however, that alignment resulted in greater impacts to natural flood channel within MHPA, due to a larger grading footprint resulting from grading in the landslide complex, in addition to impacts to associated wetlands and natural flood channel within the Moody Canyon bottom which is required in any alternative in order to meet the terminus of the existing Beyer Boulevard West. As detailed in Attachment 11, an alternative alignment was also considered that would rely on Old Otay Mesa Road with a bridge spanning Moody Canyon. With this alternative, Beyer Boulevard West would still have to be retained for fire access only, which would not result in additional avoidance of City wetlands. Furthermore, this alternative was found infeasible as it would impact three schools, four single-family homes, a San Diego Gas and Electric substation, and three multi-family buildings, would not meet circulation needs for the area, and would create safety risks due to inadequate fire and emergency access routes for surrounding communities.

A wetland avoidance alternative for Caliente Avenue south of Central Avenue would also be infeasible due to the fact that the northern segment of Caliente north of Central Avenue is already entitled and planned in its current location. Shifting the southern segment of the roadway to avoid the 0.01 acre of wetlands (mule fat scrub and southern willow scrub) and the 0.01 acre of disturbed isolated wetlands would not be feasible considering City VPHCP 100 percent conserved lands are located immediately south of Caliente Avenue where it bends to the west. There is no other location that the roadway extension could be located while still serving the Specific Plan area and avoiding the wetlands.

Wetland Impact Minimization Alternatives

As detailed above, a deviation is only allowed where there are no feasible measures to further minimize impacts to ESL and the proposed deviation is the minimum necessary to afford relief from special circumstances or conditions applicable to the land and not of the applicant's making. Significant changes to the Beyer Boulevard West design have been incorporated into the project to minimize adverse impacts to wetland resources to the maximum extent practicable, considering all technical and regulatory constraints of the area. The proposed alignment and design of Beyer Boulevard West represents the maximum potential wetland avoidance alternative as documented in Attachment 11. Lands north and south of Beyer Boulevard West are part of a landslide complex. Locating the road in its current position has resulted in significant reductions in grading footprint which has reduced wetland impacts compared to earlier alignments considered. Avoiding construction in the landslide complex minimizes the need for significant grading that would be

required to stabilize the ground within this landform. Originally the road was shifted further north resulting in impacts to the bottom of Moody Canyon and associated drainages. The roadway was shifted south, avoiding canyon bottoms and staying largely outside of the San Ysidro landslide complex which allowed grading buttresses to be reduced. A detailed discussion of the various Beyer Boulevard West alternatives, including documentation of wetland impact minimization is provided in Attachment 11.

Through significant coordination with the Wildlife Agencies and City staff, a reduction in the roadway width along Beyer Boulevard West was accepted by the City Planning, Engineering and Mobility Departments. The ultimate roadway width through the conserved lands west of the Specific Plan area was substantially narrowed from the originally planned 4-lane major arterial roadway per the OMCP. For the portion of the roadway crossing conserved lands, the road would narrow to two lanes to minimize impacts to the greatest degree feasible. The Specific Plan identifies a reduced roadway classification for the extension of Beyer Boulevard West west of the Specific Plan as a constrained segment modified 4-lane Urban Collector. However, the Specific Plan notes that this segment would be built with two lanes due to environmental constraints as this portion of the roadway traverses environmentally sensitive and conserved lands. Within these conserved areas, Beyer Boulevard West would narrow to a two-lane road as detailed in Figure ~~5~~14.1. All manufactured slopes surrounding Beyer Boulevard West would be revegetated with native plant species consistent with the surrounding habitats.

The proposed cross section for Beyer Boulevard West west of the Specific Plan area is shown in Attachment 11. As shown, the constrained portion of the roadway would be constructed with two lanes and minimal mobility features. Total roadway right-of-way would be 53 feet including a 4-foot sidewalk on the south side of the street for pedestrians and two on-street bike lanes.

Additionally, Beyer Boulevard West is designed to provide roadway permeability for large and small animal movement through incorporation of three culverts, a wildlife overcrossing, wildlife fencing, and native habitat revegetation along manufactured slopes as detailed further in the project description Section 1.3.2.3 Proposed culverts would also maintain hydrologic function within the area.

City wetlands (0.35 acre) dominated by mule fat scrub are located at the western end of the Beyer Boulevard West alignment, near the current terminus of Beyer Boulevard West in San Ysidro (see Photograph 6 and Figure 45.2). The 0.35 acre of City wetlands labeled as O-1, O-2 and O-3 are the result of upstream impoundments that have allowed the drainage waters from Moody Canyon to collect and develop as wetlands. The areas immediate west of these wetlands are disturbed, largely barren land. Maritime succulent scrub and disturbed maritime succulent scrub are also present in the vicinity of these wetlands. Impacts to these wetlands cannot be avoided because of their location in relation to the existing terminus of Beyer Boulevard West and need for the road to extend from the existing terminus of Beyer Boulevard West. Shifting the alignment to the north could potentially avoid the wetland, but this option was not found to be feasible because of required roadway geometries; this shift would result in significantly greater impacts within Moody Canyon and drainages within the canyon. Shifting the road south is not an option due to the location of the City's planned Beyer Park. Furthermore, acceptable roadway geometries could not be achieved with an alignment that would avoid wetland resources. The project was designed to avoid and minimize

impacts to wetlands to the extent feasible and further avoidance is not feasible. Wetland mitigation options were explored in the vicinity of the existing wetland impacts, specifically within Moody Canyon just northeast of the impact area or within the moody canyon drainage that is visible within MHPA lands on Figure 45.2. After field verifications, it was determined that the habitats upstream of this area are relatively intact and there were no opportunities for wetland restoration in this area. An opportunity for wetland mitigation was identified in Spring Canyon, southwest of the Specific Plan area, which would offset these marginal quality wetland impacts with restoration to create a higher quality wetland resource in an appropriate location that would be preserved in perpetuity.

The width and design of Caliente Avenue north of Central Avenue was approved as part of the Candlelight Tentative Map 114999; PTS 633633; and the associated impacts are expected to occur regardless of the proposed project. Therefore, in light of existing approvals, there are no feasible wetland minimization alternatives that the project could implement with respect to this portion of the Caliente Avenue.

The design and alignment of Caliente Avenue south of Central Avenue is a Modified 4-Lane Urban Collector with bike lanes. This segment of Caliente Avenue includes impacts to 0.01 acre of City wetlands, specifically the resources labeled as G-1 and G-2 as shown on Figure 45.3. An additional 0.01 acre of disturbed wetlands (isolated ponding features) would be impacted along the southern extent of the Caliente extension where it meets the proposed Beyer Boulevard West, as shown on Figure 45.3. The portion of Caliente Avenue south of Central Avenue would impact a canyon and an associated wetland (mule fat scrub and <0.01-acre southern willow scrub); impact minimization is not feasible due to the required connection to existing Caliente Avenue and due to the fact that the roadway follows a land use and circulation plan previously approved by the City in the OMCP. Additionally, as discussed above, the roadway must curve to the west, south of the Central Avenue, in order to avoid the City's VPHCP 100 percent conserved lands. Removal of the road would render the Specific Plan development area infeasible and would make development of the previously entitled Candlelight project infeasible.

Biologically Superior Option

In order to qualify for the BSO, a project deviating from wetland regulations must: (1) fully describe and analyze a no project alternative, a wetlands avoidance alternative, and a biologically superior alternative (the proposed project) demonstrating that the proposed project would result in the conservation of a biologically superior resource compared to strict compliance with the provisions of the ESL; (2) demonstrate that the wetland resources being impacted by the project shall be limited to wetlands of low biological quality; (3) demonstrate that the project and associated mitigation conform to the requirements for this option that include avoidance, minimization, and compensatory measures which would result in a biologically superior net gain in overall function and values of the type of wetland resource being impacted and/or the biological resources to be conserved; and (4) obtain concurrence from the USFWS and the CDFW (Wildlife Agencies). These four criteria are described below.

As detailed in Table 12 and depicted on Figures 45.4 and 45.5, the wetlands subject to the BSO include less than 0.01 of City wetlands (mule fat scrub), 0.12 acre of isolated disturbed wetlands, and 0.03 acre of vernal pool. A discussion of the total project impacts to wetland resources is provided

in Section 7.1.2.4.a above with mitigation presented in Section 8.2.5.1. The analysis presented below focuses on those wetland resources subject to a wetland deviation under the BSO.

Criteria 1

No Project Alternative

Under the no project alternative, the project would not be constructed and the resources subject to the BSO analysis (less than 0.01 of wetlands [mule fat scrub], 0.12 acre of disturbed wetlands, and 0.03 of vernal pool) would be avoided.

The disturbed wetlands are isolated ponding features which are primarily located along disturbed roadways and the vernal pools would be impacted through the construction of the EVA road. The less than 0.01 acre of mule fat scrub is near the future Caliente Alignment south of Central Avenue. The site and thus these features would remain undeveloped; however, the area would likely continue to undergo regular human disturbance through off-road activity on the mesa in the central portion of the site and along the trail that is proposed to be converted into the EVA road. All of the disturbed wetlands and vernal pools proposed to be impacted are planned to be mitigated through vernal pool creation within a 33.71-acre vernal pool restoration area (see Attachment 14). Under the no project alternative, the proposed vernal pool restoration effort would not occur and the biological values of this restoration effort would not be realized. Without the project, the existing conditions, including unauthorized trespass and disturbance of these ponding features would persist.

Additionally, the <0.01-acre wetland (see G-3 on Figure 45.4) would be mitigated through restoration in Spring Canyon. Without the project, the proposed wetland restoration effort in Spring Canyon (see Attachment 18) would not be implemented. Spring Canyon is a large regional drainage located within a wildlife corridor surrounded by protected open space lands. The restoration effort would substantially improve the existing conditions along that drainage by removing invasive species and restoring disturbed areas with wetland species. Non-native removals in upstream areas of the drainage are also proposed. Without the project, the improvements within Spring Canyon would not occur and the drainage would continue to support non-native and invasive species and disturbed areas.

Wetlands Avoidance Alternative

Under the wetlands avoidance alternative, the project would be designed to avoid all City wetlands comprising the isolated disturbed wetlands, vernal pools, and the <0.01 acre wetland shown on Figures 45.4 and 45.5.5. Due to the scattered nature of the isolated disturbed wetlands and vernal pools being located along disturbed roadways, complete avoidance of these wetland resources would not be feasible. For example, three disturbed wetlands are located just west of the proposed Caliente Avenue extension. As discussed above, this roadway location cannot be shifted. Avoiding disturbed wetlands adjacent to a major circulation element roadway would not be beneficial from a biological perspective as these resources would be subject to disturbance after installation of the roadway.

While portions of the mesa top could be developed without impacting disturbed wetlands, it would not be feasible to both develop areas without these features and preserve them in a way that would

provide biological value. In the existing condition, the disturbed wetlands are largely disturbed, low-value ponding basins that lack vernal pool indicator plants. Without a restoration and long-term management effort, these resources would not provide substantial biological function. Therefore, even with an avoidance alternative that places homes around these features, the resources would not be viable in the long term without a comprehensive restoration effort. Additionally, scattered residential development with pockets of avoided disturbed wetlands would be associated with substantial edge effects, reducing the biological viability of a wetlands avoidance alternative.

Demonstration of the Proposed Project as a Biologically Superior Option (the Proposed Project)

Under the BSO, impacts to wetlands may be considered if the resources are of a low quality and through project design and/or mitigation, a biologically superior project would result. The impacted disturbed wetlands (0.12 acre) are of low quality; however, they are characteristic of vernal pools and are assumed to support San Diego fairy shrimp, but lack vernal pool indicator plant species required to designate them as such. The impacted disturbed wetland resources are scattered across the mesa top in areas that have not been designated for conservation in the City's VPHCP. The vernal pools proposed to be impacted (0.03 acre) are located within and adjacent to an existing dirt road that is subject to regular disturbance from border patrol vehicles and other maintenance vehicles. These vernal pools are included in the BSO due to their location within the MHPA; however, this area would be adjusted out of the MHPA with the approval of the BLA. The resources scattered throughout the Specific Plan area are primarily on or near disturbed roadways. Refer to Figure 45.4 and 45.5 for the location of these disturbed wetlands and vernal pools in relation to the City's VPHCP and MHPA.

The ponding features also do not provide typical riparian function, with the exception of a <0.01 acre of mule fat scrub habitat shown on Figure 45.4. The <0.01 acre of mule fat scrub is associated with 0.01 acre of adjacent mule fat and southern riparian scrub (evaluated under the EPP). These resources are located within a canyon area that would be impacted by the project. The total wetland resource in this canyon occupies a 0.02-acre area which offers limited wetland functions and values considering their isolated nature and small size.

The resources to be impacted under the BSO include <0.01 acre of mule fat scrub, 0.03 acre of vernal pool, and 0.12 acre of disturbed wetland, and is proposed to be mitigated at a 2:1 ratio, as required by the City. The proposed wetland mitigation effort would include two components; vernal pool restoration and wetland restoration.

All disturbed wetlands (isolated pond features lacking vernal pool indicator plant species) to be impacted would be mitigated as vernal pools. This approach is proposed due to the nature of these isolated ponding basins being more similar to vernal pools, despite the lack of vernal pool indicator plants. Impacts to 0.12 acre of disturbed wetlands and 0.03 acre of vernal pool, subject to the BSO analysis, would require a total of 0.30 acre of vernal pool mitigation. The project-level mitigation for vernal pools and disturbed wetlands would include restoration of a 33.71-acre vernal pool restoration area that would establish 3.86 acres of vernal pool basins and enhance 0.05 acre of existing vernal pool basins that will mitigate for the vernal pool and disturbed wetlands subject to the BSO analysis as well as the rest of the vernal pools not subject to the wetland deviation regulations (see Section 8.2.5.1-Table 18c below and Attachment 14, Table 1).

The vernal pool restoration effort would provide a large-scale restoration project that would ultimately support vernal pools containing sensitive plants and vernal pool indicator species, surrounded by native habitats and plant species. Additionally, the proposed vernal pool restoration area would be protected from disturbance and would have funding for long term management. Refer to Attachment 14 for details of the proposed Vernal Pool and Quino Checkerspot Mitigation Plan and Attachment 17 for the Vernal Pool and Quino Checkerspot Habitat Management Plan. The created vernal pools proposed as mitigation would additionally be surrounded by protected native upland habitats on three sides, increasing the biological value of the vernal pool preserve area in relation to the scattered and degraded features that would be impacted.

The impacts to the <0.01 acre (90 square feet) of mule fat scrub will be mitigated at a 2:1 ratio for a total of <0.01 acre (180 square feet). The project would implement a wetland mitigation effort in Spring Canyon (see Attachment 18), including 0.36 acre of wetland creation (establishment) and 0.62 acre of wetland enhancement (rehabilitation) within an overall 2.18-acre Wetland Plan area within Spring Canyon (see Attachment 18, Figure 10.2), which will satisfy the mitigation required to cover these impacts to BSO wetlands as well as the remaining impacts to wetlands not subject to the BSO analysis. This wetland mitigation effort as detailed in Attachment 18 would uplift the functions and values of the Spring Canyon to increase functionality for wildlife species. Spring Canyon is a large regional drainage located within a wildlife corridor surrounded by protected open space lands. Implementation of the Wetland Plan would substantially improve the existing conditions along that drainage by removing invasive species, enhancing existing wetland vegetation, and creating wetland habitats in existing disturbed and non-native grassland areas. Removal of non-native and invasive species in upstream areas of the drainage (outside of the applicant's property) is also proposed, but is not required for the success of the restoration efforts or as mitigation.

The vernal pool restoration efforts additionally include seeding of Otay Mesa mint, a state and federally listed endangered species, spreading navarretia, a federally listed threatened species, and California Orcutt grass, a state and federally listed endangered species, as well as San Diego button-celery, would be planted within the proposed 3.86 acres of vernal pool surface area creation. All of the created pools and existing pools to be enhanced would be inoculated with San Diego fairy shrimp and/or Riverside fairy shrimp. Spreading navarretia would also be introduced to re-establish habitat for this species.

The proposed vernal pool mitigation would also increase suitable habitat for Quino checkerspot butterfly through restoration efforts within the vernal pool preserve which includes preservation and enhancement of 0.96 acre of Quino habitat and 0.~~70~~ 93 acre of Quino habitat restoration for a total of 1.89 acres of Quino checkerspot butterfly habitat preservation. Within the interspaces of the vernal pools upland habitat restoration would be implemented, supporting vernal pool function and water quality. In contrast to the low-quality disturbed wetlands and vernal pools that would be impacted that lack supporting upland vegetation supporting them due to ongoing disturbances and the location of impacted resources being within dirt roads.

The proposed vernal pool mitigation would also increase suitable habitat for western spadefoot. A total of 66 basins (0.62 acre) that were observed to support western spadefoot, including eight of the disturbed wetlands subject to the BSO analysis. However, for purposes of the analysis, all

ponding basins are assumed to support the species resulting in an estimated impact to 0.15 acre of habitat for this species within the BSO wetland resources. As noted above, a total of 3.86 acres of vernal pool basins would be established which would provide suitable replacement habitat for western spadefoot. Additionally, western spadefoot was detected in 23 basins covering 1.96 acres within parts of the survey area proposed to be preserved as a part of habitat-based mitigation (see Figures 40.2 through 40.4), located within the MHPA. Therefore, the project's 3.86-acre vernal pool restoration effort combined with preservation of existing western spadefoot habitat would ensure sufficient conservation of the species and its habitats.

The vernal pool restoration area has been designed to ensure adequate buffering is provided between vernal pools and future development areas. A fire-rated wall would be provided between the development area and the vernal pool preserve to ensure avoidance of brush management impacts. Figure 46 shows the buffers ranging from 10.83 feet to 129.28 feet between the proposed and existing vernal pools and the anticipated location of the fire-rated wall as part of the vernal pool mitigation design. The vernal pool hydraulic analysis (included in Attachment 14) demonstrates adequate watersheds available to support hydraulic function for all vernal pools within the vernal pool preserve. As stated in Section 6.2.2.2, compliance with the VPHCP's general avoidance and minimization measures including but not limited to temporary fencing, grading techniques, monitoring, and topsoil salvage would preclude any construction impacts to vernal pool (wetland) restoration areas and ensure a biologically superior design.

Based on the BSO analysis provided above, the proposed mitigation would provide substantially greater biological values and functions compared to the degraded, scattered resources that would be impacted. The proposed mitigation would restore a substantial mesa top area, increasing the biological function of the habitat and wetland features and supporting vernal pool conservation within an area that has been designated for protection under the VPHCP.

Criteria 2

Demonstration That the Wetland Resources Being Impacted Are of Low Biological Quality

The wetland resources subject to the BSO would include less than 0.01 acre of mule fat scrub, 0.03 acre of vernal pool, and 0.12 acre of disturbed, isolated wetlands. The guidelines specify that the biological quality of all wetlands is assessed using the criteria listed below. Corresponding project details follow each criterion below.

- I. Criteria to determine biological quality of all wetland types include, but are not limited to, the following:

  a. Use of the wetland by federal and/or state endangered, threatened, sensitive, rare and/or other indigenous species;

     Discussion: San Diego fairy shrimp are assumed present within all 0.12 acre of disturbed wetlands and 0.03 acre of vernal pools subject to the BSO. These basins are associated with road rut depressions and are continually impacted with vehicular traffic along that road by trespassers. San Diego fairy shrimp are present within the 0.03 acre of vernal pool along the EVA road alignment; however, these are also along an existing dirt road subject to vehicular

traffic. Despite the low-quality condition of these basins, they would be mitigated at a 2:1 ratio as part of the 33.71 acre vernal pool restoration effort.

The impacted less than 0.01 acre of mule fat scrub lacks a diversity of species that would increase its function as a riparian wetlands. The impacted mule fat scrub (see G-3 on Figure 45.4) is associated with two additional wetland features (see G-1 and G-2 on Figure 45.3) that would be impacted as part of the EPP. All three of these resources total less than 0.02 acre. Together, these resources comprise a small portion of wetland vegetation within a canyon dominated by upland species. The mule fat scrub is not extensive enough support populations of federal and/or state endangered, threatened, sensitive, rare and/or other indigenous species.

b. Diversity of native flora and fauna present (characterizations of flora and fauna must be accomplished during the proper season, and surveys must be done at the most appropriate time to characterize the resident and migratory species);

Discussion: Rare plant surveys were conducted, along with focused wildlife surveys within their proper seasons. All plant and wildlife species observed or detected were recorded and presented in Attachments 4 and 6, respectively.

Although, San Diego fairy shrimp were found within some of the disturbed wetland and vernal pool depressions, the impacted wetlands and vernal pools are considered low-quality due to the high-level of disturbance from off-roading. None of the disturbed wetlands contained any vernal pool indicator plants. The 0.03 acre of vernal pools within the EVA road do not support sensitive plant species; however, San Diego fairy shrimp and spadefoot toad were observed. These basins are subject to ongoing disturbance due to their location within a dirt road used for border patrol access. Additionally, these species are widely present within ponding basins in the area.

As discussed under a. above, the less than 0.01 acre of impacted mule fat scrub comprises a small portion of wetland vegetation within a canyon dominated by upland species. These resources are not extensive enough support populations of federal and/or state endangered, threatened, sensitive, rare and/or other indigenous species.

c. Enhancement or restoration potential;

Discussion: The potential to restore or enhance the existing depressions within the project-level area is considered low because the majority of these features lie within dirt roads and are subject to continual vehicular disturbance by off-roading (see Photographs 11-15). These project-level areas and associated resources were anticipated to be impacted by future development by the City's VPHCP. As development is anticipated within the impacted areas, it would be infeasible to accommodate both vernal pool restoration and development due to substantial edge effects that would be associated with restoring impacted resources in place. The EVA road is identified as a critical road for ongoing border patrol access; therefore, preservation of the vernal pools in this location would also be considered infeasible.

Furthermore, the project's proposed vernal pool restoration location is consistent with the City's VPHCP as it is proposed in a location designated as VPHCP preserve and located adjacent to lands intended for conservation. The project would implement a high-quality vernal pool habitat restoration effort to facilitate enhancement of vernal pool resources and replace impacted resources, including many highly disturbed depressions. The proposed vernal pool restoration areas offer two large areas of mesa top that are not currently under the same level of disturbance as the resources proposed to be impacted, which includes a high level of trespassing by off-road vehicles. The proposed vernal pool restoration would provide mitigation in a location that would be sustainable in the long term due to protections, management and funding that would be provided. The Vernal Pool and Quino Checkerspot Mitigation Plan includes additional information regarding the enhancement or restoration potential within the proposed vernal pool restoration areas (see Attachment 14).

d. Habitat function/ecological role of the wetland in the surrounding landscape, considering

1. the current functioning of the wetland in relation to historical functioning of the system; and

2. rarity of the wetland community in light of the historic loss and remaining resource;

Discussion: Regarding the less than 0.01 acre of impacted mule fat scrub, as detailed under a. above, this resource comprises a small portion of wetland vegetation within a canyon dominated by upland species. These resources are not part of a larger wetland that is critical to the functioning of the broader drainages and wetland resources. The location of the impacted resources is in a canyon that provides runoff toward Spring Canyon which is a larger scale and important wetland resource. Impacts to these resources would not affect the overall functioning of the larger system because the impacts are located in the very upper reaches of a finger canyon that would be impacted by development of the Specific Plan area. However, a majority of the finger canyon that feeds into Spring Canyon would remain intact. Additionally, the drainage design for development in this area would be required to ensure the pre-project flows match post-project flows, ensuring that hydrological function is sustained. The mule-fat scrub that would be impacted is not rare in light of the resources remaining.

The function/ecological role of the 0.12 acre of disturbed wetlands (wetland depressions) and 0.03 acre of vernal pools were once a functioning ecological system of vernal pool resources that have been impacted by human disturbances, originally from agricultural use and more recently due to dumping and off-road activity. While vernal pools are a rare resource, the City's VPHCP has been designed to ensure the long-term protection of vernal pools and sensitive species associated with vernal pools. The resources to be impacted are not located within areas determined necessary for the long-term preservation of this resource in the City or region. As a result of historic disturbance, the watersheds of the existing basins are highly degraded, in addition to being isolated and no longer inter-connected. These resources lack the features characteristic of high-quality vernal pool habitat such as the presence of vernal pool indicator plants within the basins, complexes of connected vernal pool features, and mima mound topography with native upland vegetation surrounding the basins.

e. Connectivity to other wetland or upland systems (including use as a stopover or stepping stone by mobile species), considering

   3. proximity of the wetland resource to larger natural open spaces, and

   4. long-term viability of resource, if avoided and managed;

   Discussion: As detailed in d. above, the less than 0.01 acre of mule fat scrub is at the upper reaches of a finger canyon that drains to Spring Canyon. However, the wetland resource is not contiguous to other wetlands and is located several miles away from the Spring Canyon drainage. The resource is isolated from other resources and would provide low value for preservation in contrast to the proposed wetland creation and enhancement effort that is proposed in Spring Canyon.

   The disturbed wetlands and vernal pools within the project-level area are isolated and not connected to other larger, natural wetlands. Additionally, their original function as vernal pools has been degraded due to ongoing land disturbances. If the scattered, disturbed wetlands and vernal pools were to be avoided (i.e., the project is not developed), it would be difficult to manage the area to eliminate human disturbances from dumping of trash, off-roading activities, and trespassing. Additionally, improvement of the functions and values of the wetlands would involve a major habitat restoration effort that would not be supported by funding from private development. In conclusion, the long-term viability of the resource is low.

f. Hydrologic function, considering

   5. whether the volume and retention time of water within the wetland is sufficient to aid in water quality improvements, and

   6. whether there is significant flood control value or velocity reduction function; and,

   7. whether there is an opportunity to restore the hydrologic functions;

   Discussion: The less than 0.01 acre of mule fat scrub is not large enough to provide any measurable function as it relates to water retention, flood control, or improvements in water quality. The 0.12 acre of disturbed wetland depressions and 0.03 acre of vernal pools do not provide any flood control value or velocity reduction function as they do not convey flows of water like a drainage channel. Restoring hydrologic functions of the disturbed wetlands would require a major restoration effort to create a functional vernal pool complex, which would be infeasible to implement for the reasons detailed in Criteria 2.e.4.

g. Status of watershed considering whether the watershed is partially developed, irrevocably altered, or inadequate to supply water for wetland viability;

   Discussion: The watersheds of the disturbed wetlands are disturbed and relatively small being restricted to the immediate vicinity around the depression. The watershed of the less than 0.01 acre of mule-fat scrub is supported by drainage flowing into the canyon where

this resource is located. The watershed for this resource contains disturbed mesa top, but is undeveloped. Even in the undeveloped condition, the mule fat scrub is part of a very small area of wetland vegetation (less than 0.02 acre), demonstrating that the existing watershed in its natural condition does not provide adequate flows to support expansion of this wetland.

h. Source and quality of water, considering

8. whether the urban runoff is from a partially developed watershed;

9. whether the water source is in part or exclusively from human -caused runoff which could be eliminated by diversion; and,

10. whether there is an opportunity to restore the water quality or flood control value.

Discussion: The source of the water for the less than 0.01-acre mule fat scrub is solely from natural rainfall and the watershed is undeveloped. There would be limited opportunity to restore water quality or flood control value.

The 0.12 acre of isolated disturbed wetlands and 0.03 acre of vernal pool provide very little flood control value. The potential to restore the water quality or flood control value under the current conditions would be difficult due to the frequent occurrence of off-road activity which disturbs these features (i.e., changes the shapes of the depressions and watershed). Additionally, due to the high level of human disturbance, the watersheds of the existing pools are restricted to just the ponding areas themselves.

- II. Additional habitat-specific factors, requirements, and/or examples (by habitat type) to determine biological quality include the following:

Vernal Pools

a. Characterizations of vernal pool flora and fauna must be accomplished during the proper seasons. Surveys must be done between December and May to ensure adequate characterization of the vernal pools. Adequate surveys should be done to determine ponding and vernal pool flora and fauna. Surveys for fairy shrimp must be done in accordance with current USFWS fairy shrimp survey protocol.

Discussion: Wet season fairy shrimp surveys were conducted in accordance with USFWS survey protocols and were initiated upon first rainfall/ponding and completed after all ponding was complete for the season. Wet season surveys were conducted in 2017/2018, 2018/2019, and 2019/2020 seasons. Soil collection for dry season surveys was conducted once the soil was dry in accordance with survey protocols. Reports of all focused survey efforts were submitted to USFWS and summarized in this document.

b. Timing of the first rainfall and subsequent filling of the pools should be determined during the evaluation process. Rainfall and ponding should be monitored throughout the wet season. Endangered, threatened, and sensitive species to consider include: *Brodiaea orcuttii* (when within vernal pools and/or their watershed), *Downingia cuspidata*, *Eryngium*

aristulatum ssp. *parishii*, *Myosurus minimus* var. *apus*, *Navarettia fossalis*, *Orcuttia californica*, *Pogogyne abramsii*, *Pogogyne nudiuscula*, *Streptocephalus woottoni*, and *Branchinecta sandiegonensis* (when within vernal pools).

Discussion: As noted above, wet season fairy shrimp surveys were conducted in accordance with USFWS survey protocols and were initiated upon first rainfall/ponding and completed after all ponding was complete for the season. Rainfall was low during the 2017/2018 season, 4.28 inches and not all of the basins ponded. Additional wet season surveys were subsequently conducted during season with greater rainfall (12.17 inches in 2018/2019 and 11.94 inches in 2019/2020) in an effort to collect data from all identified basins.

c. Determination of habitat function can include an assessment of number of pools with a cumulatively small amount of habitat (pool surface area) relative to other nearby vernal pool complexes (i.e., an isolated complex with two small pools would be considered lower quality than a complex adjacent to the MHPA with ten pools).

Discussion: An extensive mapping of all basins was conducted as part of the wetland delineation efforts initially conducted in 2018 and continued during the wet season fairy shrimp surveys conducted between 2018 and 2020. Each of these basins were delineated and categorized as vernal pools or disturbed wetlands based on the results of the delineation (see Sections 4.2.2.11 and 4.2.2.12) and all biological resources observed within the basins cataloged.

d. Restoration potential should include an analysis of compaction of watershed, presence of historic pools, and status of hardpan or clay substrate.

Discussion: The Vernal Pool/Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14), provides a detailed analysis of the restoration potential of the proposed restoration site. the City's VPHCP identify the proposed restoration site as part of existing/historic J13 north and J13 south vernal pool complexes both of which were identified in the Recovery Plan for Vernal Pool of Southern California (USFWS 1998a) as key areas to support recovery of several federally listed vernal pool plant species. The Mitigation Plan includes an evaluation of the historic mapped resources, soils, hydrology, topography and watershed as part of determining an appropriate design for the establishment of 3.86 acres of new vernal pool basins and enhancement of 0.05 acre of existing vernal pools.

Criteria 3

The project and proposed mitigation shall conform to the requirements for this option as detailed in Section III B.

Discussion: Section 8.2.5.1 of this report includes a mitigation program which would reduce significant impacts to wetland resources to below a level of significance. As required by the City's Biology Guidelines, mitigation consists of three required elements: a Mitigation Element, a Protection and Notice Element, and a Management Element. Per the City's Biology Guidelines, this mitigation program must be incorporated in the permit conditions and/or subdivision map, the construction specifications for public projects, and shown on

the construction plans as appropriate. Each mitigation measure includes the required elements for consistency with the Biology Guidelines.

The mitigation includes two components, implementation of wetland mitigation within Spring Canyon, and implementation of vernal pool re-establishment and enhancement.

The wetland mitigation requirements would be achieved within Spring Canyon through at least 0.36 acre of wetland creation (establishment) and at least 0.37 acre wetland enhancement (rehabilitation) to create wetland function and values consistent with the requirements of the City's Biology Guidelines. The Southwest Village Wetland Plan (Attachment 18) includes 0.36 acre of wetland creation (establishment) and 0.62 acre of wetland enhancement (rehabilitation) within an overall 2.18-acre Wetland Plan area within Spring Canyon. An additional 0.46 acre of wetland creation (establishment) would be implemented as part of the Nakano Wetland Plan (RECON, 2024f), providing a total of 1.45 acres of wetland mitigation for Southwest Village. In addition to these mitigation components, the Southwest Village Wetland Plan includes implementation of project design features including an additional 1.20 acres of weed control and the requirement to ensure the remaining 3.46-acre portion of the upstream Nakano Wetland Plan is implemented first. The proposed 0.43 acre of excess wetland creation (establishment) is proposed to satisfy RWQCB mitigation requirements for impacts to non-wetland waters/streambed and is not required by the City. The proposed wetland creation and enhancement requirement would be satisfied in Spring Canyon in excess of City mitigation requirements which would more than off-site the biological loss of 0.01-acre of mule fat scrub.

Impacts to the 0.12 acre of disturbed isolated wetlands and 0.03 acre of vernal pools subject to the BSO would be mitigated at a 2:1 ratio consistent with the City's Biology Guidelines by restoration of 0.30 acre of basins within the proposed 3.86 acres of vernal pool basins and enhancement of 0.05 acre of existing vernal pool basins (see Attachment 14). The total project mitigation requirement for all disturbed wetlands and vernal pool impacts is 2.18 acres; thus, the proposed restoration would provide an excess of 1.68 acres of vernal pool creation and 0.05 acre of enhancement beyond the mitigation ratios required by the City's Biology Guidelines.

The restored vernal pools would be fenced to prevent illegal entry. As part of the vernal pool restoration, disturbed areas would be graded to provide intricate micro-topography which would allow the pools to flow into one another, creating a pool complex. Micro-topography can be the change in a few inches in elevation. The grading design is supported by a hydraulic analysis (see Attachment 18) that ensures the viability of the hydrologic conditions to support vernal pool creation.

The vernal pool restoration areas are proposed to be fully restored with 3.91 acres of vernal pool surface area (3.86 acres of re-establishment and 0.05 acre of enhancement) and all pools are being inoculated with shrimp. Because the vernal pool mitigation requirement is 2.18 acres (including impacts from the proposed Southwind project), and including indirect impacts to pools within 20 feet of the boundary, there is an excess of 1.68 acres of vernal pool reestablishment and 0.05 acre of enhancement that would also be inoculated with shrimp.

Consistent with the Biology Guidelines Protection and Notice Element, the vernal pool and wetland mitigation area would be dedicated in fee title to the City for long-term management. The vernal pool preserve areas would require a recordation of a deed restriction consistent with California Civil Code Section 815, et seq. acceptable to the Wildlife Agencies.

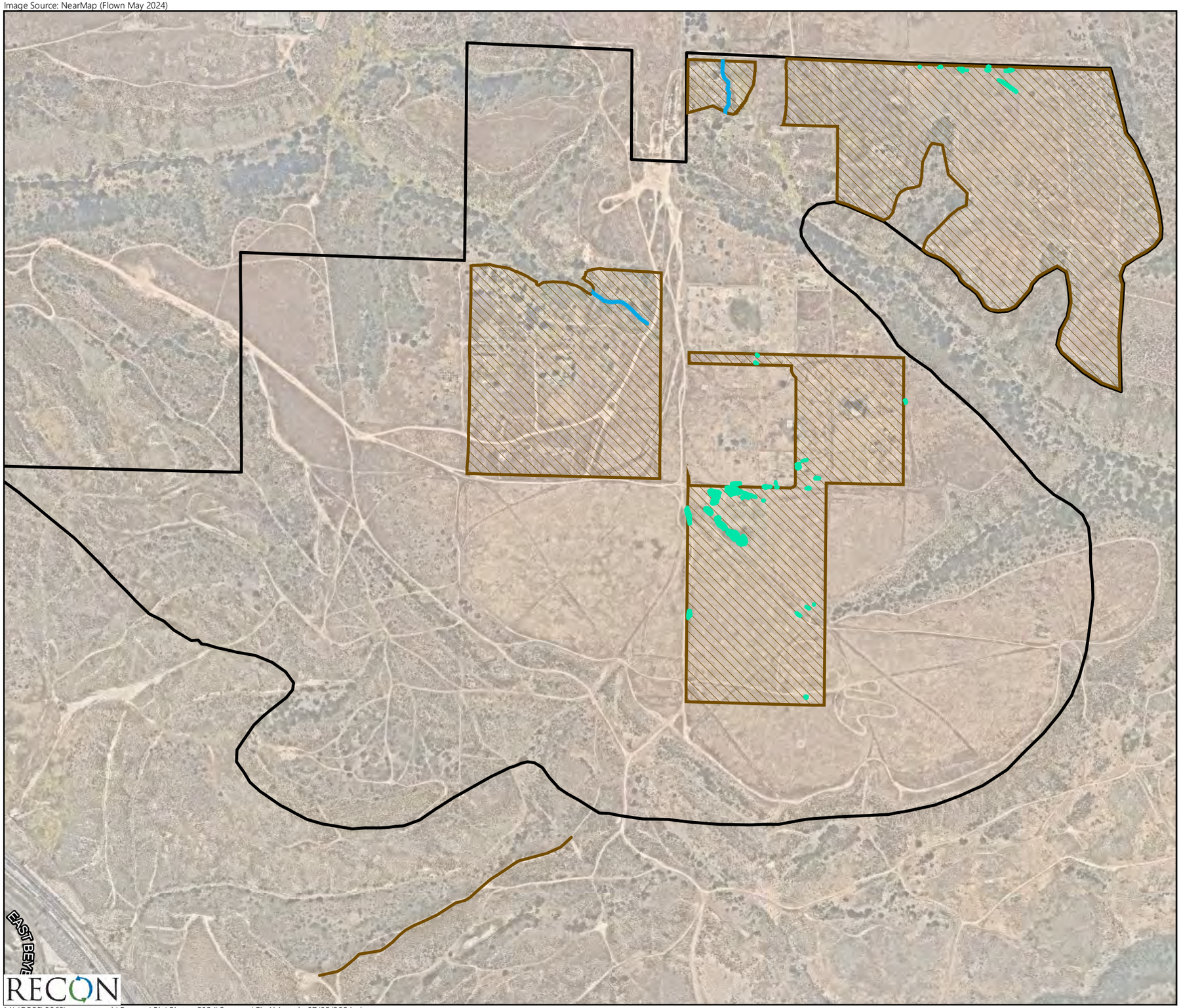
As required by the Biology Guidelines Management Element, funding would be provided to cover the costs of the in-perpetuity management and monitoring of the vernal pool and wetland mitigation sites. Funding would be provided by establishing an endowment prior to initiation of long-term management with funding determined through preparation of a PAR or other similar method and would be approved by the Park and Recreation Department.

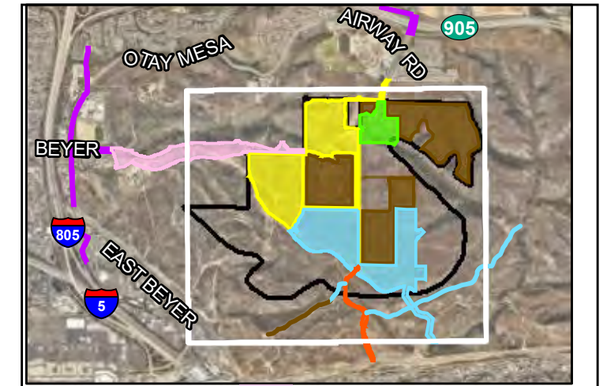
Criteria 4

The Wildlife Agencies have concurred with the biologically superior project design and analyses. The concurrence shall be in writing and be provided prior to or during the public review of the CEQA document in which the biologically superior project design has been fully described and analyzed. Lack of unequivocal response during the CEQA public review period is deemed to be concurrence.

Discussion: The project proponent is working closely with the Wildlife Agencies to obtain concurrence.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Program-level Impacts

Phases 3-7

Waters of the U.S. (USACE)

Vernal Pool

Non-Wetland Waters

0 Feet 600

FIGURE 41.1
Program-level Impacts to
Potential USACE Waters of the U.S.

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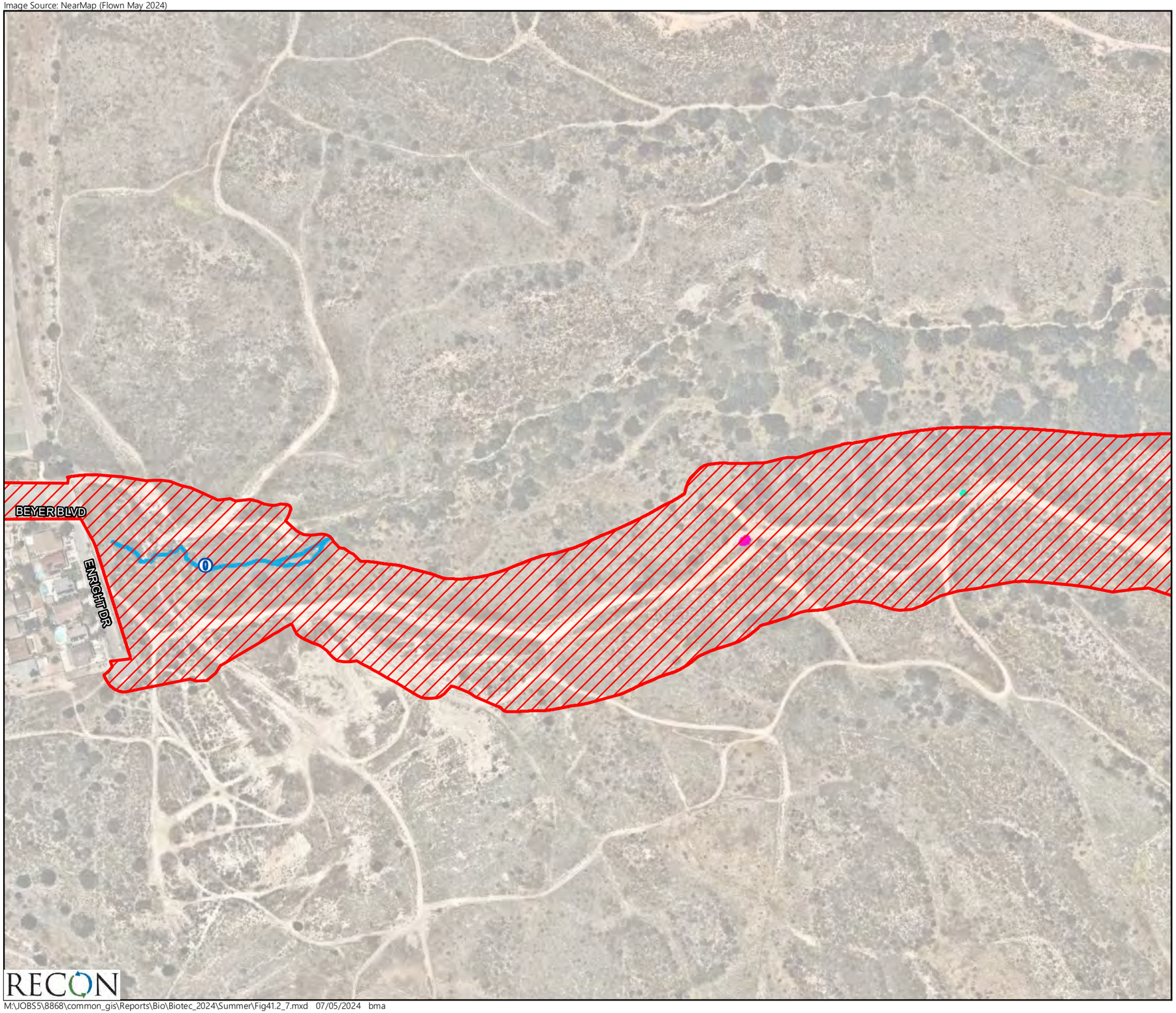
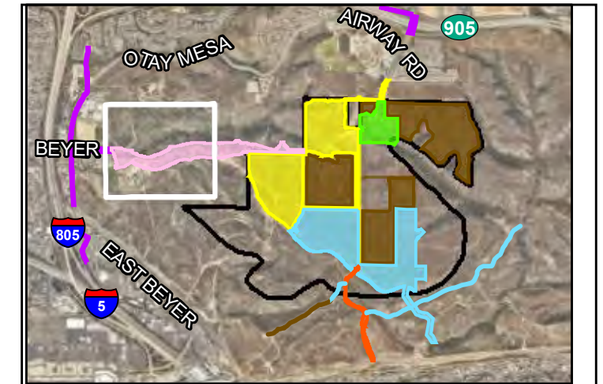
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp

0 Feet 200

RECON

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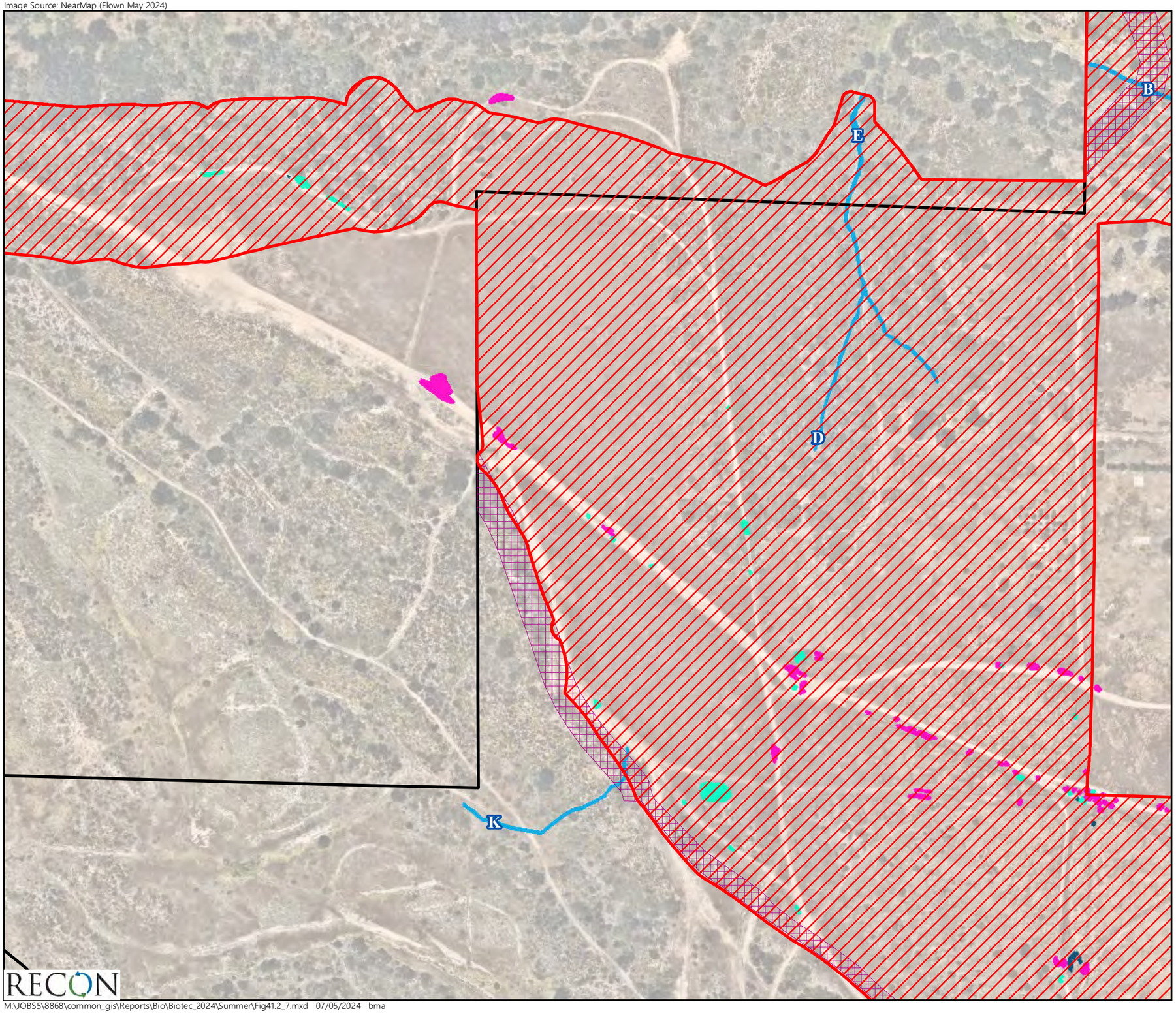
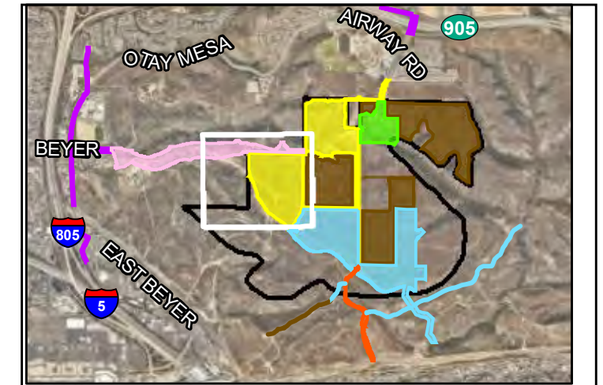
FIGURE 41.2
Impacts to Potential USACE Waters of the U.S.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

0 Feet 200

RECON

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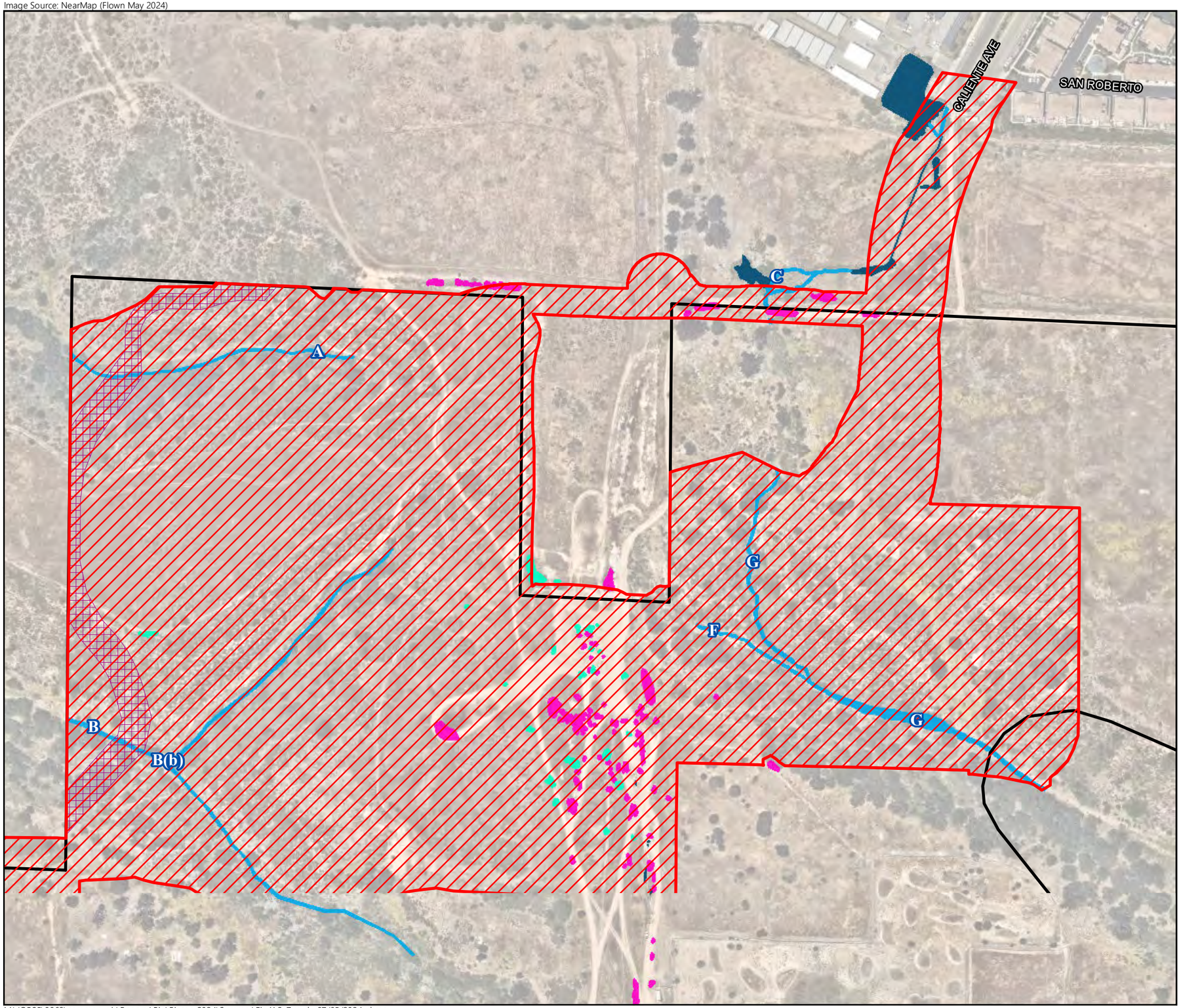
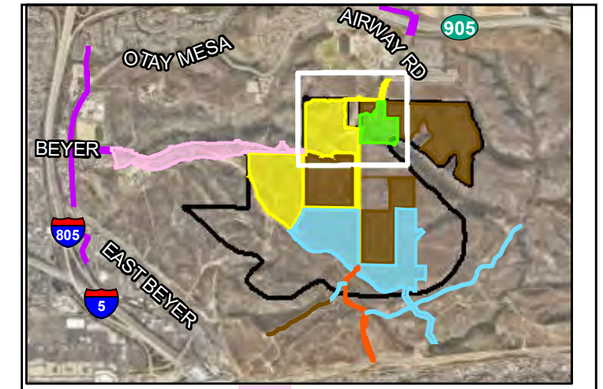
FIGURE 41.3
Impacts to Potential USACE Waters of the U.S.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

0 Feet 200

FIGURE 41.4
Impacts to Potential USACE Waters of the U.S.

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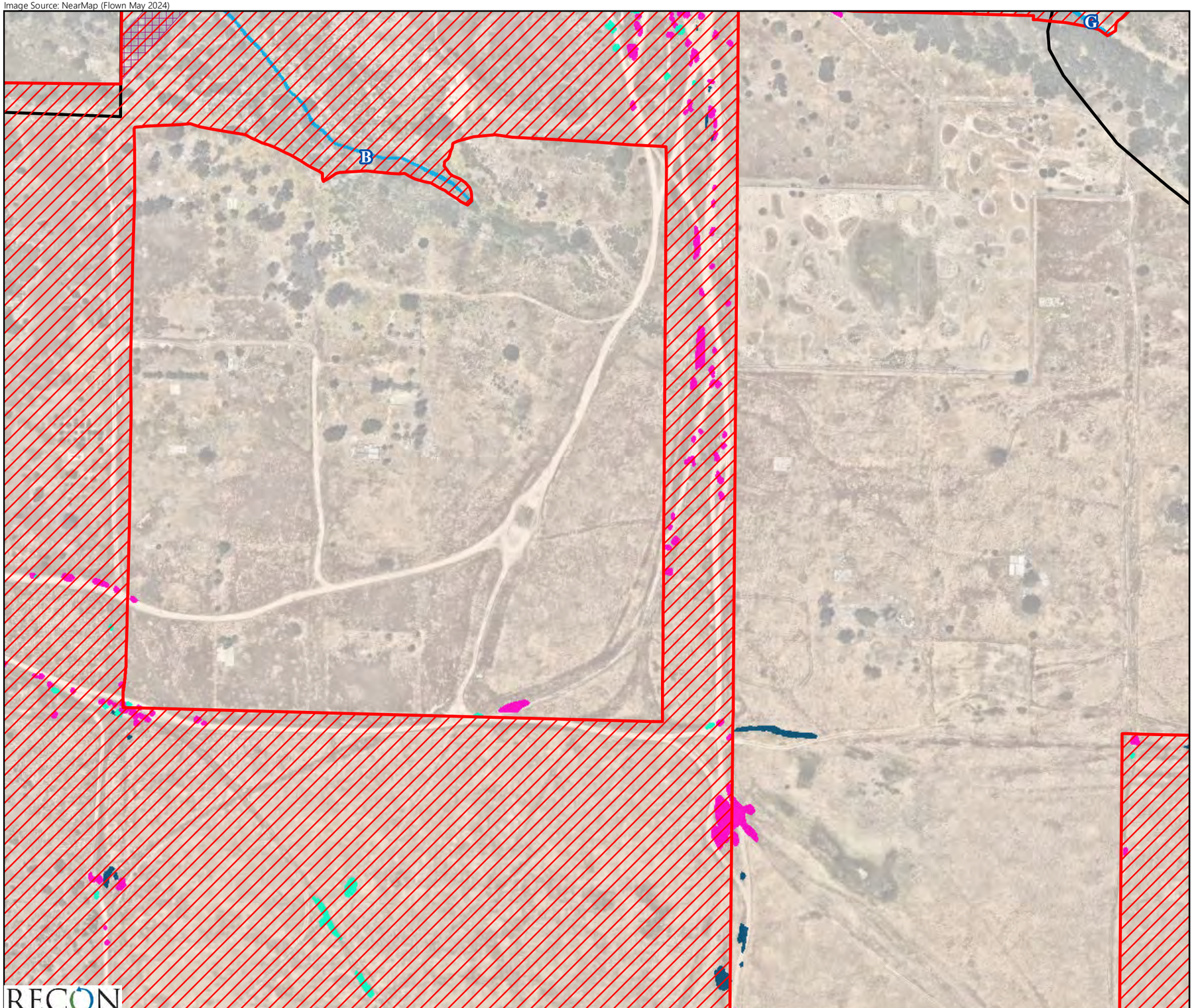
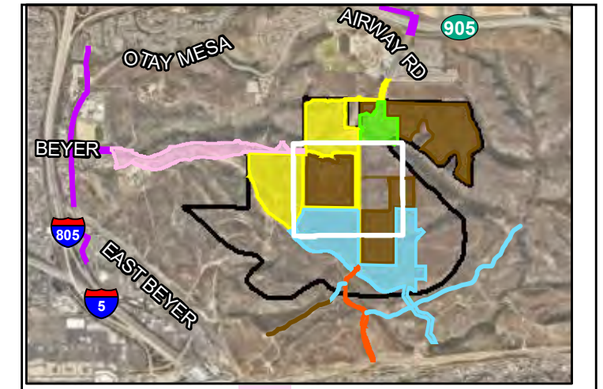
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

0 Feet 200

RECON

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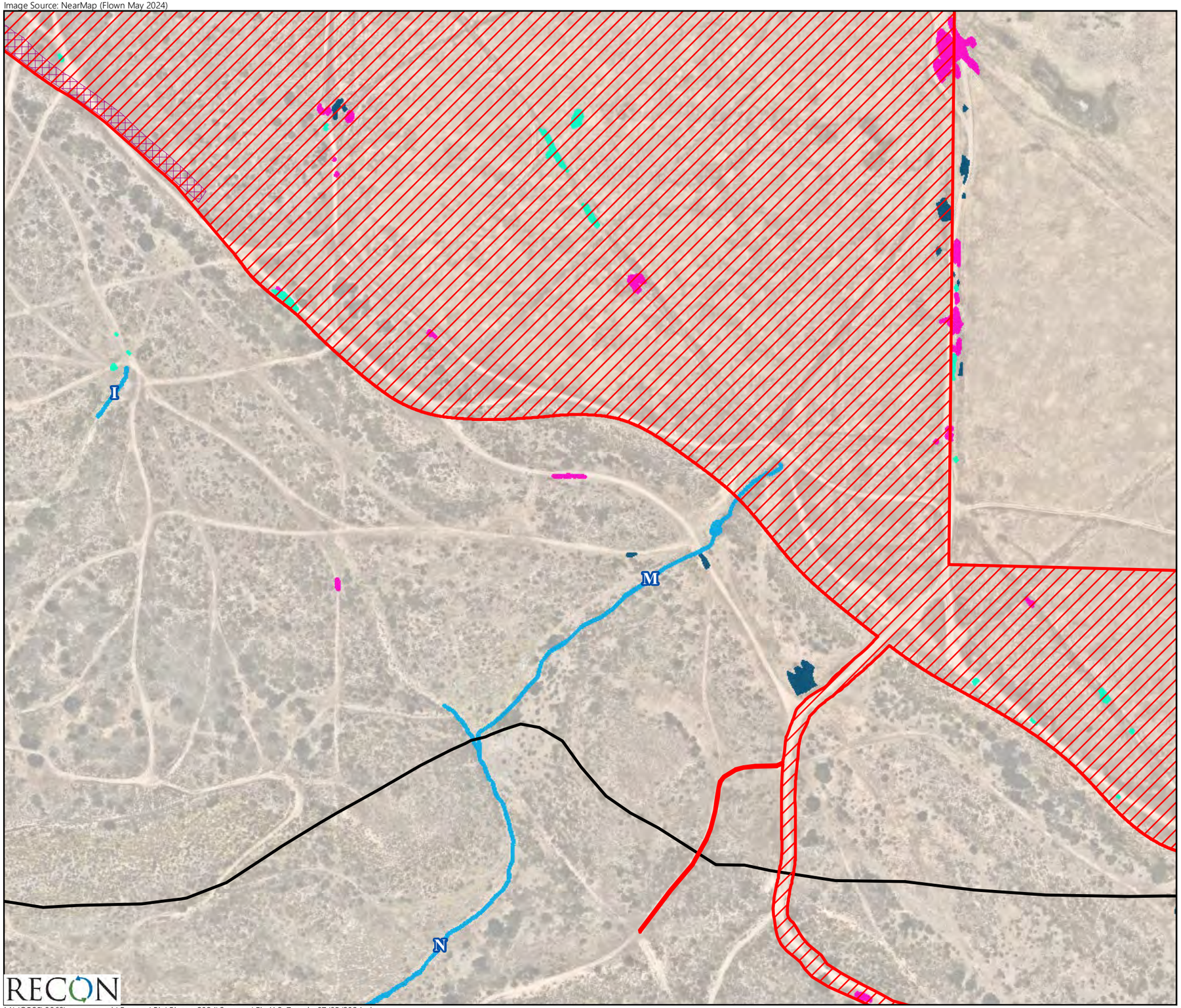
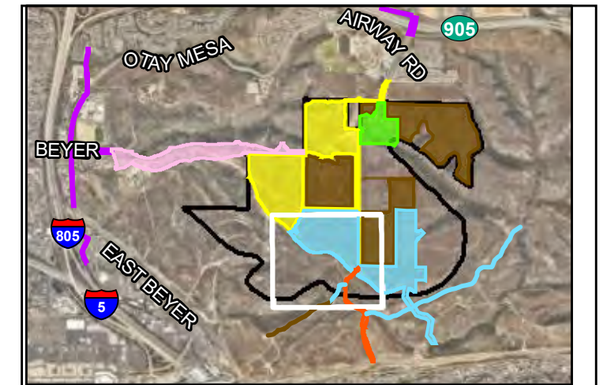
FIGURE 41.5
Impacts to Potential USACE Waters of the U.S.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

0 Feet 200

FIGURE 41.6
Impacts to Potential USACE Waters of the U.S.

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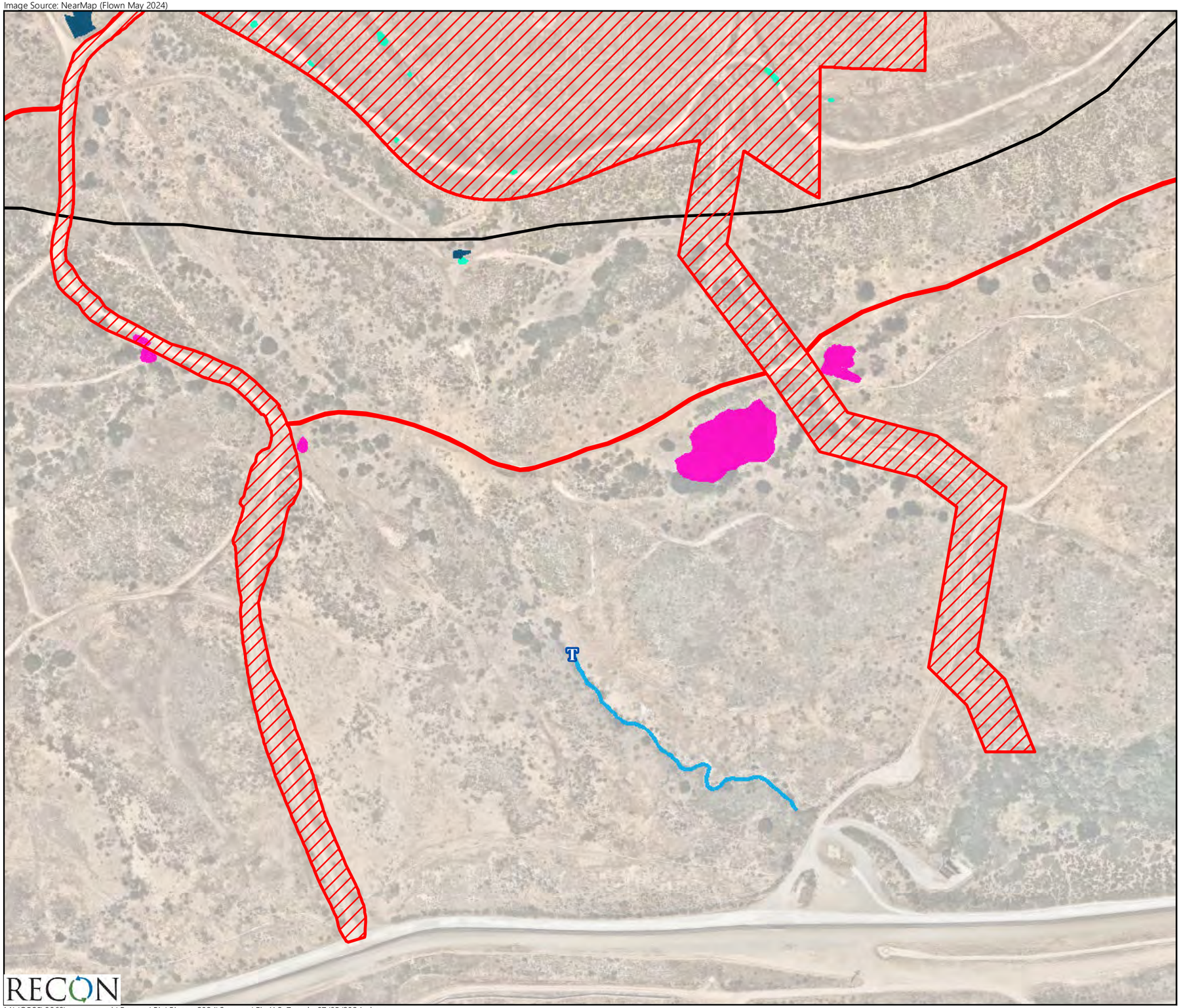
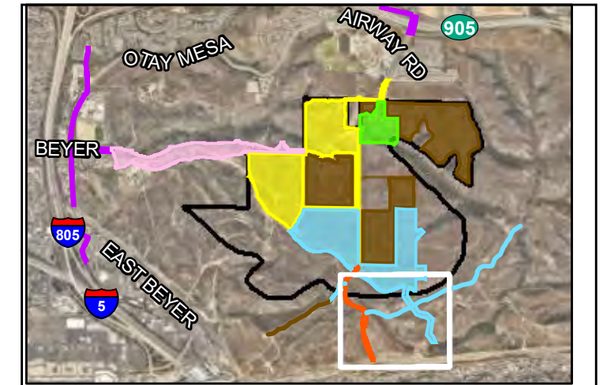
Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

0 Feet 200

RECON

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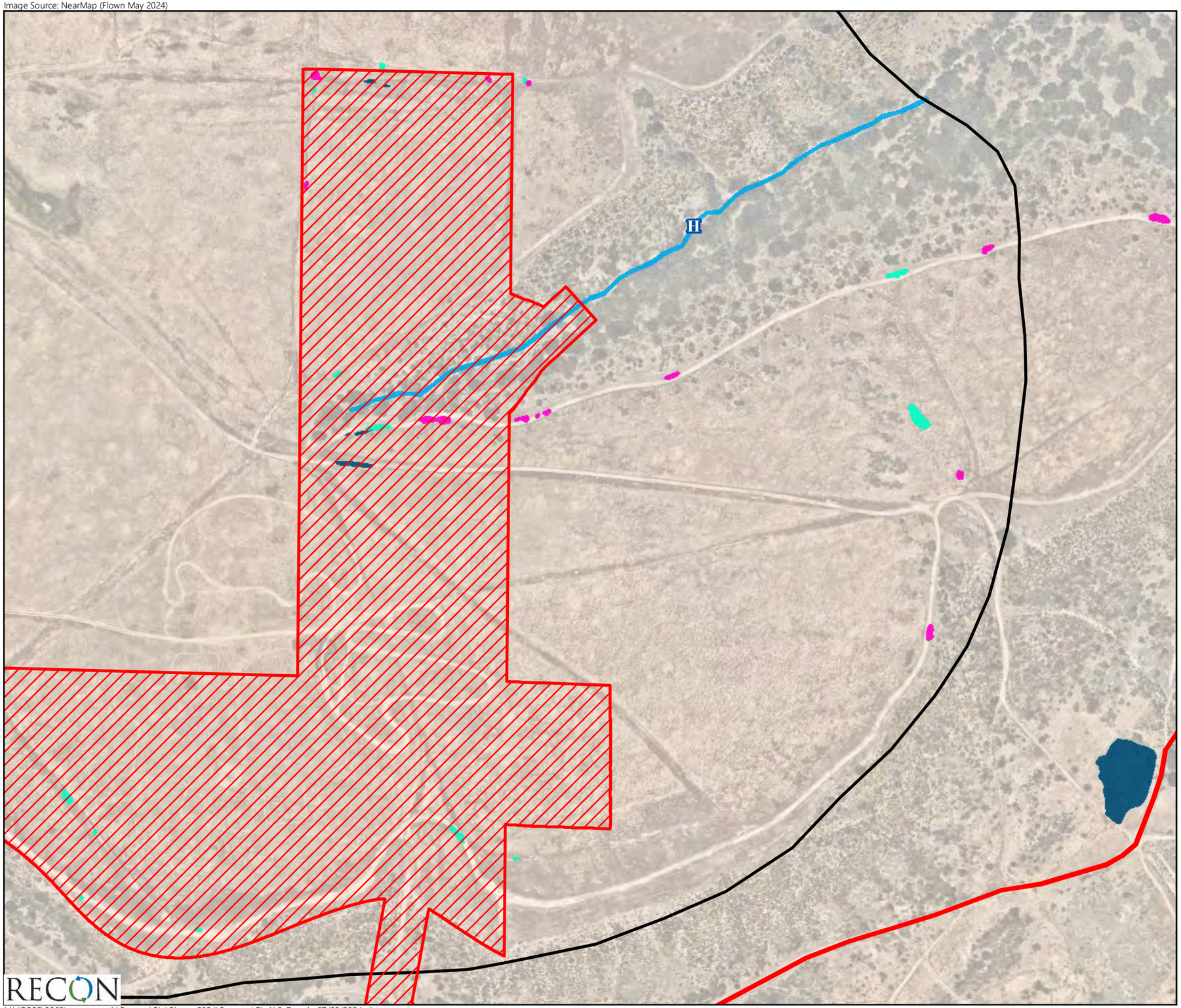
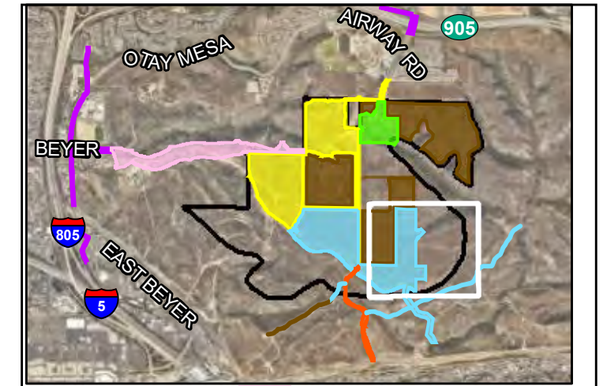
FIGURE 41.7
Impacts to Potential USACE Waters of the U.S.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Waters of the U.S. (USACE)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

0 Feet 200

RECON

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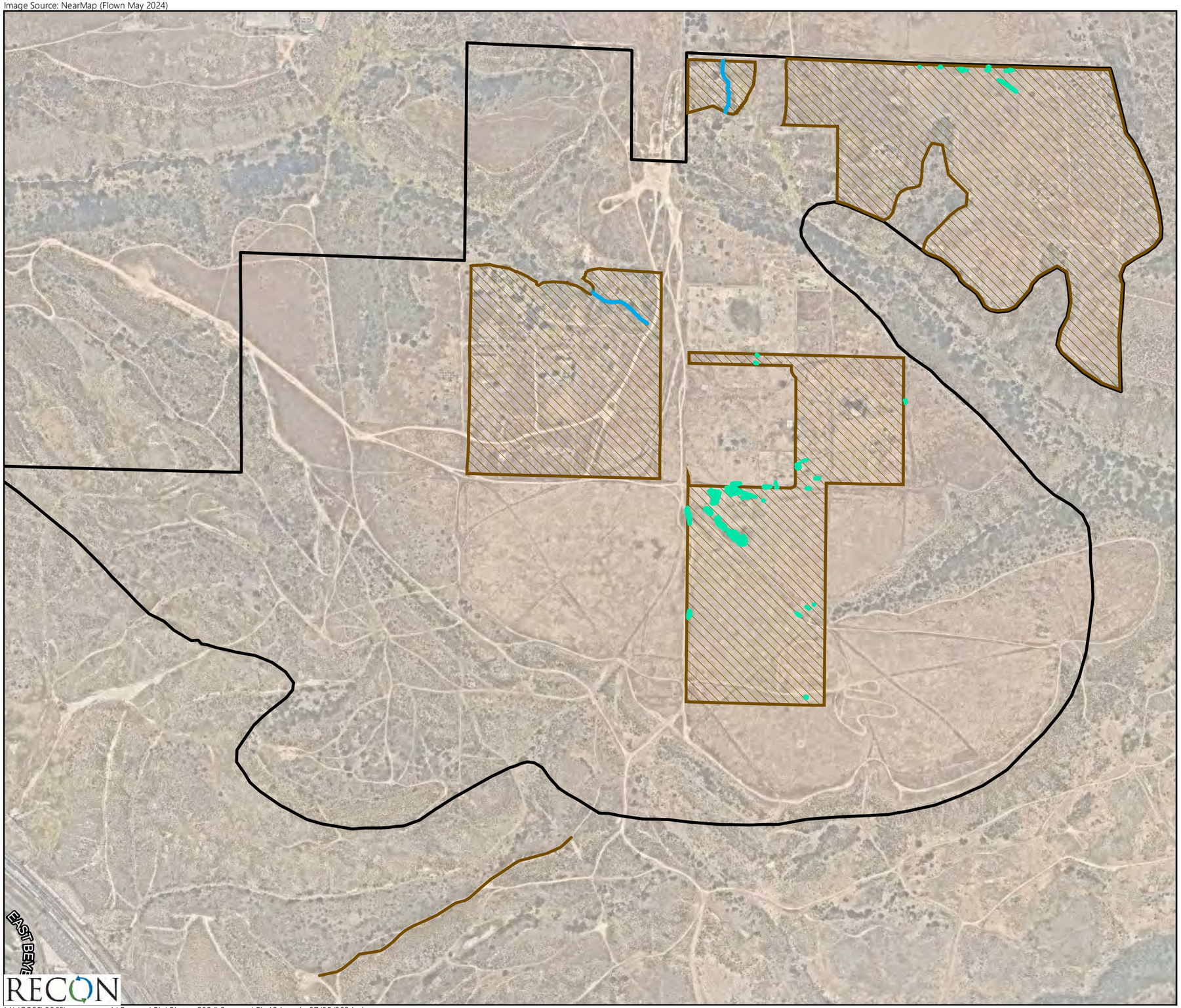
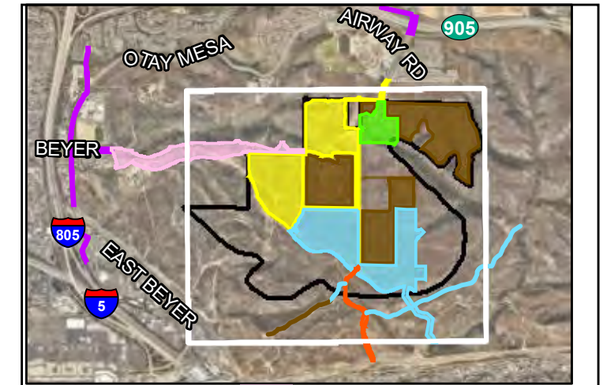
FIGURE 41.8
Impacts to Potential USACE Waters of the U.S.

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Program-level Impacts

Phases 3-7

Waters of the State (CDFW & RWQCB)

Vernal Pool

Non-Wetland Waters

0 Feet 600

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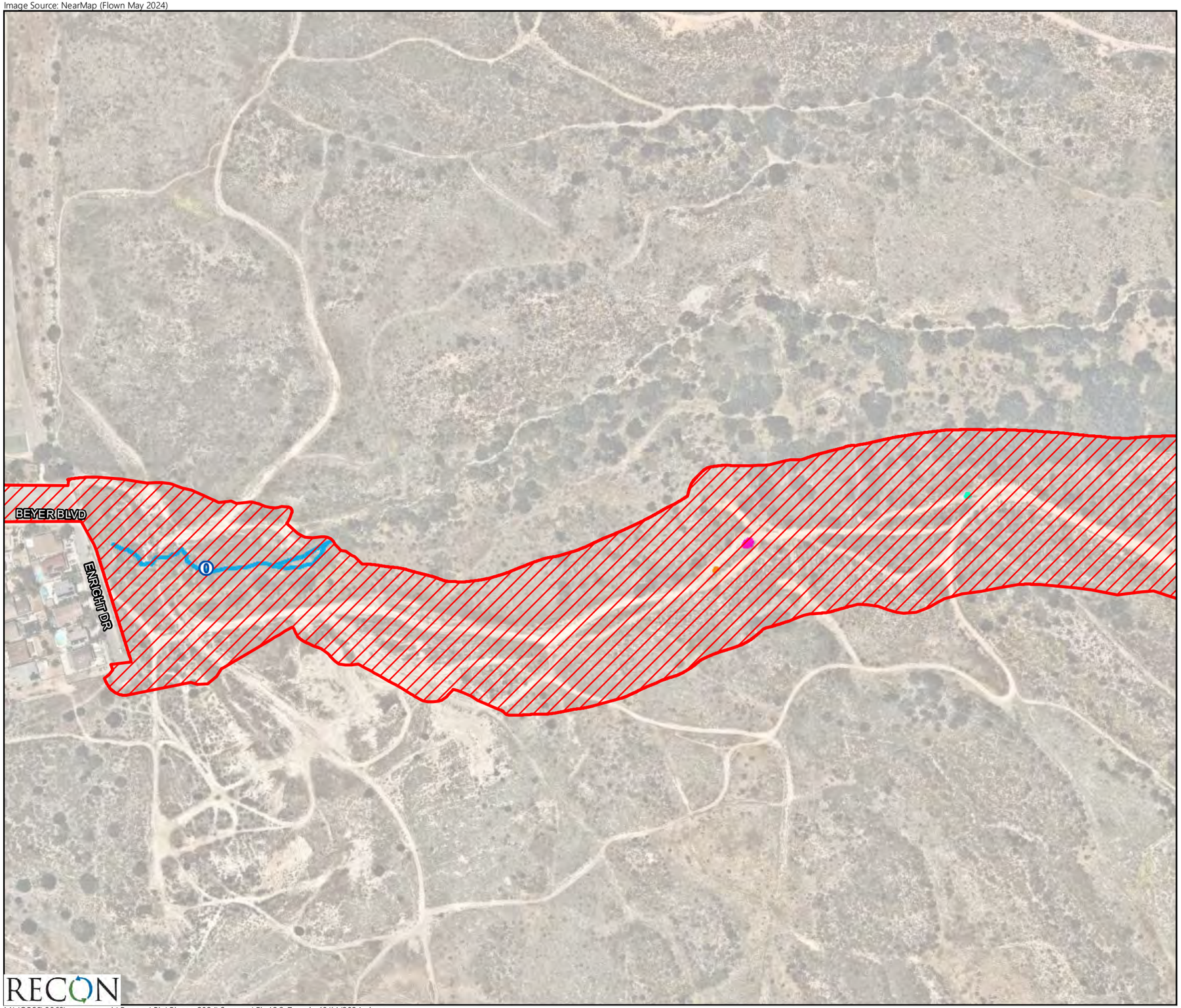
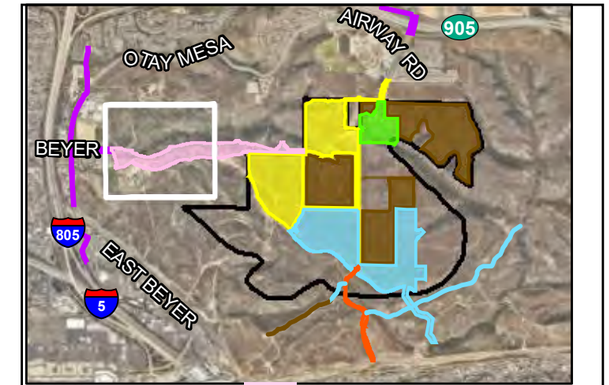
FIGURE 42.1
Program-level Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Seasonal Basin

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)

0 Feet 200

RECON

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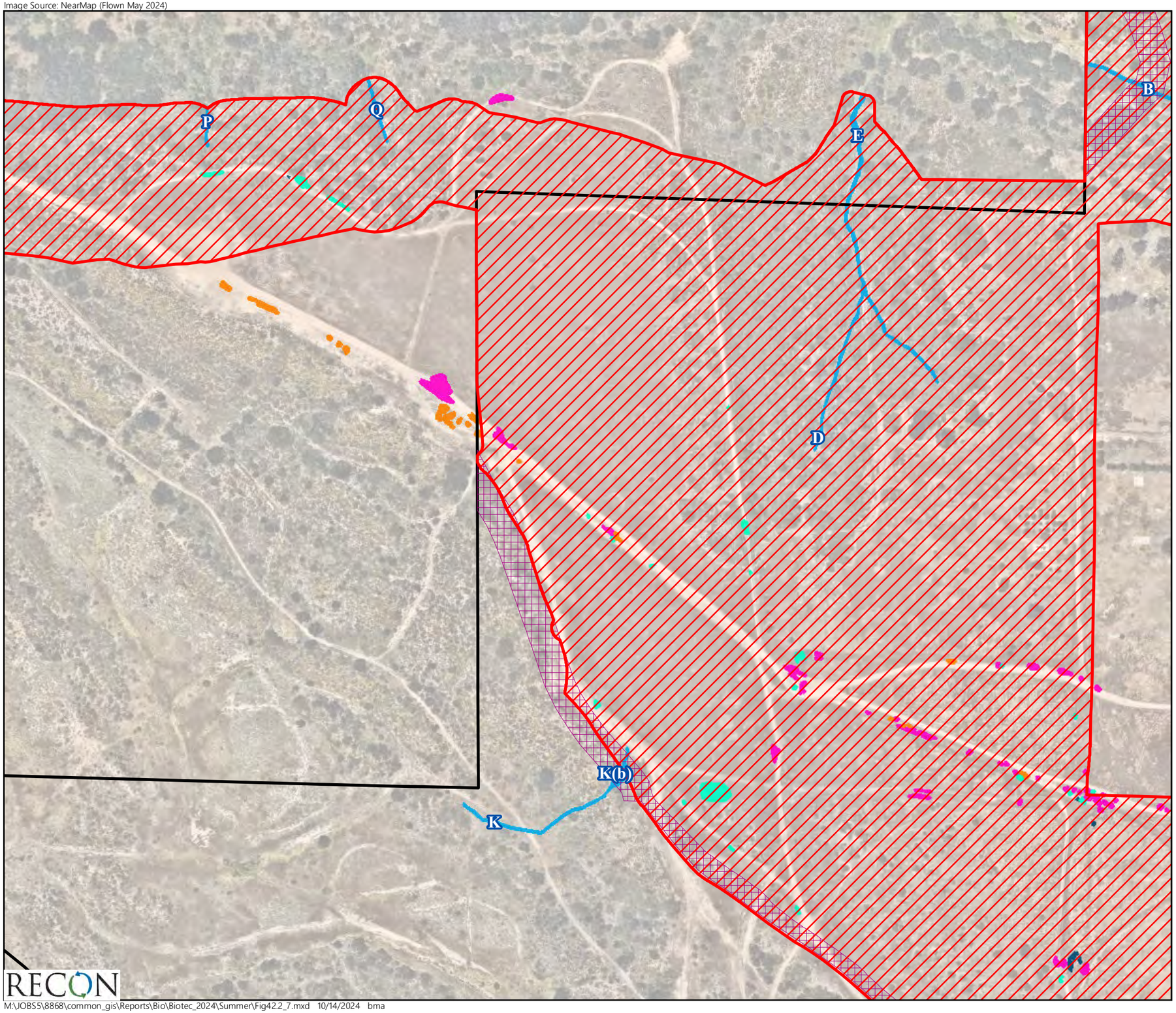
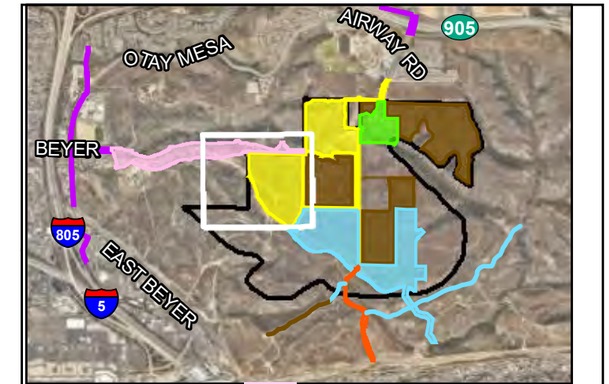
FIGURE 42.2
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Seasonal Basin
- Wetland

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)

0 Feet 200

RECON

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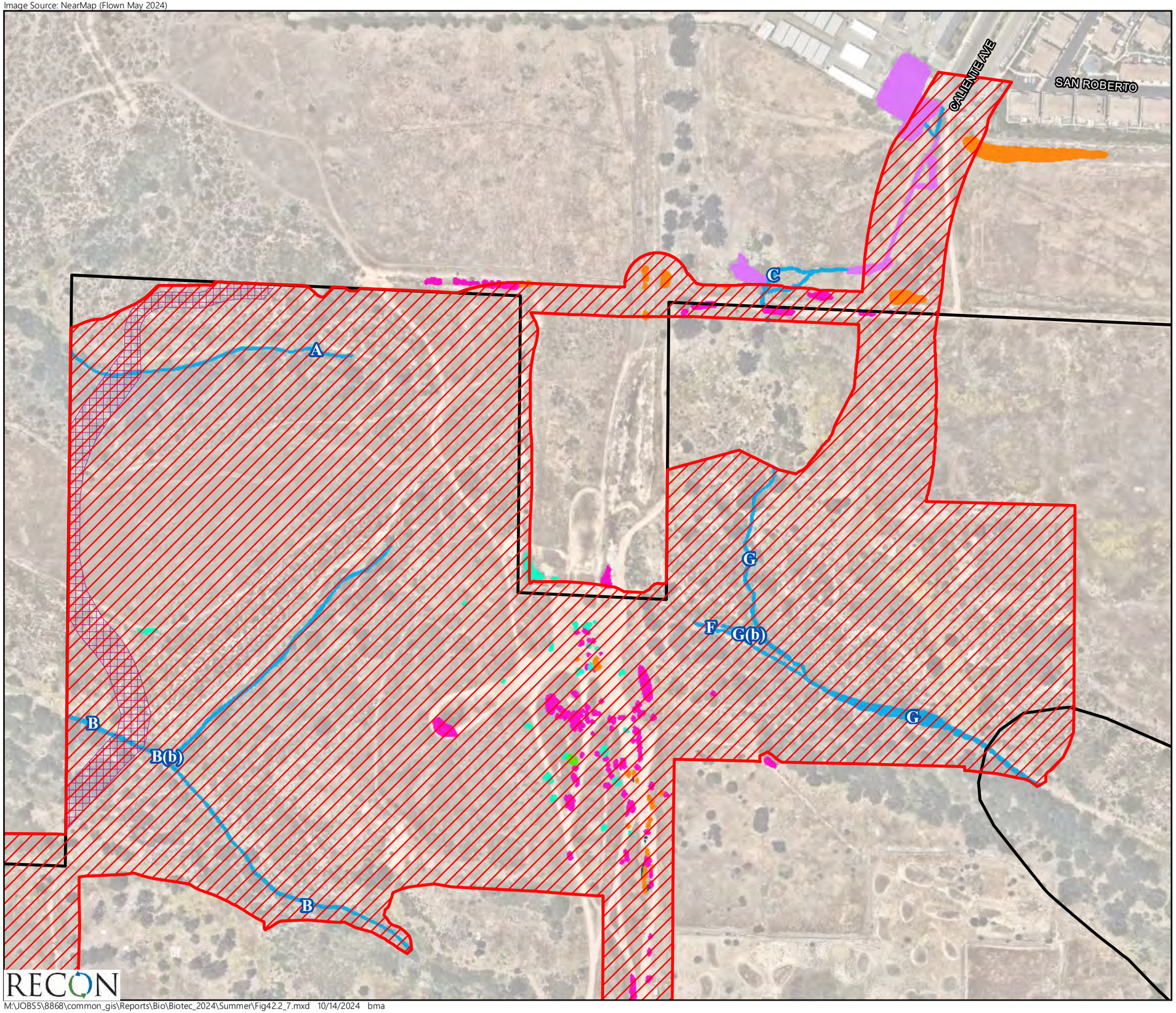
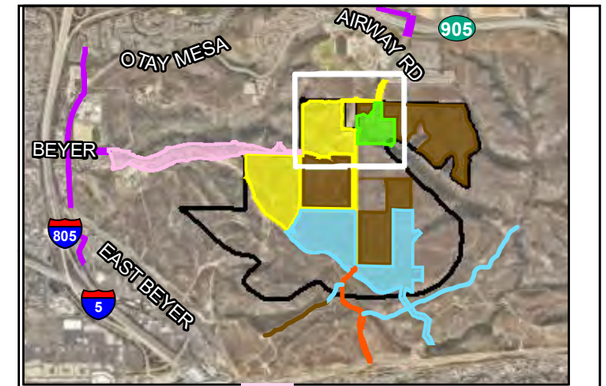
FIGURE 42.3
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Seasonal Basin
- Wetland

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)
- Vernal Pool
- Wetland

0 Feet 200

RECON

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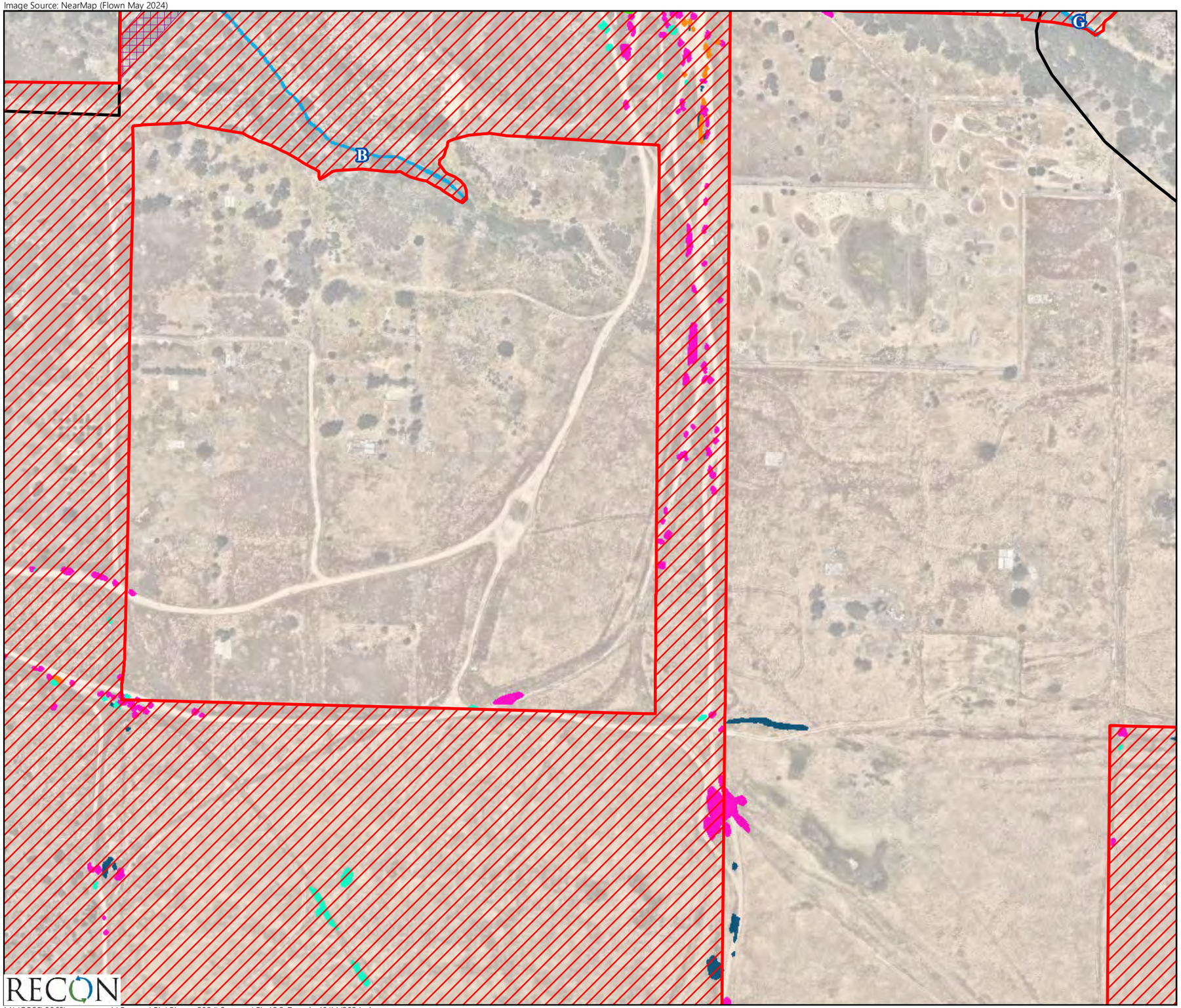
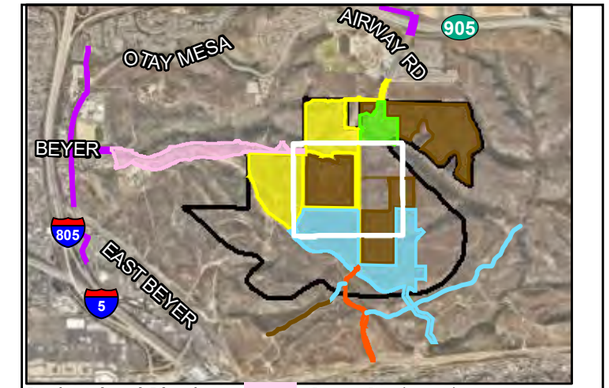
FIGURE 42.4
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts
- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access
- Brush Management Zone 2

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Seasonal Basin
- Wetland

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)
- Vernal Pool

0 Feet 200

RECON

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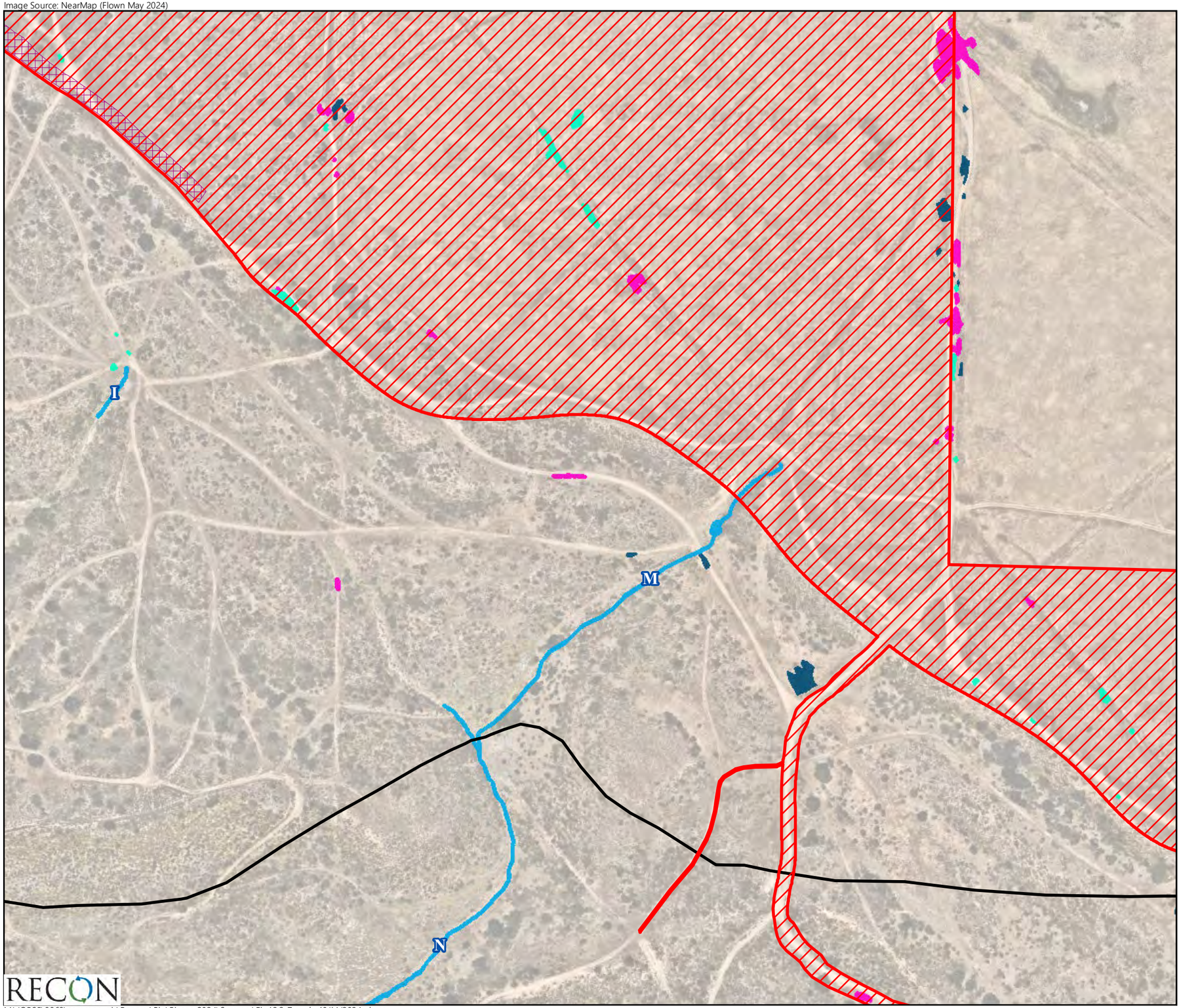
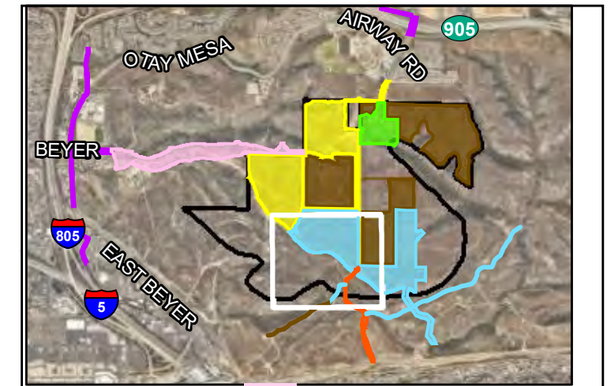
FIGURE 42.5
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)

0 Feet 200

RECON

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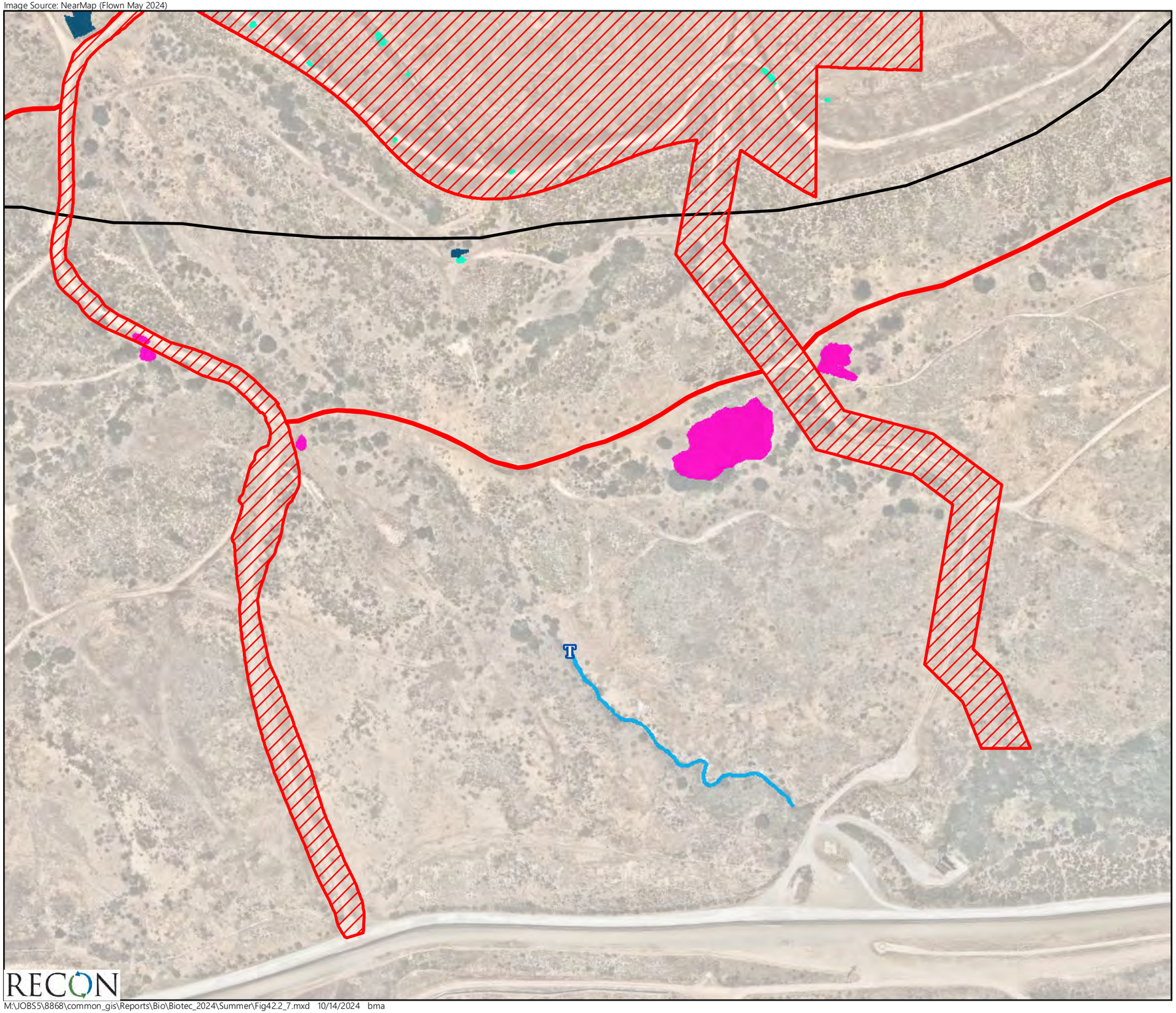
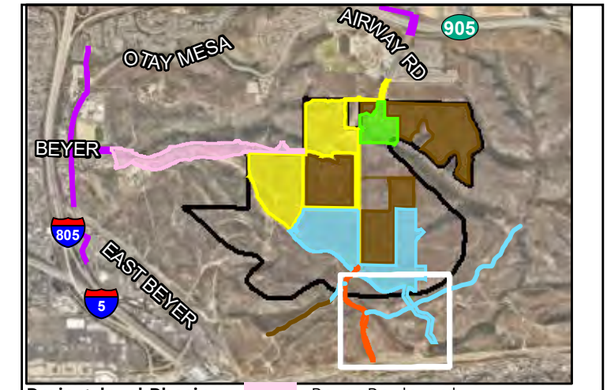
FIGURE 42.6
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Wetland

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)

0 Feet 200

RECON

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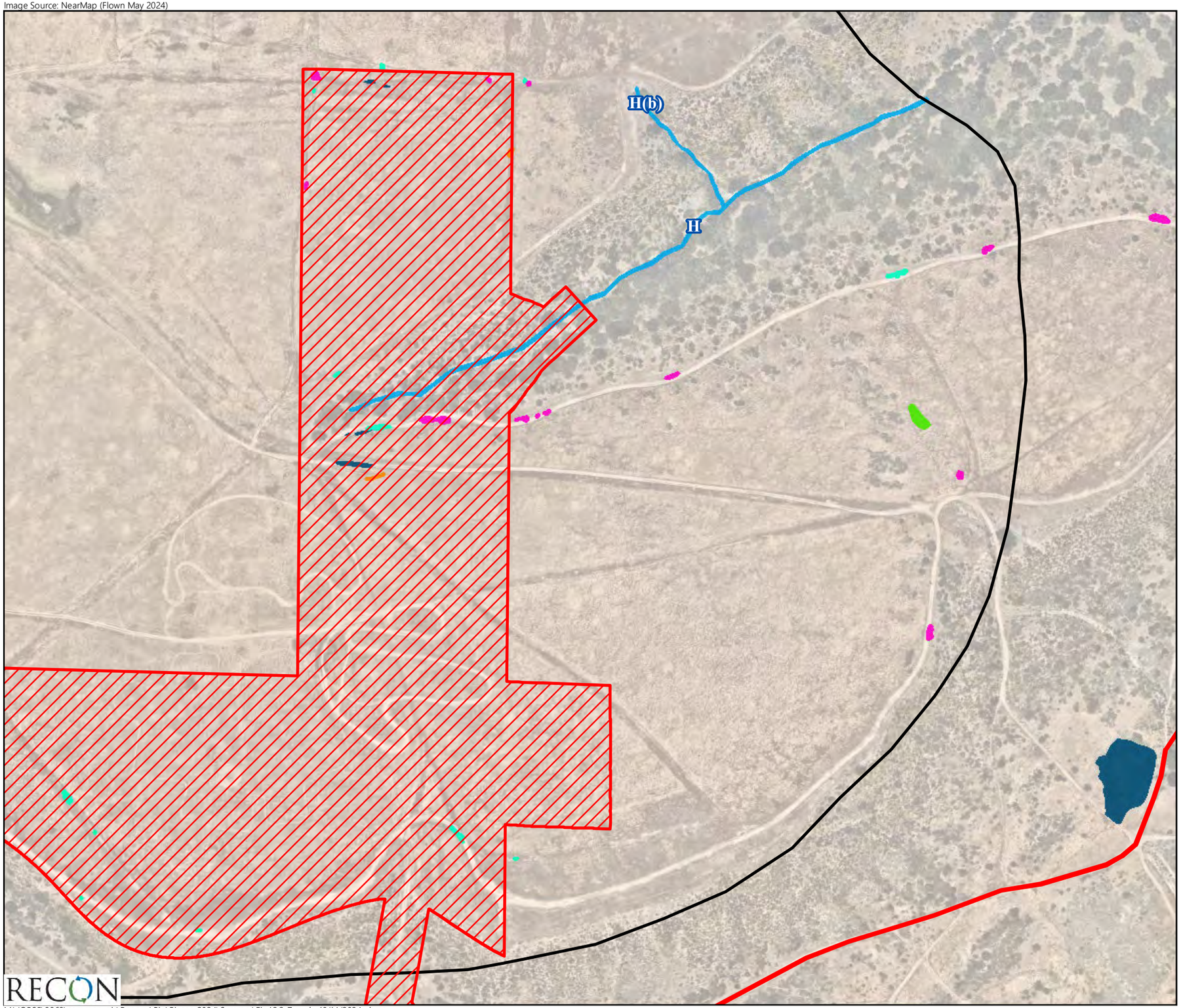
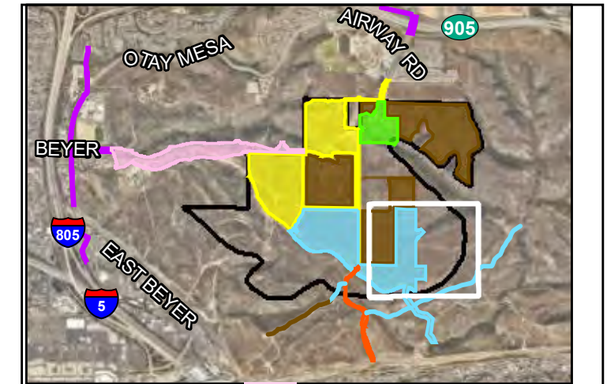
FIGURE 42.7
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Waters of the State (RWQCB)
- Vernal Pool
- Vernal Pool with Fairy Shrimp
- Seasonal Basin
- Wetland

Waters of the State (CDFW & RWQCB)
- Non-wetland Waters (Waters ID)
- Vernal Pool

0 Feet 200

RECON

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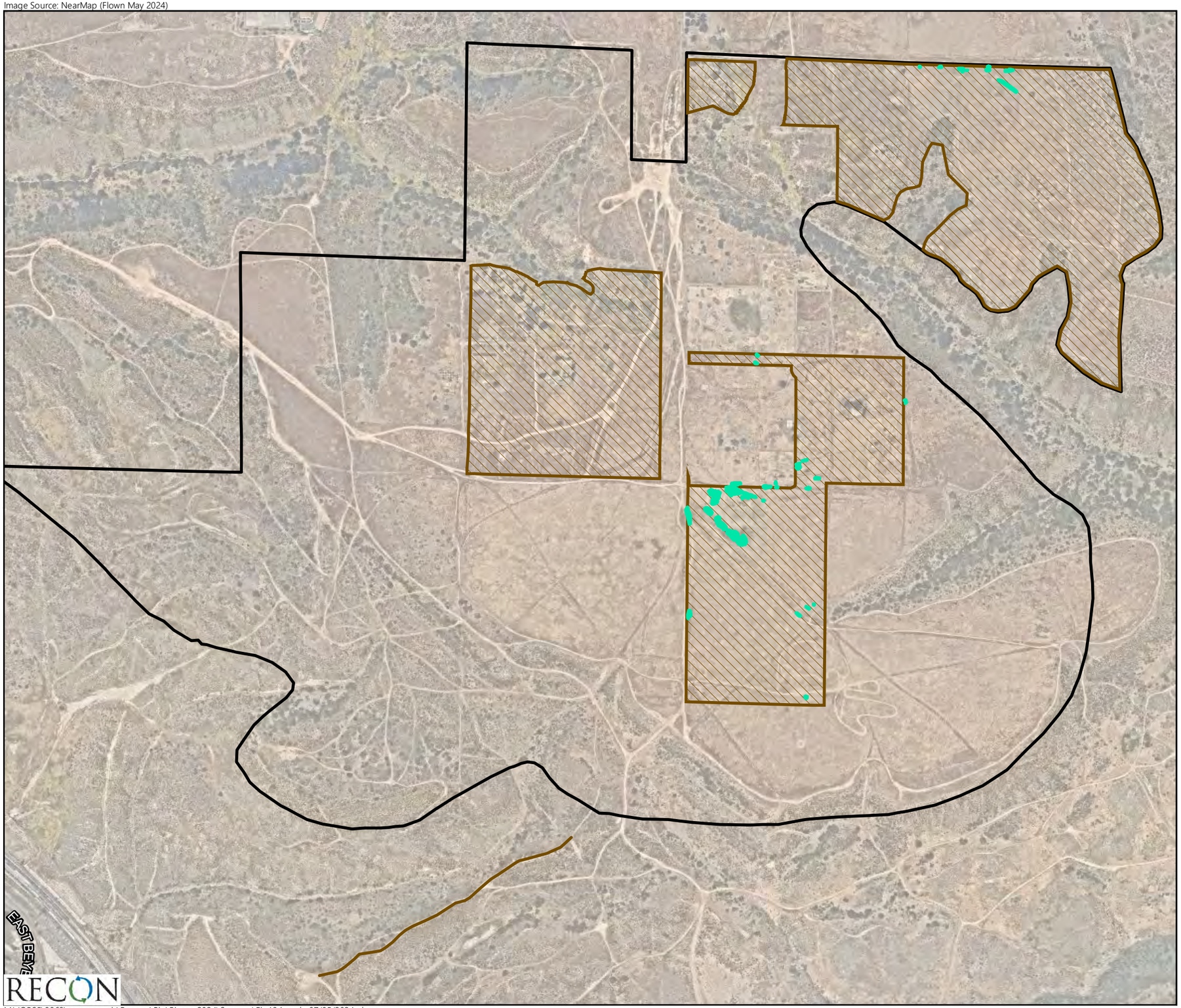
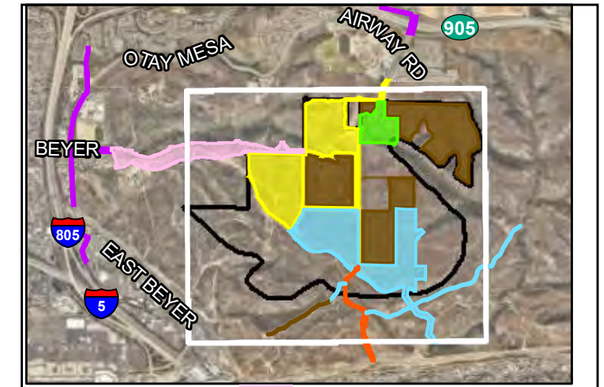
FIGURE 42.8
Impacts to Potential
CDFW & RWQCB Waters of the State

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Program-level Impacts

Phases 3-7

City of San Diego Wetlands

Vernal Pool

0 Feet 600

FIGURE 43.1
Program-level Impacts to
City of San Diego Wetlands

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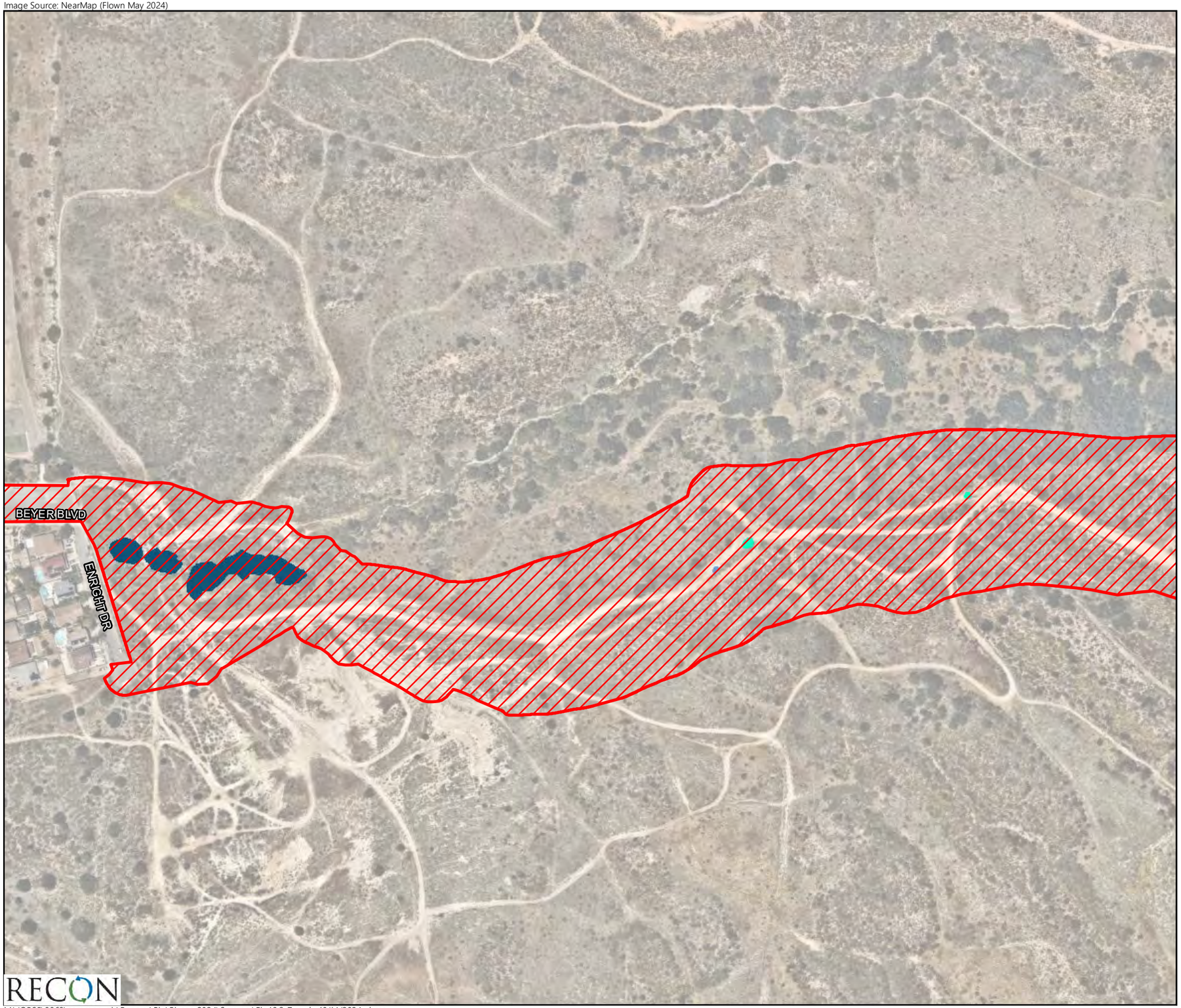
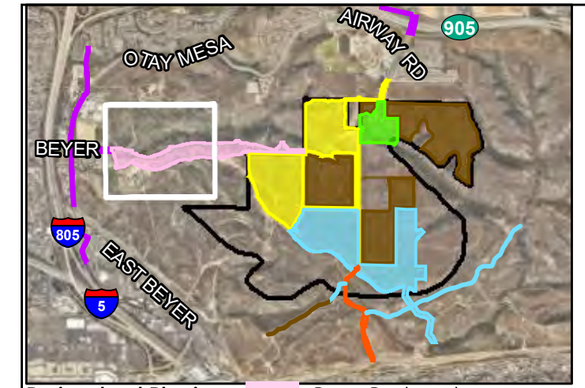
Image Source: NearMap (Flown May 2024)





Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Project-level Impacts

- Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

City of San Diego Wetlands

- Vernal Pool
- Wetland
- Disturbed Wetland

0 Feet 200

RECON

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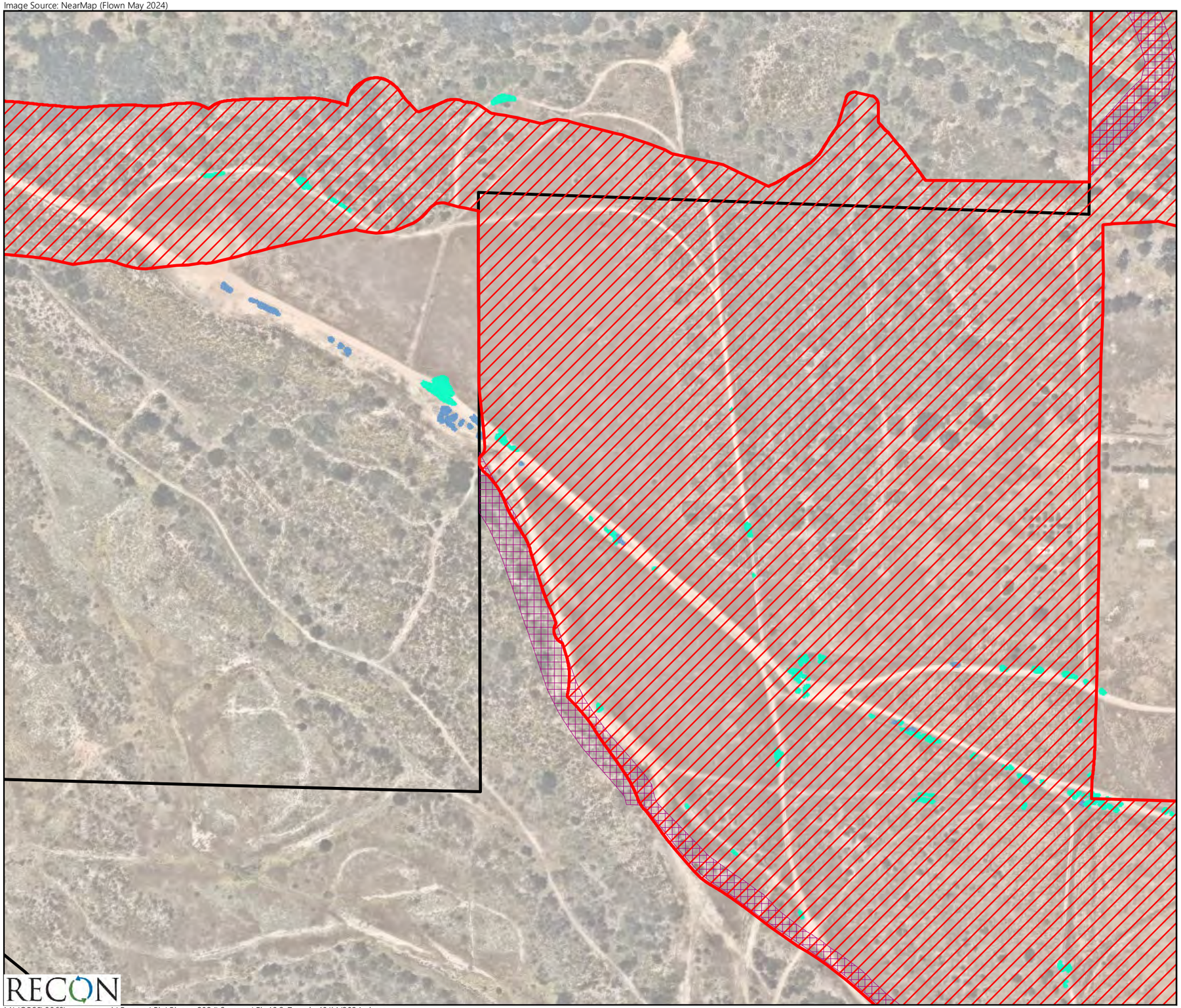
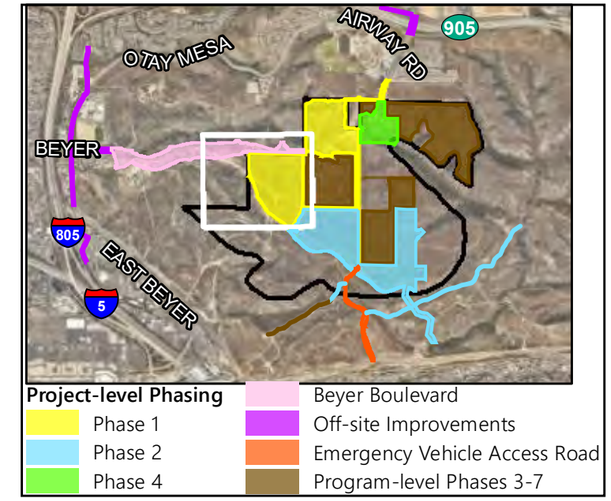
FIGURE 43.2
Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

City of San Diego Wetlands

Vernal Pool

Disturbed Wetland

0 Feet 200

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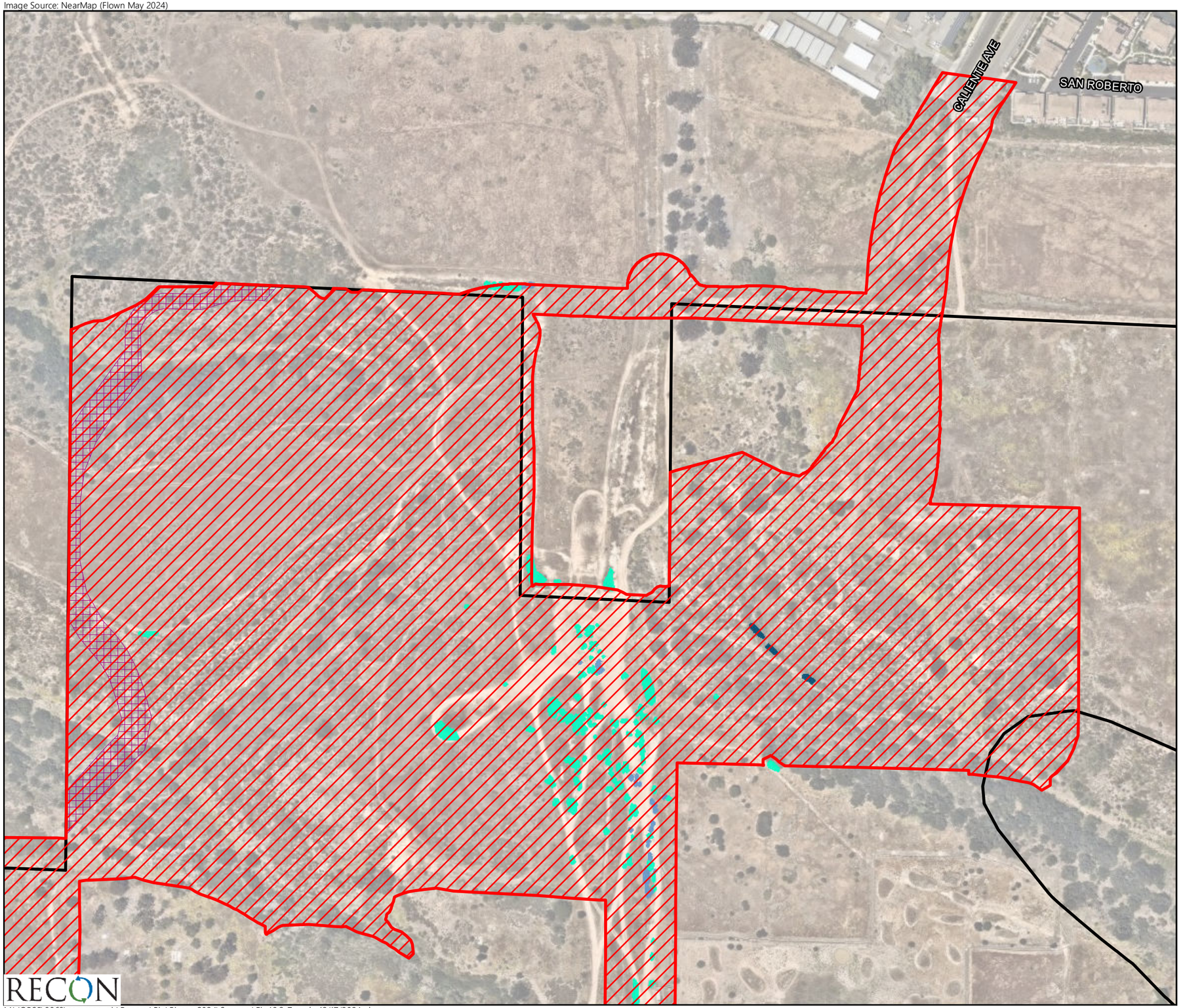
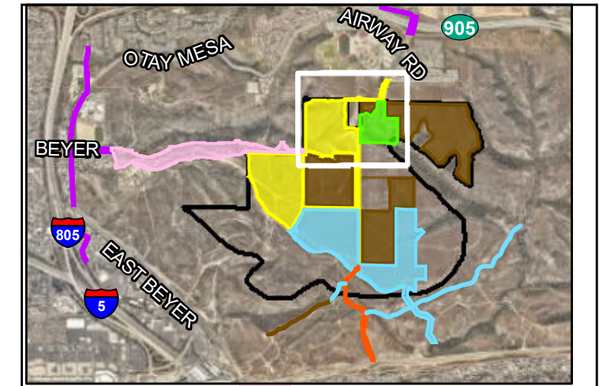
FIGURE 43.3

Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

City of San Diego Wetlands
- Vernal Pool
- Wetland
- Disturbed Wetland

0 Feet 200

RECON

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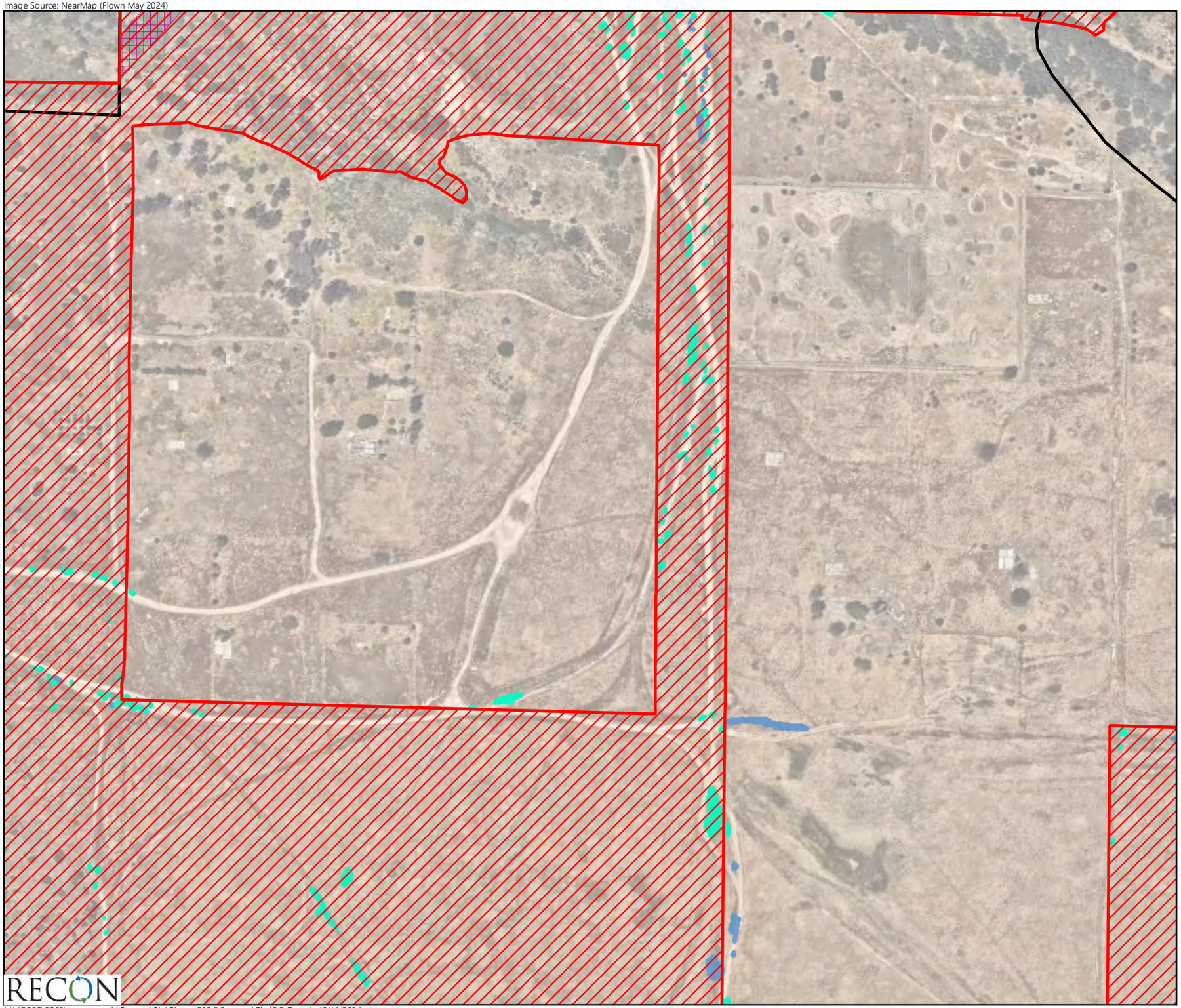
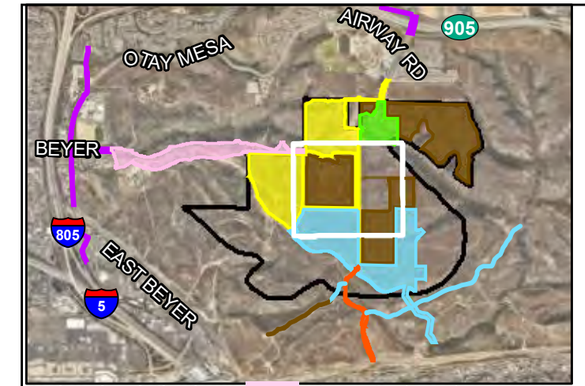
FIGURE 43.4
Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

City of San Diego Wetlands

Vernal Pool

Disturbed Wetland

0 Feet 200

RECON

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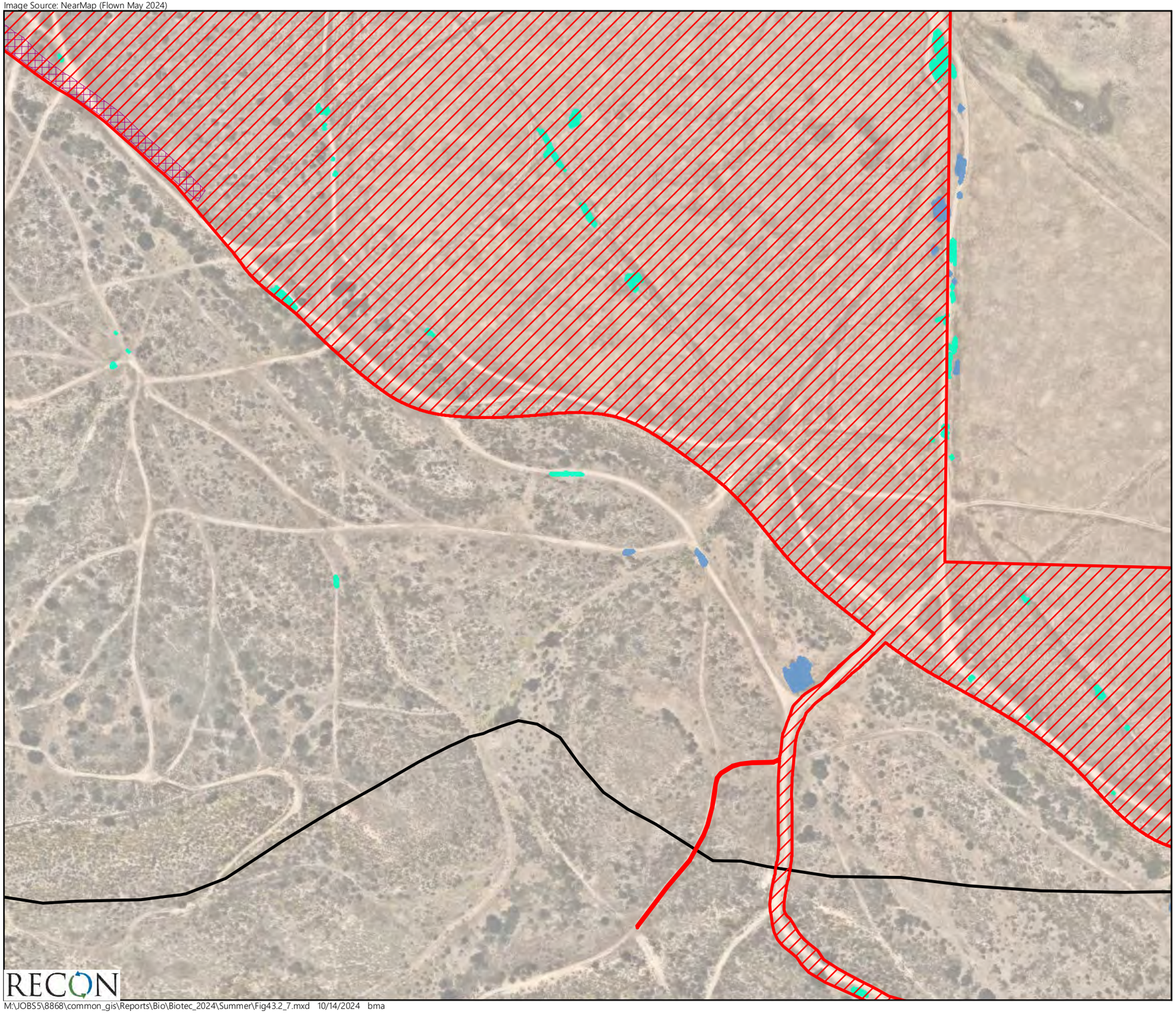
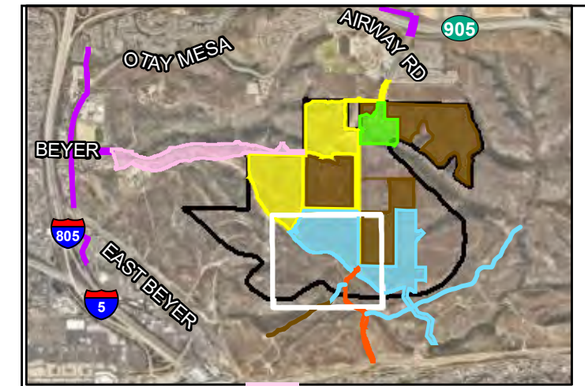
FIGURE 43.5

Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

Brush Management Zone 2

City of San Diego Wetlands

Vernal Pool

Disturbed Wetland

0 Feet 200

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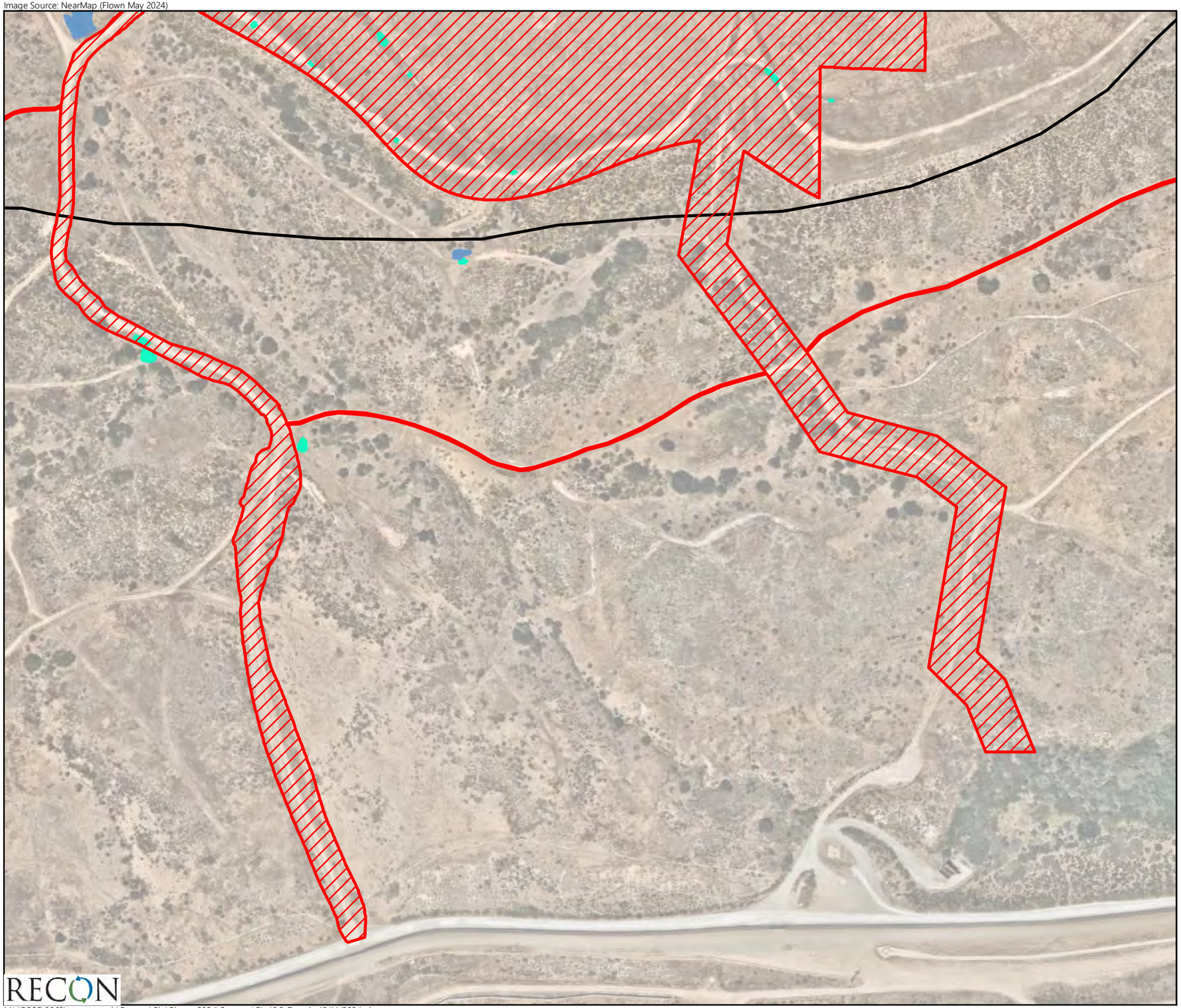
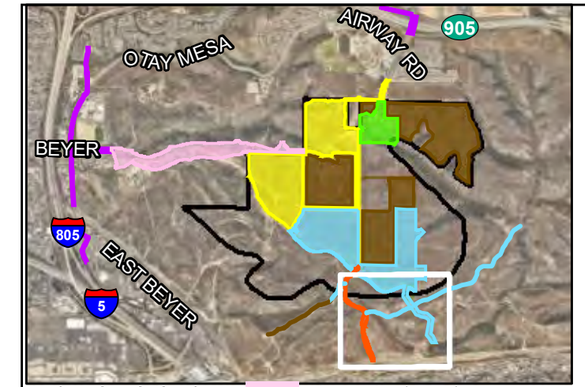
FIGURE 43.6
Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Project-level Phasing

- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

City of San Diego Wetlands

- Vernal Pool
- Disturbed Wetland

0 Feet 200

RECON

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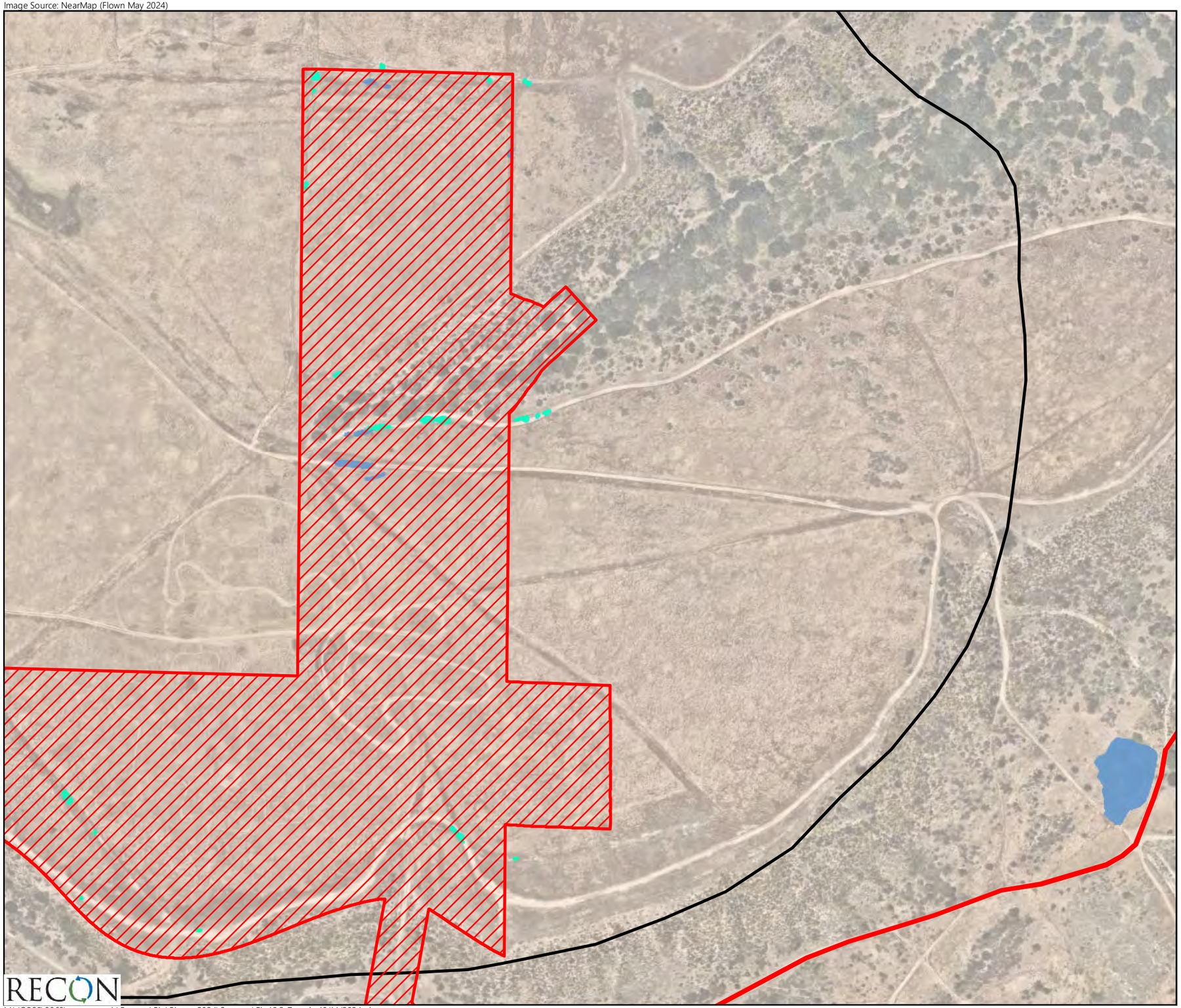
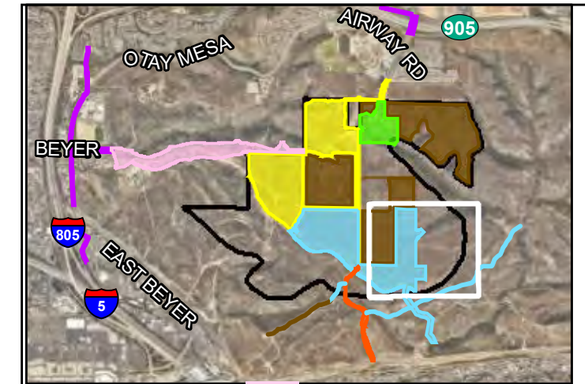
FIGURE 43.7
Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

Specific Plan Boundary

Project-level Impacts

Phases 1-2, Phase 4, Beyer Boulevard, Off-site Improvements, Emergency Vehicle Access

City of San Diego Wetlands
- Vernal Pool
- Disturbed Wetland

0 Feet 200

RECON

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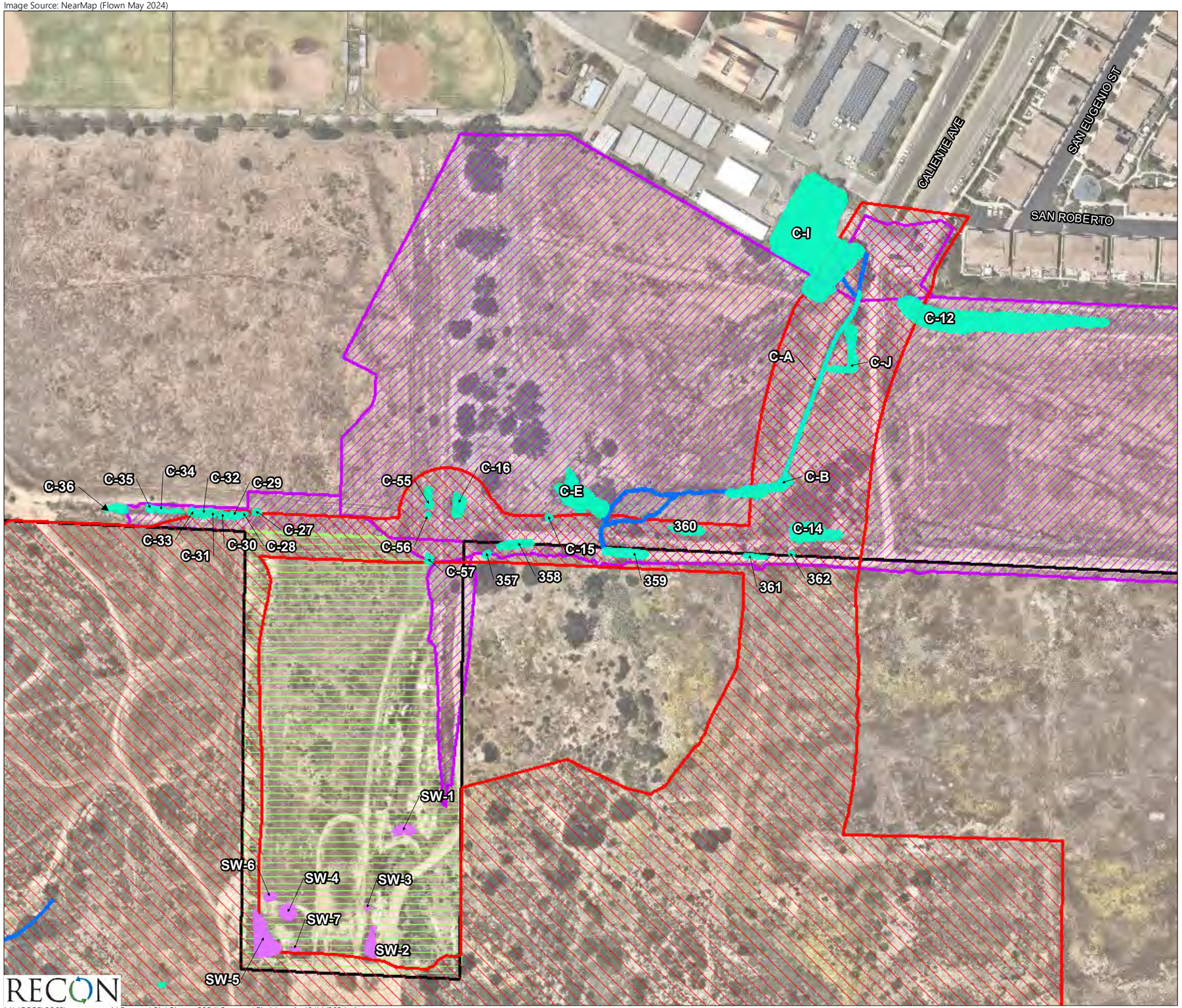
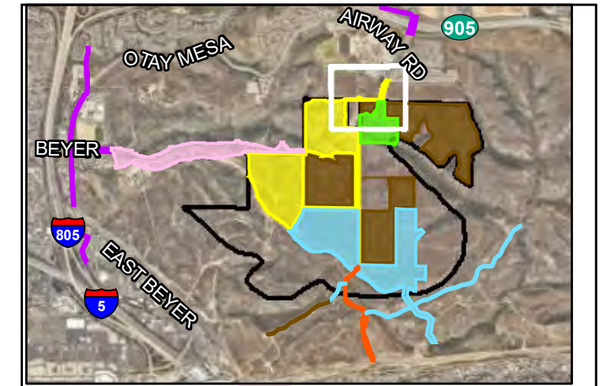
FIGURE 43.8
Impacts to City of San Diego Wetlands

Image Source: NearMap (Flown May 2024)





Project-level Phasing
- Phase 1
- Phase 2
- Phase 4
- Beyer Boulevard
- Off-site Improvements
- Emergency Vehicle Access Road
- Program-level Phases 3-7

- Specific Plan Boundary
- Candlelight Project Area
- Southwind Project Area
- Project-level Analysis Area

Features Covered Under:

Candlelight CEQA/Permits
- Jurisdictional Waters and Wetlands
- Drainage

Southwind Project
- Jurisdictional Waters and Wetlands

0 Feet 150

FIGURE 44
Jurisdictional Resources within the Southwest Village Specific Plan Project, Candlelight Project and Southwind Project

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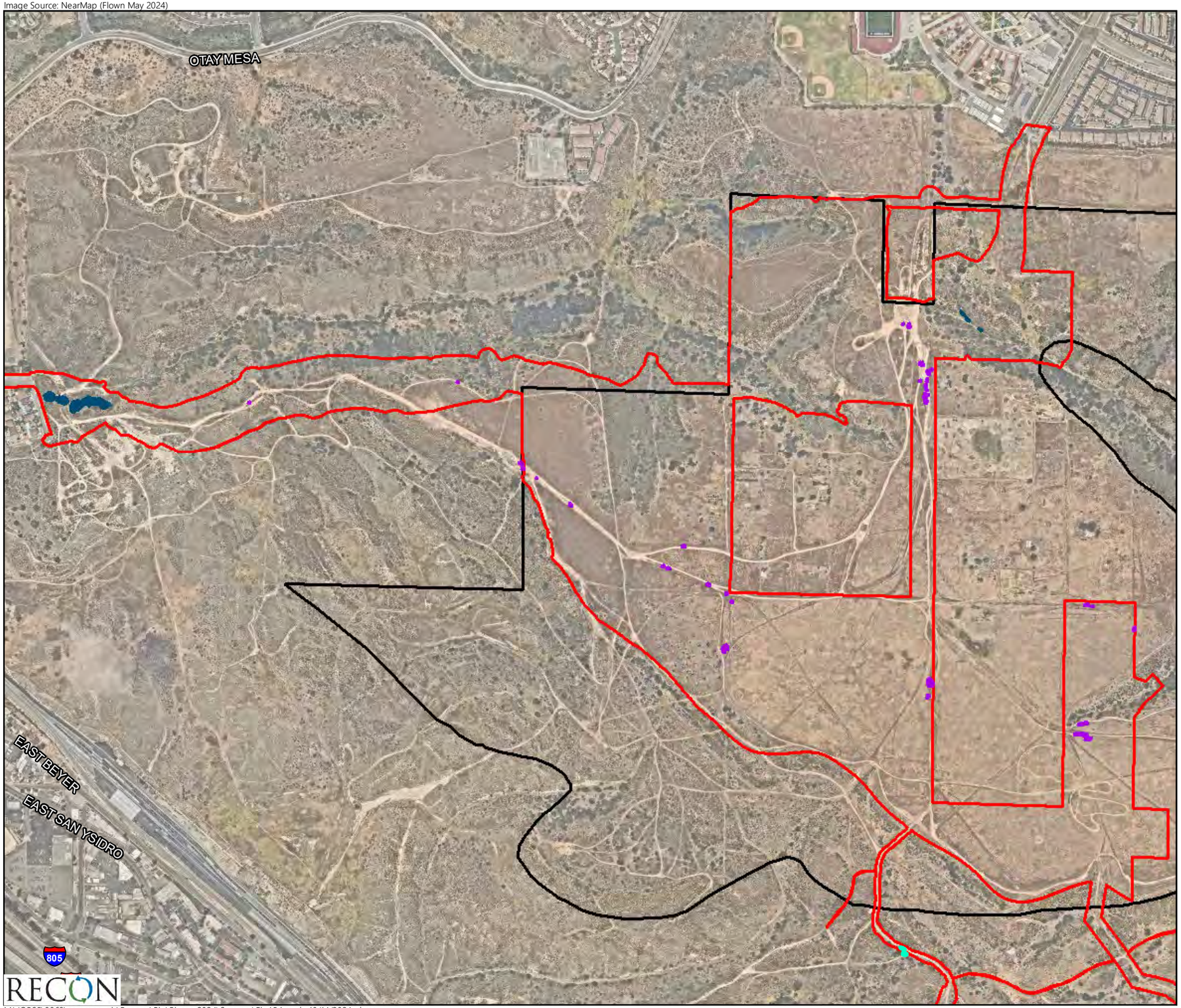
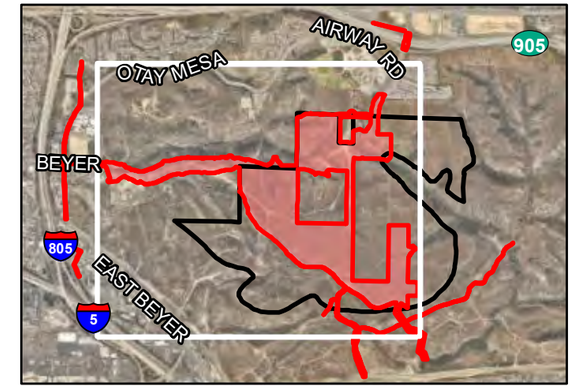
Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Wetland

Disturbed Wetland

Vernal Pool

0 Feet 650

FIGURE 45.1
Resources Subject to
City of San Diego Wetland Deviation

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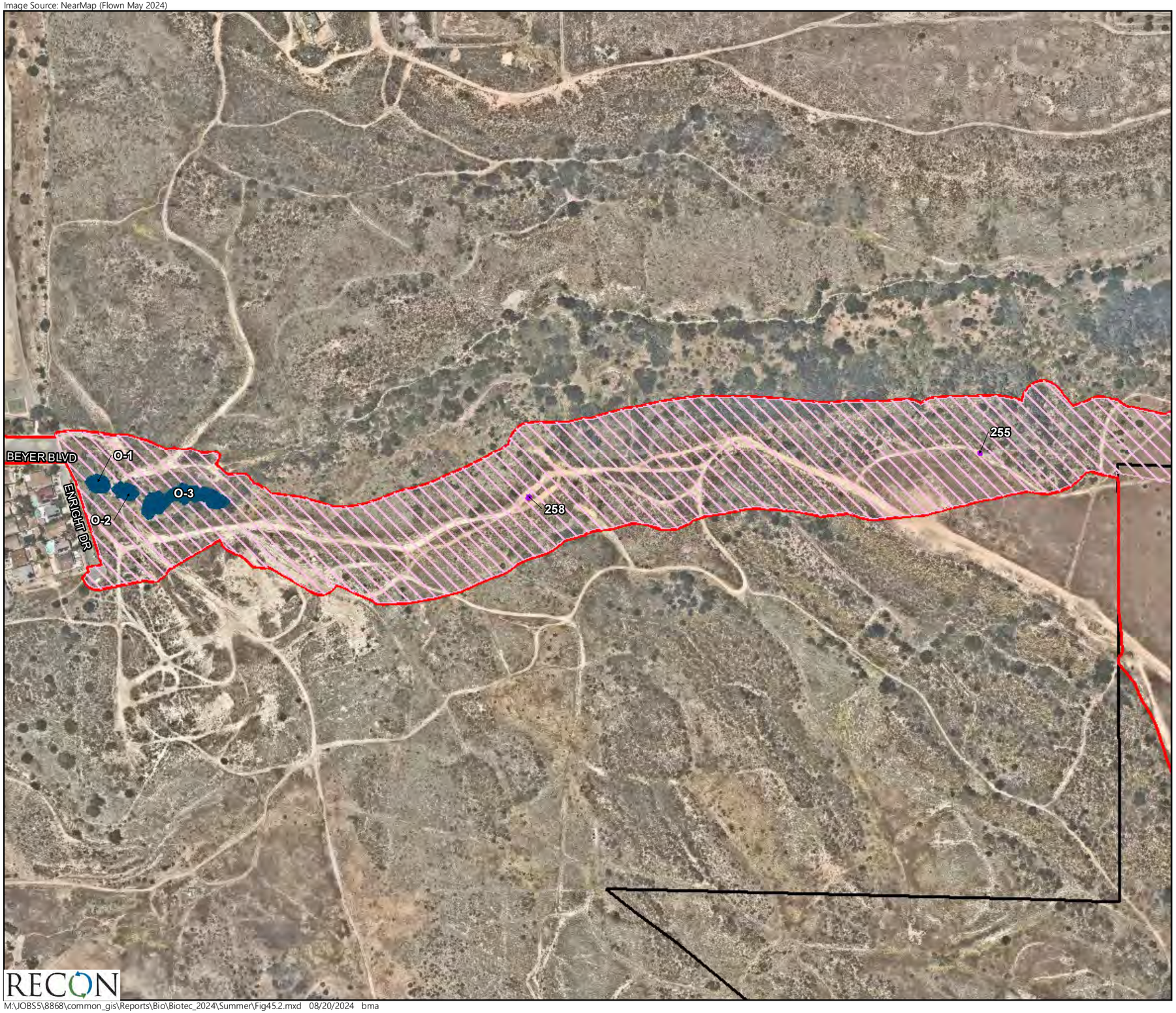
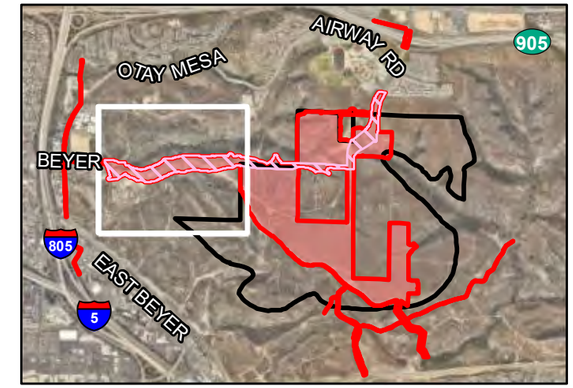
Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

Essential Public Projects Option

Beyer Boulevard

City of San Diego Waters

Wetland

Disturbed Wetland

0 Feet 250

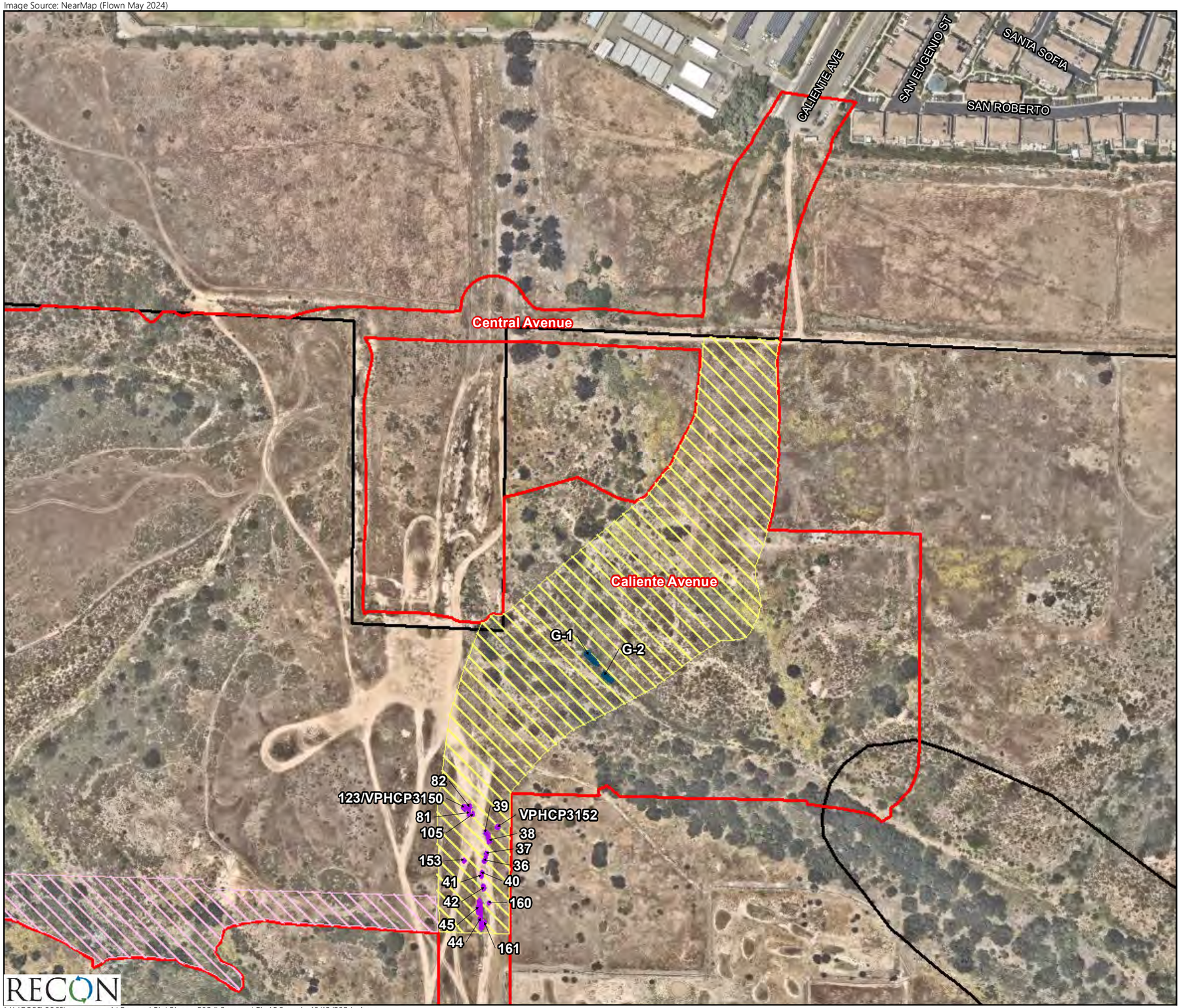
RECON

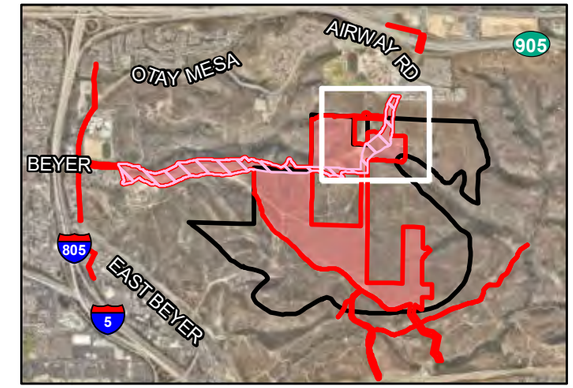
M:\JOBS5\8868\common_gis\Reports\Bio\Biotec_2024\Summer\Fig45.2.mxd 08/20/2024 bma

FIGURE 45.2

Wetland Deviation for Beyer Boulevard - Essential Public Projects Option

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

Essential Public Projects Option

Beyer Boulevard

Caliente Avenue South of Central Avenue

City of San Diego Waters

Wetland

Disturbed Wetland

0 Feet 200

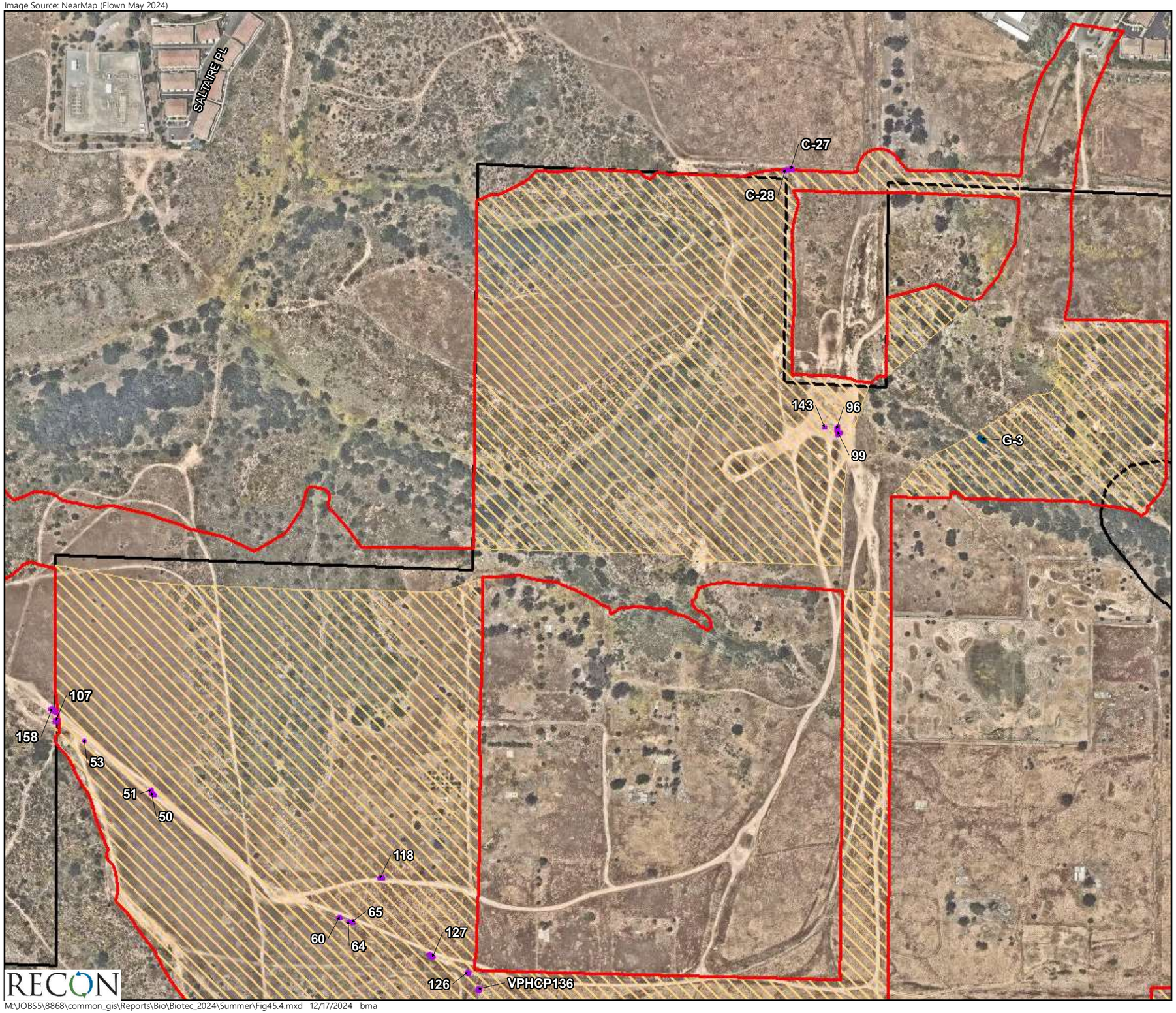
RECON

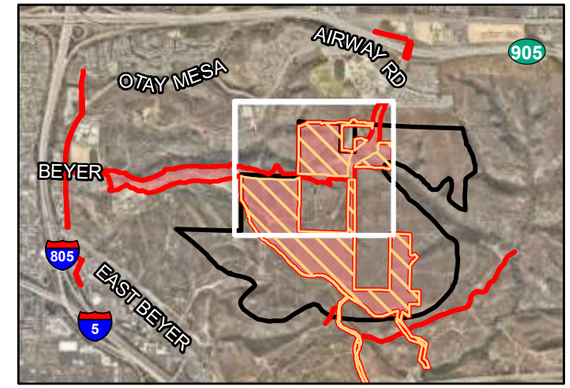
M:\JOBS5\8868\common_gis\Reports\Bio\Biotec_2024\Summer\Fig45.3.mxd 10/15/2024 bma

FIGURE 45.3

Wetland Deviation for Caliente Avenue - Essential Public Projects Option

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

Biologically Superior Option

City of San Diego Waters

Wetland

Disturbed Wetland

0 Feet 300

FIGURE 45.4
Wetland Deviation -
Biologically Superior Option North

RECON

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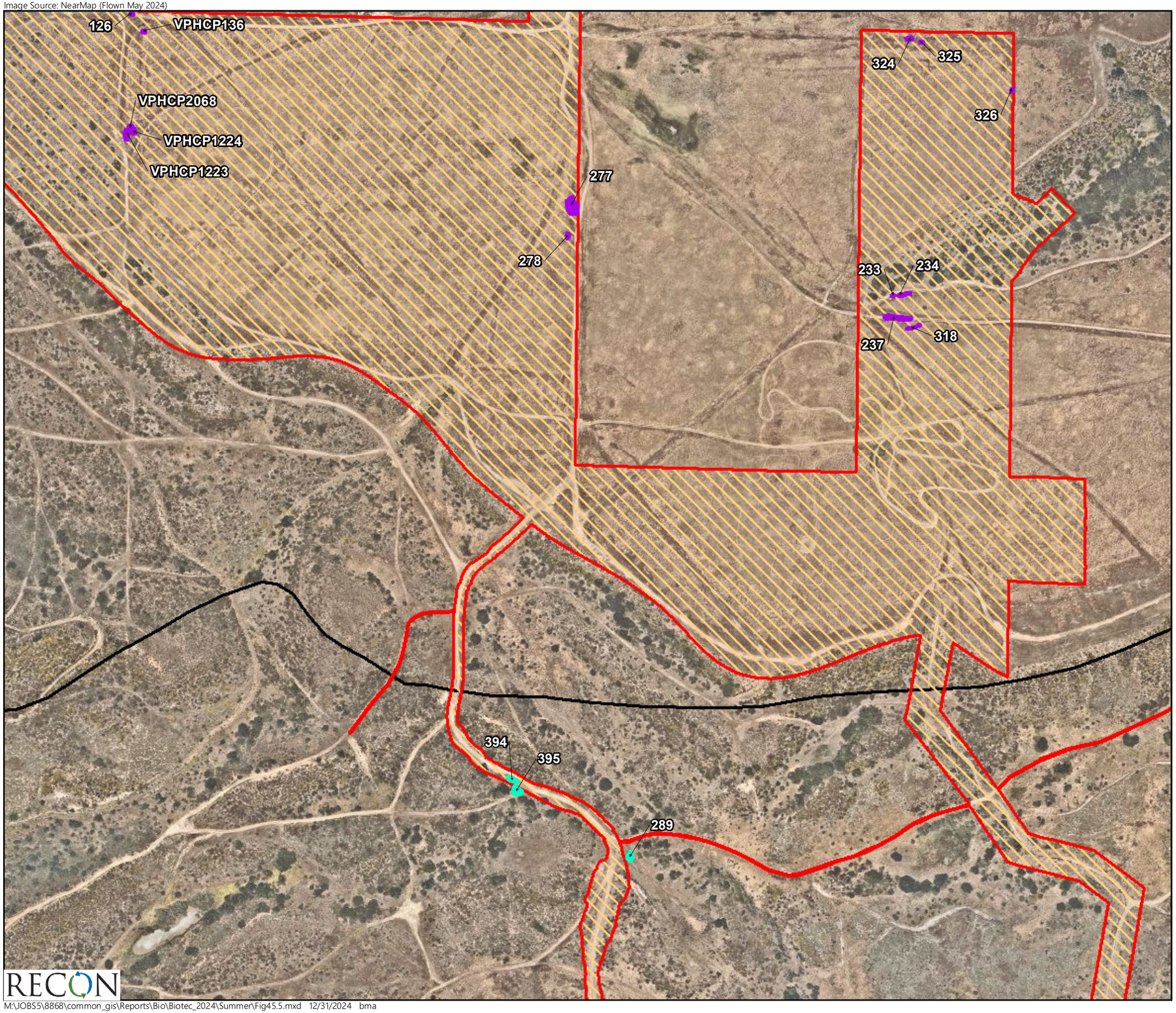
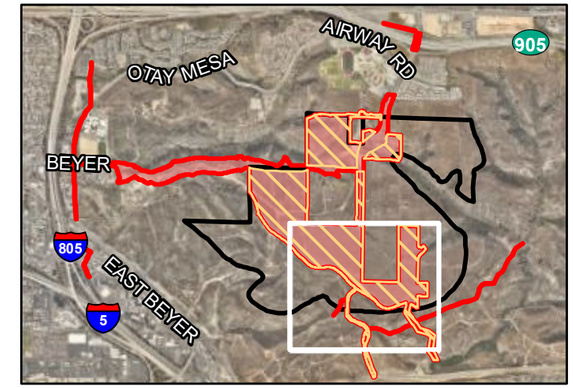
Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

Biologically Superior Option

City of San Diego Waters

Disturbed Wetland

Vernal Pool

0 Feet 300

RECON

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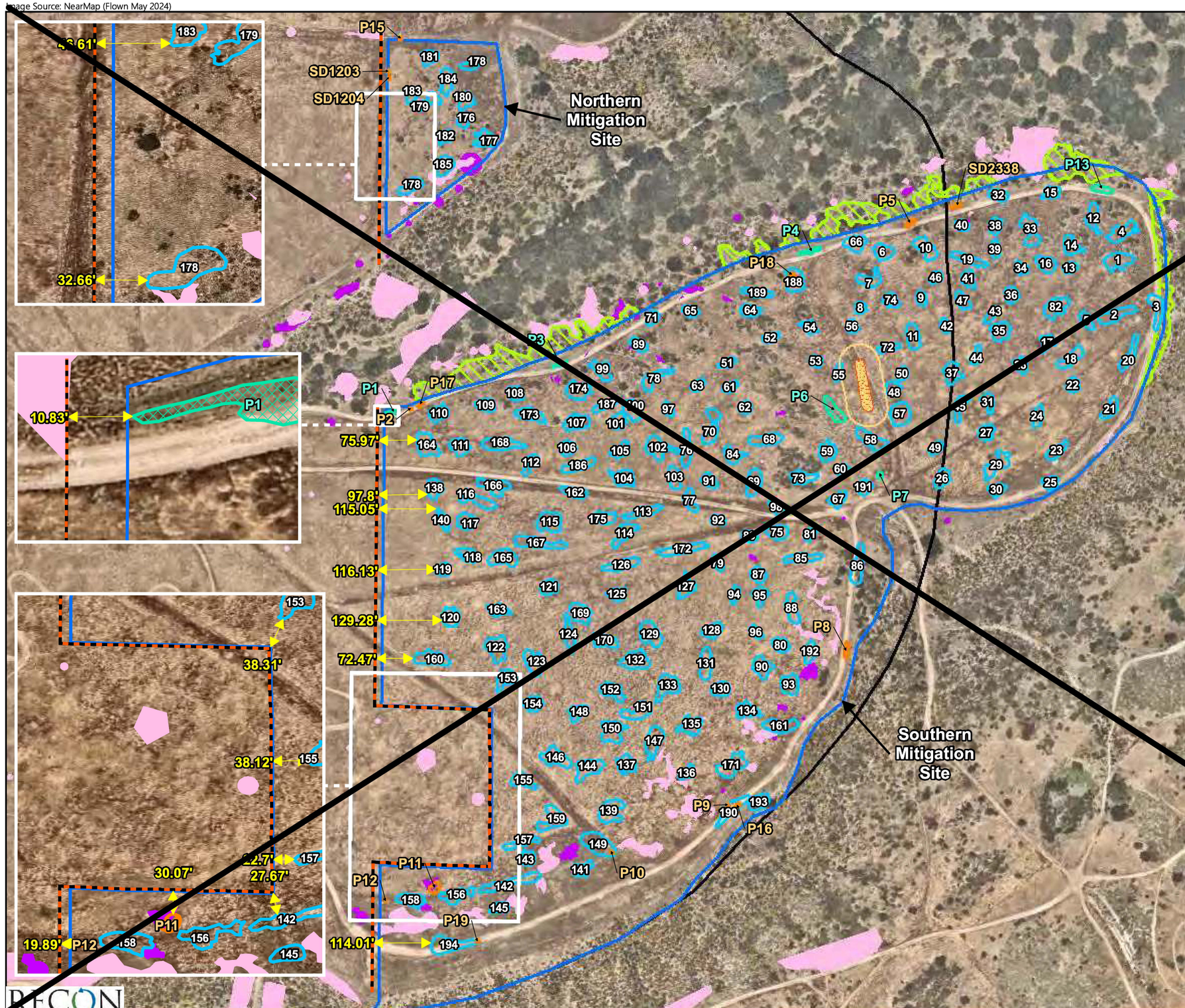
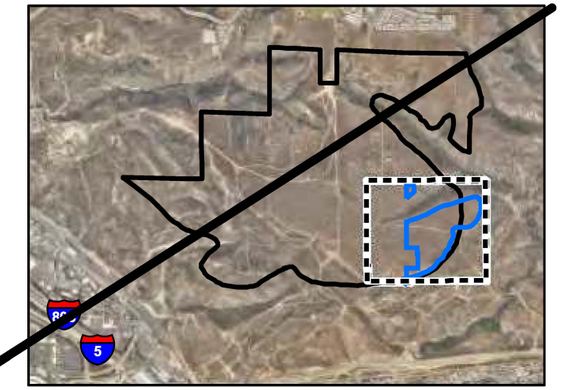
FIGURE 45.5

Wetland Deviation -

Biologically Superior Option South

Image Source: NearMap (Flown May 2024)





Specific Plan Boundary
Vernal Pool Mitigation Sites (33.708 acres)
Fire-rated Wall
Wetland Buffer
Enhancement Pools (0.047 acre)
Re-establishment Pools (VPHCP/RWQCB/CDFW) (0.029 acre)
Re-establishment Pools (Historical) (3.829 acres)
QCB Habitat Restoration (0.704 acre)
QCB Host Plant
QCB Nectar Plant
Western Burrowing Owl Berm
Western Burrowing Owl Buffer

*The vernal pool restoration includes re-establishment of 3.86 acres of vernal pool surface area, enhancement of 0.05 acre of existing vernal pools, preservation and enhancement of 0.961 acre of Quino Checkerspot Butterfly habitat, restoration of 0.704 acre of Quino habitat, and improvements for western burrowing owl. This area includes mitigation for the following species: Riverside and San Diego Fairy Shrimp, Spadefoot Toad, Quino Checkerspot Butterfly, and San Diego Button Celery.

0 Feet 200

RECON

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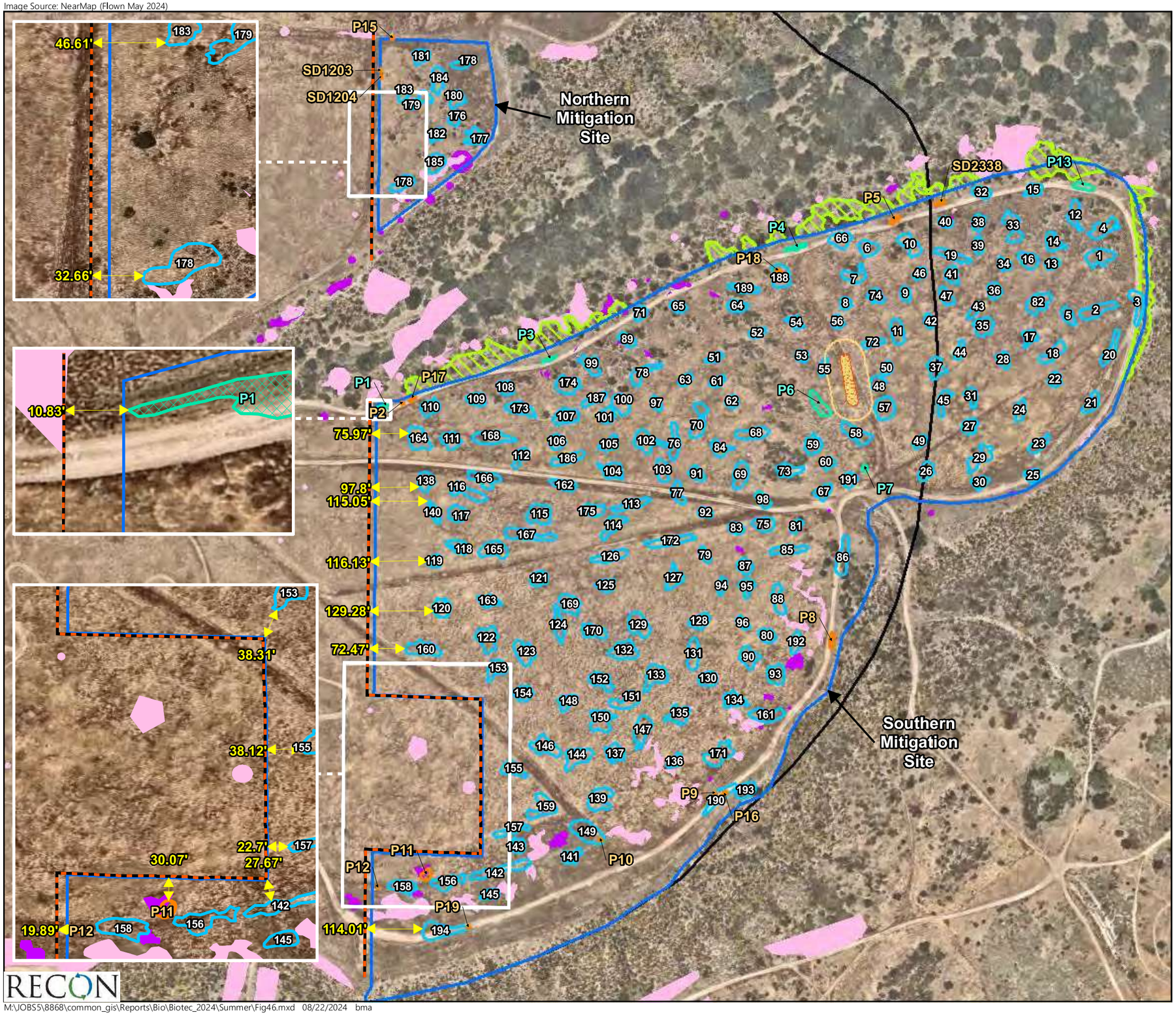
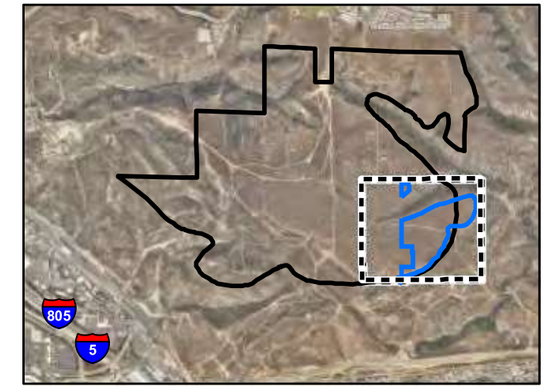
FIGURE 46
Proposed Vernal Pool Restoration

Image Source: NearMap (Flown May 2024)





- Specific Plan Boundary
- Vernal Pool Mitigation Sites (33.708 acres)
- Fire-rated Wall
- Wetland Buffer
- Enhancement Pools (0.047 acre)
- Re-establishment Pools (VPHCP/RWQCB/CDFW) (0.029 acre)
- Re-establishment Pools (Historical) (3.829 acres)
- QCB Habitat Restoration (~~0.704~~ 0.93 acre)
- QCB Host Plant
- QCB Nectar Plant
- Western Burrowing Owl Berm
- Western Burrowing Owl Buffer

*The vernal pool restoration includes re-establishment of 3.86 acres of vernal pool surface area, enhancement of 0.05 acre of existing vernal pools, preservation and enhancement of 0.961 acre of Quino Checkerspot Butterfly habitat, restoration of ~~0.704~~ 0.93 acre of Quino habitat, and improvements for western burrowing owl. This area includes mitigation for the following species: Riverside and San Diego Fairy Shrimp, Spadefoot Toad, Quino Checkerspot Butterfly, and San Diego Button Celery.

0 Feet 200

RECON

M:\JOBS5\8868\common_gis\Reports\Bio\Biotec_2024\Summer\Fig46.mxd 08/22/2024 bma

FIGURE 46

Proposed Vernal Pool Restoration*

7.2 Indirect Impacts

7.2.1 Program-level Indirect Impacts

Indirect impacts to sensitive vegetation communities (including sensitive plants), jurisdictional resources and sensitive wildlife may result from construction and implementation of program-level development areas and trails. Indirect impacts can result from drainage and runoff into surrounding open space, introduction of noise and trash associated with new development within existing open space areas and wildlife use areas, and/or the addition of new trail users to the trail network. Indirect impacts can also result from changes to drainage patterns affecting downstream vegetation communities and jurisdictional resources. Dust and noise generated from construction activities and trail use can also adversely impact sensitive resources.

As future program-level development and program-level trails are implemented, site-specific analysis would be required in conformance with the City's Biology Guidelines and the OMCP FEIR Mitigation Framework BIO-1 to demonstrate avoidance of indirect impacts. Future development would be required to comply with MHPA Land Use Adjacency Guidelines in order to avoid potential indirect impacts to adjacent sensitive habitats within MHPA lands. The trails that are part of the program-level analysis are shown in Figure 11, with the overall conceptual trail network shown in Figure 12.1. Program-level trails would be located within and adjacent to the MHPA which could result in potential indirect impacts to surrounding vegetation communities, jurisdictional resources that may be present near trails, and wildlife use patterns. Indirect impacts to vegetation communities and jurisdictional resources can occur associated with trail use if trail users do not stay on designated trails, adversely impacting surrounding vegetation communities, sensitive plants, and jurisdictional resources. Additionally, indirect impacts of trail use may include trash and erosion that can adversely affect sensitive resources. Other indirect impacts may occur, depending on the specific activity and resources present.

7.2.1.1 Sensitive Plants and Vegetation Communities

The Specific Plan identifies a plant palette that requires native vegetation to be planted around slopes adjacent to open space and requires avoidance of invasive species that could spread into the open space. Future development within program-level areas would be required to follow this plant palette which is included as Appendix A to the Southwest Village Specific Plan.

Compliance with Land Use Adjacency Guidelines would ensure drainage and lighting is directed away from the MHPA and appropriate barriers are installed to prevent entry into the MHPA. Indirect impacts to vegetation communities from changes in drainage patterns or increases in polluted runoff would be largely avoided through future project compliance with National Pollutant Discharge Elimination System regulations; incorporation of BMPs during construction; installation of permanent BMPs consistency with City Storm Water Standards Manual; and preparation and implementation of project-level SWPPPs. However, at a program-level of review and without project specific development plans, indirect impacts to sensitive vegetation communities would be significant.

7.2.1.2 Sensitive Wildlife

In addition to the potential indirect impacts discussed in Section 7.2.1, indirect impacts to breeding wildlife could occur due to construction-related noise if construction occurs during the breeding season (generally, February 1 through September 15) of sensitive wildlife species. According to the City's Biology Guidelines (City of San Diego 2018a), wildlife that may occur in suitable habitat in the project vicinity up to 300 feet from the project work areas would be significantly affected by noise. Potential construction related indirect impacts to sensitive wildlife during the breeding season would generally be avoided through consistency with species-specific ASMDs, the City's Land Use Adjacency Guidelines and requirements for avoidance measures during construction. Potential indirect impacts to coastal California gnatcatcher located inside the MHPA would be avoided through compliance with the City's Land Use Adjacency Guidelines. Indirect impacts from noise to burrowing owl (February 1-August 15), least Bell's vireo (March 15-September 15), and coastal cactus wren (February 1-August 31) would be significant if construction or operational noise levels exceed 60 A-weighted decibels [dB(A)] or the existing ambient noise if already above 60 dB(A) during the breeding season. The presence and potential impacts to other sensitive wildlife species would need to be addressed through future project-level analysis and identification of avoidance measures. While implementation of program-level areas would require consistency with species-specific ASMDs, the City's Land Use Adjacency Guidelines and requirements for avoidance measures during construction, at a program-level of review and without project specific development plans, indirect impacts to sensitive wildlife species would be significant.

7.2.1.3 Jurisdictional Resources

Portions of the program-level analysis areas are located adjacent existing VPHCP/MHPA areas, depicted on Figure 36.1. Future development adjacent to existing VPHCP/MHPA areas could create indirect impacts to vernal pools and other wetland resources.

As detailed in the VPHCP, indirect impacts to vernal pools may occur as a result of development of upland watersheds surrounding vernal pool habitat. Modification of upland watersheds, such as altering topography by removing or filling soil, can disrupt natural hydrologic flow necessary for vernal pools to fill and pond. Altering watershed hydrology can impact covered species that occupy vernal pools (e.g., by reducing the ponding capacity of the basins). The VPHCP requires that impacts to upland watersheds associated with vernal pools be avoided to maintain natural hydrological flows (Chapter 5). The vernal pool hard-line preserve areas (VPHCP/MHPA) that have been identified as part of the VPHCP process include sufficient watershed and upland buffer area to protect the natural hydrological flows into the associated vernal pools.

Future development within the program-level areas would require project-specific environmental review to ensure indirect impacts to watersheds and associated vernal pool resources are avoided consistent with the avoidance and minimization measures identified in Chapter 5 of the VPHCP. Compliance with the VPHCP's Avoidance and Minimization Measures (detailed in Section 6.2.2.2) would preclude indirect impacts to vernal pools. As future program-level development is implemented, the location of vernal pools and other jurisdictional resources would need to be identified and measures taken to protect and avoid indirect impacts to these resources. Future site-

specific analysis would be required to identify resources and ensure all project activity is appropriately sited with adequate buffers to avoid indirect impacts.

While future project-level application of VPHCP Avoidance and Minimization Measures would serve to avoid indirect impacts, at a program-level of review and in the absence of project-level development plans, the potential indirect impacts to vernal pool resources resulting from implementation of program-level areas would be significant.

Other jurisdictional resources may also be present within the program-level areas. Indirect impacts to City wetlands or other jurisdictional resources could occur if development does not provide appropriate buffering from jurisdictional resources. Potential indirect impacts to other jurisdictional resources would require future project-level analysis and identification of avoidance measures. At a program-level of review, impacts to jurisdictional resources would be significant.

7.2.2 Project-level Indirect Impacts

Potential indirect impacts resulting from construction and implementation of the project-level areas would be similar to the indirect impacts described for program-level areas as detailed above in Section 7.2.1. Where there would be unique project-level indirect impacts, they are discussed further below.

7.2.2.1 Sensitive Plants and Vegetation Communities

Potential indirect impacts to sensitive plants and vegetation communities during construction would be avoided through implementation BMPs including installation of silt fencing around the perimeter of the grading limits for all lands and through implementation of City's Land Use Adjacency Guidelines for lands within or adjacent to MHPA lands which are implemented as standard conditions of approval for any project that requires biological monitoring. Refer to Section 6.2.1.2.d for a discussion of the Land Use Adjacency Guidelines and how these measures would address potential indirect impacts related to drainage, dust, toxins, runoff, noise, and invasive species.

Indirect impacts associated with grading and runoff would be addressed by installation of temporary detention basins within graded areas that provide a source of cut and/or fill soils but would not be immediately developed. During construction, indirect impacts from fugitive dust would be prevented by watering of haul roads and areas actively being used by equipment.

Indirect impacts to Tier I and Tier II vegetation communities from the spread of non-native and invasive species could occur if non-native landscaping is proposed adjacent to open space areas such as along the western edge of the Specific Plan and along Beyer Boulevard West where it traverses open space lands (e.g., Furby North Preserve, West Otay Mesa A, and West Otay Mesa B). However, indirect impacts associated with the spread of non-natives into open space areas would be avoided through implementation of a native plant palette that has been designed for consistency with the surrounding dominant native species. The Specific Plan includes an approved plant palette that identifies species suitable for land adjacent to the MHPA, open space and BMZ 2 areas. Plant palettes for areas adjacent to open space are also described in Section 1.3.2.2.a. The landscape plan includes plant palettes for internal, non-open space areas that include non-native species; however,

species known to be invasive that could spread into the surrounding open space lands have been excluded or a note provided indicating that certain species must be located at least 200 feet away from open space lands to avoid invasive establishment per the project restoration biologist. Native plantings would be provided within Beyer Boulevard West slopes and all slope areas surrounding the development area adjacent to open space, including the EVA road. Compliance with the Specific Plan plant palette and the project's landscape plans would ensure that indirect impacts to sensitive vegetation communities are avoided.

Indirect impacts to vegetation communities and sensitive plants could occur due to human disturbance associated with trails. Through extensive coordination with the City and Wildlife Agencies, primitive trails in the surrounding open space have been minimized to reduce the amount of human intrusion into native habitat areas. Where primitive trails are proposed through open space, restoration is proposed to close unauthorized trail routes to limit and deter human entrance into open space areas. Additionally, where sensitive plant species are identified near trail alignments, peeler pole fencing would be installed to protect adjacent sensitive species. Where Beyer Boulevard West traverses open space lands, wildlife fencing is proposed which would serve a dual purpose of keeping humans out of the surrounding open space. Wildlife fencing along with the Beyer Boulevard West slopes would provide a preventative barrier to trespass into the surrounding open space areas including the Furby North Preserve and West Otay Mesa A and West Otay Mesa B. Pedestrian access along Beyer Boulevard West is limited to the sidewalks along the roadway and no primitive trails are proposed that would provide human access to surrounding open space lands around Beyer Boulevard West.

Additionally, required compliance with the MHPA Land Use Adjacency Guidelines including requirements related to drainage, toxins, barriers/access, invasives (see Section 6.2.1.2) would minimize and/or avoid indirect impacts to sensitive plants and vegetation within or adjacent to MHPA. During construction, orange construction fencing would be installed to ensure construction stays within the approved limits of disturbance and dust control measures would be implemented to keep down dust that could affect sensitive plants.

7.2.2.2 Sensitive Wildlife

In addition to the potential indirect impacts detailed in Section 7.2.1, wildlife may be indirectly affected by short-term construction and restoration related noise, which can disrupt normal activities and subject wildlife to higher predation risks. Breeding birds can be significantly affected by short-term construction/restoration related noise, which can result in the disruption of foraging, nesting, and reproductive activities.

Additionally, post-construction operational noise associated with Beyer Boulevard West traffic noise was modeled to identify the post-project noise contours in relation to habitat surrounding the proposed Beyer Boulevard West extension (Figure 47). As shown in Figure 47, the 60 community noise equivalent level (CNEL) noise contours largely follows the limits of grading for the roadway, with the exception that a swath of land within the Furby North Preserve would be subject to noise levels of approximately 60–65 CNEL after construction. However, because these north-south 60 CNEL contour lines run roughly parallel to I-805, it shows that noise levels in this area are due to vehicle traffic on I-805, not the future extension of Beyer Boulevard West. The 60 CNEL contour that

runs parallel to Beyer Boulevard West is due to vehicle traffic on Beyer Boulevard West, and it generally stays within the project-level analysis boundary with the exception of a small area north and south of Beyer Boulevard West along the western end of the extension. Approximately 0.95 acre of land near the edges of the proposed Beyer Boulevard West manufactured slopes would be subject to noise levels above 60 dB after buildout of the Specific Plan and all associated traffic volumes anticipated. Indirect impacts to sensitive bird species due to operational noise within these edge areas adjacent to Beyer Boulevard West are not anticipated because of the substantial surrounding open space that would remain available for breeding, nesting and foraging. The design of Beyer Boulevard West is such that there are clear sight lines for birds to fly across the road and avoid any undesirable areas. Furthermore, there is a lack of evidence that noise can substantially affect bird breeding or other habits (see additional discussion under Section 7.2.2.2.c regarding noise impacts to bird species). Therefore, indirect impacts to wildlife species due to operational noise levels along Beyer Boulevard West would be less than significant.

Installation of wildlife fencing along Beyer Boulevard West would additionally support avoidance of indirect impacts to sensitive species within the open space surrounding Beyer Boulevard West, including the Furby North Preserve and conserved parcels referred to as West Otay Mesa A and West Otay Mesa B. Fencing would not only protect wildlife but would deter human entry into wildlife areas.

Where alternative compliance walls with glass panes are proposed along the brush side of structures, only bird safe glass shall be used to prevent bird strikes adjacent to open space areas. Refer to Section 1.3.2.6.c for the proposed bird safe glass specifications. The requirement for bird safe glass shall be incorporated as a project design feature which shall be implemented as a project condition of approval.

Additional discussion of potential indirect impacts to specific wildlife species is provided below.

a. Quino Checkerspot Butterfly

Suitable habitat areas for Quino checkerspot butterfly are depicted on Figure 29. Indirect impacts to Quino checkerspot butterfly could result from the introduction of non-native species and generation of dust in the vicinity of Quino checkerspot butterfly host and nectar plants. These impacts would be considered significant and require mitigation as described in Section 8.2.6.2.

b. Coastal California Gnatcatcher

As discussed in Section 6.2.1.2, the project would be required to comply with the City's Land Use Adjacency Guidelines when adjacent to MHPA lands. As this species is present or suitable habitat is present within the MHPA adjacent to the project-level analysis area including along the Beyer Boulevard West extension, around the EVA road, and around the restoration areas, indirect noise impacts from construction and restoration activities could occur to this species within the MHPA if these actions are proposed during the breeding season (see Section 6.2.1.2.d). These impacts would be significant and mitigated as detailed in Section 8.2.4.5.

Indirect impacts from Beyer Boulevard West operational noise may occur to approximately 0.09-acre area of suitable habitat (Diegan coastal sage scrub) based on noise modeling. This includes a small area that would be exposed to noise levels above 60 dB contour (see Figure 47). This impact would be significant and mitigated through additional habitat preservation as discussed in Sections 8.2.2 and 8.2.6.2.

Restoration activities and clearing of invasive species in Spring Canyon could result in potential indirect impacts to coastal California gnatcatcher nesting within adjacent maritime succulent scrub in the MHPA. Any work that may cause noise in excess of 60 A-weighted decibels hourly average, or the ambient if it is greater, shall be avoided during the breeding season for this species (March 1 to August 15). If the removal of habitat in the mitigation area must occur during the breeding season, a qualified biologist shall conduct a pre-implementation survey to determine the presence or absence of nesting birds adjacent to the proposed area of disturbance.

c. Coastal Cactus Wren

Indirect impacts to coastal cactus wren may result from edge effects associated with development construction in addition to operational noise impacts due to the proposed Beyer Boulevard West extension being proposed adjacent to suitable habitat.

Indirect impacts associated with construction and restoration noise may occur if activities are conducted during this species' breeding season. Occupied suitable habitat for this species occurs adjacent to the project impact area both inside and outside of the MHPA and construction and restoration is likely to cause noise levels within these adjacent habitat areas to exceed 60 dB(A) average sound level (L_{eq}), which would be considered a significant indirect impact requiring mitigation.

To identify operational noise levels in the vicinity of coastal cactus wren habitat, noise modeling was conducted assuming buildout traffic volumes along Beyer Boulevard West, including the installation of 6-foot masonry walls along the north side, western end of Beyer Boulevard West where the road is adjacent to coastal cactus wren habitat. The masonry wall is proposed as a project design feature to reduce noise levels at adjacent habitat and to deter trespassing post-construction. Refer to Figure 47 for the post-project noise contours associated with Beyer Boulevard West in relation to surrounding habitat areas including coastal cactus wren habitat. As shown, the 60 CNEL noise contour extends slightly into the adjacent cactus wren habitat area within an approximate 0.46-acre area of cholla-dominated maritime succulent scrub. Despite the inclusion of a 6-foot masonry wall to minimize noise effects to adjacent habitat, the 60 dB operational noise contour would extend into the adjacent coastal cactus wren habitat, resulting in a significant impact to 0.46 acre.

Additional indirect impacts from dust during construction and restoration activities and pedestrian trespass into the habitat would be significant and mitigated as discussed in Section 8.2.6.2.

d. Least Bell's Vireo

Indirect impacts to least Bell's vireo from construction are not anticipated given that the occupied habitat within Beyer Boulevard West footprint would be removed completely and the species would not be subject to construction or operational noise impacts.

Indirect impacts associated with restoration noise may occur if activities are conducted during this species' breeding season. Occupied suitable habitat for this species occurs adjacent to Spring Canyon where wetland creation is proposed and these restoration activities are likely to cause noise levels within these adjacent habitat areas to exceed 60 dB(A) average sound level (L_{eq}), or the ambient if it is greater, which would be considered a significant indirect impact requiring mitigation, discussed in Section 8.2.4.4. Trails restoration would only require the use of line trimmers which are not expected to result in a significant noise impact requiring mitigation.

e. Burrowing Owl

While one incidental sighting of a burrowing owl was detected during surveys, the site has only a moderate potential to support burrowing owl as no burrows or evidence of burrows were identified within the project-level areas.

Indirect noise impacts to burrowing owl during restoration and construction would be significant and would require mitigation. Mitigation would consist of either avoidance of construction during the breeding season of February 1–August 31 or, if construction/restoration must occur during this period, pre-construction bird surveys would be completed and, if needed, noise reduction measures in accordance with the Biology Guidelines. See Section 8.2.4.6 for further mitigation details.

f. Western Spadefoot

Indirect impacts to this species could potentially occur during enhancement of jurisdictional resources within the 100-foot trail corridor and during vernal pool restoration activities, if work were to occur when ponding is present. These would be significant and mitigated through implementation of required VPHCP avoidance and minimization measures detailed in Section 6.2.2.2.a and measures detailed in Section 8.2.4.3 which limits activity to times of the year when no ponding is present. The Trails Restoration Plan (see Attachment 1) and Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) requires that no enhancement activities occur within vernal pools when ponded. Implementation of these measures would avoid indirect impacts to western spadefoot.

g. San Diego and Riverside Fairy Shrimp

A number of vernal pools and disturbed wetlands containing San Diego fairy shrimp are located outside of the project impact boundary; however, during construction, there is a potential for indirect impacts to occur to vernal pools containing San Diego fairy shrimp if the watershed of the basin is impacted, affecting the capacity of the pool to retain water for sufficient time to support fairy shrimp. An evaluation of vernal pools and disturbed wetlands was conducted to identify where project grading may indirectly impact these wetland resources. As further detailed in Section 7.2.2.3,

a number of vernal pools and disturbed wetlands would be indirectly impacted by grading within the watershed of the basin, resulting in a significant impact. None of the pools near the grading footprint contained Riverside fairy shrimp; therefore, indirect impacts would be limited to San Diego fairy shrimp. A total of 0.06 acre of vernal pools and disturbed wetlands containing San Diego fairy shrimp would be indirectly impacted through grading within the watershed. An additional 0.07 acre of vernal pools and disturbed wetlands that did not support San Diego fairy shrimp would be impacted. For purposes of potential impacts to San Diego fairy shrimp, all of the indirectly impacted vernal pools and disturbed wetlands are assumed to contain the species. Therefore, the project would result in a significant indirect impact to 0.13 acre of vernal pool and disturbed wetland surface area containing San Diego fairy shrimp within Phase 1 (0.11 acre), Beyer Boulevard West (0.01 acre), and the Emergency Vehicle Access Road (0.01 acre) (Table 13) and mitigated as detailed in Section 8.2.4.1.

Table 13
Indirect Impacts to Vernal Pool and Disturbed Wetlands Assumed to Contain San Diego Fairy Shrimp

Impacted City Wetland	Phase 1	Beyer Boulevard West	Emergency Vehicle Access Road	Indirect Impact Acreage
Vernal Pools	0.04		0.01	0.05
Vernal Pool in West Otay Mesa B		0.01		0.01
Disturbed Wetlands	0.07			0.07
Total Acreage	**0.11**	**0.01**	**0.01**	**0.13**

NOTE: 0.06 acre of the 0.13 acre of indirectly impacted resources are documented to contain San Diego fairy shrimp; however, all resources are assumed to contain San Diego fairy shrimp for purposes of the analysis.

Indirect impacts to San Diego and Riverside fairy shrimp within other vernal pools and disturbed wetlands outside of the grading limits could be indirectly impacted during construction and restoration activities. VPCHP avoidance and minimization measures detailed in Section 6.2.2.2.a would apply and all construction vehicles would be limited to travel within the project-level impact area, avoiding the potential to spread invasive fairy shrimp species into surrounding open space areas. Vehicle use within the surrounding open space where vernal pools are present have the potential to spread invasive fairy shrimp species that are not known to occur within the area. Some vehicular use is expected to occur within surrounding open space areas associated with implementation of restoration activities; however, these vehicular activities would be undertaken by qualified biologists that implement protocols for avoiding vernal pools and basins when traversing the open space. For example, where feasible, driving through pools is avoided even when dry and regular vehicle cleaning is implemented to avoid cross contamination. Additionally, indirect impacts to vernal pool species during restoration efforts, including vernal pool restoration (see Attachment 14), requires that no enhancement activities shall occur within vernal pools when ponded, surveying to identify any occupied pools within and adjacent to the restoration area, and marking/fencing any occupied pools to protect from adjacent restoration activities. Due to the potential for these indirect impacts to occur during project grading and restoration activities, indirect impacts to San Diego and Riverside fairy shrimp would be significant.

h. Crotch's Bumble Bee

Indirect impacts to Crotch's bumble bee could result from the introduction of non-native species and generation of dust in the vicinity of nectar plants. As detailed in Section 7.2.2.1, introduction of non-native species would be avoided through compliance with the Specific Plan plant palette which requires native plantings adjacent to open space. Additionally, within the vernal pool preserve where the majority of suitable habitat is present, only native species would be planted, including nectar plants (see Attachment 14).

Indirect impacts to Crotch's bumble bee during construction would be avoided in areas adjacent to proposed grading through the implementation of dust control measures, erosion control, and fencing to demark the limits of disturbance as required by the MHPA Land Use Adjacency Guidelines.

During the construction of the vernal pool preserve and other restoration activities, indirect impacts could occur, resulting in a significant impact and Crotch's bumble bee surveys would be conducted prior to implementation and buffers established to the extent feasible to avoid indirect impacts to foraging and nesting Crotch's bumble bee. With implementation of the mitigation measures detailed in Section 8.2.4.8 and Section 8.2.6.2.h, indirect impacts to Crotch's bumble bee from construction and restoration would be reduced less than significant.

i. Bald and Golden Eagle

As neither bald eagle nor golden eagle are anticipated to nest given that the project-level area lacks suitable nesting habitat, no indirect impacts to these species are anticipated.

j. Nesting Avian Species

Indirect impacts to nesting avian species, particularly Cooper's hawk, northern harrier, white-tailed kite, merlin, California horned lark, yellow warbler, yellow-breasted chat, loggerhead shrike, southern California rufous-crowned sparrow, grasshopper sparrow, and Bell's sage sparrow could occur from construction or restoration noise, which would be significant. Refer to Section 8.2.4.9 Breeding Season Avoidance/Preconstruction Survey for additional details regarding mitigation.

k. Sensitive Reptiles and Mammals

Indirect impacts to orange-throated whiptail, coast horned lizard, coastal whiptail, red diamond rattlesnake, two-striped garter snake, Coronado skink, southern mule deer, and San Diego desert woodrat as a result of construction and/or maintenance-related erosion, contaminated runoff, or generation and deposition of dust would be less than significant with adherence to proper BMPs during construction and implementation of species specific ASMDs detailed in Section 6.2.1.2.g, and implementation of the City's Land Use Adjacency Guidelines for species present within lands adjacent to MHPA. No nighttime lighting is proposed during construction or restoration activities.

7.2.2.3 Jurisdictional Resources

During construction, indirect impacts to jurisdictional resources near grading footprints could occur due to erosion, changes to watershed function, and introduction of toxins and trash into jurisdictional resources. While impacts would be minimized through implementing BMPs, including, but not limited to silt fencing, straw waddle, and sandbags, impacts may still result to ponding features that rely on hydrologic flow from a localized watershed basin, if that watershed is impacted.

City wetlands located outside of the project-level grading footprint were reviewed in relation to available topography to identify the potential for project grading to indirectly impact wetland resources through impacts to the watersheds of non-impacted pools. City wetlands located outside of the project-level grading footprint that were either mapped as part of the project-level survey effort or available from City vernal pool mapping resources, within 100 feet of the grading impact boundaries for the project-level areas are depicted on Figures 48.1 through 48.11. After evaluation, it was determined that 0.07 acre of disturbed wetlands and 0.06 acre of vernal pools would be indirectly impacted due to watershed impacts to pools beyond the impact footprint (see Table 13). The analysis determining whether individual resources are impacted is provided below.

The resources depicted on Figure 48.1 include resources located within West Otay Mesa A and West Otay Mesa B. Of the resources depicted on Figure 48.1, vernal pool 252 and disturbed wetlands 107 and 158 are assumed impacted, while the remaining resources would be avoided as detailed below:

- Vernal pool 255 depicted on Figure 48.1 is a vernal pool with fairy shrimp located just north of the Beyer Boulevard West grading footprint. This resource is assumed impacted due to unavoidable watershed impacts. A retaining wall would be incorporated along Beyer Boulevard West in this location to provide additional buffer from the pool to retain watershed and provide additional buffering; however, despite the efforts to retain some watershed for this pool, the resource is considered impacted.
- Disturbed wetlands 107 and 158 depicted on Figure 48.1 are features assumed to be impacted due to watershed impacts and proximity to the grading footprint. While the development area would drain away from these pools, they are assumed impacted.
- The remaining resources on this graphic are avoided resources due to the watershed remaining to support inundation of these areas, in addition to the fact that the development area would not drain into these resources.

The resources depicted on Figure 48.2 include resources located within the Southwind project boundary.

- SW-4, SW-6, and SW-7 are small vernal pools totaling 0.036 acre within the Southwind property that are assumed impacted due to its proximity to the grading footprint. If the Southwind project were to proceed first, these impacts would be mitigated by another party.

Figure 48.3 depicts vernal pool 224 which is a vernal pool with fairy shrimp that would be assumed avoided by the project's grading based on the fact that the pool is supported by watershed area located to the south of the pool where no disturbance is proposed. The area north of pool 224 is a downslope which does not provide any supporting drainage to the pool in the existing condition.

Resources depicted on Figure 48.4 are assumed impacted due to their proximity to the grading footprint and impacts to the watersheds of these vernal pool basins.

Resources depicted on Figure 48.5 include a number of resources that are assumed impacted due to watershed impacts and proximity to the grading footprint. Only vernal pool 380, VPHCP1205, and 286 are assumed avoided due to their watersheds being avoided based on topography and distance from the grading footprint. While vernal pool 286 is the closest to the project-level grading area, the pool would be protected by VPHCP avoidance and minimization measures and its watershed is located to the northwest which would remain undisturbed.

Resources depicted on Figure 48.6 are assumed impacted with the exception of three vernal pools (270, 271, 231) and one isolated wetland (285), which would have watershed available after grading to continue to support these pools. Disturbed wetland 242 would additionally be avoided as it would be located downslope of intact native vegetation and the project's drainage design would not result in urban runoff discharges into this basin. Additionally, this basin is included as part of the trail restoration enhancement effort which would involve removal of non-natives and addition of common vernal pool plant species. The trail restoration effort additional includes restoration of disturbed land southeast of this pool which will support closure of unauthorized trails and reduce potential for human disturbance. Refer to Figure 18.2 for a depiction of the restoration that would occur around this pool which would convert existing disturbed and non-native grassland habitats to maritime succulent scrub. The Trails Restoration Plan (see Attachment 1) includes avoidance measures to ensure restoration efforts do not indirectly impact jurisdictional resources.

Figure 48.7 depicts two vernal pools labeled as pools 395 and 289. Both pools are located immediately adjacent to the edge of the EVA road which would likely impact the watershed of these pools.

Figure 48.8 depicts two large vernal pools (VPHCP 1754 and VPHCP 2337) located adjacent to drainage outfall impacts and just south of a proposed primitive trail alignment. These vernal pools would be avoided during grading and disturbance associated with installation of the drainage outfall through implementation of VPHCP avoidance and minimization measures. Additionally, after installation of the drainage outfall, the impact area would be fully restored to native habitats, retaining all watershed functions that support the existing vernal pools.

Figure 48.9 depicts a vernal pool located within lands designated as VPHCP MHPA, which is the site of proposed vernal pool restoration. All of these resources are assumed avoided because they have been accounted for in the project's Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14), which was prepared as mitigation for the project-level components of the Southwest Village Specific Plan. This plan includes evaluation of watersheds to ensure each vernal pool that would be created and/or restored would have sufficient watershed to support adequate inundation for fairy shrimp viability. Vernal pools P-14, P-15, P-1, P-2, P-17, in addition to all other pools shown on Figures 48.9, 48.10, and 48.11 (vernal pool P-8/VPHCP119) have been accounted in the preparation of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan.

Disturbed wetland 311, depicted on Figure 48.11, would not be indirectly impacted by the project. This pool would be subject to enhancement associated with the trail restoration effort; additionally, the trail restoration effort would restore disturbed and non-native grassland habitats adjacent to

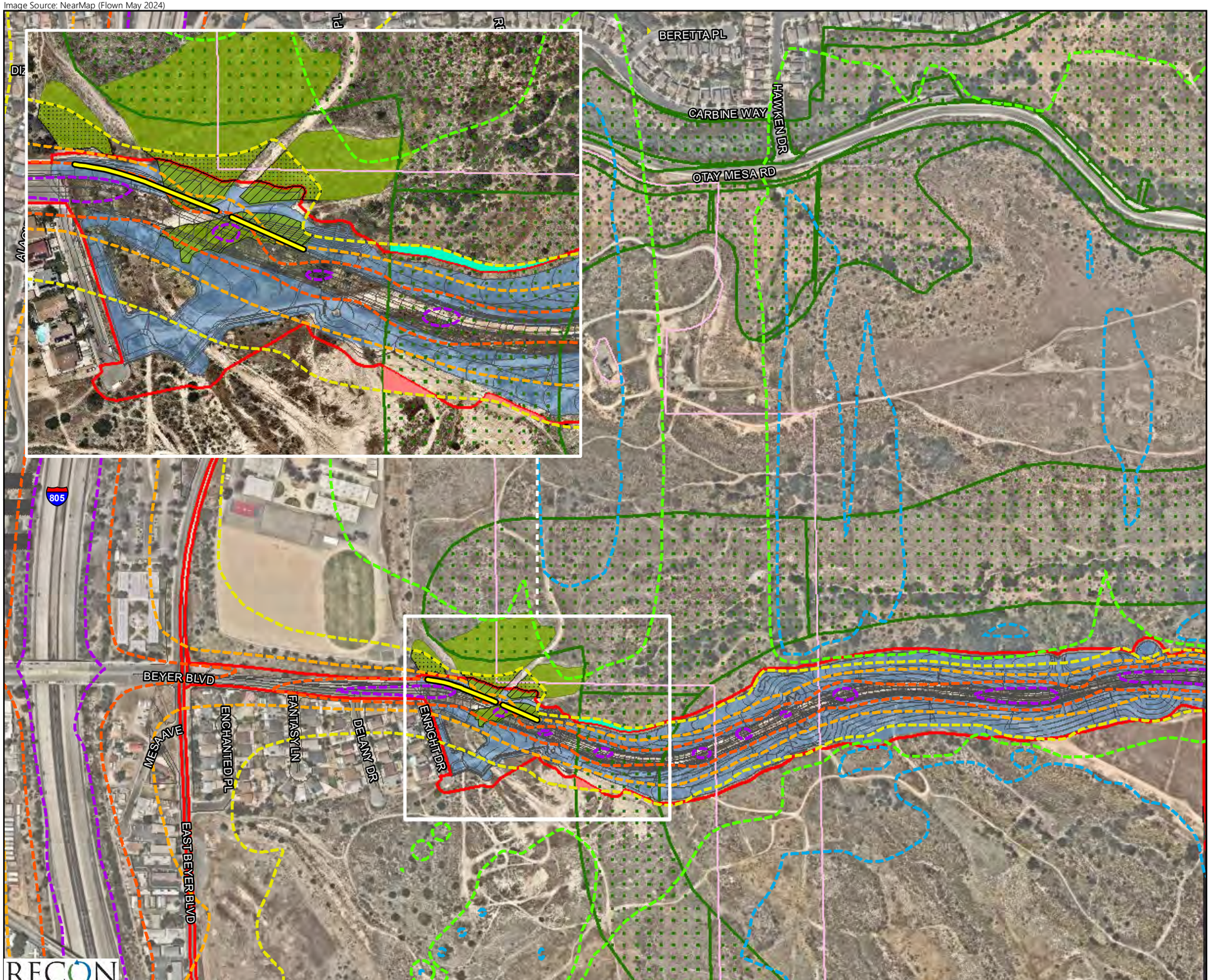
the resource which would enhance biological function (see Attachment 1 and Figure 18.6 for details of the proposed restoration activities). The Trails Restoration Plan includes avoidance measures to ensure restoration efforts do not indirectly impact jurisdictional resources.

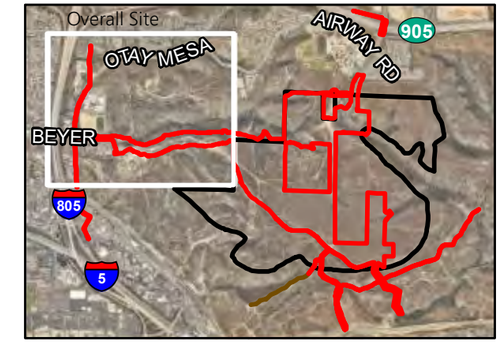
Indirect impacts related to changes in drainage conditions would be avoided by managing post-project runoff flows and durations so that they are maintained to the levels of the pre-project condition. Additionally, hydromodification management would be provided at each outfall. Outfalls have also been strategically located to help minimize erosion to adjacent non-wetland waters by extending them to a well-defined low point.

Indirect impacts to the avoided vernal pools after construction of the project would be avoided by ensuring development does not drain to avoided pools and through compliance with the MSCP Land Use Adjacency Guidelines and the VPHCP Avoidance and Minimization Measures discussed in Section 6.2.2.2.

In summary, indirect impacts to jurisdictional resources would be significant due to 0.13 acre of indirect impacts to vernal pool and disturbed wetland resources located outside of the project-level grading footprint as detailed in Table 13 and Figures 48.1 through 48.11.

Image Source: NearMap (Flown May 2024)





Direct Impact to Cactus Wren Habitat (0.625 acre)

Indirect Impact to Cactus Wren Habitat (0.457 acre)

Maritime Succulent Scrub (0.094 acre Indirect impact to Coastal California Gnatcatcher Habitat)

Disturbed Land

Project-Level Analysis Area

Site Plan

6-foot Masonry Noise Wall

Manufactured Slopes to be Revegetated with Native Species

Specific Plan Boundary

Furby North Preserve

Cactus Wren Habitat/Cholla Thicket

City of SD MHPA

Traffic Noise

50 CNEL

55 CNEL

60 CNEL

65 CNEL

70 CNEL

75 CNEL

0 Feet 400

FIGURE 47
Beyer Boulevard Noise Contours

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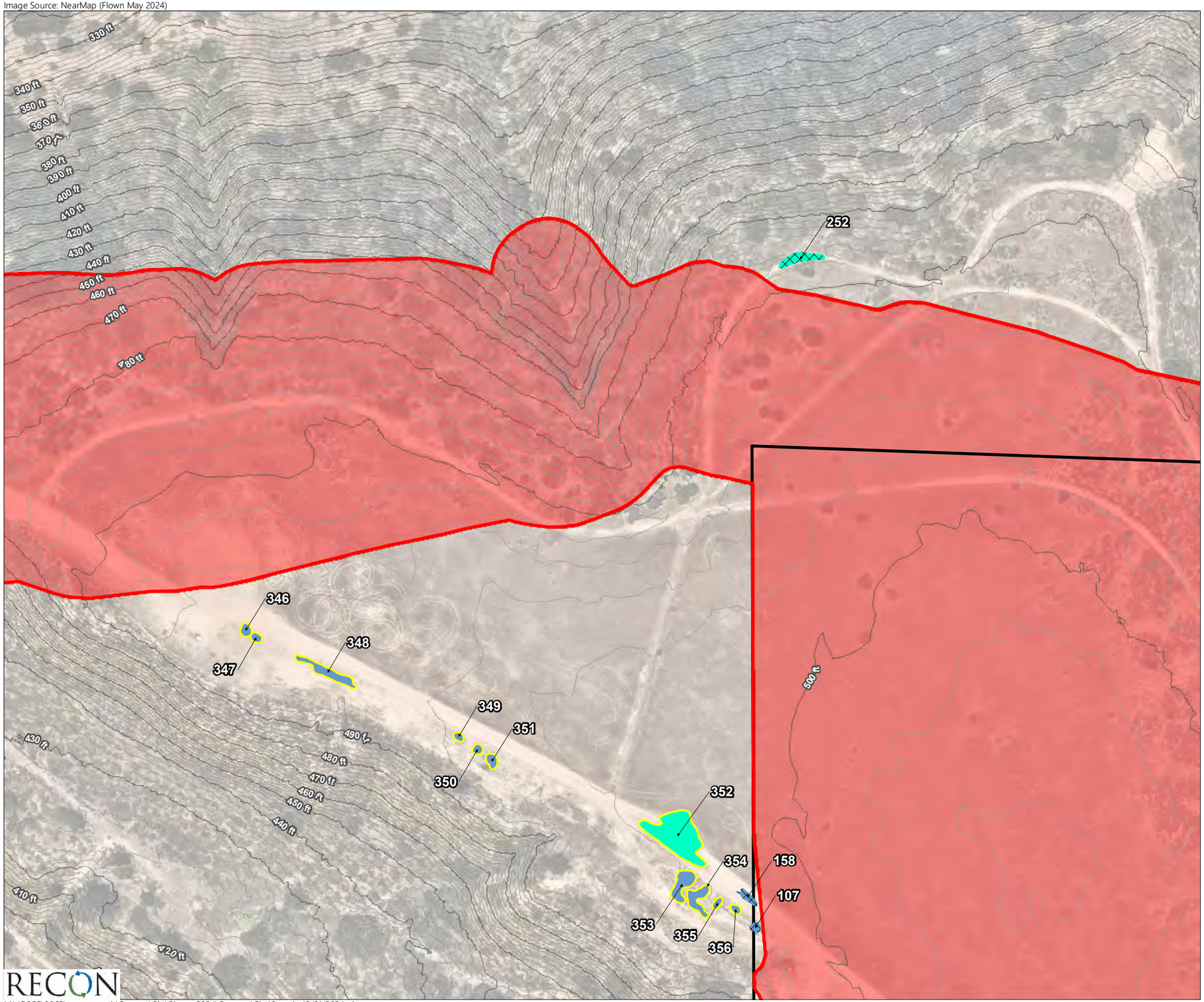
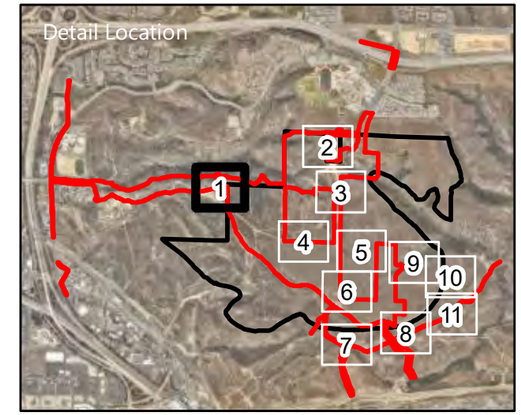
Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Disturbed Wetland (Waters ID)

Wetland Impact Potential

Assumed Impacted

Assumed Avoided

0 Feet 100

FIGURE 48.1
City of San Diego Wetlands Outside the Project-level Grading Footprint

RECON

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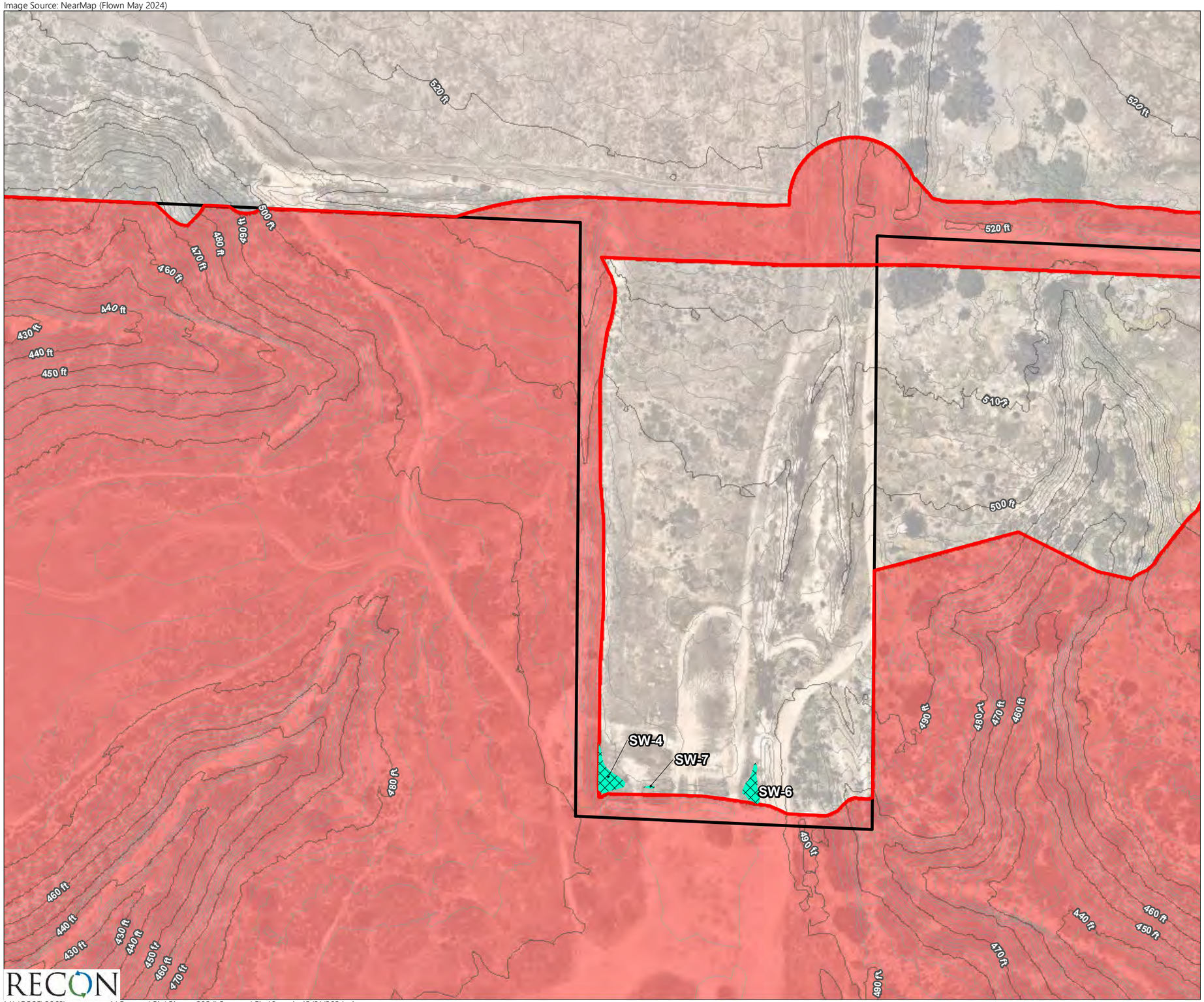
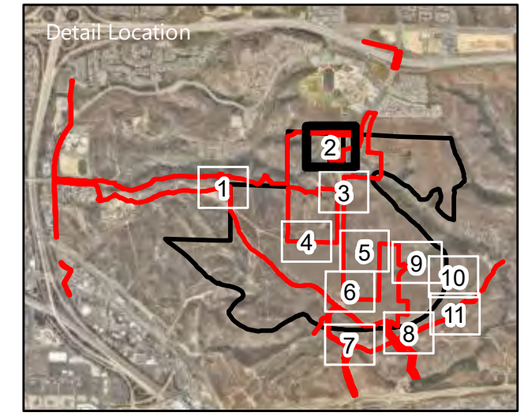
Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Impacted

0 Feet 100

RECON

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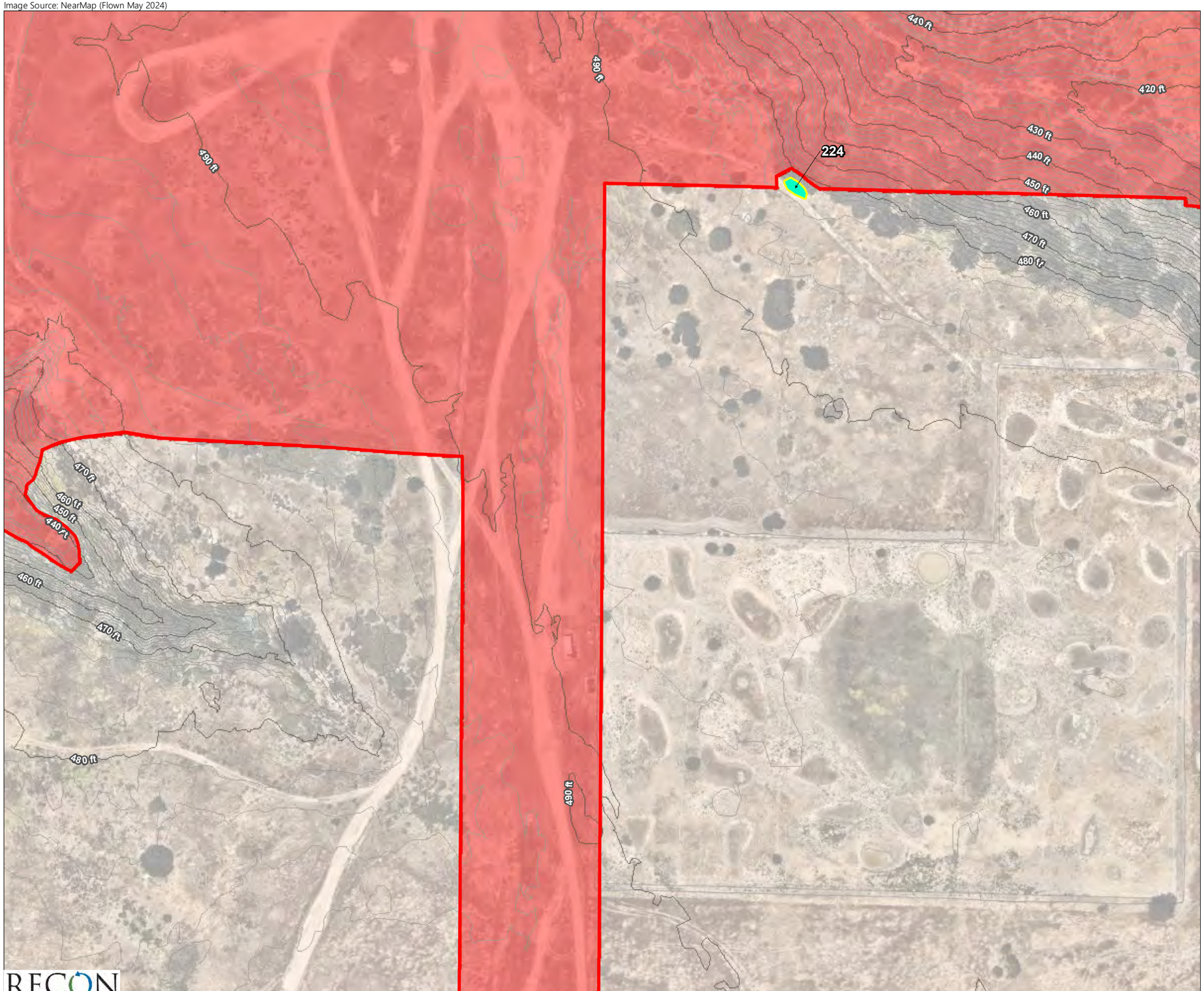
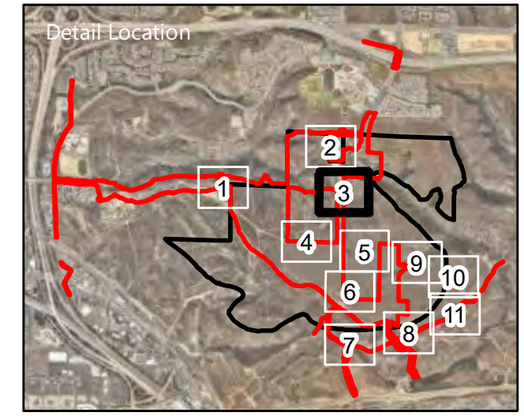
FIGURE 48.2
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Avoided

0 Feet 100

RECON

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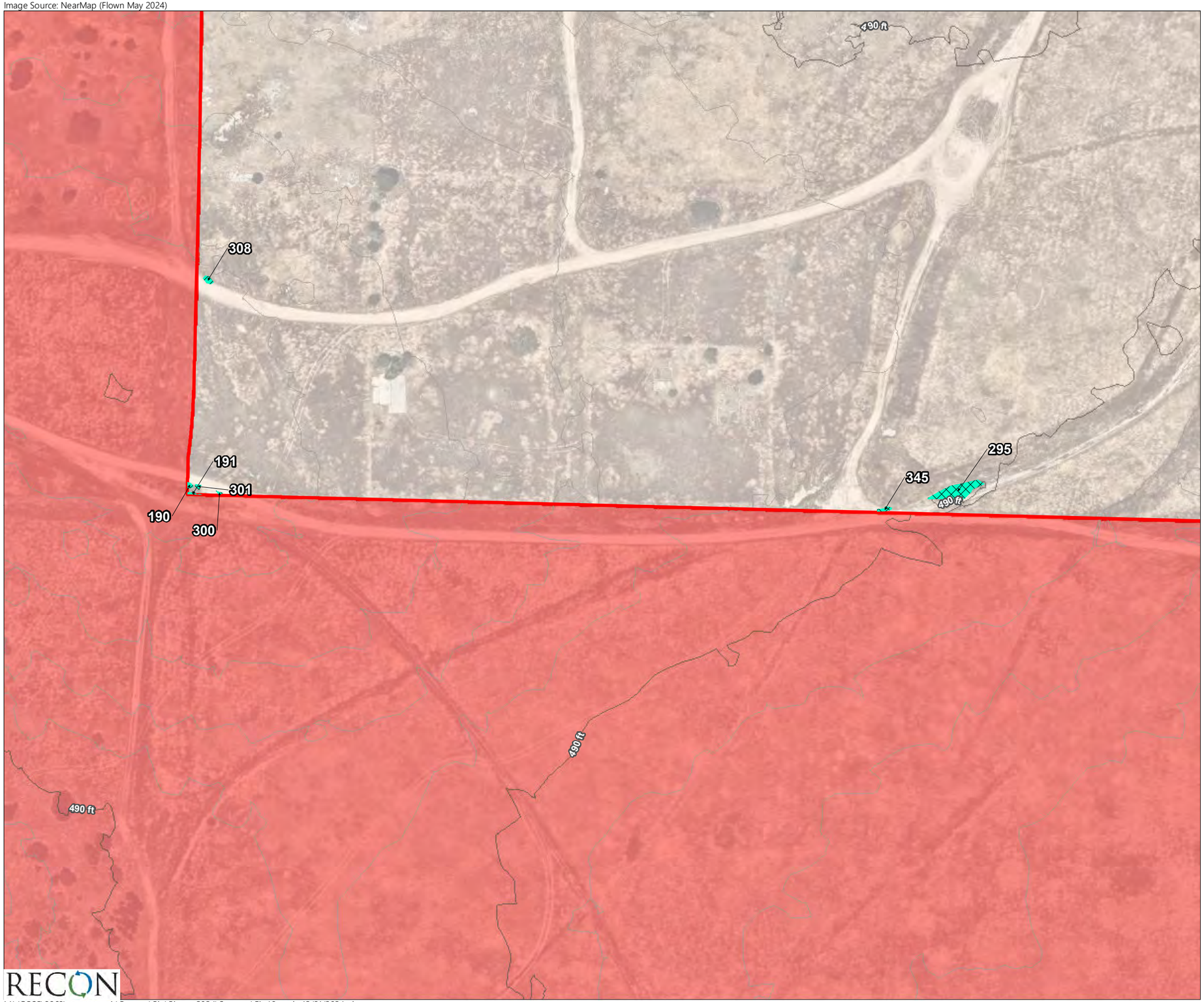
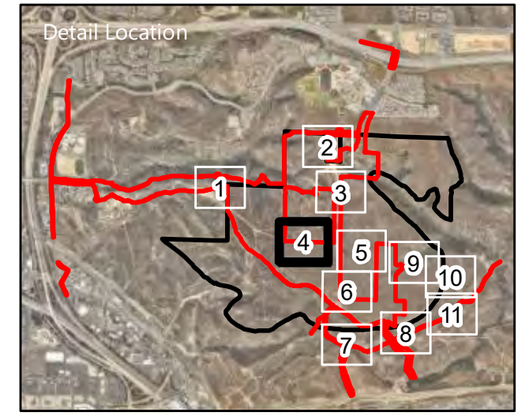
FIGURE 48.3
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Impacted

0 Feet 100

RECON

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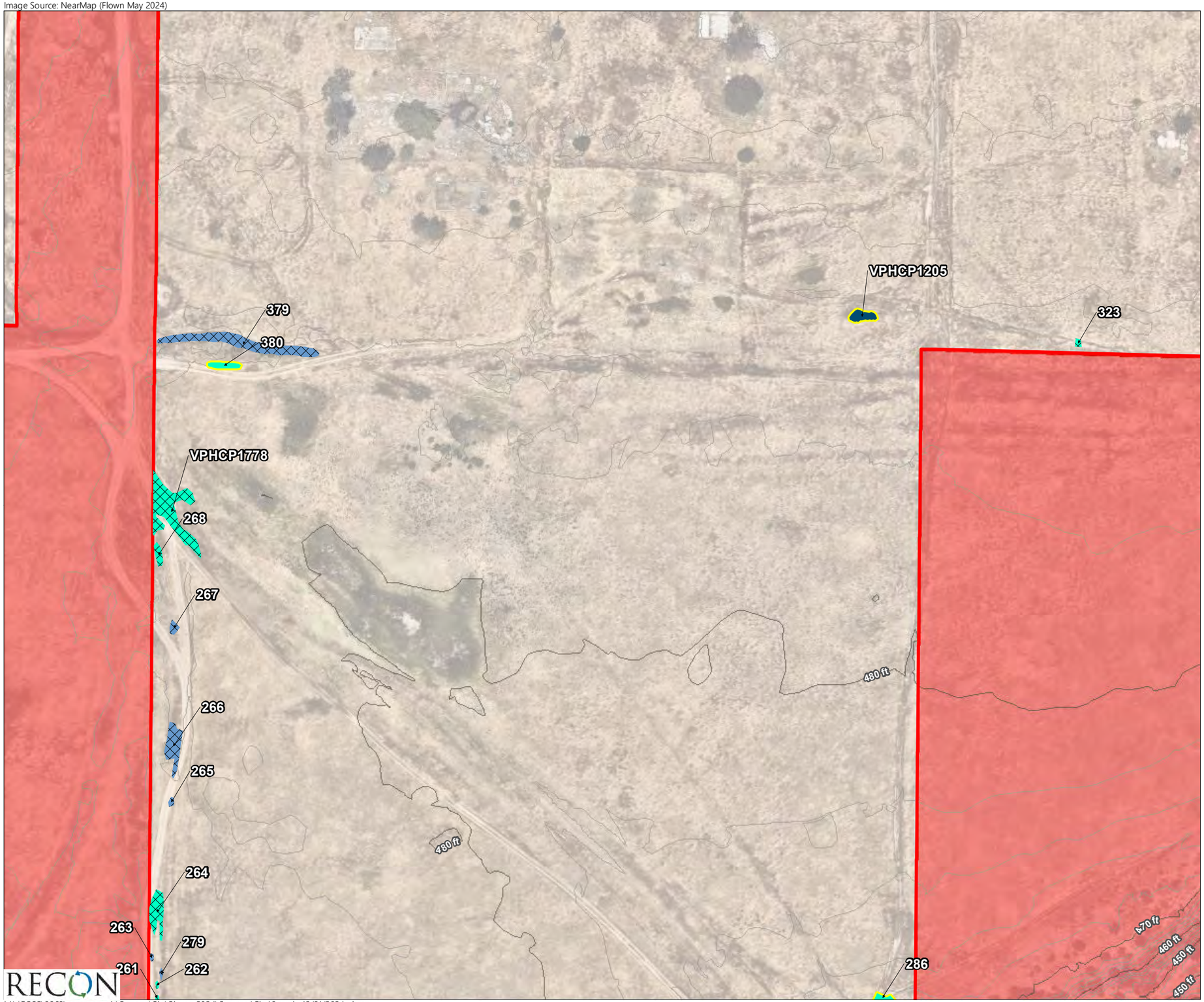
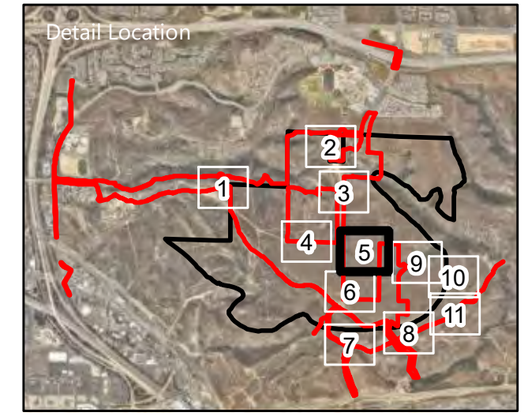
FIGURE 48.4
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland (Waters ID)

Disturbed Wetland (Waters ID)

Wetland Impact Potential

Assumed Impacted

Assumed Avoided

0 Feet 100

FIGURE 48.5
City of San Diego Wetlands Outside the Project-level Grading Footprint

RECON

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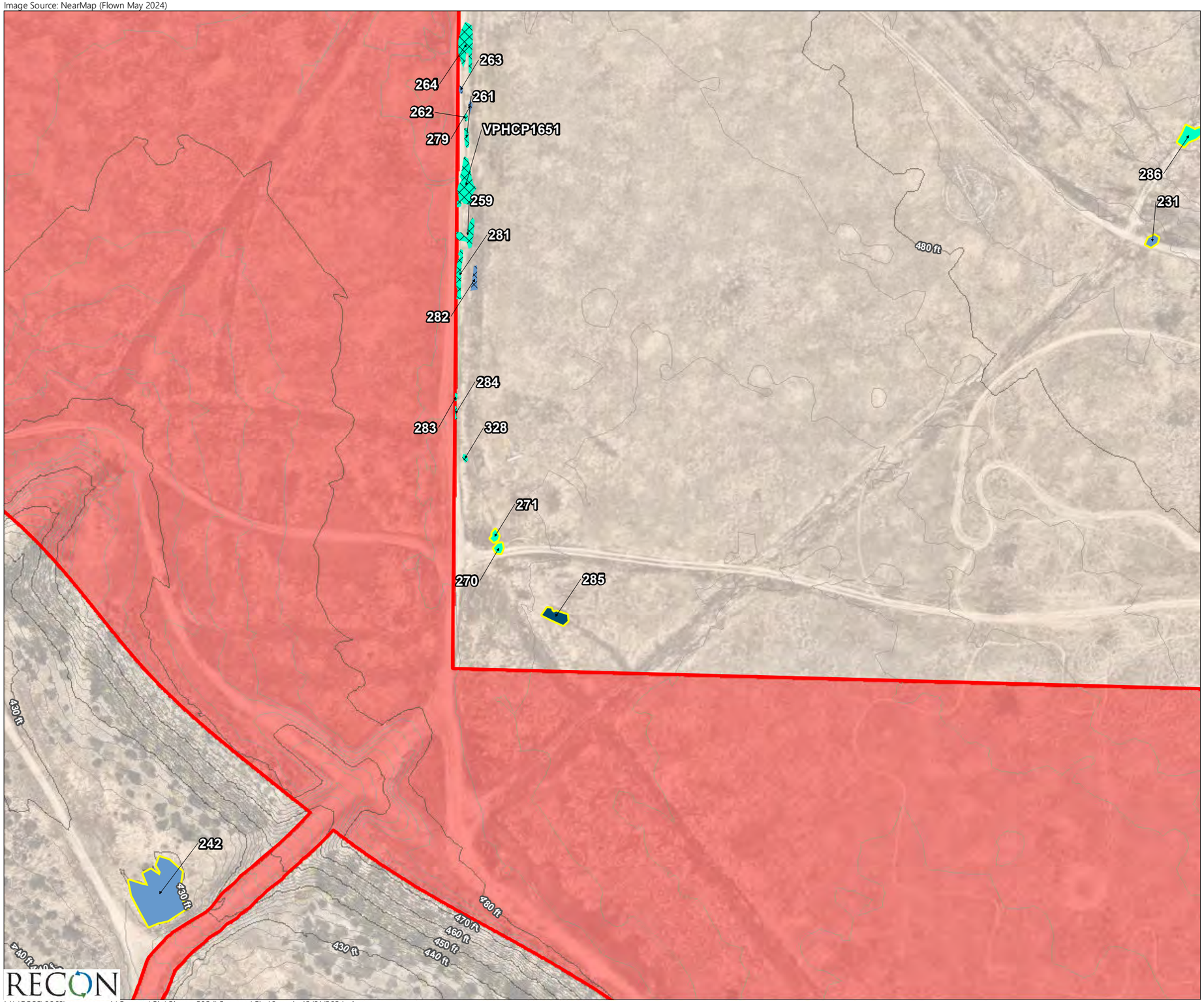
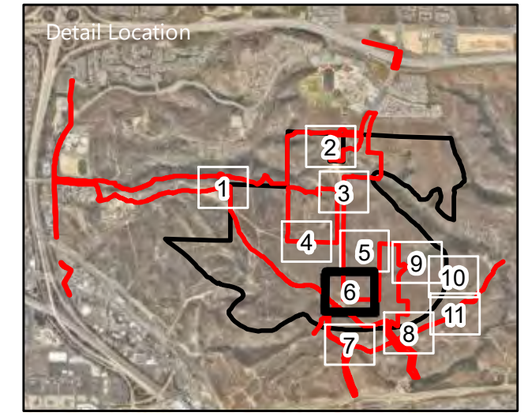
Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland (Waters ID)

Disturbed Wetland (Waters ID)

Wetland Impact Potential

Assumed Impacted

Assumed Avoided

0 Feet 100

RECON

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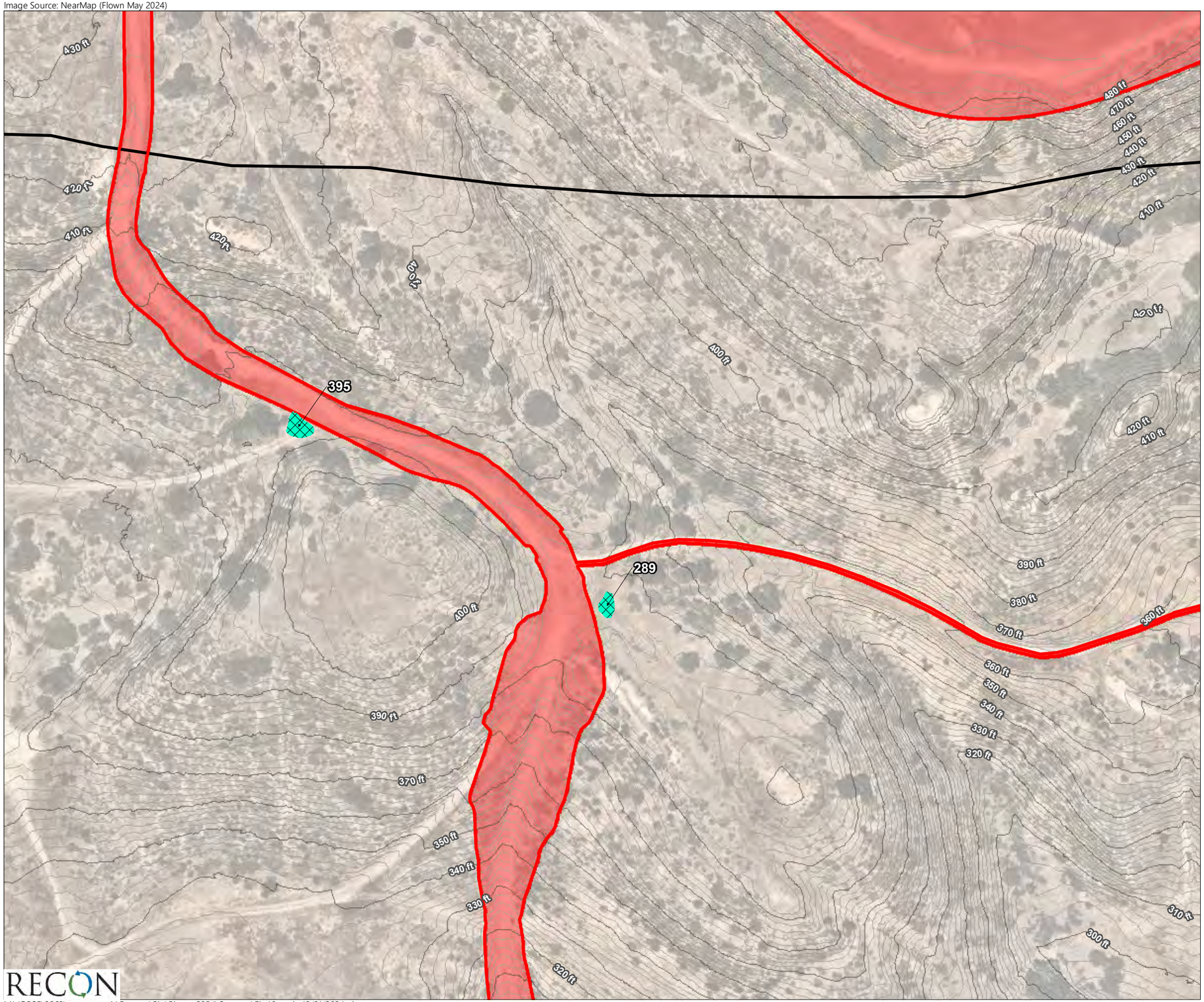
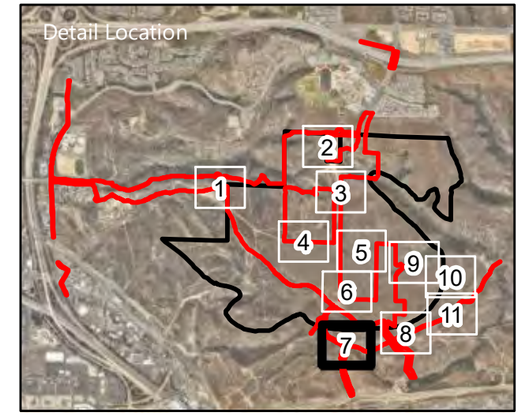
FIGURE 48.6
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Impacted

0 Feet 100

RECON

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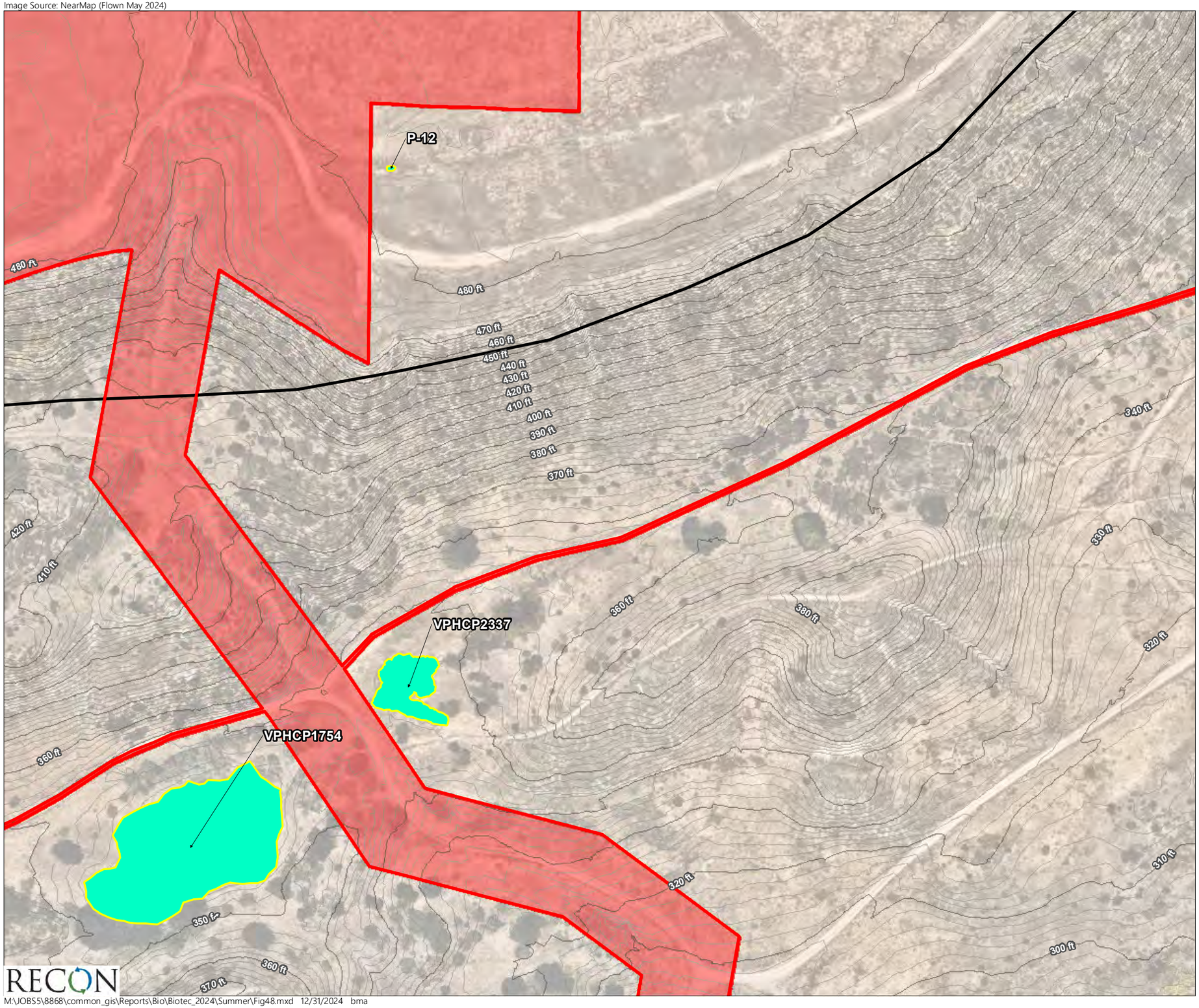
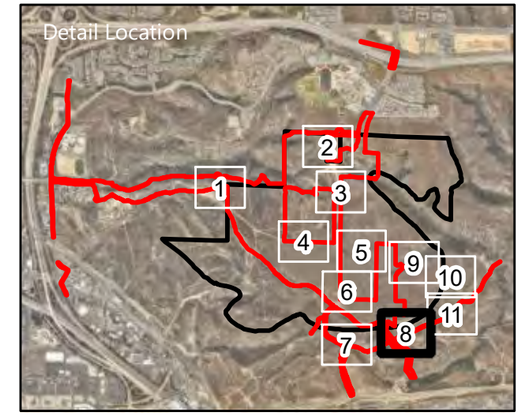
FIGURE 48.7
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Avoided

0 Feet 100

RECON

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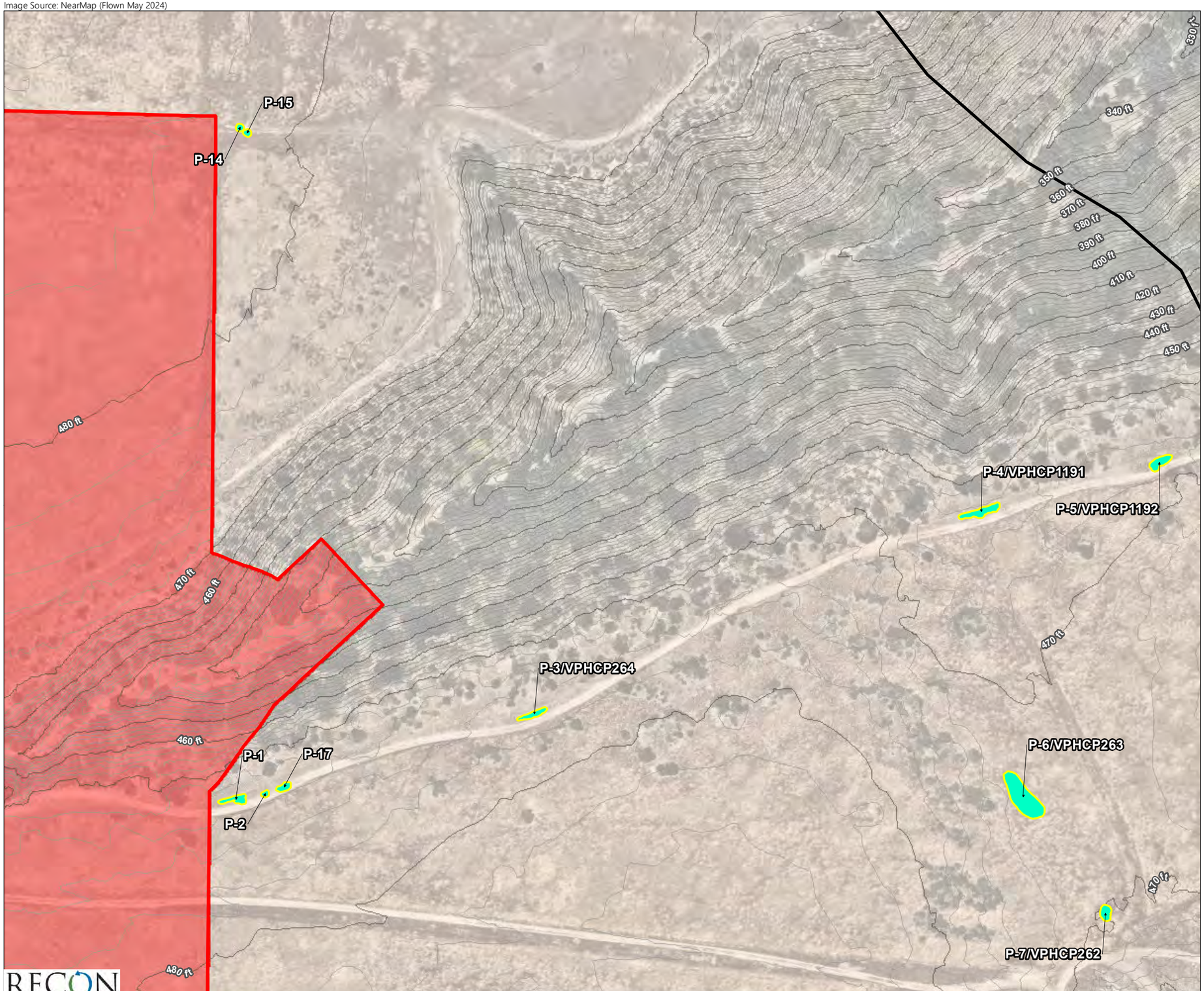
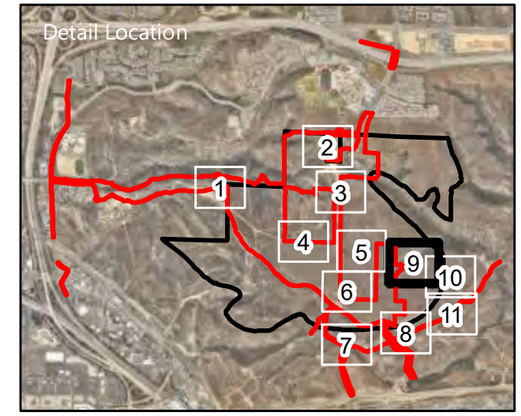
FIGURE 48.8
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Avoided

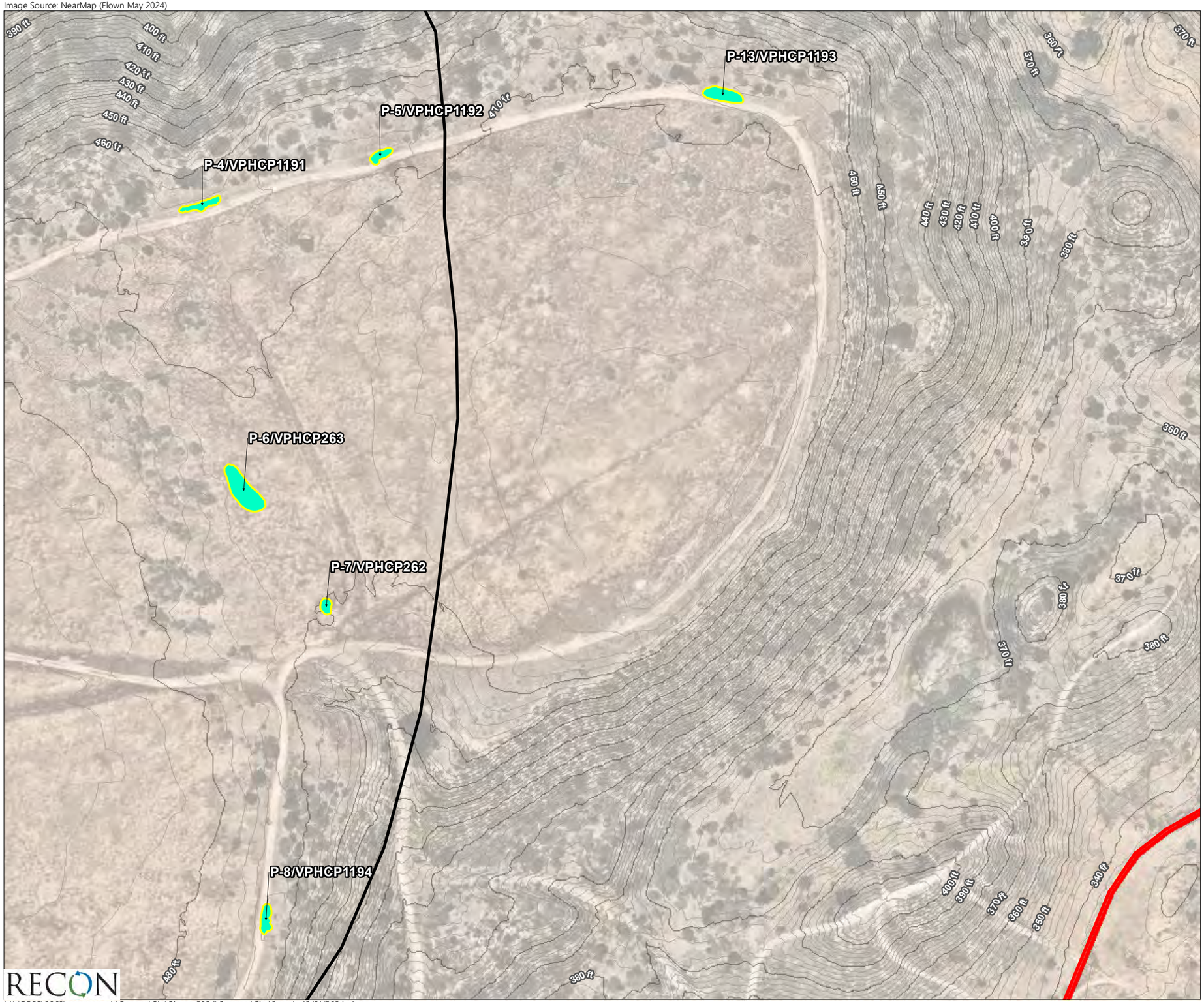
0 Feet 100

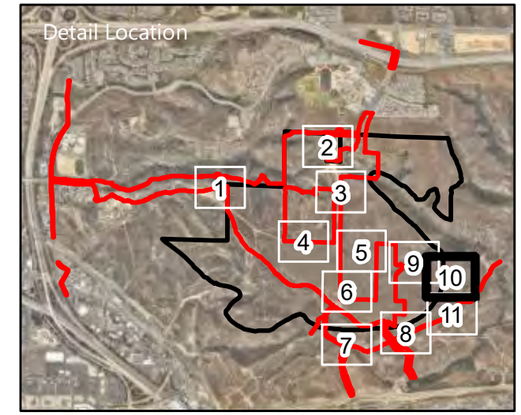
RECON

M:\JOBS5\8868\common_gis\Reports\Bio\Biotec_2024\Summer\Fig48.mxd 12/31/2024 bma

FIGURE 48.9
City of San Diego Wetlands Outside the Project-level Grading Footprint

Image Source: NearMap (Flown May 2024)





Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Wetland Impact Potential

Assumed Avoided

0 Feet 100

FIGURE 48.10
City of San Diego Wetlands Outside the Project-level Grading Footprint

RECON

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Image Source: NearMap (Flown May 2024)

Project-level Impacts

Specific Plan Boundary

City of San Diego Wetlands

Vernal Pool (Waters ID)

Disturbed Wetland (Waters ID)

Wetland Impact Potential

Assumed Avoided

0 Feet 100

RECON

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FIGURE 48.11
City of San Diego Wetlands Outside the Project-level Grading Footprint

7.3 Impacts to Wildlife Corridors

7.3.1 Program-level Impacts

Impacts to migratory wildlife such as migratory birds due to potential construction and operational impacts to nesting or foraging wildlife species would be significant. Impacts to wildlife species are addressed in Section 7.1.1.2.

As described in Section 5.6.1, wildlife movement occurs within the canyon networks surrounding the Specific Plan area with Moody Canyon and Spring Canyon supporting a majority of the wildlife movement, namely large mammals such as coyote and bobcat. As detailed in the Wildlife Tracking Study (Wildlife Tracking Institute 2020; see Attachment 2), the highest wildlife use areas within and surrounding the Specific Plan area are within the canyon networks surrounding the Specific Plan development area. Program-level areas are limited to the mesa tops and would not reduce the availability of the surrounding open space in Spring Canyon, which is mapped as a regional wildlife movement corridor. Program-level impacts related to wildlife movement corridors would be less than significant.

7.3.2 Project-level Impacts

7.3.2.1 Beyer Boulevard West Extension

The extension of Beyer Boulevard West would have the greatest effect on wildlife movement as the proposed roadway would bisect a large block of conserved lands separating habitat within Moody Canyon from the habitat to the south that connects to Spring Canyon (see Figure 7). However, the extension of Beyer Boulevard West through conserved land was anticipated and evaluated in the OMCP FEIR and it was determined that compliance with City MSCP Subarea Plan policies would reduce impacts to less than significant. Additionally, since adoption of the OMCP FEIR the City has adopted the VPHCP. The VPHCP acknowledges in Section 4.1.4 that development of new roads may be required to cross the MHPA to accommodate existing and planned land use in the circulation/mobility element of the City's General Plan and the corresponding Community Plans. Maintenance of existing access roads, expansion of existing roads, and development of new roads are covered projects because they are conditionally compatible with the MHPA. Additionally, the VPHCP MA analysis discussed above in Section 6.2.2.1 addresses impacts to 100 percent conserved lands and the proposed conservation strategy to ensure VPCHP conservation levels are maintained or exceeded.

To demonstrate consistency with the MSCP and the VPHCP, Beyer Boulevard West has been the subject of extensive study to identify a design that would minimize impacts to the greatest degree feasible and incorporate features to ensure wildlife movement through the open space areas north and south of the road would remain viable.

Based on the results of the wildlife tracking study presented in Section 5.6, three culvert crossings for wildlife and one wildlife overcrossing are proposed to facilitate wildlife movement. Details of the design of the crossing and associated wildlife fencing are described in Section 1.3.2.3.b. Proposed

wildlife crossings and associated design features would minimize project impacts to wildlife movement associated with the construction of Beyer Boulevard West by providing wildlife connections from Moody Canyon to large habitat areas south of the proposed Beyer Boulevard West which connects to extensive habitat extending south of the Specific Plan area and connecting to Spring Canyon and north through existing crossing locations (e.g., SR-905 bridge) that connects to Dennery Canyon.

In order to direct wildlife to utilize one of three proposed undercrossings and the proposed wildlife overcrossing and avoid wildlife vehicular collisions, as described in Section 1.3.2.3.b, chain link fencing is proposed along the entire length of Beyer Boulevard West on both the north and south sides of the road. The height of the fencing would be based on the slope aspect in relation to the fence, with fence heights being 6 feet up to 8 feet depending on the orientation of the slope. Where the fence is located mid-slope with wildlife usage area located above the fence-line, the fence would need to be 8 feet tall. Where the fence is located at grade or within wildlife use area located downslope of the fence, a 6-foot fence height would be sufficient. These fence heights would be adequate to prevent animals from jumping over.

Fencing on both sides of the road would be fashioned with a fine mesh cover on the bottom 2-foot portion of the fence to prevent small animal movement through openings in the fence. The fencing would also be buried a minimum of six inches to prevent animals from burrowing under. Refer to Figure 15 for the location of proposed fencing.

Moody Canyon and Spring Canyon support a majority of the wildlife movement, namely large mammals such as coyote and bobcat. The project design features listed in Section 1.3.2.3.b would facilitate the avoidance and minimization of impacts to wildlife species associated with the construction of Beyer Boulevard West across a wildlife movement area. Additionally, a Long-Term Management and Monitoring Plan has been prepared to ensure all of the wildlife movement features proposed along Beyer Boulevard West are monitored and managed for a period of 10 years to evaluate the functioning of the wildlife crossings (see Attachment 16). The purpose of the monitoring period is to evaluate the success of the wildlife overcrossing and allow for adaptive management as needed to support its functionality. Prior to initiation of long-term management and monitoring, an endowment would be provided to fund the management and monitoring of the wildlife features for the 10 year period in addition to ongoing funding in perpetuity to support regular maintenance and monitoring. With implementation of the Beyer Boulevard West wildlife features and the Long-Term Management and Monitoring Plan for the Beyer Boulevard West Wildlife Features (see Attachment 16), impacts to wildlife corridors would be less than significant.

7.3.2.2 Trails

The potential for primitive trails to be formalized within the open space areas within the Specific Plan area and surrounding the Specific Plan area was evaluated as part of the development of the Specific Plan. Trails have been substantially minimized compared to the originally conceived trail network identified in the OMCP conceptual trail network. No trail alignments are proposed within the vicinity of the wildlife crossings along Beyer Boulevard West to ensure no conflicts with wildlife and humans. Additionally, within the surrounding open space, limited trails are proposed as detailed in Figure 12.3. No conflicts are anticipated with proposed primitive trails and wildlife usage as trails

would be designed to be consistent with the City's MSCP Subarea Plan trail policies. Trails are sited to follow existing disturbed alignments. As detailed in Section 1.3.2.6.a, the proposed trail establishment would include restoration of disturbed habitats surrounding the proposed trail corridor which would enhance the existing habitats, supporting wildlife use.

7.3.2.3 Residential Development

Development of the mesa top would impact habitat within the use range of focal species; however, significant large blocks of habitat would remain intact after development. As shown in Figure 36.4, connectivity of MHPA lands is retained after development of the Specific Plan. Therefore, impacts to wildlife corridors from development of the mesa top would be less than significant and no mitigation would be required.

7.3.2.4 EVA Road

Improvements are proposed within the MHPA to provide EVA to the south of the Specific Plan to enhance emergency evacuation and response options for the project. While the EVA road and its slopes would be deleted from the MHPA, the improvements would not adversely affect wildlife movement through the surrounding open space because the use of the road is not anticipated to increase. The EVA road would be closed to public vehicular access with a gate within the Specific Plan to prohibit public vehicular access. The proposed improvements would follow an existing dirt road that is currently used by border patrol and land managers. Improvements to the existing dirt road are proposed for accessibility by fire engines by reducing the road steepness in certain areas to achieve a maximum 15 percent grade and providing a mix of surfacing including decomposed granite, asphalt, and concrete depending on grade (refer to Section 1.3.2.3.e for details). Where grading is required to reduce grades, slopes would be restored to native habitats consistent with the surrounding area after construction.

Although improvements are proposed along this road, the improvements are not anticipated to result in increased use beyond existing conditions. Currently, border patrol uses this road, and other roads, to patrol the area. The surfacing would not increase border patrol use of the road or their presence in the area. Similarly, land managers may use the road for access to the open space to conduct restoration and habitat management and maintenance activities. Some pedestrian and bicycle access along the northern portion of the EVA road is anticipated to provide access to the primitive trail network (see Figure 12.3 for the existing utility road in relation to proposed primitive trails). The improvements to the EVA road would not affect wildlife usage in this area. The City is the anticipated long-term manager for the surrounding open space would monitor trespass and address any issues should they arise. No indirect effects to wildlife are anticipated due to the EVA road improvements.

7.4 Land Use Consistency

7.4.1 Program-level

7.4.1.1 Otay Mesa Community Plan

As detailed in Section 3.3.4, the OMCP includes policies pertaining to biological resources and Otay Mesa in particular. Consistency with these policies for the program-level areas is addressed below:

OMCP Policy 8.1-6: Implement Area Specific Management Directives and Conditions of Coverage as stated in Table 3-5 of the MSCP Subarea Plan for Species protected in Otay Mesa and identified in Table 8-1.

Discussion: All future development within the Specific Plan area would be required to complete a site-specific biological technical report and appropriate species surveys, as required by OMCP FEIR Mitigation Framework BIO-1. Based on the species present or with the potential to occur, the City's Biology Guidelines would require evaluation of consistency with the MSCP including ASMDs and Conditions of Coverage as stated in Table 3-5 of the MSCP Subarea Plan. Therefore, at the program-level, the project would be consistent with this policy.

OMCP Policy 8.1-7: Require preservation, restoration, management, and monitoring within identified vernal pool preservation areas in accordance with City, state, and federal policies and regulations. The boundaries of vernal pool preserve areas should be of sufficient size and shape to protect the vernal pool basins, watersheds, functional buffers, and areas necessary to maintain vernal pool ecosystem function and species viability.

A. *Design, as feasible, the preserve areas to provide connectivity between vernal pools, surrounding open space, and nearby vernal pool complexes.*

B. *Conduct management and monitoring of preserved and restored vernal pool sites in accordance with the citywide regulations and Biology Guidelines.*

Discussion: This policy has largely been implemented through the City's completion of the VPHCP which defines vernal pool preserve areas of a sufficient size and shape to protect vernal pool ecosystems and species viability and identifies required management and monitoring actions that the City is responsible for implementing. The Specific Plan has incorporated all VPHCP identified vernal pool preserve areas into the land use plan for the Specific Plan. As future development within the Specific Plan is proposed near vernal pool preserve areas and vernal pool resources potential direct and indirect impacts to vernal pools would be evaluated to ensure adequate buffers and vernal pool watersheds are maintained. With implementation of the program-level mitigation described in Section 8.1, all future development would be designed to address protection of vernal pools and their watersheds.

OMCP Policy 8.1-8 Amend the Otay Mesa Community Plan as needed for consistency with an adopted Vernal Pool Habitat Conservation Plan (HCP).

Discussion: The City amended the OMCP after adoption of the VPHCP. The Specific Plan is consistent with the VPHCP; therefore, additional OMCP amendments to address the VPHCP are not anticipated.

OMCP Policy 8.1-11 Encourage the development of a comprehensive approach to habitat identification, management, and establishment of preservation nodes in order to address long term survival of the burrowing owl on Otay Mesa.

Discussion: The City continues to work with the Wildlife Agencies to develop a comprehensive approach to habitat identification, management, and establishment of nodes to address long-term survival of burrowing owl on Otay Mesa. At a program-level, future development would likely affect foraging habitat for burrowing owl. Future site-specific biological studies would be required to include burrowing owl protocol surveys and assess the potential for impacts to burrowing owl and its habitats. Implementation of the Specific Plan would not impede development of a comprehensive approach to addressing long term survival of burrowing owl on Otay Mesa.

7.4.2 Project-level

7.4.2.1 Otay Mesa Community Plan

As detailed in Section 3.3.4, the OMCP includes policies pertaining to biological resources and Otay Mesa in particular. Consistency with these policies at the project-level is addressed below:

OMCP Policy 8.1-6 Implement Area Specific Management Directives and Conditions of Coverage as stated in Table 3-5 of the MSCP Subarea Plan for Species protected in Otay Mesa and identified in Table 8-1.

Discussion: As detailed in Section 6.2.1.2.g, the following MSCP covered species were identified within the project impacts limits: coast horned lizard, least Bell's vireo, orange-throated whiptail, Cooper's hawk, southern California rufous-crowned sparrow, northern harrier, coastal California gnatcatcher, burrowing owl, coastal cactus wren, and southern mule deer. The project would implement the ASMDs and Conditions of Coverage for each of these species, as discussed in Section 6.2.1.2.g.

OMCP Policy 8.1-7 Require preservation, restoration, management, and monitoring within identified vernal pool preservation areas in accordance with City, state, and federal policies and regulations. The boundaries of vernal pool preserve areas should be of sufficient size and shape to protect the vernal pool basins, watersheds, functional buffers, and areas necessary to maintain vernal pool ecosystem function and species viability.

A. Design, as feasible, the preserve areas to provide connectivity between vernal pools, surrounding open space, and nearby vernal pool complexes.

B. *Conduct management and monitoring of preserved and restored vernal pool sites in accordance with the citywide regulations and Biology Guidelines.*

Discussion: The project-level mitigation includes implementation of a vernal pool restoration area within a location identified as preserve in the City's VPHCP. All existing vernal pools within this area would be preserved and enhanced in place with appropriate watersheds retained to ensure ecosystem function. The proposed restoration area includes requirements for ongoing management including funding for management and monitoring in perpetuity following the requirements of City, state and federal policies and regulations. Refer to Attachment 14 for details of the proposed Vernal Pool and Quino Checkerspot Mitigation Plan.

OMCP Policy 8.1-8 Amend the Otay Mesa Community Plan as needed for consistency with an adopted Vernal Pool Habitat Conservation Plan (HCP).

Discussion: The City amended the OMCP after adoption of the VPHCP. The project is consistent with the VPHCP; therefore, additional OMCP amendments to address the VPHCP are not anticipated.

OMCP Policy 8.1-11 Encourage the development of a comprehensive approach to habitat identification, management, and establishment of preservation nodes in order to address long term survival of the burrowing owl on Otay Mesa.

Discussion: The project completed burrowing owl protocol surveys and did not find any evidence of burrowing owl nesting on-site. Impacts to burrowing owl foraging habitat would occur and would be mitigated through habitat based in-kind mitigation. Although direct impacts to burrowing owl are not anticipated based on the results of protocol surveys, the project includes as a design feature installation of a berm with artificial burrows/pilot holes within the mitigation lands. While not required as mitigation, this project design feature was coordinated with the Wildlife Agencies and was determined desirable due to the potential for the area (including Spring Canyon to the east) to potentially be developed as a burrowing owl preservation node. The City continues to work with the Wildlife Agencies to develop a comprehensive approach to habitat identification, management, and establishment of nodes to address long-term survival of burrowing owl on Otay Mesa. The project's installation of the berm within the Vernal Pool and Quino Checkerspot Butterfly restoration area would support this goal. Therefore, implementation of the project-level areas would not impede development of a comprehensive approach to addressing long term survival of burrowing owl on Otay Mesa.

7.5 Cumulative Impacts

Cumulative impacts are those that may occur at a landscape or regional level as a result of past, current, and foreseeable projects within the cumulative study area. While impacts from one project may not be significant, when analyzed in concert with multiple projects in the area, impacts may compound and reach a level of significance. For purposes of this section, the cumulative impact analysis considers both the project-level and program-level areas since buildout of both areas would be part of the cumulative condition.

Cumulative impacts to sensitive habitats and wildlife are addressed through project compliance with the MSCP. The MSCP was designed to compensate for the regional loss of biological resources throughout the region. Projects that conform with the MSCP as specified by the Subarea Plan, and implementing ordinances, (i.e., Biology Guidelines and ESL Regulations) are not expected to result in a significant cumulative impact to vegetation communities identified as Tier I through IV. Therefore, with implementation of habitat-based mitigation required by the City's Biology Guidelines (2018), no cumulative impacts to Tier I – IIIB vegetation communities are anticipated to occur. Similarly, adequate preservation of habitat consistent with the MSCP would avoid cumulative impacts to sensitive species covered under the plan.

Like the MSCP, the VPHCP is designed to ensure regional protection of vernal pool resources and the species that occupy them. As the project-level areas are consistent with the VPHCP and all future development within program-level areas would be required to demonstrate consistency with the VPHCP, cumulative impacts would be less than significant.

The compensatory mitigation for the loss of wetlands (mule fat scrub, southern willow scrub, disturbed southern willow scrub, disturbed riparian and disturbed wetlands) and natural flood channel for the project-level areas is proposed as reestablishment/rehabilitation credits at a 3:1 ratio and 2:1 ratio, respectively. Similarly, the mitigation required for impacts to jurisdictional resources associated with program-level areas would be required to fulfill the no-net-loss wetland policy implemented by the City and the resource agencies which would ensure no cumulatively significant loss of wetland vegetation communities.

Regarding Quino checkerspot butterfly, although the project is not anticipated to support a regionally significant population of this species based on the survey results, the project-level impact area combined with future development within program-level areas would result in development of an approximate 300-acre area within the Specific Plan area in Otay Mesa. The Specific Plan, combined with the other developments anticipated in the area and the lack of MSCP coverage for the species, would result in a cumulative impact to Quino checkerspot butterfly. As development in the Otay Mesa community persists, any loss of Quino checkerspot butterfly or its suitable habitat would result in a cumulative impact. Therefore, cumulative impacts to suitable Quino checkerspot butterfly habitat resulting from project-level impacts would be significant.

Regarding Crotch's bumble bee, the project-level impact area combined with future development within program-level areas would result in development of an approximate 300-acre area within the Specific Plan area in Otay Mesa. The Specific Plan, combined with the other developments anticipated in the area and the lack of MSCP coverage for the species, would result in a cumulative impact to Crotch's bumble bee. As development in the Otay Mesa community persists, any loss of

Crotch's bumble bee or its suitable habitat would result in a cumulative impact. Therefore, cumulative impacts to suitable Crotch's bumble bee habitat resulting from project-level impacts would be significant.

Regarding western spadefoot, the project-level impact area combined with future development within program-level areas would result in development of an approximate 300-acre area within the Specific Plan area in Otay Mesa. The Specific Plan, combined with the other developments anticipated in the area and the lack of MSCP coverage for the species, would result in a cumulative impact to western spadefoot. As development in the Otay Mesa community persists, any loss of western spadefoot or its suitable habitat would result in a cumulative impact. Therefore, cumulative impacts to western spadefoot habitat resulting from project-level impacts would be significant.

8.0 Impact Summary and Mitigation

Mitigation is required for project impacts that are significant under CEQA (City of San Diego 2022), including impacts to sensitive or listed species and sensitive vegetation communities. All impacts to sensitive biological resources should be avoided to the maximum extent feasible and minimized when possible. Mitigation measures typically employed include resource avoidance, habitat preservation, restoration/enhancement of habitat, or dedication/acquisition of habitat.

As discussed in Section 3.3.6, this biological analysis will support preparation of a Subsequent EIR to the OMCP FEIR. As a result, the impacts and mitigation in the section are presented in light of the OMCP FEIR Mitigation Framework, which is cited in Section 3.3.7. To provide clarity on how the OMCP FEIR analysis and Mitigation Framework relates to the analysis in this biological resources report, the following summarizes the issues evaluated in the OMCP FEIR and where they are addressed in this biological resources report. The issue organization has been updated for clarity; however, as detailed in Table 14 below, all issues addressed in the OMCP FEIR have been covered in this analysis.

Table 14
Otay Mesa Community Plan Final Environmental Impact Report and Southwest Village Biological Resources Report Issue Cross-reference

OMCP FEIR Issue	OMCP FEIR Mitigation Framework	Program-level Analysis	Project-level Analysis
Land Use: Environmental Plan Consistency (MSCP Adjacency)	LU-2 Land Use Adjacency Guidelines	Addressed in Section 6.1	Addressed in Section 6.2
Sensitive Plants and Animals	BIO-1 Site Specific Biology Report and Compliance with Biology Guidelines	Addressed in Section 7.1.1.1, 7.1.1.2 7.2.1.1, 7.2.1.2	Addressed in Section 7.1.2.1, 7.1.2.2, 7.1.2.3, 7.2.2.1, 7.2.2.2
Migratory Wildlife	BIO-1 and BIO-2 – Protocol Surveys and Biology Report	Addressed in Section 7.1.1.2, 7.2.1.2, and 7.3.1	Addressed in Section 7.1.2.3, 7.2.2.2, and 7.3.2
Sensitive Habitat	BIO-1	Addressed in Section 7.1.1.1, 7.2.1.1	Addressed in Section 7.1.2.1, 7.2.2.1
MSCP	N/A	Addressed in Section 6.1	Addressed in Section 6.2
Invasive Plants	LU-2	Addressed in Section 7.2.1.1	Addressed in Section 7.2.2.1
Wetland Impacts	BIO-1 and BIO-4	Addressed in Section 7.1.1.3, 7.2.1.3	Addressed in Section 7.1.2.4, 7.2.2.3
Noise Generation	BIO-1, BIO-3, BIO-4, and LU-2	Addressed in Section 7.2.1.2	Addressed in Section 7.2.2.2

8.1 Program-level Impact Summary and Mitigation Framework

8.1.1 Consistency with the MSCP and VPHCP

The OMCP FEIR addressed consistency with the MSCP as a key issue in the FEIR. This analysis topic was expanded to include the VPHCP consistency since the VPHCP was adopted subsequent to certification of the OMCP FEIR.

8.1.11 MSCP Consistency

As detailed in Section 6.1.1, the Specific Plan development concept (see Figure 8), including all program-level areas demonstrates consistency with the MSCP because no future development areas are planned within existing MHPA and all future development would be required to demonstrate consistency with the MSCP. At the program-level, the project would be consistent with the MSCP. Impacts would be less than significant.

8.1.2 VPHCP Consistency

As detailed in Section 6.1.2, the Specific Plan has incorporated VPHCP 100 percent conserved lands into the Specific Plan land use concept and language has been incorporated into the Specific Plan that requires any development adjacent to conserved open space to be designed to protect the function and value of surrounding vernal pool resources and their watersheds. Program-level areas are located outside of existing VPHCP/MHPA lands. All future development adjacent to VPHCP/MHPA lands would be required to demonstrate consistency with the VPHCP through consideration of potential indirect impacts to vernal pool watersheds as part of implementation of Mitigation Framework BIO-1. Additionally, future development adjacent to the VPHCP/MHPA would be required to comply with both the MHPA Land Use Adjacency Guidelines and VPHCP Avoidance and Minimization Measures.

As future projects are proposed within the program-level areas, each individual development would be reviewed for consistency with the VPHCP and development would be required to demonstrate consistency with surrounding vernal pool resources including avoidance of indirect impacts through implementation of avoidance and minimization measures described in VPHCP Section 5.2.1. Through required compliance with the VPHCP for development within program-level areas and required consistency with the Specific Plan development concept, future development within the program-level areas would be consistent with the VPHCP. Impacts would be less than significant.

8.1.2 Sensitive Vegetation Communities, Plants, and Wildlife Species

The OMCP FEIR found that impacts to sensitive plants and animals and sensitive habitats would be significant and would require implementation of Mitigation Framework BIO-1~~ and BIO-2~~, which ~~are~~

is cited verbatim in Section 3.3.7. The requirements of the OMCP FEIR Mitigation Frameworks are carried forward as mitigation for the program-level areas of the Specific Plan, but have been modified where appropriate, to include updated City requirements and to specifically address implementation of the Specific Plan, as detailed below.

As detailed in Section 7.1.1.1 and 7.1.1.2, impacts to sensitive vegetation communities and sensitive plants and wildlife and associated with future development within the program-level areas would be significant. Future program-level development would be required to conduct site-specific biological surveys to determine the presence or potential for sensitive plants and wildlife and vegetation communities, and develop site-specific mitigation, as necessary, to reduce impacts to less than significant. If burrowing owl habitat or signs are encountered on or within 150 meters of the project site, breeding season surveys would be required and if burrowing owl are present, site-specific avoidance measures would be required including preparation of a Conceptual Burrowing Owl Mitigation Plan that includes take avoidance (pre-construction) surveys, site surveillance, and the use of buffers, screens, or other measures to minimize construction-related impacts. Implementation of the OMCP FEIR Mitigation Framework~~s~~ BIO-1~~ and BIO-2~~, as modified below for the Specific Plan area, would ensure that at the program-level impacts to sensitive plants, sensitive wildlife, and vegetation communities would be reduced less than significant.

SP-BIO-1 – Sensitive Plants and Wildlife

To reduce potentially significant impacts that would cause a reduction in the number of unique, rare, endangered, sensitive, or fully protected species of plants or animals, if present within the Specific Plan area, all subsequent projects implemented in accordance with the Specific Plan shall be analyzed in accordance with the CEQA Significance Thresholds, which require that site-specific biological resources surveys be conducted in accordance with City's Biology Guidelines (2018a). The locations of any sensitive plant species, including listed, rare, and narrow endemic species, as well as the potential for occurrence of any listed or rare plant or wildlife species shall be recorded and presented in a biological resources report. Focused presence/absence surveys shall be conducted in accordance with the biology guidelines and applicable resource agency survey protocols to determine the potential for impacts resulting from the future projects on these species. Engineering design specifications based on project-level grading and site plans shall be incorporated into the design of future projects to minimize or eliminate direct impacts on sensitive plant and wildlife species consistent with the FESA, MBTA, Bald and Golden Eagle Protection Act, CESA, MSCP Subarea Plan, VPHCP, and ESL Regulations.

In addition to the requirements detailed above, specific measures shall be implemented when the biological survey results in the identification of burrowing owls on the project site. Future projects shall be required to conduct a habitat assessment to determine whether or not protocol surveys are needed. Should burrowing owl habitat or sign be encountered on or within 150 meters of the project site, breeding season surveys shall be conducted. If occupancy is determined, site-specific avoidance and mitigation measures shall be developed in accordance with the protocol established in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). Measures to avoid and minimize impacts to burrowing owl shall be included in a Conceptual Burrowing Owl Mitigation Plan which includes take avoidance (pre-construction) surveys, site surveillance, and the use of buffers, screens, or other measures to minimize construction-related impacts.

Mitigation for Impacts to Sensitive Upland Habitats

Future projects implemented in accordance with the Specific Plan resulting in impacts to sensitive upland Tier I, II, IIIA, or IIIB habitats shall implement avoidance and minimization measures consistent with the City's Biology Guidelines, MSCP Subarea Plan, and VPHCP and provide suitable mitigation in accordance with the City's Biology Guidelines, MSCP Subarea Plan, and VPHCP. Future project-level grading and site plans shall incorporate project design features to minimize direct impacts on sensitive vegetation communities including but not limited to riparian habitats, wetlands, oak woodlands, and coastal sage scrub consistent with federal, state, and City guidelines. Any required mitigation for impacts on sensitive vegetation communities shall be outlined in a conceptual mitigation plan following the outline provided in the City's Biology Guidelines.

Mitigation for impacts to sensitive vegetation communities shall be implemented at the time future development projects are proposed. Project-level analysis shall determine whether the impacts are within or outside of the MHPA. Any MHPA boundary adjustments shall be processed by the individual project applicants through the City and Wildlife Agencies during the early project planning stage.

Mitigation for impacts to sensitive upland habitats shall occur in accordance with the MSCP mitigation ratios as specified within the City's Biology Guidelines (City of San Diego 2018a). These mitigation ratios are based on Tier level of the vegetation community, the location of the impact and the location of the mitigation site(s). For example, impacts to lands inside of the MHPA and mitigated outside the MHPA would have the highest mitigation ratio whereas impacts to lands outside the MHPA and mitigated inside the MHPA would have the lowest mitigation ratio.

~~SP-BIO-2 – Migratory Wildlife~~

~~Mitigation for future projects to reduce potentially significant impacts that would interfere with the nesting, foraging, or movement of wildlife species within the Specific Plan area, shall be identified in site-specific biological resources surveys prepared in accordance with City's Biology Guidelines as further detailed in SP-BIO-1 during the subsequent development review process. The biological resources report shall include results of protocol surveys and recommendations for additional measures to be implemented during construction related activities; shall identify the limits of any identified local-scale wildlife corridors or habitat linkages and analyze potential impacts in relation to local fauna, and the effects of conversion of vegetation communities (e.g., non-native grassland to riparian or agricultural to developed land) to minimize direct impacts on sensitive wildlife species and to provide for continued wildlife movement through the corridor. Measures that shall be incorporated into project-level construction documents to minimize direct impacts on wildlife movement, nesting or foraging activities shall be addressed in the biological resources report and shall include recommendations for preconstruction focused surveys to be conducted during established breeding seasons, construction noise monitoring and implementation of any species-specific mitigation plans (such as a Burrowing Owl Mitigation Plan) in order to comply with the FESA, MBTA, Bald and Golden Eagle Protection Act, State fish and Game Code, and/or the ESL Regulations.~~

8.1.3 Jurisdictional Resources

As detailed in Section 7.2.1.3, impacts to jurisdictional resources within the program-level areas would be significant. Compliance with City regulations and policies, ESL Regulations, the MSCP Subarea Plan, VPHCP, the City's Biology Guidelines, and implementation of OMCP FEIR Mitigation Framework BIO-4, as modified below would serve to reduce impacts to wetlands, vernal pools, and other jurisdictional resources at the program-level to below a level of significance.

SP-BIO-2~~3~~-Wetlands

To reduce potential direct impacts to City, state, and federally regulated wetlands, all subsequent projects developed in accordance with the Specific Plan shall be required to comply with USACE Clean Water Act Section 404 requirements and special conditions, RWQCB Clean Water Act Section 401 requirements and special conditions, CDFW Section 1602 Streambed Alteration Agreement requirements and special conditions, and the City's ESL Regulations for avoiding and minimizing impacts to wetlands or compliance with City guidelines for the wetland deviation. Achieving consistency with these regulations for impacts on wetlands and special jurisdictional sites would reduce potential impacts to regulated wetlands and provide compensatory mitigation (as required) to ensure no net-loss of wetland habitats.

Prior to obtaining discretionary permits for future actions implemented in accordance with the Specific Plan, a site-specific biological resources survey shall be completed in accordance with the City's Biology Guidelines. In addition, a preliminary or final jurisdictional resource delineation of the program-level areas shall be completed following the methods outlined in the USACE's 1987 Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Delineation Manual for the Arid West Region. A determination of the presence/absence and boundaries of any waters of the United States and waters of the state shall also be completed following the appropriate USACE guidance documents for determining the OHWM boundaries. The limits of any riparian habitats within the program-level analysis areas under the sole jurisdiction of CDFW shall also be delineated, as well as any special jurisdictional sites (excluding vernal pools) that may not meet federal criteria but are regulated by the RWQCB. Engineering design specifications based on project-level grading and site plans shall be incorporated into the project design to minimize direct impacts to potential wetlands/waters, riparian habitats, vernal pools, etc. consistent with federal, state, and City guidelines. Any required mitigation for impacts shall be outlined in a conceptual wetland plan prepared in accordance with the City's Biology Guidelines (2018a).

Additionally, any impacts to wetlands in the City would require a deviation from the ESL wetland regulations. Under the wetland deviation process, development proposals that have wetland impacts shall be considered only pursuant to one of three options: Essential Public Projects, Economic Viability Option, or BSO. ESL Regulations require that impacts to wetland be avoided. Unavoidable impacts to wetlands shall be minimized to the maximum extent practicable and mitigated consistent with the City's Biology Guidelines including a no-net loss of wetland resources.

Vernal Pools and Vernal Pool Species

Impacts to vernal pools shall be addressed through project compliance with the VPHCP. This includes required assessments of vernal pool flora and fauna, hydrology, habitat function, and restoration potential and protocol fairy shrimp surveys, in addition to the requirements listed above. Mitigation for projects impacting vernal pools shall be consistent with the VPHCP and City's Biology Guidelines as determined by completion of a Compensatory Mitigation Plan approved by the City and Wildlife Agencies. Mitigation may include salvage of sensitive species from vernal pools to be impacted, introduction of salvaged material into restored vernal pool habitat where appropriate (e.g., same pool series) and maintenance of vernal pool habitat consistent with the VPHCP.

8.1.4 Indirect Impacts

The OMCP FEIR addressed indirect impacts in both the Land Use and Biological Resources sections of the FEIR. The OMCP FEIR found potentially significant indirect impacts related to development occurring adjacent to the MHPA. Additionally, potent indirect impacts were identified related to the issues of invasive plants and noise generation. At the program-level, potential indirect impacts related to development adjacent to the MHPA or VPHCP preserve is addressed through compliance with the City's MHPA Land Use Adjacency Guidelines, which is required as a standard City condition of approval and implements the OMCP FEIR Mitigation Framework LU-2. Additionally, regarding indirect impacts from construction noise, implementation of Mitigation Framework BIO-1 would ensure project-level analysis is conducted to identify the potential for indirect impacts to sensitive species to occur during construction and implementation of appropriate avoidance measures.

As detailed in Section 7.2.1, implementation of the program-level areas would have the potential to result in indirect impacts to sensitive plants and vegetation communities, sensitive wildlife, and jurisdictional resources. To address these potential indirect impacts, the program-level areas would be required to implement the MHPA Land Use Adjacency Guidelines as a condition of future development.

Additionally, regarding indirect impacts to vernal pools, since adoption of the OMCP FEIR, the City adopted the VPHCP which expands on the MHPA and adds additional avoidance measures for vernal pools that are required as standard conditions of approval for projects adjacent to the VPHCP/MHPA. As detailed in Section 6.1, future development adjacent to the MHPA, including VPHCP/MHPA lands that are considered MHPA, would be required to comply with MHPA Land Use Adjacency Guidelines which would serve to avoid indirect impacts to the adjacent MHPA and VPHCP/MHPA. Additionally, future development would be required to comply with VPHCP avoidance and minimization measures to avoid indirect impacts to vernal pools that would be avoided. The City requires compliance with MHPA Land Use Adjacency Guidelines and VPHCP avoidance and minimization measures as conditions of project approval for any project adjacent to the MHPA or VPHCP/MHPA. The OMCP FEIR identified implementation of MHPA Land Use Adjacency Guidelines as Mitigation Framework LU-2 as they were not standard conditions at the time the OMCP was prepared (refer to Section 3.3.7 for detailed text of OMCP FEIR Mitigation Framework LU-2). The MHPA Land Use Adjacency Guidelines would be applied as standard conditions to all future development within the Specific Plan area adjacent to the MHPA, ensuring implementation of OMCP FEIR Mitigation Framework LU-2. Adverse impacts related to adjacency

to the MHPA or VPHCP/MHPA lands would be less than significant based on implementation of the MHPA Land Use Adjacency Guidelines and VPHCP Avoidance and Minimization Measures as City standard conditions in addition to implementation of SP-BIO-1 ~~and SP-BIO-2~~ detailed above.

8.1.5 Wildlife Corridors

The OMCP FEIR addressed the topic of wildlife corridors as part of an analysis of migratory wildlife. OMCP Mitigation Framework BIO-2 required biological analysis to "identify the limits of any identified local-scale wildlife corridors or habitat linkages…" As detailed in Sections 5.6.1 and 5.6.2, wildlife movement studies were completed to evaluate wildlife usage and corridors within and surrounding the Specific Plan area. As detailed in Section 7.3.1, impacts to wildlife corridors resulting from implementation of program-level areas would be less than significant as the program-level development areas would be located on mesa tops and would avoid key wildlife use areas within the surrounding canyon networks. This issue has been addressed comprehensively for the entire Specific Plan due to the fact that the location of development is known at the program-level of review, allowing for consideration for regional wildlife corridors. Through completion of wildlife movement studies as required by OMCP Mitigation Framework BIO-2, the analysis shows that implementation of the Specific Plan would have a less than significant impact on wildlife movement corridors.

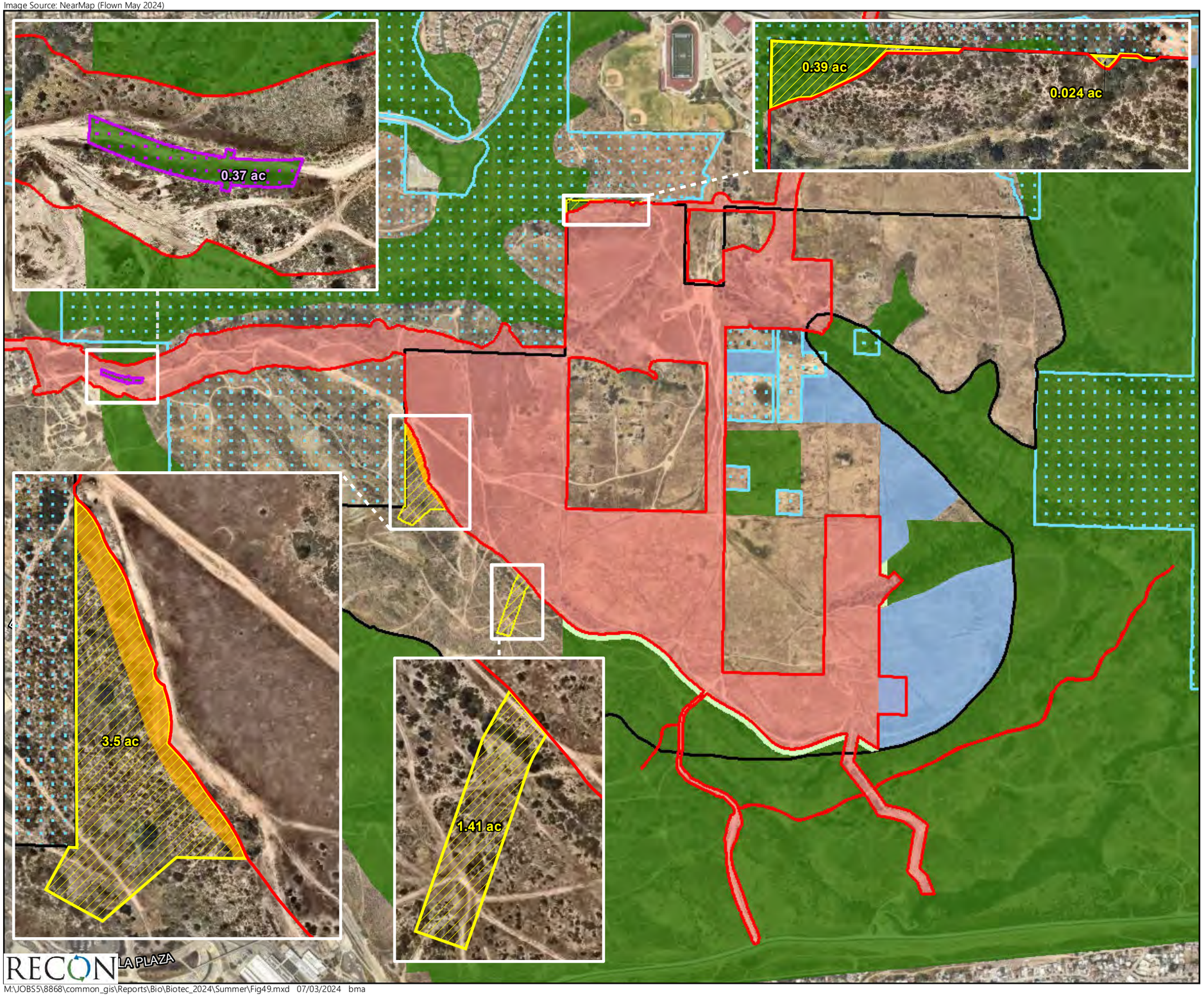
8.1.6 Land Use Consistency

As detailed in Section 7.4.1, implementation of the Specific Plan would not conflict with any policies of the OMCP related to biological resources. Impacts related to conflicts with environmental policies would be less than significant.

8.2 Project-level Impact Summary and Mitigation Element

The subsections that follow detail the mitigation proposed to reduce significant impacts resulting from the project-level development areas. A significant component of the mitigation is the proposed vernal pool restoration area (see Figure 46), which would incorporate mitigation for vernal pools, San Diego fairy shrimp, Riverside fairy shrimp, San Diego button-celery, San Diego barrel cactus, Quino checkerspot butterfly, and western spadefoot. Figure 49 identifies proposed covenant of easements for protection of ESL within the VTM boundary in addition to the locations of MHPA and VPHCP/MHPA after the BLA. Figure 50 provides an overview of the biological resources mitigation including the mitigation lands that would serve as mitigation for impacts to sensitive upland habitats, the location of the vernal pool and Quino checkerspot butterfly restoration area, the proposed wetland mitigation area, the restoration area for Otay tarplant/native grassland, and the proposed coastal cactus wren mitigation area within the County's Furby North Preserve. Figure 51 provides a breakdown of the mitigation areas including project design features.

Image Source: NearMap (Flown May 2024)



Project-level Impacts
Covenant of Easement - Protection of ESL within VTM (5.234 acres)
Future Covenant of Easement Areas for Protection of ESL/ Brush Management Zone 2
Brush Management Zone 2 (Impact Neutral)
Specific Plan Boundary
100% Conservation
City of SD MHPA
VPHCP MHPA
MHPA Allowed Use*

*Circulation Element Roadways are an allowed use in the MHPA; therefore, a MHPA deletion is not required where Beyer Boulevard crosses the MHPA.

0 Feet 800

FIGURE 49
Proposed Covenant of Easements and MHPA after Boundary Line Adjustment

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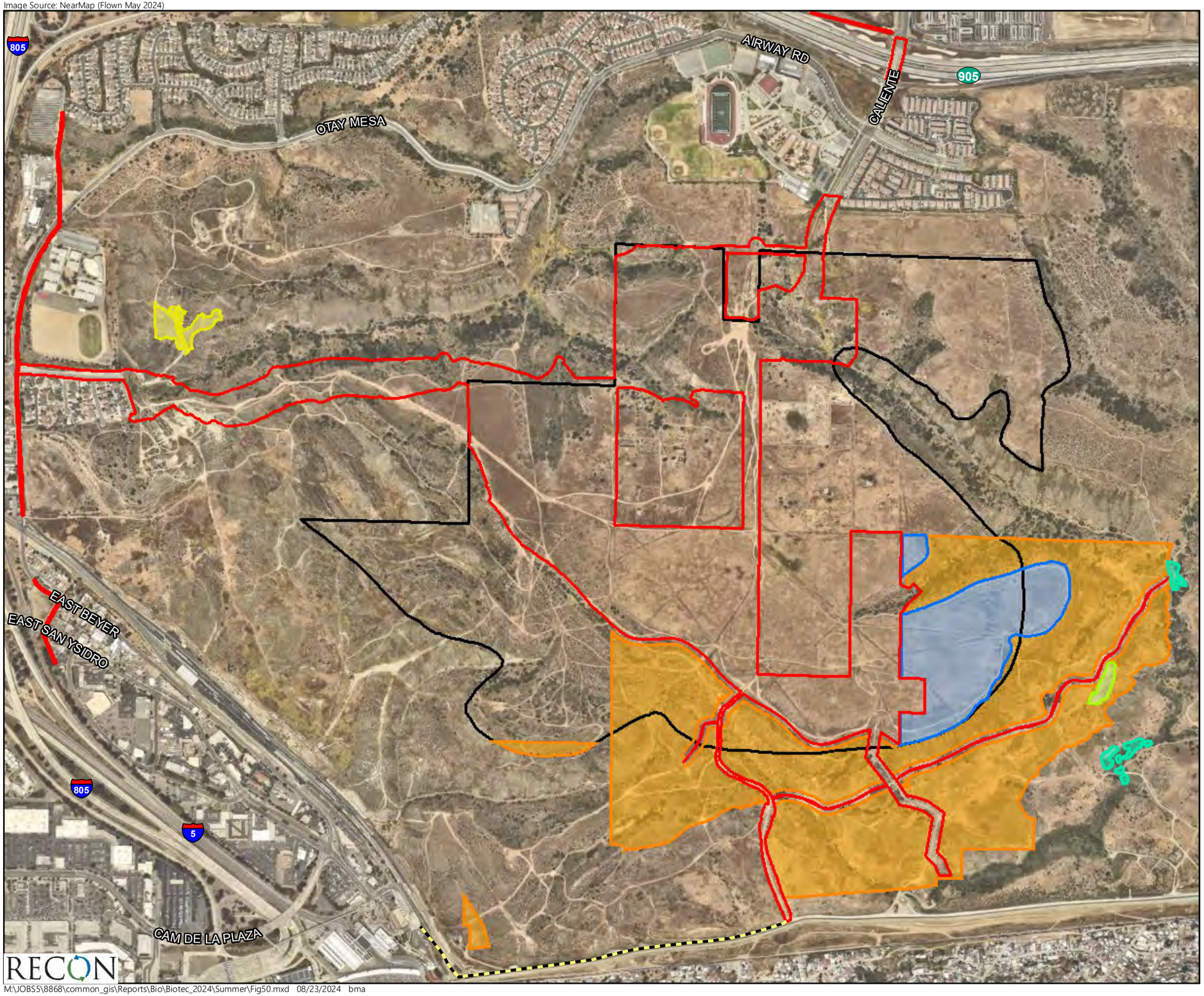
Image Source: NearMap (Flown May 2024)



Project-Level Impacts
Specific Plan Boundary
Uplands Mitigation
Coastal Cactus Wren Mitigation Site
Otay Tarplant / Native Grassland Mitigation Site
Wetland Mitigation Areas
Vernal Pool and Quino Checkerspot Butterfly Restoration Areas
Emergency Vehicle Access Road - No Improvements Required (Existing Road)

0 Feet 900

RECON

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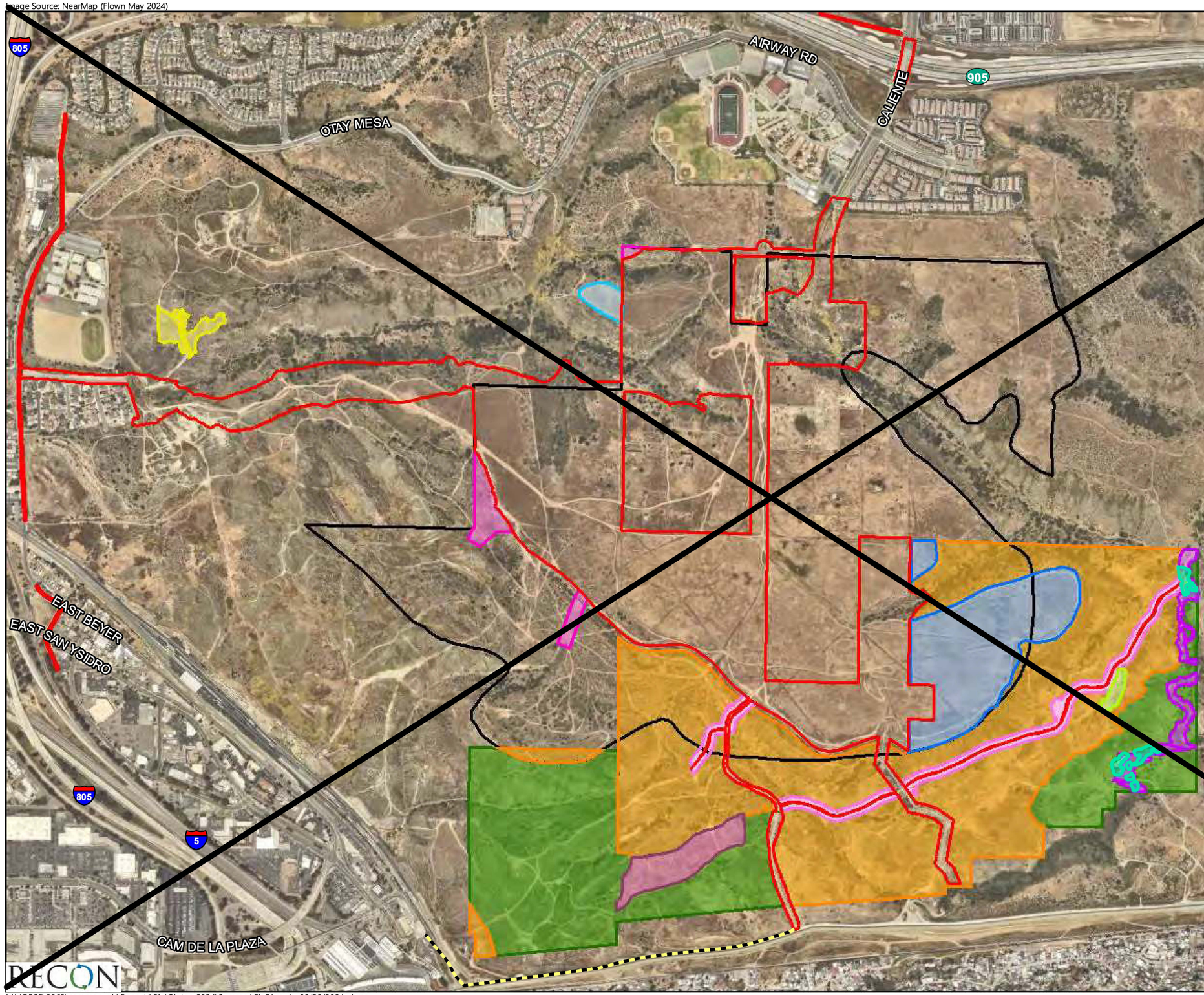
FIGURE 50
Mitigation Areas

Image Source: NearMap (Flown May 2024)



Project-Level Impacts
Specific Plan Boundary
Emergency Vehicle Access Road - No Improvements Required (Existing Road)

Project Design Features

Additional Potential Habitat Preservation (95.29 acres
Potential Vernal Pool Restoration Area (2.13 acres)
Wetland Plan Project Design Features (4.66 acres)
Trail Restoration (12.18 acres)
County of San Diego Furby North Exchange Lands (7.98 acres)
Covenant of Easement - Protection of ESL within VTM (5.23 acres)

Mitigation

Uplands Mitigation (169.64 acres)
Coastal Cactus Wren Mitigation Site (2.54 acres)
Otay Tarplant / Native Grassland Mitigation Site (0.96 acre)
Wetland Mitigation Areas (1.45 acres)
Vernal Pool and Quino Checkerspot Butterfly Restoration Areas (33.71 acres)

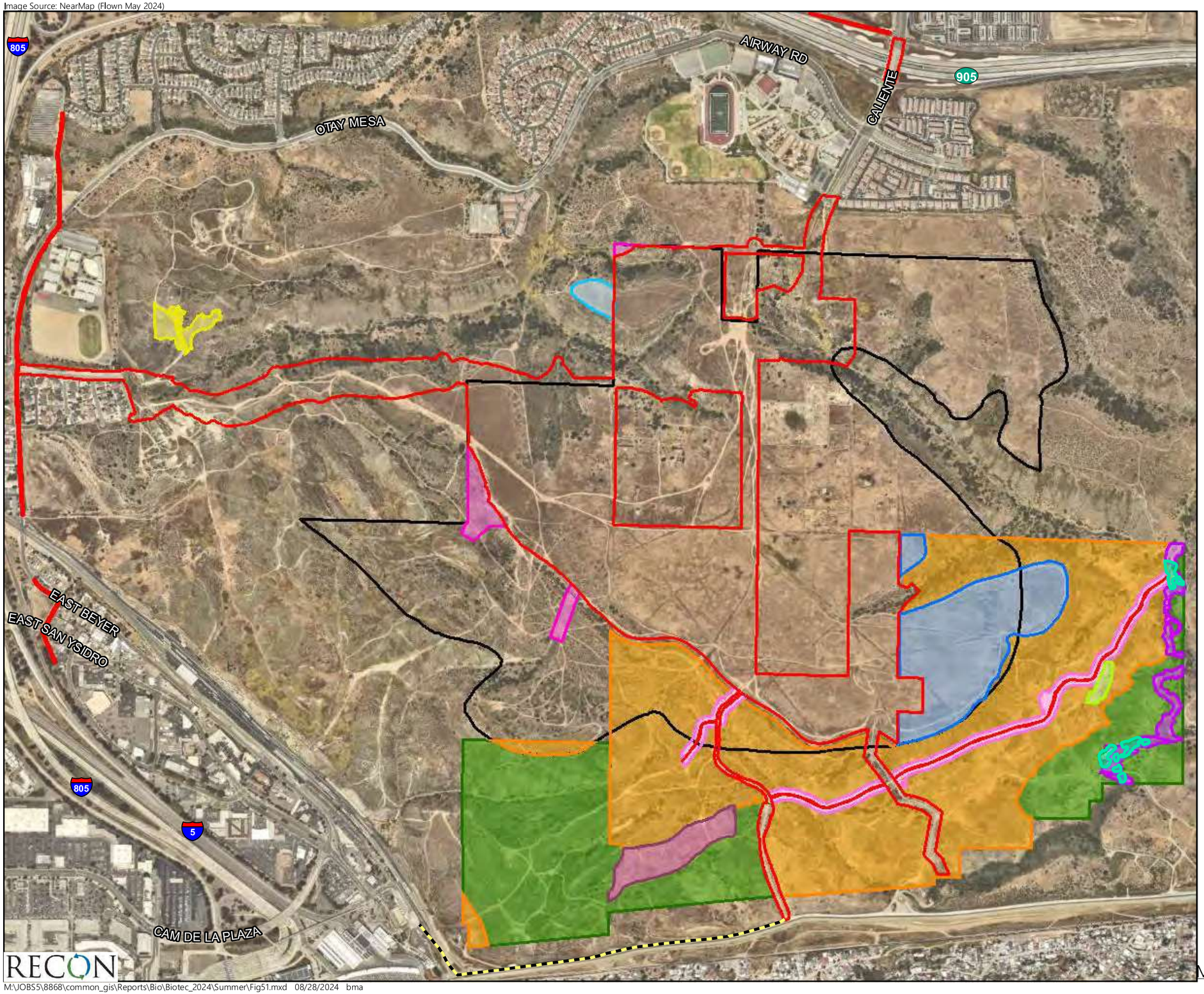
0 Feet 900

RECON

M:\JOBS5\8868\common_gis\Reports\Bio\Biotec_2024\Summer\Fig51.mxd 08/28/2024 bma

FIGURE 51
Mitigation with Project Design Features

Image Source: NearMap (Flown May 2024)



Project-Level Impacts
Specific Plan Boundary
Emergency Vehicle Access Road - No Improvements Required (Existing Road)

Project Design Features

Additional Potential Habitat Preservation (95.29 acres)
Potential Vernal Pool Restoration Area (2.13 acres)
Wetland Plan Project Design Features (4.66 acres)
Trail Restoration (12.18 acres)
County of San Diego Furby North Exchange Lands (7.98 acres)
Covenant of Easement - Protection of ESL within VTM (5.23 acres)

Mitigation

Uplands Mitigation (~~169.64~~169.94 acres)
Coastal Cactus Wren Mitigation Site (2.54 acres)
Otay Tarplant / Native Grassland Mitigation Site (0.96 acre)
Wetland Mitigation Areas (1.45 acres)
Vernal Pool and Quino Checkerspot Butterfly Restoration Areas (33.71 acres)

0 Feet 900

RECON

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FIGURE 51
Mitigation ~~with~~ and Project Design Features

8.2.1 Consistency with MSCP and VPHCP

As detailed in Section 6.2, the project has demonstrated consistency with the City's MSCP Subarea Plan and the VPHCP. A MHPA boundary line adjustment has been incorporated into the project design that would ensure replacement of biologically equivalent MHPA preserve lands (see Figures 36.2 and 36.3). Additionally, a VPHCP MA has been incorporated into the project to ensure consistency with the VPHCP related to removal of VPHCP 100 percent conserved lands which would be addressed by providing MHPA additions of biologically equivalent value (see Figures 36.3 and 36.4). Recognizing USFWS requests for additional conservation beyond the MHPA replacement land to demonstrate consistency with the VPHCP, additional project design features are proposed as described in Section 1.3.2.5.b. These project design features are depicted on Figure 51 along with the proposed project mitigation. Detailed analysis and compliance with MSCP and VPHCP policies is provided in Section 6.2.1 and 6.2.2, respectively. Refer to Figure 36.5 for the post-project MHPA boundaries in relation to the project-level analysis area and the Specific Plan area. Impacts related to consistency with the MSCP and VPHCP would be less than significant.

8.2.2 Direct Impacts to Sensitive Upland Habitats

Consistent with the OMCP FEIR Mitigation Framework, site specific surveys and biological resources analysis have been conducted for the project-level areas as required by OMCP FEIR Mitigation Framework BIO-1. As required by this measure, all mitigation has been identified consistent with the City's MSCP and Biology Guidelines. Additionally, the following is stated in OMCP FEIR Mitigation Framework BIO-1,

> If mobility element roads (i.e., Beyer Boulevard, Airway Road, and Del Sol Boulevard) impact existing conserved lands, an additional 1:1 ratio shall be added to the City required mitigation ratio in order to replace the lands that were previously preserved as open space. Mitigation lands purchased to compensate for impacts to areas within conserved lands shall be located in the Otay Mesa area if feasible.

Beyer Boulevard West crosses 100 percent conserved lands. including the Furby North Preserve, West Otay Mesa A, and West Otay Mesa B. Consistent with the OMCP FEIR Mitigation Framework BIO-1, an additional 1:1 ratio has been applied to the City's standard mitigation ratio to account for impacts to 100 percent conserved lands.

As detailed in Tables 8a through 8g, implementation of the project-level areas would result in significant impacts to 187.59 acres of sensitive upland vegetation communities including maritime succulent scrub, disturbed maritime succulent scrub, native grassland, Diegan coastal sage scrub, disturbed coastal sage scrub, and non-native grassland. All mitigation for permanent impacts to sensitive upland vegetation communities would occur within the MHPA, through habitat preservation within uplands mitigation areas (see Figure 50). Required City mitigation by phase is presented in Table 15a. Mitigation requirements by project components within each phase are provided in Tables 15b through 15f.

Table 15a
Mitigation Requirements and Proposed Mitigation for Project-Level Sensitive Upland Vegetation Community Impacts with Mitigation Occurring Inside the MHPA
Assuming an MHPA BLA
(acres)

Vegetation Communities/ Land Cover Types	City of San Diego Tier	Phase 1	Phase 2	Beyer Boulevard West	Phase 4	Emergency Vehicle Access Road	Off-site Improvements	Total Mitigation Required[1]	Proposed Upland Mitigation (acres)[2,3]	Mitigation Difference[4]
Upland Vegetation Communities										
Maritime Succulent Scrub	I	4.72	6.50	25.13	2.38	0.87	-	39.60	89.94	+50.34
Disturbed Maritime Succulent Scrub	I	5.15	1.59	2.63	0.53	-	-	9.90	24.82	+14.92
Native Grassland	I	-	-	-	0.12	-	-	0.12	-	-0.12
Diegan Coastal Sage Scrub	II	24.19	1.62	6.26	4.25	0.01	-	36.33	24.93	-11.40
Disturbed Coastal Sage Scrub	II	8.19	-	0.74	1.29	0.83	-	11.05	2.36	-8.69
Non-native Grassland	IIIB	21.07	29.46	3.71	1.91	0.08	-	56.23	18.89	-37.34
Total		63.32	39.17	38.47	10.48	1.79	-	153.23	160.94	+7.71

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.

[1]Impacts would be mitigated consistent with the Biology Guidelines mitigation ratios for impacts within or outside the MHPA. All mitigation is proposed inside the MHPA, all impacts occur outside of the MHPA except a 0.37 linear utility portion of Beyer Boulevard West that would remain in MHPA (see Table 17d); Mitigation requirement incorporates the additional 1:1 ratio added to the City's standard mitigation ratio for upland impacts within the Furby North Preserve, West Otay Mesa A and West Otay Mesa B, as detailed in Table 17d.

[2]Mitigation acreages exclude all portions of the Spring Canyon drainage that are part of the wetland restoration plans for Southwest Village and Nakano projects, the trail restoration corridor, the vernal pool restoration area, and Otay Tarplant/Native Grassland restoration area.

[3]In addition to the total 160.94 acres of mitigation proposed to offset impacts to sensitive uplands, the proposed mitigation lands include 7.12 acres of disturbed lands, 0.34 acre of natural flood channel (drainages), 0.30 acre of disturbed wetland, 0.46 acre of tamarisk scrub, 0.02 acre of vernal pool, and 0.76 acre of vernal pool with fairy shrimp totaling 169.94 acres.

[4]Impacts to Tier II and Tier IIIB sensitive upland vegetation would be mitigated by uptiering to Tier I maritime succulent scrub; 0.18 acre of the excess maritime succulent scrub mitigation would be used to address indirect noise impacts to 0.09 acre of Diegan coastal sage scrub habitats (see Section 8.2.6.2.b).

Table 15b Mitigation Requirements for Impacts to the Sensitive Upland Vegetation Communities within the Phase 1 Project Level Analysis Area Assuming an MHPA BLA (acres)									
Vegetation Community/ Land Cover Type	City of San Diego Tier	Standard Mitigation Ratio[1]	Phase 1 Candlelight[2]		Phase 1 Southwind[1]		Development Footprint		Total Mitigation
			Impact	Mitigation	Impact	Mitigation	Impact	Mitigation	
Upland Vegetation Communities									
Maritime Succulent Scrub	I	1:1	-	-	0.05	0.05	4.67	4.67	4.72
Disturbed Maritime Succulent Scrub	I	1:1	-	-	-		5.15	5.15	5.15
Diegan Coastal Sage Scrub	II	1:1	-	-	-		24.19	24.19	24.19
Disturbed Coastal Sage Scrub	II	1:1	-	-	0.12	0.12	8.07	8.07	8.19
Non-native Grassland	IIIB	0.5:1	1.81	0.91	0.34	0.17	39.98	19.99	21.07
Total			**1.81**	**0.91**	**0.50**	**0.34**	**82.07**	**62.07**	**63.32**

NOTE: Phasing corresponds to grading phasing depicted in Figure 10.1. Totals may not add due to rounding.
[1]Impacts would be mitigated consistent with the Biology Guidelines mitigation ratios for impacts within or outside the MHPA. All mitigation is proposed inside the MHPA.
[2]Refer to Figure 22 for the location of the Candlelight and Southwind Project areas located within Phase 1. These areas are reported separately in the event development of these areas proceeds independent of the project. Mitigation would be implemented by the first project to proceed.

Table 15c Mitigation Requirements for Impacts to the Sensitive Upland Vegetation Communities within the Phase 2 Project Level Analysis Area Assuming an MHPA BLA (acres)									
Vegetation Community/ Land Cover Type	City of San Diego Tier	Mitigation Ratio[1]	Development Footprint		Pump Station (within MHPA)[2]		South Drainage Outfall		Total Mitigation
			Impact	Mitigation	Impact	Mitigation[2]	Impact	Mitigation	
Upland Vegetation Communities									
Maritime Succulent Scrub	I	1:1	3.55	3.55	-		2.95	2.95	6.50
Disturbed Maritime Succulent Scrub	I	1:1	1.43	1.43	-	-	0.16	0.16	1.59
Diegan Coastal Sage Scrub	II	1:1	1.62	1.62	-	-	-	-	1.62
Non-native Grassland	IIIB	0.5:1/1:1[2]	55.26	27.63	1.66	1.66	0.34	0.17	29.46
Total			**61.86**	**34.23**	**1.66**	**1.66**	**3.45**	**3.28**	**39.17**

NOTE: Phasing corresponds to grading phasing depicted in Figure 10.1. Totals may not add due to rounding.
[1]Impacts would be mitigated consistent with the Biology Guidelines mitigation ratios for impacts within or outside the MHPA. All mitigation is proposed inside the MHPA.
[2]The 1.66-acre area associated with the Pump Station is identified as an allowed use within the VPHCP Preserve, therefore is considered an impact within the MHPA and impacts to non-native grassland would be mitigated at a 1:1 ratio.

Table 15d Mitigation Requirements for Impacts to the Sensitive Upland Vegetation Communities within the Beyer Boulevard Project-Level Areas Assuming an MHPA BLA [1] (acres)													
Vegetation Community/ Land Cover Type	City of San Diego Tier	Mitigation Ratio[2, 3]	Beyer Boulevard West[4]		Beyer Park[3]		Furby North Preserve		West Otay Mesa A		West Otay Mesa B		Mitigation Total[1]
			Impact	Mitigation	Impact	Mitigation	Impact	Mitigation[2]	Impact	Mitigation[2]	Impact	Mitigation[2]	
Upland Vegetation Communities													
Maritime Succulent Scrub	I	1:1/2:1/3:1	0.03	0.03	2.70	2.70	3.03 0.09	6.06 0.27	8.03	16.06	<0.01	0.01	25.13
Disturbed Maritime Succulent Scrub	I	1:1/2:1	0.01	0.01	1.06 0.13	1.06 0.26	0.04	0.08	0.61	1.22	-	-	2.63
Diegan Coastal Sage Scrub	II	1:1/2:1	-	-	0.08	0.08	-	-	0.91	1.82	2.18	4.36	6.26
Disturbed Coastal Sage Scrub	II	1:1/2:1	-	-	0.50	0.50	-	-	-	-	0.12	0.24	0.74
Non-native Grassland	IIIB	0.5:1/1.5:1	-	-	-	-	-	-	1.38	2.07	1.09	1.64	3.71
Total			0.05	0.05	4.47	4.47	3.16	6.41	10.92	21.17	3.40	6.25	38.47

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.

[1]This area includes only the portions of Beyer Boulevard ~~West~~ located outside of the Specific Plan. Other portions of Beyer Boulevard ~~West~~ are located within the Specific Plan are addressed as part of the overall development footprint within Phase 1.

[2]Mitigation ratios are based on all impacts occurring outside MHPA and be mitigated within the MHPA except a portion of Beyer Park impacts that would occur within the MHPA would be mitigated at a higher ratio (see footnote 4). An additional 1:1 mitigation ratio is added to City standard mitigation ratios for impacts within the Furby North Preserve, West Otay Mesa A, and West Otay Mesa B consistent with the Otay Mesa Community Plan Final Environmental Impact Report BIO-1. In addition, a 0.09 acre portion of the Furby North Preserve requires a 3:1 mitigation ratio due to that land used as mitigation under the County's Mitigation Banking Policy I-138.

[3]A 0.37-acre developed portion of the roadway that runs through the Beyer Park property would remain within the MHPA due to it being classified as a City linear utility, which is exempt from ESL regulations and considered an MHPA allowed use. This 0.37-acre portion includes 0.24 acre of disturbed land and 0.13 acre of disturbed maritime succulent scrub. The disturbed maritime succulent scrub would be mitigated at a 2:1 ratio due to impacts occurring within the MHPA.

[4]This portion includes impacts within the San Ysidro School District parcel located north of the City's Beyer Park parcel.

Table 15e Mitigation Requirements for Impacts to the Sensitive Upland Vegetation Communities within the Phase 4 Project Survey Areas Assuming an MHPA BLA (acres)					
Vegetation Community/Land Cover Type	City of San Diego Tier	Standard Mitigation Ratio[1]	Development Footprint Impact	Mitigation	Mitigation Total
Upland Vegetation Communities					
Maritime Succulent Scrub	I	1:1	2.38	2.38	2.38
Disturbed Maritime Succulent Scrub	I	1:1	0.53	0.53	0.53
Native Grassland	I	1:1	0.12	0.12	0.12
Diegan Coastal Sage Scrub	II	1:1	4.25	4.25	4.25
Disturbed Diegan Coastal Sage Scrub	II	1:1	1.29	1.29	1.29
Non-native Grassland	IIIB	0.5:1	3.81	1.91	1.91
Total			**12.38**	**10.48**	**10.48**

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figures 10.1.
[1]Impacts would be mitigated consistent with the Biology Guidelines mitigation ratios for impacts within or outside the MHPA. All mitigation is proposed inside the MHPA

Table 15f Mitigation Requirements for Impacts to the Sensitive Upland Vegetation Communities within the Emergency Vehicle Access Survey Areas Assuming an MHPA BLA (acres)					
			Emergency Vehicle Access Road		
Vegetation Community/Land Cover Type	City of San Diego Tier	Standard Mitigation Ratio[1]	Impact	Mitigation	Mitigation Total
Upland Vegetation Communities					
Maritime Succulent Scrub	I	1:1	0.87	0.87	0.87
Diegan Coastal Sage Scrub	II	1:1	0.01	0.01	0.01
Disturbed Diegan Coastal Sage Scrub	II	1:1	0.83	0.83	0.83
Non-native Grassland	IIIB	0.5:1	0.16	0.08	0.08
Total			**1.84**	**1.79**	**1.79**

NOTE: Totals may not add due to rounding. Phasing corresponds to grading phasing depicted in Figure 10.1.
[1]Impacts would be mitigated consistent with the Biology Guidelines mitigation ratios for impacts within or outside the MHPA. All mitigation is proposed inside the MHPA.

As shown in Table 15d, mitigation for impacts to upland habitats within the Furby North property and 100 percent conserved parcels West Otay Mesa A and West Otay Mesa B include impacts to maritime succulent scrub, disturbed maritime succulent scrub, Diegan coastal sage scrub, and disturbed coastal sage scrub that would be mitigated at the standard mitigation ratio plus an additional 1:1 for all uplands consistent with the OMCP FEIR (e.g., 2:1 rather than a 1:1 for coastal sage scrub and 1.5:1 rather than a 0.5:1 for non-native grassland). Additionally, a 0.09-acre portion of the Furby North Preserve requires a 3:1 mitigation ratio due to that land used as mitigation under the County's Mitigation Banking Policy I-138.

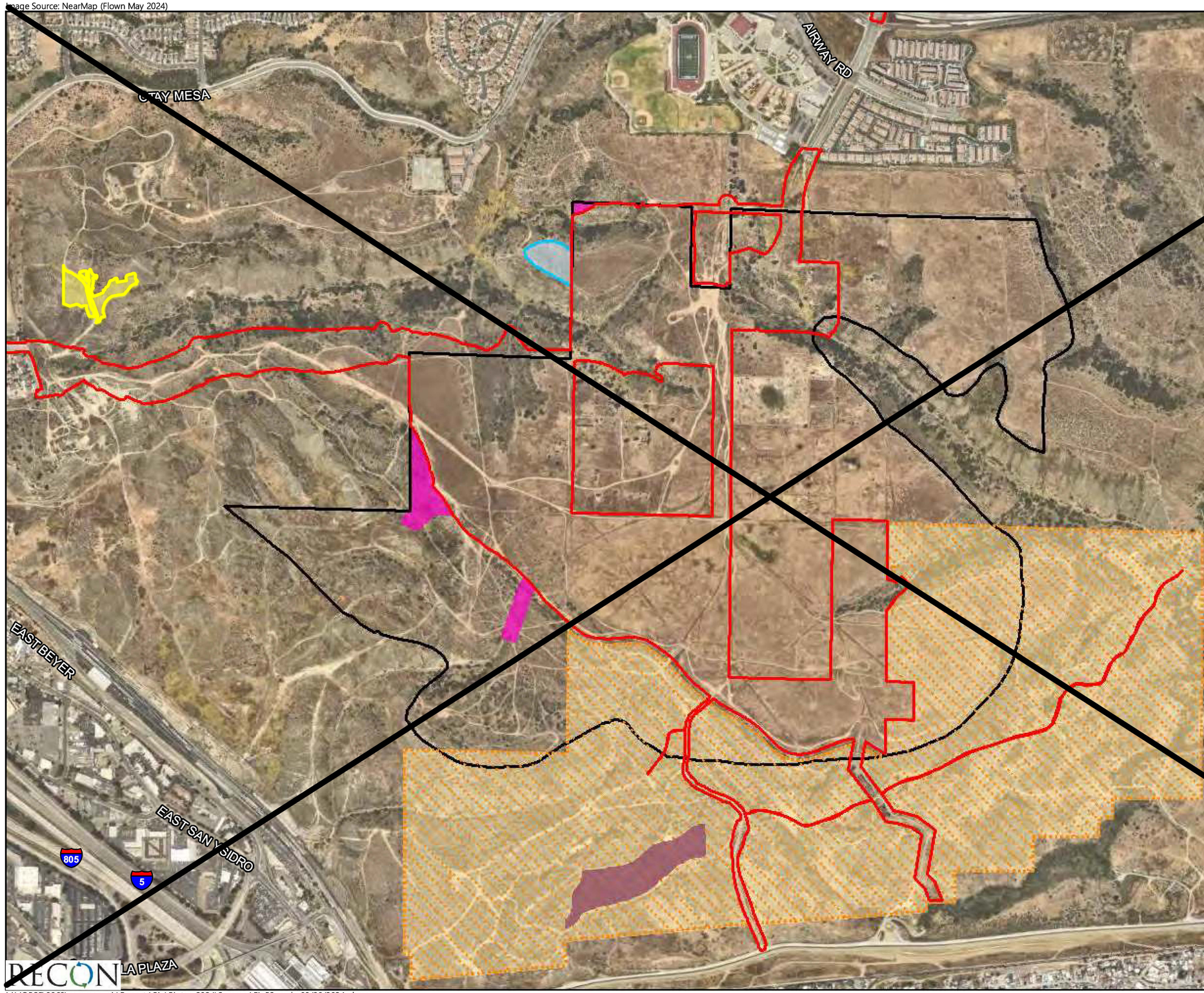
Mitigation for sensitive upland vegetation communities would be provided through the dedication of mitigation lands (excluding all BMZ 2 areas outside of the grading limits) as land in fee title for long term management by the City per the City's Biology Guidelines (City of San Diego 2018a). As depicted on Figure 52, all mitigation areas south of the Specific Plan would be conveyed to the City for long-term management. The Furby North Exchange lands would go the County of San Diego in fee title with the management being provided by the City. The remaining lands would ultimately convey to the City in fee title. Mitigation lands may be conveyed to the City in phases corresponding to the impact acreages by phase.

Sensitive upland mitigation requirements total 153.23 acres. Habitat-based mitigation via preservation of 160.94 acres consisting of 89.94 acres of maritime succulent scrub, 24.82 acres of disturbed maritime succulent scrub, 24.93 acres of Diegan coastal sage scrub, 2.36 acre of disturbed coastal sage scrub, and 18.89 acres of non-native grassland would serve as mitigation for project-level impacts to sensitive vegetation communities (see Table 15a; individual habitat areas may not add to total due to rounding). Approximately 57 acres of Tier II and Tier IIB sensitive uplands impacts would be mitigated through the preservation of maritime succulent scrub, uptiering to a Tier I community. In total, proposed mitigation would result in an excess preservation of 7.71 acres of sensitive uplands beyond the minimum requirement.

To ensure the preservation of proposed mitigation lands (including lands that would be added to the MHPA through the BLA process), the lands would be dedicated in fee title to the City for management consistent with Section 1.5, Preserve Management of the City's MSCP Subarea Plan and/or Section 5.3.2 and Chapter 7 of the VPHCP, as appropriate. This dedication would ensure the protection of the habitat from any future development proposals. ~~Additionally, a funding source for the long-term maintenance and management of the mitigation lands would be required.~~

Implementation of the following mitigation would ensure impacts to sensitive upland habitats would be reduced to less than significant.

Image Source: NearMap (Flown May 2024)



Project-level Impacts

Specific Plan Boundary

Covenant of Easement - Protection of ESL within VTM (5.23 acres)

County of San Diego Ownership and Management (2.54 acres)

Land to be Conveyed to City of San Diego for Long-Term Management (317.97 acres)

County of San Diego Furby North Exchange Lands - Ownership to be transferred to the County of San Diego and land managed by the City of San Diego (7.98 acres)

Potential Vernal Pool Restoration Area - Existing City Owned Land with Long-Term Management Provided by the City (2.13 acres)

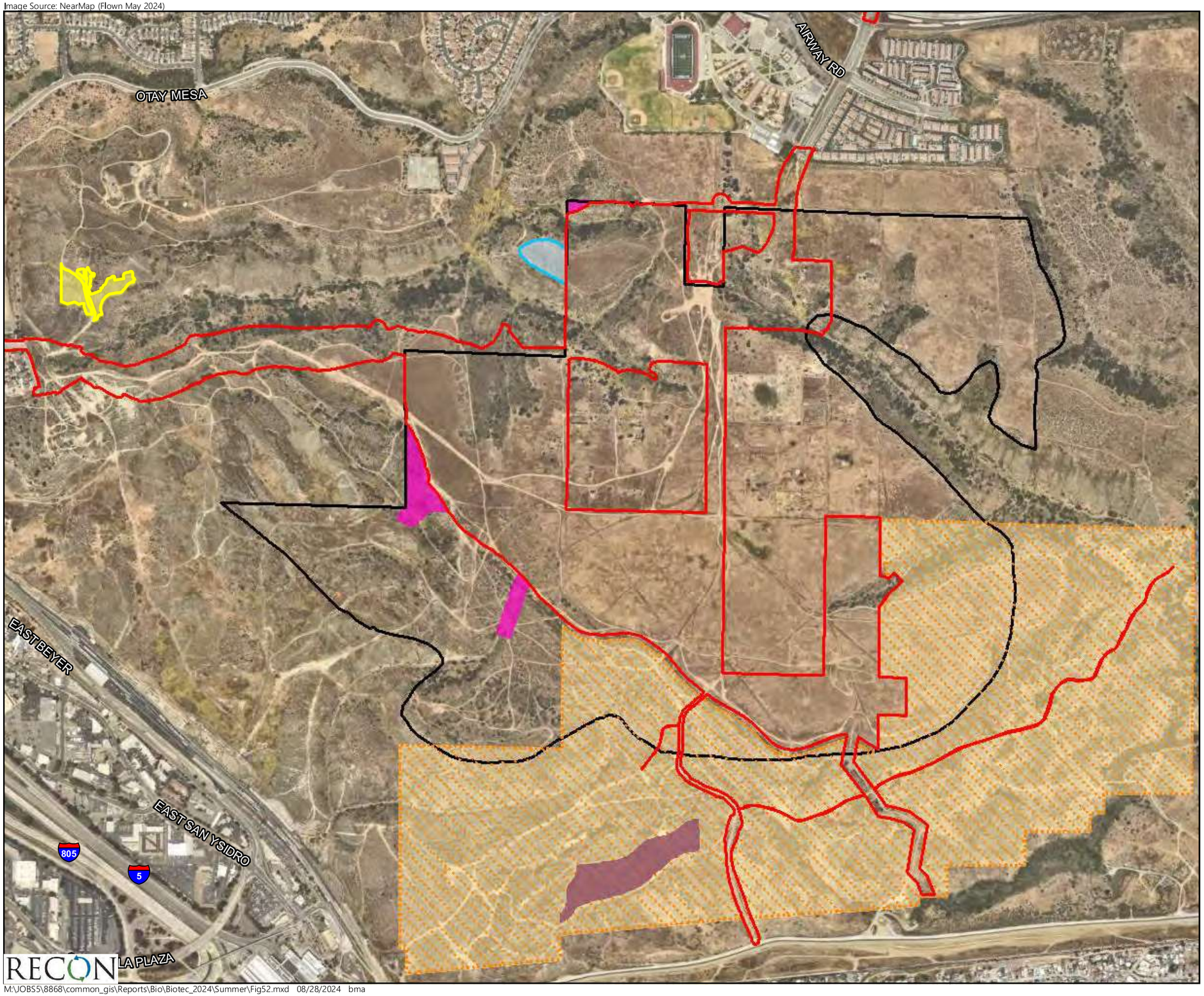
0 Feet 800

RECON

M:\JOBS5\8868\common_gis\Reports\Bio\Biotec_2024\Summer\Fig52.mxd 08/28/2024 bma

FIGURE 52
Long-Term Management

Image Source: NearMap (Flown May 2024)



Project-level Impacts

Specific Plan Boundary

Covenant of Easement - Protection of ESL within VTM (5.23 acres)

County of San Diego Ownership and Management (2.54 acres)

Land to be Conveyed to City of San Diego for Long-Term Management (~~317.97~~ 318.19 acres)

County of San Diego Furby North Exchange Lands - Ownership to be transferred to the County of San Diego and land managed by the City of San Diego (7.98 acres)

Potential Vernal Pool Restoration Area - Existing City Owned Land with Long-Term Management Provided by the City (2.13 acres)

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FIGURE 52
Long-Term Management

Uplands Mitigation

The applicant is required to mitigate for a total of 153.23 acres of sensitive upland vegetation communities as detailed in Table 15a. The sensitive upland vegetation communities shall be dedicated in fee title to the City or otherwise protect the lands through a Conservation Easement, Covenant of Easement, or Irrevocable Offer to Dedicate for management consistent with Section 1.5, Preserve Management of the City's MSCP Subarea Plan and/or Section 5.3.2 and Chapter 7 of the VPHCP, as appropriate, prior to issuance of the first grading permit for Phase 1. In total, the project shall dedicate 160.94 acres of sensitive uplands, consisting of 89.94 acres of maritime succulent scrub, 24.82 acres of disturbed maritime succulent scrub, 24.93 acres of Diegan coastal sage scrub, 2.36 acres of disturbed Diegan coastal sage scrub, and 18.89 acres of non-native grassland in fee title to the City. This mitigation package includes 7.71 acres of additional mitigation beyond the required mitigation ratios. The Owner/Permittee shall dedicate at least 63.32 acres for Phase 1, 39.17 acres for Phase 2, 38.47 acres for Beyer Boulevard West, 10.48 acres for Phase 4, and 1.79 acres for the Emergency Vehicle Access Road. If the Southwind project were to proceed ahead of this project, the Phase 1 mitigation obligation would be reduced by 0.34 acre (0.05 acre of maritime succulent scrub, 0.12 acre of disturbed coastal sage scrub, and 0.17 acre of non-native grassland mitigation). ~~A funding source for the long-term maintenance and management of the mitigation lands would be required.~~

8.2.3 Direct Impacts to Sensitive Plants

Implementation of the project-level areas would result in significant impacts to Otay tarplant, San Diego barrel cactus, snake cholla, San Diego button-celery, and thread-leaved brodiaea (if present). Impacts and mitigation for these species are detailed in the subsections below.

As detailed in Table 16, ashy spike-moss, bobtail barley, California adolphia, California box-thorn, cliff spurge, decumbent goldenbush, Palmer's grapplinghook, San Diego bur-sage, San Diego County viguiera, San Diego needlegrass, seaside cistanthe, south coast saltscale/south coast saltbush, and western dichondra were observed within the project-level areas. Additionally, golden-ray pentachaeta and variegated dudleya were observed within the survey area; however, were not observed within the project-level impact areas. Graceful tarplant, Orcutt's bird's-beak, San Diego goldenstar, and small-flowered microseris have a moderate potential to occur, however, were not observed during surveys. However, impacts to all of these species were determined to be less than significant because the existing distribution and extent of these species is adequate to support the species and impacts associated with development of the project-level areas would not result in the potential to cause these species to become state or federally listed as endangered.

Impacts to sensitive species during primitive trail implementation would be potentially significant; however, impacts would be mitigated to less than significant with implementation of the following measure which is incorporated into the Trails Restoration Plan (see Attachment 1):

- Conduct a focused rare plant survey in the spring prior to the start of construction to determine the presence of sensitive plant species not previously detected. If no rare plants are detected, no additional measures would be required.

- The ultimate trail alignment shall be sited to avoid impacts to sensitive plant species and all rare plant species within the restoration area shall be flagged to ensure avoidance during restoration efforts. All sensitive plants shall be avoided to the maximum extent feasible within the temporary impact and restoration areas.

Table 16
Sensitive Plant Species Impact Summary

Common Name	Discussion	Significance Determination
Otay tarplant, San Diego barrel cactus, snake cholla, thread-leaved brodiaea (if present), and San Diego button-celery	Direct impacts to these species would be significant.	Significant
ashy spike-moss, bobtail barley, California adolphia, California box-thorn, cliff spurge, decumbent goldenbush, Palmer's grapplinghook, San Diego bur-sage, San Diego County viguiera, San Diego needlegrass, seaside cistanthe, south coast saltscale/saltbush, and western dichondra	Present within project-level area; non-MSCP covered species; however, existing distribution and extent adequate to support the species.	Less than Significant
graceful tarplant and small-flowered microseris	Not observed during surveys, but moderate potential to occur. Non-MSCP covered species. Existing distribution and extent adequate to support the species	
Orcutt's bird's-beak and San Diego goldenstar	Not observed during surveys, but moderate potential to occur. These are MSCP covered species with no additional conditions of coverage that apply to the current project. Existing distribution and extent adequate to support the species	
golden-ray pentachaeta and variegated dudleya	Present within the survey area, but outside of the project-level area. No impacts expected to occur.	Not significant

8.2.3.1 San Diego Button-celery

Implementation of Phase 1 ~~Beyer Boulevard~~would impact the federally and state listed San Diego button-celery within two vernal pools.

To prevent the regional loss of San Diego button-celery populations, mitigation for the impacts to this sensitive plant species would occur through salvage of impacted San Diego button-celery individuals and in-kind restoration consistent with the VPHCP within the proposed vernal pool restoration areas. In addition, the vernal pool supporting this species would be mitigated at a 3:1 ratio as part of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14). This mitigation is discussed in detail in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (RECON 2020c; see Attachment 14).

8.2.3.2 Otay Tarplant

Implementation of Beyer Boulevard West would impact the federally listed Otay tarplant.

Impacts to approximately 1,900 Otay tarplant individuals within an approximately 0.21-acre area would be mitigated through implementation of a proposed Otay tarplant restoration area to be located within the proposed mitigation lands, where suitable soils are present. The restoration effort would ensure a 4:1 replacement of impacted Otay tarplant within a 1-acre area. The proposed mitigation site is located within non-native grasslands; therefore, the restoration effort is not a significant impact. Restoration would involve seed collection from on-site Otay tarplant prior to fall rains when seeds are fully mature. Native grassland species that co-exist well with Otay tarplant and compete with non-native weed species would be seeded in the restoration area. An Otay Tarplant/Native Grassland Restoration Plan has been prepared detailing the proposed mitigation effort, required maintenance and monitoring, as well as the performance standards that the restoration effort would be required to meet for successful implementation (see Attachment 15; RECON 2024e).

8.2.3.3 San Diego Barrel Cactus and Snake Cholla

Significant Impacts to San Diego barrel cactus would occur with implementation of Phases 1, 2, and 4 and Beyer Boulevard West. Significant impacts to snake cholla would occur with implementation of Phase 2 and Beyer Boulevard West.

Mitigation for San Diego barrel cactus and snake cholla includes salvage of these species within the project-level areas and translocation to the proposed vernal pool preserve, as detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) and the Coastal Cactus Wren Mitigation Plan (see Attachment 13). Individual barrel cactus and snake cholla would be replaced at a 1:1 ratio. San Diego barrel cactus is an appropriate species for planting within upland areas and on the mima mounds near the vernal pools and both species are appropriate for planting within the coastal cactus wren habitat and translocation would be conducted accordingly.

8.2.3.4 Thread-leaved Brodiaea

Thread-leaved brodiaea was not detected during rare plant surveys; however, there is a moderate potential for this species to occur within the project. Impacts to this species, if present, would be significant.

Mitigation for these potential impacts during both project construction and restoration implementation would include:

Conduct a focused rare plant survey in the spring prior to the start of project construction and restoration activities to determine the presence of thread-leaved brodiaea not previously detected. If no thread-leaved brodiaea are detected, no additional measures would be required.

If detected, a qualified biologist will flag or fence any thread-leaved brodiaea that occur within the temporary impact areas prior to initiation of construction activities. Thread-leaved brodiaea shall be avoided to the maximum extent feasible within the temporary impact and restoration areas.

Any individuals that cannot be avoided within temporary impact or restoration areas shall be salvaged for transplant and incorporated into the Vernal Pool/Quino Checkerspot Mitigation Plan area (see Attachment 14).

8.2.4 Direct Impacts to Sensitive Wildlife

As detailed in Table 17, significant direct impacts to sensitive wildlife would occur to Quino checkerspot butterfly, San Diego fairy shrimp, Riverside fairy shrimp, Crotch's bumble bee, western spadefoot, burrowing owl, southern California rufous-crowned sparrow, coastal cactus wren, least Bell's vireo, Cooper's hawk, northern harrier, coastal California gnatcatcher, white-tailed kite, merlin, California horned lark, yellow-breasted chat, grasshopper sparrow, yellow warbler, loggerhead shrike, and Bell's sage sparrow.

Impacts to orange-throated whiptail, coast horned lizard, coastal whiptail, red diamond rattlesnake, two-striped gartersnake, bald eagle, golden eagle, San Diego desert woodrat, Coronado skink, and southern mule deer would be less than significant.

A summary of these impact conclusions and proposed mitigation is provided in the following subsections.

Table 17 Sensitive Wildlife Species Project Level Impact and Mitigation Summary			
Wildlife Species	Status/Potential to Occur in Survey Area	Impacts	Mitigation
Quino checkerspot butterfly	Observed	Significant direct and indirect impact to host plant habitat	Habitat Restoration (Attachment 14); restoration avoidance measures
San Diego fairy shrimp	Observed	Significant direct and indirect impact	Vernal pool restoration and inoculation; restoration avoidance measures
Riverside fairy shrimp	Observed	Significant direct and indirect impact	Vernal pool restoration and inoculation; restoration avoidance measures
Crotch's bumble bee	Observed within mitigation lands; Low to high potential for nesting and foraging in project impact area based on habitat assessment conducted during the spring 2024	Significant direct and indirect impact to nesting and foraging habitat due to construction	Pre-construction surveys/avoidance buffers; restoration avoidance measures; and habitat-based mitigation
western spadefoot	Observed	Significant direct and indirect impact to individuals and breeding habitat due to construction	Pre-construction surveys; restoration avoidance measures; translocation and habitat- based mitigation
burrowing owl	Observed foraging, incidental. Moderate potential to nest.	Significant direct impact to 103.77 acres of potential foraging habitat during construction. Indirect impacts during construction and restoration.	Pre-construction surveys/ breeding season avoidance and habitat-based mitigation; Berm with artificial berms included in the vernal pool and Quino Checkerspot butterfly restoration areas
southern rufous crown sparrow	Observed	Significant direct impact due to construction during breeding season; direct impact to 75 acres of foraging habitat	Pre-construction surveys/ breeding season avoidance and habitat-based mitigation
coastal cactus wren	Not Observed, High Potential	Significant direct impact due to habitat loss and construction during breeding season; Indirect noise impacts to 0.46 acre of suitable habitat.	Pre-construction surveys/ breeding season Avoidance and cactus wren habitat restoration (Attachment 12)

Table 17 Sensitive Wildlife Species Project Level Impact and Mitigation Summary			
Wildlife Species	Status/Potential to Occur in Survey Area	Impacts	Mitigation
least Bell's vireo	Observed	Significant direct and indirect impact to individuals and suitable habitat during construction.	Pre-construction surveys/ breeding season avoidance; restoration avoidance measures; and habitat-based mitigation
Cooper's hawk	Observed	Significant impact due to construction during breeding season; direct impact to 180 acres of foraging habitat	Pre-construction surveys/ breeding season avoidance and habitat-based mitigation
northern harrier	Observed	Significant impact due to construction during breeding season; direct impact to 180 acres of foraging habitat	Pre-construction surveys/ breeding season avoidance and habitat-based mitigation
coastal California gnatcatcher	Observed	Significant direct impact due to individuals and suitable habitat construction during breeding season	Breeding season avoidance within MHPA and habitat-based mitigation
white-tailed kite	Observed	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
merlin	Observed	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
California horned lark	Observed	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
yellow-breasted chat	Observed	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
grasshopper sparrow	Observed	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
yellow warbler	Observed	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
loggerhead shrike	Not observed, Moderate Potential	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
Bell's sage sparrow	Not observed, Moderate Potential	Significant direct impact due to construction during breeding season	Pre-construction surveys/ breeding season avoidance
golden eagle	Observed, but not expected to nest	Less than significant	none
bald eagle	Observed, but not expected to nest	Less than significant	none

Table 17 Sensitive Wildlife Species Project Level Impact and Mitigation Summary			
Wildlife Species	Status/Potential to Occur in Survey Area	Impacts	Mitigation
orange-throated whiptail	Observed	Less than significant	none
coast horned lizard	Observed	Less than significant	none
coastal whiptail	Observed	Less than significant	none
red diamond rattlesnake	Observed	Less than significant	none
two-striped gartersnake	Observed	Less than significant	none
San Diego desert woodrat	Observed	Less than significant	none
Coronado skink	Not Observed, Moderate Potential	Less than significant	none
southern mule deer	Not Observed, Moderate Potential	Less than significant	none

8.2.4.1 San Diego and Riverside Fairy Shrimp Species

Impacts to San Diego and Riverside fairy shrimp occurring in vernal pools and disturbed wetlands would be significant. As detailed in Section 7.1.2.3.a (see Table 9), the project-level areas would result in a significant direct impact to 0.63 acre of disturbed wetlands and vernal pools confirmed to contain San Diego fairy shrimp. One of the vernal pools (0.03 acre) and a seasonal basin (0.17 acre) that would be impacted also contains Riverside fairy shrimp. The latter feature consists of a man-made disturbed wetland within the extension of Caliente Avenue north of Central Avenue that will be constructed as part of the approved Candlelight project. However, all disturbed wetlands and vernal pools are assumed to contain San Diego fairy shrimp since these species are widely present across the mesa. There is a low likelihood of Riverside fairy shrimp being present in additional project-level ponding basins due to the longer ponding requirements for these species; therefore, the impact to this species is assumed to be limited to the 0.20 acre of vernal pool surface area encountered during surveys. Therefore, the project could result in a significant direct impact to a total of 1.21 acres of vernal pool and/or disturbed wetland surface area (with Candlelight) or a total of 0.94 acre of vernal pool and/or disturbed wetland surface area containing San Diego fairy shrimp (without Candlelight). Included in this total, a 0.20-acre (with Candlelight) or 0.03-acre (without Candlelight) vernal pool/seasonal basin containing both San Diego fairy shrimp and Riverside fairy shrimp would be impacted. In addition, there are 0.13 acre of basins that would be indirectly impacted from construction activities, which would result in a total direct and indirect impact to 1.34 acres of basins supporting fairy shrimp (with Candlelight) or a total of 1.06 acres of impact to basins supporting fairy shrimp (without Candlelight). If the Candlelight and/or Southwind project areas are impacted prior to Southwest Village proceeding, mitigation would be the responsibility of that project (see Section 8.2.5.1 Table 18c below for Candlelight and Southwind direct and indirect impact totals).

City's Biology Guidelines require a 2:1 mitigation ratio for impacts to vernal pools with fairy shrimp. The project would mitigate for impacts to San Diego and Riverside fairy shrimp species through a 2:1 inoculation of a minimum of 2.66 acres of vernal pool surface area (with Candlelight) or 2.12 acres (without Candlelight). A minimum of 0.40 acre of that total would be inoculated with both San Diego fairy shrimp and Riverside fairy shrimp. The remainder would be inoculated with San Diego fairy shrimp cysts.

As all vernal pools are proposed to be inoculated with one or both shrimp species, as detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14), a total of 3.86 acres of re-established vernal pools would be inoculated, exceeding the 2.66-acre mitigation obligation for impacts to San Diego and Riverside fairy shrimp.

Implementation of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan included as Attachment 14 includes requirements related to vernal pool inoculation to meet the required 2:1 ratio. Refer to the additional mitigation detail in Section 8.2.5.1.b.

Both the Trails Restoration Plan (see Attachment 1) and the Vernal Pool Restoration Plan (see Attachment 14) include mitigation language that would ensure protection of the existing vernal pools and disturbed wetlands that could support these species during the restoration implementation. These measures include pre-activity surveys to identify the location of current

resources, conducting work outside of the wet season, realigning trails to avoid vernal pools, and marking/fencing pools within and adjacent to the vernal pool mitigation area so that resources can be avoided.

8.2.4.2 Quino Checkerspot Butterfly

Direct impacts to Quino checkerspot butterfly would occur as a result of the removal of host and nectar plants (0.93 acre) within the project-level areas (see Figure 29.1). Impacts to these suitable habitat areas would be significant and require mitigation through habitat replacement.

Formal consultation through ESA Section 7, ~~or~~ coordination through ESA Section 10 process, or inclusion within the VPHCP Major Amendment would be required with USFWS to determine mitigation for direct impacts to occupied habitat for Quino checkerspot butterfly. In early consultation discussions with USFWS the proposed mitigation for Quino checkerspot butterfly has been discussed which includes restoration of host plant and nectar plant patches within the vernal pool restoration areas (see Figure 50). Proposed restoration of Quino checkerspot butterfly host and nectar plants is detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14). Mitigation for impacts to host and nectar plans would be provided through preservation and enhancement of 0.96 acre of Quino habitat and habitat restoration of 0.93 acre of for a total of 1.89 acres of Quino checkerspot butterfly habitat preservation, enhancement and creation/restoration. These enhancement and restoration efforts would compensate for the loss of Quino checkerspot butterfly suitable habitat; however, formal consultation with the USFWS would also be required.

Implementation of the mitigation further detailed in Section 8.2.5.1.b in addition to USFWS consultation would ensure impacts are reduced to less than significant.

Impacts to Quino checkerspot butterfly during restoration activities including within the proposed vernal pool and Quino checkerspot mitigation area (see Attachment 14), cactus wren mitigation plan area (see Attachment 13), Otay tarplant mitigation plan area (see Attachment 15), wetland plan areas (see Attachment 18), and within the trail restoration buffers (see Attachment 1) would be mitigated through implementation of mitigation measures detailed in the respective mitigation and restoration plans and detailed below. All existing Quino checkerspot butterfly suitable habitats within restoration areas would be avoided and protected in place through the following measures:

To avoid potential direct impacts to Quino checkerspot butterfly and potentially occupied habitat during restoration activities, the following measures would be implemented:

- Prior to restoration implementation, locations of Quino checkerspot butterfly host and nectar plants would be mapped.
- During restoration activities, Quino checkerspot butterfly nectar plants shall be avoided.
- Herbicide application would not occur within the 10-foot buffers of the Quino checkerspot butterfly host plant patches, nectar plant patches, and Quino restoration areas. Buffers would be used to prohibit restoration activities from occurring or personnel from entering areas where Quino checkerspot butterfly larvae have potential to traverse between host

plant patches, and to ensure only target species are treated with herbicide. The field crew would not enter occupied Quino checkerspot butterfly areas or areas where host plants are present.

- Only locations with dense non-native plant cover and no Quino checkerspot butterfly host or nectar plants would be sprayed with a glyphosate-based herbicide. A field crew trained in habitat restoration would spray weeds in areas where Quino checkerspot butterfly and its host plants have not been documented.
- Herbicide would not be applied when wind speed and direction may cause herbicide drift to areas with host plants, nectar plants or Quino restoration areas. Marker dye would be added to the herbicide mixture so the restoration field crew can see any drift.
- The California Invasive Plant Council BMPs for wildland stewardship, including covering host plant patches and nectar plant patches with tarps during herbicide applications.

8.2.4.3 Western Spadefoot

Direct impacts to western spadefoot toad are anticipated through potential incidental mortality of adults and/or larvae (tadpoles) during construction and restoration activities due to the presence of occupied and suitable breeding habitat. Implementation of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) would replace a total of 3.86 acres of vernal pool habitat expected to support western spadefoot within a 33.71-acre vernal pool restoration area. This would mitigate for the loss of the estimated 1.33 acres of directly and indirectly impacted habitat within the project-level analysis area. In addition, western spadefoot was detected in 23 basins covering 1.96 acres within parts of the survey area proposed to be preserved as a part of habitat-based mitigation (see Figures 40.2 through 40.4). An additional 14 basins in these areas were negative for spadefoot and 14 basins did not pond during the 2024 survey.

The following measure shall be implemented to reduce potentially significant direct impacts to individual western spadefoot during construction and restoration activities:

- Construction and restoration activities within the project impact area shall occur during the dry season when no portions of the project impact area contain areas of ponded water with the potential to support the breeding of western spadefoot.
- If construction or restoration must occur during a time when portions of the site may support the breeding of this species, a qualified biologist shall conduct a survey of all potential western spadefoot breeding areas no more than 3 days prior to construction or restoration impacts within these areas. If any areas are determined to be occupied by western spadefoot eggs or larva/tadpoles, these areas shall either be:
    - staked or fenced by, or under the supervision of a qualified biologist. No construction or restoration activities shall occur within these avoidance areas unless authorized by the Qualified Biologist or until the western spadefoot individuals and/or larvae have left of their own accord; or

  - a Qualified Biologist will relocate eggs or larva/tadpoles to a suitable location subject to the approval of the City of San Diego.

- Regardless of timing, a Qualified Biologist shall be on-site during all construction and restoration activities occurring within and adjacent to the disturbed wetlands, vernal pools, and vernal pools with fairy shrimp, to ensure no western spadefoot adults are directly impacted. Any western spadefoot adult found within an area that will be impacted shall be relocated to the nearest safe location containing suitable habitat outside the work area. Both the biological monitor and the translocation area should be approved by the City of San Diego prior to construction.

- The biological monitor shall maintain a complete record of any western spadefoot encountered and moved from harm's way during the activity. Information shall include location, date, and time of observation; details of the observed behavior; relocation site; estimated number of toads seen or heard; and photographs (when feasible). A letter report detailing the results of all monitoring activities would be provided to the City of San Diego upon completion of the construction and/or restoration activity.

Both the Trails Restoration Plan (see Attachment 1) and the vernal pool restoration plan (see Attachment 14) include mitigation language that will ensure protection of the existing vernal pools and disturbed wetlands that could support this species during the restoration implementation. These measures include pre-activity surveys to identify the location of current resources, conducting work outside of the wet season, realigning trails to avoid vernal pools, and marking/fencing pools within and adjacent to the vernal pool mitigation area so that resources can be avoided.

In the event the western spadefoot toad becomes listed as endangered at the federal level, within the timeframe of this project, formal consultation through ESA Section 7, ~~or~~ coordination through ESA Section 10 process, or inclusion within the VPHCP Major Amendment would be required. The applicant anticipates obtaining take authorization in anticipation of a potential listing concurrent with the Section 10 processing for Quino checkerspot butterfly.

8.2.4.4 Least Bell's Vireo

Impacts to 0.28 acre of foraging habitat would be considered a significant direct impact to the species. Preservation of approximately 0.31 acres of southern willow scrub and proposed restoration of 0.36 acre of riparian vegetation would mitigate for the loss of foraging habitat. With implementation of habitat-based mitigation detailed in Section 8.2.5.1, these impacts would be reduced to less than significant.

Impacts to least Bell's vireo would be significant due to the presence of the species within wetland areas at the western end of the proposed Beyer Boulevard West extension and suitable habitat adjacent restoration areas in Spring Canyon. Mitigation required for anticipated impacts to least Bell's vireo would involve pre-construction surveys to determine presence of the species before grading activities commence. The following mitigation measures shall be implemented to reduce potentially significant direct impacts to least Bell's vireo during construction and restoration implementation:

Least Bell's Vireo Breeding Season Avoidance-Construction

LEAST BELL'S VIREO (State Endangered/Federally Endangered)

Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify that the following project requirements regarding the least Bell's vireo are shown on the construction plans:

No clearing, grubbing, grading, or other construction activities shall occur within least Bell's vireo suitable habitat areas between March 15 and September 15, the breeding season of the least Bell's vireo, until the following requirements have been met to the satisfaction of the City Manager:

A. A Qualified Biologist shall survey those wetland areas that would be subject to construction noise levels exceeding 60 dB(A) hourly average for the presence of the least Bell's vireo. Surveys for this species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service within the breeding season prior to the commencement of construction. If the least Bell's vireo is present, then the following conditions must be met:

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

    2. Between March 15 and September 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied least Bell's vireo habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the city manager at least two weeks prior to the commencement of construction activities. Prior to the commencement of any of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a qualified biologist; or

    3. At least two weeks prior to the commencement of construction activities, under the direction of a Qualified Acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB(A) hourly average at the edge of habitat occupied by the least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction

activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (September 16).

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

B. If least Bell's vireo are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City Manager and applicable resource agencies which demonstrates whether or not mitigation measures such as noise walls are necessary between March 15 and September 15 as follows:

1. If this evidence indicates the potential is high for least Bell's vireo to be present based on historical records or site conditions, then condition A. iii shall be adhered to as specified above.

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

Least Bell's Vireo Breeding Season Avoidance-Restoration Implementation

During wetland mitigation implementation, impacts to least Bell's vireo could occur. General measures for all restoration projects are described in Section 8.2.7. The following measure specific to least Bell's vireo is provided below.

A. To avoid any direct impacts to any species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the mitigation area should occur outside the breeding season for these species (February 1 to September 15). To avoid indirect impacts to least Bell's vireo nesting within Spring Canyon and coastal California gnatcatcher nesting within the adjacent maritime succulent scrub, any work that may cause noise in excess of 60 A-weighted decibels hourly average, or the ambient if it is greater, shall be avoided during the breeding season for this species (March 1–August 15). If removal of habitat in the mitigation area must occur during the breeding season, a qualified biologist shall conduct a pre-implementation survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-implementation survey shall be conducted within 3 calendar days prior to the start of restoration activities (including removal of vegetation). The applicant shall submit the results of the pre-implementation survey to the City of San Diego for review and approval prior to initiating any restoration activities. If nesting birds are detected, a letter report in conformance with the City of San Diego's Biology Guidelines (i.e., appropriate follow-up

surveys, monitoring schedules, work and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report shall be submitted to the City for review and approval and implemented to the City's satisfaction. The City of San Diego's Mitigation Monitoring Coordinator shall verify and approve that all measures identified in the report are in place prior to and/or during implementation.

8.2.4.5 Coastal California Gnatcatcher

Impacts to 27.25 acres of foraging habitat within MHPA lands would be considered a significant direct impact to the species. To mitigate for this loss of gnatcatcher habitat, the project would be required to provide a minimum of 54.5 acres of habitat-based mitigation, for a 2:1 ratio. Habitat-based mitigation via preservation of 160.94 acres of sensitive upland vegetation communities, including over 140 acres of coastal sage scrub and maritime succulent scrub, would mitigate for the loss of foraging habitat. With implementation of habitat-based mitigation detailed in Section 8.2.2, these impacts would be reduced to less than significant.

Direct impacts to nesting individuals within the MHPA would be significant. Mitigation required for anticipated impacts would involve pre-construction surveys to determine presence of the species before grading activities commence. In addition, implementation of ASMDs would be required as detailed in Section 6.2.1.2.g. The following mitigation measure shall be implemented to reduce potentially significant direct impacts during construction and restoration activities:

Coastal California Gnatcatcher Breeding Season Avoidance-Construction

Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify that the Multi-Habitat Planning Area (MHPA) boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

No clearing, grubbing, grading, or other construction activities shall occur within coastal California gnatcatcher suitable habitat areas within MHPA between March 1 and August 15, the breeding season of the coastal California gnatcatcher, until the following requirements have been met to the satisfaction of the City Manager:

A. A Qualified Biologist (possessing a valid endangered species act section 10(a)(1)(a) recovery permit) shall survey those habitat areas within the MHPA that would be subject to construction noise levels exceeding 60 dB(A) hourly average for the presence of coastal California gnatcatcher. Surveys for this species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service within the breeding season prior to the commencement of construction. If gnatcatchers are present, then the following conditions must be met:

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

2. Between March 1 and August 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied gnatcatcher habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the city manager at least two weeks prior to the commencement of construction activities. Prior to the commencement of any of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

3. At least two weeks prior to the commencement of construction activities, under the direction of a Qualified Acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB(A) hourly average at the edge of habitat occupied by the least Bell's vireo. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (September 16).

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

B. If coastal California gnatcatcher are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the City Manager and applicable resource agencies which demonstrates whether or not mitigation measures such as noise walls are necessary between March 1 and August 15 as follows:

1. If this evidence indicates the potential is high for gnatcatcher to be present based on historical records or site conditions, then condition A. iii shall be adhered to as specified above.

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

Coastal California Gnatcatcher Breeding Season Avoidance-Restoration Implementation

During restoration implementation, impacts to coastal California gnatcatcher could occur. General measures for all restoration projects are described in Section 8.2.7. The following measure specific to coastal California gnatcatcher is provided.

A. To avoid any direct impacts to any species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the mitigation area should occur outside the breeding season for these species (February 1 to September 15). To avoid indirect impacts to least Bell's vireo nesting within Spring Canyon and coastal California gnatcatcher nesting within the adjacent maritime succulent scrub, any work that may cause noise in excess of 60 A-weighted decibels hourly average, or the ambient if it is greater, shall be avoided during the breeding season for this species (March 1–August 15). If removal of habitat in the mitigation area must occur during the breeding season, a qualified biologist shall conduct a pre-implementation survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-implementation survey shall be conducted within 3 calendar days prior to the start of restoration activities (including removal of vegetation). The applicant shall submit the results of the pre-implementation survey to the City of San Diego for review and approval prior to initiating any restoration activities. If nesting birds are detected, a letter report in conformance with the City of San Diego's Biology Guidelines (i.e., appropriate follow-up surveys, monitoring schedules, work and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report shall be submitted to the City for review and approval and implemented to the City's satisfaction. The City of San Diego's Mitigation Monitoring Coordinator shall verify and approve that all measures identified in the report are in place prior to and/or during implementation.

8.2.4.6 Burrowing Owl

Consistent with the OMCP FEIR Mitigation Framework BIO-2 (detailed in Section 3.3.7), site-specific focused surveys for burrowing owl were completed within the project-level areas to identify the potential for the site to support burrowing owl. One incidental sighting was observed; however, the site was found to not support any burrowing owl nesting habitat and no active nests were observed. To support consistency with the MSCP conditions of coverage for burrowing owl, the project includes implementation of an artificial berm within the vernal pool preserve as a project design feature as detailed in Section 1.3.2.6.b. Therefore, direct impacts to burrowing owl would be less than significant. However, burrowing owls have the potential to occupy the project-level areas prior to grading; therefore, potential impacts during construction would be significant.

Consistent with the OMCP FEIR mitigation framework, the following measure shall be implemented to reduce potentially significant direct impacts to burrowing owl during construction:

Burrowing Owl Preconstruction Surveys

PRECONSTRUCTION SURVEY ELEMENT

Prior to Permit or Notice to Proceed Issuance:

1. As this project has been determined to be BUOW occupied or to have BUOW occupation potential, the Applicant Department or Permit Holder shall submit evidence to the ADD of Entitlements and Multiple Species Conservation Program (MSCP) staff verifying that a Biologist possessing qualifications pursuant "Staff Report on Burrowing Owl Mitigation, State of California Natural Resources Agency Department of Fish and Game. March 7, 2012 (hereafter referred as CDFG 2012, Staff Report), has been retained to implement a burrowing owl construction impact avoidance program.

2. The qualified BUOW biologist (or their designated biological representative) shall attend the pre-construction meeting to inform construction personnel about the City's BUOW requirements and subsequent survey schedule.

Prior to Start of Construction:

1. The Applicant Department or Permit Holder and Qualified Biologist must ensure that initial pre-construction/take avoidance surveys of the project ""site"" are completed between 14 and 30 days before initial construction activities, including brushing, clearing, grubbing, or grading of the Development Footprint; regardless of the time of the year. ""Site" means the Development Footprint and the area within a radius of 450 feet of the Development Footprint. The report shall be submitted and approved by the Wildlife Agencies and/or City MSCP staff prior to construction or BUOW eviction(s) and shall include maps of the Development Footprint and BUOW locations on aerial photos.

2. The pre-construction survey shall follow the methods described in CDFG 2012, Staff Report - Appendix D

3. 24 hours prior to commencement of ground disturbing activities, the Qualified Biologist shall verify results of preconstruction/take avoidance surveys. Verification shall be provided to the City's Mitigation Monitoring and Coordination (MMC) and MSCP Sections. If results of the preconstruction surveys have changed and BUOW are present in areas not previously identified, immediate notification to the City and Wildlife Agencies shall be provided prior to ground disturbing activities.

During Construction:

1. Best Management Practices shall be employed as BUOWs are known to use open pipes, culverts, excavated holes, and other burrow-like structures at construction sites. Legally permitted active construction projects which are BUOW occupied and have followed all protocol in this mitigation section, or sites within 450 feet of occupied BUOW areas, should undertake measures to discourage BUOWs from recolonizing previously occupied areas or colonizing new portions of the site. Such measures include, but are not limited to, ensuring

that the ends of all pipes and culverts are covered when they are not being worked on, and covering rubble piles, dirt piles, ditches, and berms.

2. **Ongoing BUOW Detection** — If BUOWs or active burrows are not detected during the pre-construction surveys, Section ""A"" below shall be followed. If BUOWs or burrows are detected during the pre-construction surveys, Section ""B"" shall be followed, along with coordination with the Wildlife Agencies, EAS, and MSCP. NEITHER THE MSCP SUBAREA PLAN NOR THIS MITIGATION SECTION ALLOWS FOR ANY BUOWs TO BE INJURED OR KILLED OUTSIDE **OR** WITHIN THE MHPA; in addition, IMPACTS TO BUOWs WITHIN THE MHPA MUST BE AVOIDED.

A. **Post Survey Follow Up if Burrowing Owls and/or Signs of Active Natural or Artificial Burrows Are Not Detected During the Initial Pre-Construction Survey —** Monitoring the site for new burrows is required using CDFW Staff Report 2012 Appendix D methods for the period following the initial pre-construction survey, until construction is scheduled to be complete and is complete *(NOTE — Using a projected completion date (that is amended if needed) will allow development of a monitoring schedule).*

1) If no active burrows are found but BUOWs are observed to occasionally (1-3 sightings) use the site for roosting or foraging, they should be allowed to do so with no changes in the construction or construction schedule.

2) If no active burrows are found but BUOWs are observed during follow up monitoring to repeatedly (4 or more sightings) use the site for roosting or foraging, the City's MMC and MSCP Sections shall be notified and any portion of the site where owls have been sites and that has not been graded or otherwise disturbed shall be avoided until further notice.

3) If a BUOW begins using a burrow on the site at any time after the initial pre-construction survey, procedures described in Section B must be followed.

4) Any actions other than these require the approval of the City and the Wildlife Agencies.

B. **Post Survey Follow Up if Burrowing Owls and/or Active Natural or Artificial Burrows are detected during the Initial Pre-Construction Survey —** Monitoring the site for new burrows is required using Appendix D CDFG 2012, Staff Report for the period following the initial pre-construction survey, until construction is scheduled to be complete and is complete *(NOTE – Using a projected completion date (that is amended if needed) will allow development of a monitoring schedule which adheres to the required number of surveys in the detection protocol).*

1) This section (B) applies only to sites (including biologically defined territory) wholly outside of the MHPA – **all direct and indirect impacts to BUOWs within the MHPA SHALL be avoided.**

2) If one or more BUOWs are using any burrows (including pipes, culverts, debris piles, etc.) on or within 300 feet of the proposed construction area, the City's MMC and

MSCP Sections shall be contacted. The City's MSCP and MMC Section shall contact the Wildlife Agencies regarding eviction/collapsing burrows and enlist appropriate City biologist for on-going coordination with the Wildlife Agencies and the qualified consulting BUOW biologist. A translocation plan will be required for any owls discovered within the impact area prior to or during construction, with the approval of the Wildlife Agencies, EAS, and MSCP. No construction shall occur within 300 feet of an active burrow without written concurrence from the Wildlife Agencies. This distance may increase or decrease, depending on the burrow's location in relation to the site's topography, and other physical and biological characteristics.

a) Outside the Breeding Season — If the BUOW is using a burrow on site outside the breeding season (i.e., September 1 – January 31), the BUOW may be evicted after the qualified BUOW biologist has determined via fiber optic camera or other appropriate device, that no eggs, young, or adults are in the burrow. Eviction requires preparation of an Exclusion Plan prepared in accordance with CDFW Staff Report 2012, Appendix E (or most recent guidance available) for review and submittal to Wildlife Agencies. Written concurrence from the Wildlife Agencies is required prior to Exclusion Plan implementation.

b) During Breeding Season — If a BUOW is using a burrow on-site during the breeding season (February 1-August 31), construction shall not occur within 300 feet of the burrow until the young have fledged and are no longer dependent on the burrow, at which time the BUOWs can be evicted. Eviction requires preparation of an Exclusion Plan prepared in accordance with CDFW Staff Report 2012, Appendix E (or most recent guidance available) for review and submittal to Wildlife Agencies. Written concurrence from the Wildlife Agencies is required prior to Exclusion Plan implementation.

3. Survey Reporting During Construction — Details of construction surveys and evictions (if applicable) carried out shall be immediately (within 5 working days or sooner) reported to the City's MMC, and MSCP Sections and the Wildlife Agencies and must be provided in writing (as by e-mail) and acknowledged to have been received by the required Agencies and DSD Staff member(s).

Post Construction:

4. Details of all surveys and actions undertaken on-site with respect to BUOWs (i.e., occupation, eviction, locations etc.) shall be reported to the City's MMC and MSCP sections and the Wildlife Agencies within 21 days post-construction and prior to the release of any grading bonds. This report must include summaries of all previous reports for the site; and maps of the Development Footprint and BUOW locations on aerial photos.

Impacts to 103.77 acres of burrowing owl foraging habitat would be considered a significant direct impact to the species. Habitat-based mitigation would be provided and would include the preservation of approximately 160.94 acres of sensitive upland vegetation communities through dedication to the City would protect substantial burrowing owl foraging habitat. With

implementation of habitat-based mitigation detailed in Section 8.2.2, indirect impacts to direct impacts to burrowing owl due to loss of foraging habitat would be reduced to less than significant.

8.2.4.7 Coastal Cactus Wren

Impacts to coastal cactus wren habitat would be significant due to impacts to 0.63 acre of maritime succulent scrub habitat dominated by coast cholla in an area known to support cactus wren. This would be mitigated with the restoration described in the following measure.

Cactus Wren Habitat Restoration

Impacts to coastal cactus wren would be significant due to impacts to 0.63 acre of maritime succulent scrub habitat that supports cactus thickets required to support this species. An additional 0.46 acre of indirect impact from modeled operational noise from Beyer Boulevard West post-construction is included as detailed in Section 7.2.2.2.c. Species-specific mitigation for impacts to coastal cactus wren habitat would include implementation of a cactus translocation and restoration effort to create and expand coastal cactus wren habitat within the County's Furby North Preserve at a minimum 1:1 ratio. Mitigation for impacts to 1.09 acres of coastal cactus wren habitat would be completed through restoration of 0.72 acre of disturbed maritime succulent scrub (greater than 50 percent cover by non-native species) and 1.82 acre of enhancement of maritime succulent scrub (25 percent non-native cover) within a 2.54-acre restoration area. The restoration effort would include salvage and translocation of sensitive and non MSCP-covered plant species including but not limited to coast cholla, liveforevers, fish-hook cactus, coastal prickly pear, chaparral prickly pear, our Lord's candle, Mojave yucca, as detailed in the Coastal Cactus Wren Mitigation Plan included as Attachment 13. The Coastal Cactus Wren Mitigation Plan describes implementation guidelines, including the density of cholla, maintenance tasks, and monitoring methodologies for species to be salvaged and translocated. The restoration area would be maintained for a period of five years and would be required to meet performance standards including providing a 50 percent coast cholla cover and 20 percent cover of native herbaceous species. No more than 10 percent non-native vegetation may be present. Following the completion of management and monitoring for the five-year period, the City would be responsible for verifying all success criteria have been met consistent with the Coastal Cactus Wren Mitigation Plan. After restoration success, the County of San Diego, as landowner of the Furby North Preserve would take over long-term management consistent with their current obligations to manage the Furby North Preserve consistent with City MSCP ASMDs for coastal cactus wren as detailed in the County's Furby-North Property Resource Management Plan.

The project also would mitigate for the loss of 20 acres of potential foraging habitat for this species in the vicinity of the Beyer Boulevard West project component through the preservation of 161 acres of sensitive uplands, as detailed in Section 8.2.2.

8.2.4.8 Crotch's Bumble Bee

Impacts to Crotch's bumble bee would be significant based on the presence of several individuals within the mitigation lands and a low to high potential for the species to nest and forage within the project-level areas based on the 2024 habitat assessment (see Figure 29.2). Species-specific mitigation for potential impacts to Crotch's bumble bee would include implementation of the

following mitigation measure. Additionally, subsequent coordination and an incidental take permit from CDFW would be required which may result in different or additional mitigation requirements. The ITP shall be obtained prior to issuance of Grading Permit, Demolition Plans/Permits and Building Plans/Permits. Take of any endangered, threatened, candidate species that results from the project is prohibited under the CESA, except as authorized by State law (California Fish and Game Code §§ 86, 2062, 2067, 2068, 2080, 2085; California Code of Regulations, Title 14, § 786.9) ~~under the CESA~~. Because Crotch's bumble bee is a CESA candidate species, coordination with CDFW and an ITP pursuant to Fish and Game Code §§2081 is required if take cannot be avoided, regardless of whether the species becomes listed or remains a candidate at the time of construction.

Crotch's Bumble Bee Habitat Mitigation

Impacts to approximately 190 acres of potential foraging and nesting habitat, including approximately 42 acres that supports moderate to high cover of nectar resources, would be mitigated via habitat-based mitigation. Preservation of 160.94 acres of upland vegetation communities and approximately 36 acres of lands within the wetland, vernal pool, and Otay tarplant/native grassland plan areas, all suitable for foraging by this species (see Table 10). In addition, there are several project design features that include habitat restoration of approximately 17 acres, e.g., trail restoration and wetland plan areas, that would provide additional habitat for this species. This habitat preservation would reduce the impact to foraging and nesting habitat to less than significant.

Crotch's Bumble Bee Preconstruction Survey

The following language has been developed in coordination with CDW and the City. Further coordination with CDFW would be required which may result in an adjustment to the specific mitigation measure requirements. If Crotch's bumble bee is no longer a candidate or listed species at the time of implementation, this measure would not apply.

Direct Impact Avoidance for Crotch's Bumble Bee. Prior to the Notice to Proceed for any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, and implementation of restoration plans, the Development Services Department (DSD) Director's Environmental Designee shall verify the following project requirements regarding the Crotch's bumble bee are shown on the construction and restoration plans:

A. To avoid impacts to Crotch's bumble bee, removal of habitat in the proposed area of disturbance must occur outside of the Colony Active Period between April 1 through August 31. If removal of habitat in the proposed area of disturbance must occur during the Colony Active Period, a Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of Crotch's bumble bee within the proposed area of disturbance.

B. Surveys must be conducted by a Qualified Biologist meeting the qualifications discussed in the California Department of Fish and Wildlife (CDFW) guidance (i.e., Survey Considerations for California Endangered Species Act [CESA] Candidate Bumble Bee Species, dated June 6, 2023). The Qualified Biologist shall send all photo

vouchers to a CDFW-approved taxonomist to confirm the identifications of the bumble bees encountered during surveys.

C. The pre-construction survey shall be conducted during the colony active period between April 1 through August 31 by the Qualified Biologist prior to the issuance of Grading Permit, Demolition Plans/Permits and Building Plans/Permits and within one year prior to the initiation of project activities (including removal of vegetation). The pre-construction survey shall consist of photographic surveys following CDFW guidance (i.e., Survey Considerations for California Endangered Species Act [CESA] Candidate Bumble Bee Species, dated June 6, 2023). The surveys shall consist of three separate visits spaced two to four weeks apart. Survey results will be considered valid until the start of the next colony active period.

D. The Qualified Biologist/owner permittee shall submit the results (including positive or negative survey results) of the pre-construction survey to City DSD (Mitigation Monitoring and Coordination) City Planning Department (MSCP) staff and CDFW for review and written approval prior to the issuance of Grading Permit, Demolition Plans/Permits and Building Plans/Permits.

E. If pre-construction surveys identify Crotch's bumble bee individuals on-site, the Qualified Biologist shall notify CDFW and the measures identified in the ITP will be implemented.

F. Survey data shall be submitted by the Qualified Biologist to the CNDDB in accordance with the Memorandum of Understanding with CDFW, or Scientific Collecting Permit requirements, as applicable.

G. Herbicide application should consider proximity to known Crotch's bumble bee occurrences or nests (i.e., known occurrences within 1 kilometer of the mitigation site) during the nesting season (February 15 to September 15), and to the extent feasible herbicide shall be avoided during the peak blooming season for potential foraging resources of Crotch's bumble bee.

8.2.4.9 Nesting Avian Species

Direct impacts to nesting avian species including northern harrier, coastal cactus wren, Cooper's hawk, southern California rufous-crowned sparrow, white-tailed kite, merlin, California horned lark, yellow-breasted chat, grasshopper sparrow, yellow warbler, loggerhead shrike, and Bell's sage sparrow during construction and restoration activities would be significant. Mitigation would be accomplished through implementation of the following mitigation measure:

Breeding Season Avoidance/Preconstruction Bird Surveys

Removal of habitat that supports active nests in the proposed area of disturbance shall occur outside the breeding season for northern harrier, coastal cactus wren, Cooper's hawk, southern

California rufous-crowned sparrow, white-tailed kite, merlin, bald eagle, California horned lark, yellow-breasted chat, grasshopper sparrow, yellow warbler, loggerhead shrike, and Bell's sage sparrow, or any species identified as a listed, candidate, sensitive, or special status species in the MSCP (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting bird species, listed above, on the proposed area of disturbance. The pre-construction survey shall be conducted within 3 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities. If these bird species listed above are detected, a letter report in conformance with the City's Biology Guidelines (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report are in place prior to and/or during construction.

In addition, the loss of up to 190 acres of foraging habitat for Cooper's hawk, white-tailed kite, northern harrier, and southern California rufous-crowned sparrow would be mitigated through the habitat-based mitigation via preservation of 160.94 acres of sensitive upland vegetation communities and approximately 36 acres of lands within the wetland, vernal pool, and Otay tarplant/native grassland plan areas, all suitable for foraging by this species. In addition, there are several project design features that include habitat restoration of approximately 17 acres, i.e., trail restoration and wetland plan areas, that would provide additional habitat for these species.

Implementation of species-specific conditions of coverage would be assured through conditions of project approval. ASMDs for MSCP covered species, least Bell's vireo, Cooper's hawk, southern California rufous-crowned sparrow, northern harrier, coastal California gnatcatcher, burrowing owl, and coastal cactus wren would also be implemented as detailed in Section 6.2.1.2.g.

8.2.5 Direct Impacts to Jurisdictional Resources with the Potential to be Jurisdictional

Impacts to potential Waters of U.S. and Waters of the State are summarized in Tables 11a-11d. Mitigation for state and federal waters is subject to the approval of the regulatory agencies. USACE Waters of U.S. and CDFW and RWQCB Waters of the State are regulated by the federal and state governments under a no-net-loss policy. Notification to the USACE Section 404 Nationwide Permit Program, a 1602 Streambed Alteration Agreement from the CDFW, and a 401 Water Quality Certification from the RWQCB would be required for impacts to these resources, as discussed below in Section 8.2.5.2.

Impacts and mitigation for City wetlands are detailed in Section 8.2.5.1. Detailed mitigation requirements are specified in Table 18a–18c.

Table 18a Mitigation Requirements for Direct Impacts to City of San Diego Wetlands										
	Disturbed Wetland			Vernal Pool			Wetland			
Grading Phase	Impact (acres)	Mitigation Ratio	Mitigation Required	Impact (acres)	Mitigation Ratio	Mitigation Required	Impact (acres)	Mitigation Ratio	Mitigation Required	Mitigation Total
Phase 1										
Southwind[1]	-	-	-	0.04	2:1	0.08	-	-	-	0.08
Development Footprint	0.07	2:1	0.14	0.63	2:1	1.26	-	-	-	1.40
Vernal pool with button celery[2]	-	-	-	0.01	3:1	0.03	-	-	-	0.03
Phase 2										
Development Footprint	0.04	2:1	0.08	0.12	2:1	0.24	-	-	-	0.32
Beyer Boulevard										
Beyer Park	-	-	-	-	-	-	0.35	2:1[3]	0.70	0.70
Furby North	<0.01 (54 sq. ft.)	2:1	<0.01 (108 sq. ft.)	0.01 (264 sq. ft.)	2:1	0.02 (528 sq. ft.)	-	-	-	0.02
West Otay Mesa A	<0.01 (19 sq. ft.)	2:1	<0.01 (38 sq. ft.)	0.02 (847 sq. ft.)	2:1	0.04 (1,694 sq. ft.)	-	-	-	0.04
Phase 4										
Development Footprint	-	-	-	<0.01 (35 sq. ft.)	2:1	<0.01 (70 sq. ft.)	0.01	2:1[3]	0.02	0.03
							<0.01 (159 sq. ft.)	3:1[3]	0.01	
EVA Road										
Development Footprint	-	-	-	0.02	2:1	0.04	-	-	-	0.04
Total	**0.11**		**0.22**	**0.85**		**1.70**	**0.36**		**0.73**	**2.65**

NOTE: Totals may not add due to rounding.

[1]Mitigation would be implemented for impacts within the Southwind project area by the first project to proceed. If these impacts occur and are mitigated by another project, the impacts and mitigation obligations would be eliminated from this project.

[2]0.01 acre of vernal pool supports San Diego button-celery which requires a 3:1 mitigation ratio, per the VPHCP.

[3]Beyer Park wetlands are classified as mule fat riparian scrub which requires a 2:1 mitigation ratio. The wetlands within Phase 4 includes 0.004 acre (159 sq. ft.) of southern willow scrub which would be mitigated at a 3:1 ratio, whereas the remaining resources within Phase 4 are mule fat scrub which would be mitigated at a 2:1 ratio.

8.2.5.1 City of San Diego Wetlands

Direct impacts to City wetlands would be considered significant and mitigation requirements are summarized in Table 18a. Because of the nature of impacted resources, the proposed mitigation includes two separate restoration/creation/enhancement efforts, detailed below.

a. Wetlands with Riparian Function

Impacts to City wetlands that have a riparian function would be mitigated through wetland creation (establishment) and enhancement (rehabilitation) in existing areas of disturbed land and non-native grassland areas of Spring Canyon that contain invasive and non-native cover. The wetland creation (establishment) and enhancement (rehabilitation) effort would result in creation of wetland functions and values within disturbed and non-native grassland portions of the Spring Canyon drainage to ensure no net loss of wetland resources. Wetland enhancement would involve removal of 100 percent cover stands of invasives within the wetland plan area to increase functions and values of the wetland. Details of the proposed wetland creation and enhancement effort are detailed in a Wetland Plan for the Southwest Village Specific Plan (see Attachment 18). The wetland resources reported in Table 18b would be mitigated in Spring Canyon. A summary of the wetland impacts and proposed mitigation for these resources is reported in Table 18b.

Per the City's Biology Guidelines (City of San Diego 2018a), the project's impacts to jurisdictional resources must be mitigated at a minimum ratio of 2:1 for riparian scrub habitat (mule fat scrub) and a 3:1 for riparian forest (southern willow scrub). As shown in Table 18b, mule fat scrub would be mitigated at a 2:1 ratio while southern willow scrub would be mitigated at a 3:1 ratio.

The 0.73-acre wetland mitigation requirements would be achieved within Spring Canyon through at least 0.36 acre of wetland creation (establishment) and at least 0.37 acre of wetland enhancement (rehabilitation) to create wetland function and values consistent with the requirements of the City's Biology Guidelines. An additional 0.43 acre of wetland creation (establishment) is proposed to satisfy RWQCB mitigation requirements for impacts to non-wetland waters/streambed and is not required by the City. As a project design feature, the Wetland Plan (see Attachment 18) identifies project design features including an additional 1.20 acres of weed control and implementation of creation, enhancement and weed control within a 3.46-acre area associated with the Nakano Wetland Plan (RECON 2024f). The Southwest Village Wetland Plan would require implementation of the 3.46-acre Nakano Plan area prior to implementation of the Southwest Village Plan area due to its upstream location. The first project to proceed (Nakano or Southwest Village) would implement all components of the Nakano Plan. The total proposed wetland creation/enhancement effort in addition to project design features are detailed in Attachment 18 would be in excess of City standard mitigation requirements.

Table 18b City of San Diego Wetland (Mule Fat and Southern Willow Scrub) Impacts and Required Mitigation			
Grading Phase	Impact (acres)	Mitigation Ratio	Mitigation Required
Beyer Boulevard West			
Beyer Park	0.35	2:1[1]	0.70
Phase 4			
Development Footprint	0.01	2:1[1]	0.02
	<0.01 (159 sq. ft.)	3:1[1]	0.01
Total	0.36		0.73

NOTE: Totals may not add due to rounding.
[1]Beyer Park wetlands are classified as mule fat riparian scrub which requires a 2:1 mitigation ratio. The wetlands within Phase 4 includes 0.004 acre (159 sq. ft.) of southern willow scrub which would be mitigated at a 3:1 ratio, whereas the remaining resources within Phase 4 are mule fat scrub which would be mitigated at a 2:1 ratio.

b. Disturbed Wetlands and Vernal Pools

The project would result in significant impacts to vernal pools and disturbed wetlands as detailed in Table 18a. Mitigation for impacts to all vernal pool resources and disturbed wetlands (isolated ponding features) would be accomplished through vernal pool establishment and restoration within the proposed vernal pool and Quino checkerspot butterfly restoration area (see Figure 46). The impacts reported in Table 18c include both direct and indirect impacts to vernal pools and disturbed wetland resources because both would be mitigated in the same manner. Impacts and required mitigation for impacts to vernal pools and disturbed wetlands located within Southwind area are reported separately in Table 18c due to the requirement for mitigation in these areas to be implemented by the first project to proceed. As detailed in Table 18c, disturbed wetland direct impacts would total 0.11 acre and vernal pool direct impacts would total 0.85 for a total of 0.96 acre of direct vernal pool and disturbed wetland impacts which would require 1.92 acres of mitigation. As detailed in Section 7.2.2.3 and discussed in Section 8.2.6.3 below, the project would also result in an additional 0.13-acre impact of indirect impacts to vernal pools and disturbed wetland resources, including 0.07 acre of indirect impact to disturbed wetlands and 0.06 acre of indirect impact to vernal pools. Indirect impacts would be mitigated at a 2:1 ratio and would require 0.26 acre of mitigation. Direct and indirect impact totals and associated mitigation are provided in Table 18c. Direct impact mitigation ratios are detailed in Table 18a including impacts to the single vernal pool with button-celery that would be mitigated at a 3:1 ratio consistent with the requirements of the VPHCP. All remaining vernal pool and disturbed wetland direct and indirect impacts would be mitigated at a 2:1 ratio as required by the VPHCP. Based on the applied mitigation ratio, implementation of the project-level areas would require 2.18 acres of mitigation for direct and indirect impacts to vernal pools and disturbed wetlands, including mitigation for impacts from the Southwind project. However, mitigation within the Southwind project area would be implemented by the first project to proceed.

Table 18c Mitigation Summary for Direct and Indirect Impacts to City of San Diego Wetlands					
	Impact Summary				
	Disturbed Wetland		Vernal Pool		
	Impact (acres)[1]	Mitigation Required[1]	Impact (acres)[1]	Mitigation Required (acres)[1]	Total Mitigation Required[1]
Direct Impact Summary[1]					
Southwind Direct Impacts	-		0.04	0.08	0.08
Development Footprint (all phases)	0.11	0.22	0.81	1.62	1.84
Subtotal	*0.11*	*0.22*	*0.85*	*1.70*	*1.92*
Indirect Impact Summary[3]					
Southwind Indirect Impacts	-	-	0.036	0.07	0.07
Development Footprint (all phases)	0.07	0.14	0.024	0.05	0.17
Subtotal	*0.07*	*0.14*	*0.06*	*0.12*	*0.26*
Total Mitigation Requirement (direct + indirect impacts)					2.18
Total Mitigation Requirement without Southwind					2.10

NOTE: Totals may not add due to rounding.
[1]Details of direct impacts are found in Table 18a.
[2]Mitigation totals account for ratios detailed in Table 18a including a 3:1 ratio for 1 vernal pool with button-celery.
[3]Refer to Sections 7.2.2.3 and 8.2.6.3 for indirect impact discussion.

As discussed in the wetland deviation analysis in Section 7.1.2.4, all vernal pools and disturbed wetlands (isolated ponding features) would be mitigated as vernal pools. The Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) illustrates the establishment, restoration, and enhancement methods that would occur within the vernal pool restoration areas and a maintenance and monitoring program which is required to ensure the success of the mitigation for impacted disturbed wetlands and vernal pools, including disturbed wetlands and vernal pools with fairy shrimp and one vernal pool containing San Diego button-celery.

As detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan, the restoration effort proposes to establish 3.86 acres of vernal pool basins and enhance 0.05 acre of existing vernal pool basins, which would provide an excess of 1.68 acres of vernal pool creation (including impacts from the Southwind project) and 0.05 acre of enhancement beyond the standard mitigation ratios required by the City. If Southwind were to proceed first and mitigate for impacts separately and elsewhere, there would be an excess of 1.76 acres. The excess vernal pool creation is planned in anticipation of higher RWQCB mitigation ratios for vernal pools.

The Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan would ensure that the created and enhanced vernal pools would provide long-term conservation value while contributing to the recovery of multiple VPHCP covered species. Restoration of vernal pools would be conducted within areas that are known to support vernal pools, while avoiding and enhancing existing pools. As discussed in the mitigation plan, mitigation for projects impacting vernal pools within the City shall include salvage of sensitive species from vernal pools to be impacted and introduction of salvaged material into restored vernal pool habitat where appropriate.

As impacts to vernal pool resources would be phased, mitigation would also occur in phases, roughly in three installations of 10 acres of vernal pool restoration for each phase.

A Vernal Pool and Quino Checkerspot Butterfly Habitat Management Plan (HMP) has also been prepared and discusses the perpetual long-term management of the vernal pool restoration areas (RECON 2024c; see Attachment 17). The HMP, which would be approved by the USACE, USFWS, RWQCB, and the City of San Diego, discusses the maintenance and monitoring plan for the vernal pool mitigation site and addresses:

1. Method of protecting the resources in perpetuity (i.e., covenant of easement dedication to the City of San Diego, or a deed restriction or other conservation mechanism consistent with California Civil Code Section 815, et seq. and/or Government Code Section 65870 and acceptable to the USACE, USFWS, and RWQCB;

2. Monitoring schedule;

3. Measures to prevent human and exotic species encroachment;

4. Funding mechanism (a non-wasting endowment or similar secure funding method in an amount approved by the USACE, USFWS, RWQCB, and the City of San Diego based on a Property Analysis Record (PAR3; Center for Natural Lands Management©), or similar cost estimation method, to secure the ongoing funding for the perpetual long-term management, maintenance, and monitoring of the biological conservation easement areas by an agency, non-profit organization, or other entity approved by the USACE, USFWS, RWQCB, and the City of San Diego. The non-wasting endowment must be established prior to, or concurrent with implementation of long-term management; and

5. Contingency measures should problems occur.

Vernal Pool Creation and Wetland Restoration

Prior to issuance of any construction ~~land development~~ permits such as ~~including~~ clearing, grubbing, grading, and/or construction permits that impact jurisdictional waters, the project applicant shall provide compensatory wetland mitigation resulting in no overall net loss of wetlands. The project impact to 0.36 acre of wetlands shall be mitigated at a 3:1 ratio for riparian forest (southern willow scrub and disturbed southern willow scrub) and 2:1 ratio (mule fat scrub, disturbed riparian, disturbed wetlands, natural flood channel) with a total of 0.73 acre of mitigation ~~A total of 0.73 acre of wetland mitigation shall be provided, at minimum~~ consistent with the Wetland Plan (see Attachment 18). To ensure no net loss, this shall include a 1:1 creation or restoration component. The Wetland Mitigation Plan shall be implemented with the issuance of the initial Phase 1 development permit.

Additionally, to compensate for direct and indirect impacts to vernal pool and disturbed wetland resources, the applicant shall implement the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) to implement vernal pool creation including a minimum of 2.1~~5~~8 acres or 2.00 acres (without Southwind mitigation). The first project to proceed within the Southwind project areas (see Figure 22) would be required to mitigate. Direct and indirect impacts

to vernal pool and disturbed wetland resources shall be mitigated at a ratio of 2:1 with the exception of the two vernal pools that support San Diego button-celery and shall be mitigated at 3:1. Table 19 below details the impacts by grading phase, the required mitigation ratio, and total mitigation required. Vernal pool and disturbed wetland resource mitigation shall be phased proportional to impacts as noted as a percentage of total (see Table 19). As noted in the mitigation plan, a total plan area of 33.7 acres shall be restored and will include 3.86 acres of vernal pool basin in excess of the 2.18 acres required. Prior to the issuance of grading permits for Phase 1/EVA road impacts to 0.89 acre of vernal pools/disturbed wetlands shall be mitigated at a 2:1 and 3:1 ratio for a minimum of 1.79 acres of vernal pool basin. This represents 82 percent of the total mitigation required which would correspond to the restoration of 3.16 acres of vernal pool basin within 27.63 acre of the vernal pool mitigation area. Prior to the issuance of the initial grading permit for Phases 2 or 4, whichever is issued first, impacts to 0.16 acre of vernal pools/disturbed wetlands shall be mitigated at a 2:1 ratio for a minimum of 0.32 acre of vernal pool basin. This represents 15 percent of the total mitigation required for project-level impacts to vernal pools/disturbed wetlands, which would correspond to the restoration of 0.58 acre of vernal pool basin within 5.06 acres of the vernal pool mitigation area. Prior to the issuance of the grading permit for Beyer Boulevard West, impacts to 0.04 acre of vernal pools/disturbed wetlands shall be mitigated at a 2:1 ratio for a minimum of 0.08 acre of vernal pool basin. This represents 3 percent of the total mitigation required which would correspond to the restoration of 0.12 acre of vernal pool basin within 1.01 acres of the vernal pool mitigation area.

Table 19
Vernal Pool and Disturbed Wetland Impacts and Mitigation by Grading Phase

Grading Phase	Vernal Pool and Disturbed Wetland			Total Mitigation Required (% of total)	Total Basin Area to be Created (acres phased by % of total mitigation)	Total Restoration Area (acres phased by % of total mitigation)
	Direct and Indirect Impact (acres)	Mitigation Ratio	Mitigation Required			
Phase 1/EVA Road[1]	0.88	2:1	1.76	82%	3.16	27.63
	0.01[2]	3:1[2]	0.03			
Phase 2/4	0.16	2:1	0.32	15%	0.58	5.06
Beyer Boulevard West	0.04	2:1	0.08	3%	0.12	1.01
TOTAL	1.09		2.18		3.86	33.70

NOTE: Totals may not add due to rounding.
[1]Mitigation would be implemented for impacts within the Southwind project area by the first project to proceed. If these impacts occur and are mitigated by another project, the impacts and mitigation obligations would be eliminated from this project.
[2]0.01 acre of vernal pool supports San Diego button-celery which requires a 3:1 mitigation ratio, per the VPHCP.

Prior to issuance of any construction~~land development~~ permits, such as ~~including clearing, grubbing,~~ grading~~, and/or construction~~ permits that impact jurisdictional waters, the project applicant shall obtain all necessary permits from USACE, RWQCB, and CDFW, and shall mitigate impacts pursuant to the City's MSCP Subarea Plan and VPHCP and in accordance with the terms and conditions of all required permits. Areas under the jurisdictional authority of USACE, RWQCB, and CDFW shall be delineated on all grading plans.

A Wetland Plan and a Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan have been prepared for the project. To obtain the necessary permits, the applicant shall submit a Final Wetlands~~ Mitigation and Monitoring~~ Plan and Final Vernal Pool and Quino Checkerspot Butterfly

Mitigation and Monitoring Plan to the satisfaction of the City, USACE, RWQCB, and CDFW. The final plans shall include, at a minimum, an implementation strategy; appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; a five-year maintenance, monitoring, and reporting program; an estimated completion time; and contingency measures and shall identify a long-term funding source. A Wetland Plan and Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan have been prepared. The project applicant shall also be required to implement the Final Wetland~~s Mitigation and Monitoring~~ Plan and Vernal Pool and Quino Checkerspot Butterfly Mitigation and Monitoring Plan subject to the oversight and approval of the City~~Development Services Department director (or their designee)~~, USACE, RWQCB, and CDFW.~~ for of impact~~

Should the purchase of additional mitigation credits be necessary to satisfy permit conditions from USACE, RWQCB, and/or CDFW, applicant shall secure mitigation credits within an agency-approved conservation bank in accordance with the terms and conditions of all required permits. The applicant is required to present proof of mitigation credit purchase to the applicable Wetland Agencies prior to issuance of any land development permits.

8.2.5.2 Other Agency Jurisdictional Resources (CDFW, RWQCB and USACE)

Mitigation for impacts to CDFW, RWQCB, and USACE jurisdictional resources would be significant. Direct impacts to the potential wetlands (mule fat scrub, southern willow scrub, disturbed southern willow scrub, disturbed riparian and disturbed wetlands), vernal pools, and natural flood channels (non-wetland waters/streambed), within the project-level areas are reported in Tables 11a-11d and the location of impacts are presented in Figures 41 through 43. Direct impacts to jurisdictional resources would be addressed through applicable permitting through USACE, CDFW, and RWQCB. The following mitigation measure would be required to ensure impacts to CDFW, RWQCB, and USACE jurisdictional resources are reduced to less than significant.

Wetland Permits

Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits by the City that impact jurisdictional waters, the project applicant shall obtain all necessary permits from USACE, RWQCB, and CDFW, and shall mitigate impacts in accordance with the terms and conditions of all required permits. Areas under the jurisdictional authority of USACE, RWQCB, and CDFW shall be delineated on all grading plans. The mitigation for these agencies is anticipated to follow the same restoration approach as described above for the City proposed wetland mitigation, although higher mitigation ratios may be required by these agencies.

8.2.6 Indirect Impacts

The OMCP FEIR addressed indirect impacts in both the Land Use and Biological Resources sections of the FEIR. The OMCP FEIR found potentially significant indirect impacts related to development occurring adjacent to the MHPA. Additionally, potential indirect impacts were identified related to the issues of invasive plants and noise generation. The OMCP FEIR identified Mitigation Framework LU-2, which requires implementation of the City's MHPA Land Use Adjacency Guidelines. As the City requires implementation of the MHPA Land Use Adjacency Guidelines as standard conditions

of approval for projects adjacent to the MHPA, the OMCP FEIR Mitigation Framework LU-2 would be implemented as a condition of the project.

8.2.6.1 Sensitive Plants and Vegetation Communities

As detailed in Section 6.2.1.2.d and 7.2.2.1, indirect impacts to sensitive plants and vegetation communities would be avoided through implementation of MHPA Land Use Adjacency Guidelines and implementation of BMPs which would avoid potential indirect impacts related to drainage, dust, toxins, runoff, and invasive species. During construction, biological monitoring, installation of temporary fencing during construction would ensure indirect effects are avoided. Additionally, the project's landscape plans are designed to ensure only native plants are located adjacent to open space areas, to avoid introduction of invasives into the surrounding open space areas. Indirect impacts to sensitive vegetation communities would be less than significant with implementation of the MHPA Land Use Adjacency Guidelines and BMPs. Indirect impacts to sensitive plants associated with trail restoration efforts would be mitigated by the measure detailed in Section 8.2.3. Additionally, indirect impacts to thread-leaved brodiaea during restoration activities would be mitigated by the measure detailed in Section 8.2.3.4.

8.2.6.2 Sensitive Wildlife

As discussed in Section 7.2.2.2, indirect impacts to sensitive wildlife would be significant for the following species: Quino checkerspot butterfly, coastal California gnatcatcher, coastal cactus wren, least Bell's vireo, burrowing owl, western spadefoot, San Diego and Riverside fairy shrimp, Crotch's bumble bee, and nesting avian species. Impacts to the remaining sensitive wildlife would be less than significant. These impacts are discussed below.

a. Quino Checkerspot Butterfly

As detailed in Section 7.2.2.1, introduction of non-native species associated with the project development area would be avoided through compliance with the Specific Plan plant palette which requires native plantings adjacent to open space within the development footprint.

Indirect impacts to Quino checkerspot butterfly would be mitigated through the measures detailed in Section 8.2.4.2 and 8.2.7. Additionally, within the vernal pool preserve where the majority of suitable habitat is present, only native species would be planted, including Quino checkerspot butterfly host and nectar plants (see Attachment 14). During all construction and restoration activities, avoidance measures would be implemented to ensure Quino checkerspot butterfly host and nectar plants are protected including implementation of BMPs such as silt fences and watering to avoid dust generation. Indirect impacts to Quino checkerspot butterfly would be avoided in areas adjacent to proposed grading through implementation of dust control measures, erosion control, and fencing to demark the limits of disturbance. Additionally, prior to formalizing any primitive trails (e.g., narrowing the trail to 4 feet and restoring disturbed habitats surrounding the trail), sensitive plant survey updates would be conducted to ensure avoidance of sensitive plant species including host and nectar plants. Where needed to protect sensitive areas, peeler pole fencing and/or buffering sensitive plants from the trail would be implemented. With implementation of these

measures, indirect impacts to Quino checkerspot butterfly would be mitigated to less than significant.

b. Coastal California Gnatcatcher

As this species is present within the MHPA adjacent to the project-level analysis area including along the Beyer Boulevard West extension, the EVA road, and restoration lands, indirect noise impacts from construction and restoration could occur if the activity is proposed during the breeding season, which would be significant. Implementation of the MSCP Land Use Adjacency Guidelines as noted in Section 6.2.1.2.d and implementation of noise measures identified in Section 8.2.4.5 above would mitigate this impact and reduce it to less than significant.

Significant indirect impacts from Beyer Boulevard West operational noise may occur to approximately 0.09-acre area of suitable habitat (Diegan coastal sage scrub) based on noise modeling. This includes a small area that would be exposed to noise levels above 60 dB contour (see Figure 47). This impact would be mitigated at a 1:1 ratio through habitat preservation totaling 0.18 acre sensitive upland habitats in the MHPA. The excess upland mitigation of 7.71 acres as detailed in Section 8.2.2 (see Table 15a), would mitigate these impacts, with uptiering to maritime succulent scrub.

c. Coastal Cactus Wren

Indirect impacts to coastal cactus wren may result from edge effects associated with development and construction would be mitigated by the following:

- Implementation of proper BMPs, including dust control through the use of a water truck, erosion control devices (straw wattles, gravel bags, etc.), and silt fencing around the construction boundary.
- Installation of the proposed masonry fencing and wildlife fencing as project design features would serve to preclude unwanted entry by pedestrians and domestic animals.

The remaining area of coastal cactus wren habitat would continue to be large enough to support at least three nesting pairs of species (personal communication with Kris Preston on May 12, 2023). Thus, there would be a sufficient block of suitable habitat remaining after construction of the roadway to continue to support the species in this location.

Indirect impacts associated with construction and restoration noise would be addressed through implementation of the Breeding Season Avoidance/Preconstruction Survey mitigation measure provided in Section 8.2.4.9 and noise measures identified in Section 8.2.4.5 above which would mitigate this impact and reduce it to less than significant.

Significant indirect impacts from Beyer Boulevard West operational noise to an approximately 0.46-acre area of suitable habitat (maritime succulent scrub) would be mitigated by providing cactus wren habitat restoration at a 1:1 ratio with 1.09 acres as detailed in Section 8.2.4.7 and Attachment 13.

d. Least Bell's Vireo

Indirect impacts to least Bell's vireo are not anticipated from construction given that the occupied habitat within Beyer Boulevard West footprint would be removed completely and the species would not be subject to construction or operational noise impacts.

Indirect impacts associated with restoration noise may occur if these activities are conducted during this species' breeding season. Occupied suitable habitat for this species occurs adjacent to the restoration area which is likely to cause noise levels within these adjacent habitat areas to exceed 60 dB(A) average sound level (L_{eq}), or ambient if greater, which would be considered a significant indirect impact requiring mitigation. These impacts would be addressed through implementation of the mitigation measure provided in Section 8.2.4.4.

e. Burrowing Owl

Indirect noise impacts to burrowing owl during construction or restoration would be mitigated through compliance with City standard conditions which require avoidance of construction during the breeding season of February 1–August 31. If construction or restoration must occur during this period, preconstruction survey mitigation measures provided in Section 8.2.4.6 would be completed, and if needed, noise reduction measures would be implemented in accordance with the City's Biology Guidelines.

f. Western Spadefoot

Indirect impacts to this species during enhancement of jurisdictional resources within the 100-foot trail corridor and during other restoration activities where ponding basins are present would be significant and mitigated through implementation of required VPHCP avoidance and minimization measures detailed in Section 6.2.2.2.a and measures detailed in Section 8.2.4.3 which limit activity to times of the year when no ponding is present. The Trails Restoration Plan (see Attachment 1) and Vernal Pool Restoration Plan (see Attachment 14) require that no enhancement activities occur within vernal pools when ponded, surveying to identify any occupied pools within and adjacent to the restoration area, and marking/fencing any occupied pools to protect from adjacent restoration activities. Implementation of these measures would avoid indirect impacts to western spadefoot.

g. San Diego and Riverside Fairy Shrimp

As detailed in Section 7.2.2.2.g, implementation of grading within the project-level areas would result in indirect impacts to a total of 0.13 acre of vernal pools and disturbed wetlands either containing or assumed to contain San Diego fairy shrimp. This would be considered a significant indirect impact to San Diego fairy shrimp. Indirect impacts to San Diego fairy shrimp would be mitigated at a 2:1 ratio through inoculation of created vernal pools, as detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14). Implementation of the mitigation detailed in Section 8.2.4.1 and Section 8.2.5.1.b (see Table 18c) would ensure indirect impacts to vernal pools and disturbed wetlands containing or assumed to contain San Diego fairy shrimp would be reduced to less than significant.

Indirect impacts could also potentially occur to San Diego and Riverside fairy shrimp during enhancement of jurisdictional resources within the 100-foot trail corridor or during vernal pool restoration activities, if work were to occur when ponding is present. These would be significant and mitigated through implementation of required VPHCP avoidance and minimization measures detailed in Section 6.2.2.2.a and measures detailed in the Trails Restoration Plan (see Attachment 1) and vernal pool restoration plan (see Attachment 14) which requires that no enhancement activities occur within vernal pools when ponded, surveying to identify any occupied pools within and adjacent to the restoration area, and marking/fencing any occupied pools to protect from adjacent restoration activities. Implementation of these measures would mitigate potential indirect impacts to San Diego and Riverside fairy shrimp during restoration activities.

h. Crotch's Bumble Bee

Indirect impacts to Crotch's bumble bee would be mitigated through implementation of the mitigation measures detailed in Section 8.2.4.8. These measures are also incorporated into the project's restoration plans (see Attachments 1, 13, 14, 15, and 18). Indirect impacts such as introduction of non-native species would be avoided through compliance with the Specific Plan plant palette which requires native plantings adjacent to open space. Additionally, within the vernal pool preserve where the majority of suitable habitat is present, only native species would be planted, suitable as Crotch's bumble bee nectar plants. Indirect impacts to Crotch's bumble bee would also be avoided in areas adjacent to proposed grading through implementation of dust control measures, erosion control, and fencing to demark the limits of disturbance which is required by the MHPA Land Use Adjacency Guidelines. Additionally, prior to formalizing any primitive trails (e.g., narrowing the trail to 4 feet and restoring disturbed habitats surrounding the trail), sensitive plant survey updates would be conducted to ensure avoidance of sensitive plant species including significant nectar resources. Where needed to protect sensitive areas, peeler pole fencing and/or buffering sensitive plants from the trail would be implemented as a project design feature (see Section 1.3.2.6.a). With implementation of these measures, indirect impacts to Crotch's bumble bee would be mitigated to less than significant.

i. Nesting Avian Species

Potential indirect noise impacts to nesting Cooper's hawk, northern harrier, white-tailed kite, merlin, California horned lark, loggerhead shrike, yellow warbler, yellow-breasted chat, southern California rufous-crowned sparrow, grasshopper sparrow, and Bell's sage sparrow would be addressed through implementation of the Breeding Season Avoidance/Preconstruction Survey mitigation measure provided in Section 8.2.4.9 and species-specific ASMDs. Implementation of species-specific conditions of coverage would be assured through conditions of project approval. ASMDs for MSCP covered species, least Bell's vireo, Cooper's hawk, southern California rufous-crowned sparrow, northern harrier, coastal California gnatcatcher, burrowing owl, and coastal cactus wren would also be implemented as detailed in Section 6.2.1.2.g.

j. Other Sensitive Species

Indirect impacts to sensitive wildlife present within the open space areas located along the proposed Beyer Boulevard West extension would additionally be avoided through project design features

such as wildlife fencing that would deter trespass into the surrounding open space. No primitive trails are located along the Beyer Boulevard West alignment, which would avoid human use impact within wildlife use areas. Additionally, very limited primitive trails are proposed within the surrounding open space and only where existing disturbance is present.

8.2.6.3 Jurisdictional Resources

As detailed in Section 7.2.2.3, implementation of grading within the project-level areas would result in indirect impacts to a total of 0.13 acre of vernal pools and disturbed wetlands. Of this total, 0.036 acre of vernal pools (see Figure 48.2) are located within the Southwind property. If the Southwind project were to proceed first, these impacts would be mitigated by another party. No additional indirect impacts would be associated with the Candlelight project area. These indirect impacts would be considered significant. Indirect impacts to disturbed wetlands and vernal pools, would be mitigated the same way as direct impacts, through vernal pool creation, as detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14). As summarized in Table 18c, indirect impacts to vernal pools and disturbed wetlands would total 0.13 acre and would be mitigated at a 2:1 ratio, for a total of 0.26 acre of required mitigation. If the Southwind project were to proceed first, mitigation obligations would be reduced by a total of 0.07 acre due to mitigation being completed by another party. Implementation of the mitigation detailed in Section 8.2.5.1 (see Table 18c) would ensure indirect impacts to vernal pools and disturbed wetlands would be reduced to less than significant.

8.2.7 Restoration Implementation

The following general measures shall be incorporated into restoration plans, and would be implemented for all restoration activities:

Mitigation Area Design

A. Permanent protective fencing and/or use of other measures approved by the City would be implemented, if warranted, to deter human and pet access to on-site habitat. Due to the remote nature of the mitigation area, fencing may not be needed; however, the need would be assessed based on evidence of human use in the surrounding area and coordination with the USBP. Signage for the mitigation area would be posted and maintained at conspicuous locations. The requirement for fencing and/or other preventative measures is further discussed in Section 4.3.2.

During Mitigation Implementation

A. The qualified restoration specialist that has been approved by the City shall be on-site as needed during implementation activities to ensure compliance with all mitigation measures identified in the CEQA environmental document. The restoration specialist will perform the following duties:

    1. Oversee installation of and inspect the fencing (if needed) and erosion control measures as needed, to ensure that any breaks in the fence or erosion control measures are repaired immediately.

2. Periodically monitor the work area to ensure that work activities do not generate disturbances to adjacent habitats.

3. Train all installation/maintenance contractor personnel on the biological resources associated with this project. At a minimum, training will include discussions of (1) the purpose for resource protection; (2) native and non-native species; (3) environmentally responsible restoration practices as outlined in measures 4, 5, and 6 below; (4) the protocol to resolve conflicts that may arise at any time during the restoration process; and (5) the general provisions of the project's mitigation monitoring and reporting program, the need to adhere to the provisions of the federal Endangered Species Act, and the penalties associated with violating the federal Endangered Species Act.

4. Submit a final as-built report within 60 days following completion of implementation. The final report will include as-built drawings with an overlay of habitat that was restored and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.

B. The following conditions would be implemented during project implementation:

1. Employees would strictly limit their activities, vehicles, equipment, and implementation materials to the fenced project footprint.

2. The mitigation area would be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the sites.

3. Disposal or temporary placement of brush or other debris would be limited to areas within the fenced project footprint.

C. All equipment maintenance and staging, and any other such activities will occur in designated areas as approved by the project biologist. These designated areas would be in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering the habitats. Contractor equipment should be checked for leaks prior to operation and repaired, as necessary. A spill kit for each piece of construction equipment should be on-site to be used in the event of a spill.

D. To avoid any direct impacts to any species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the mitigation area should occur outside the breeding season for these species (February 1 to September 15). To avoid indirect impacts to least Bell's vireo nesting within Spring Canyon and coastal California gnatcatcher nesting within the adjacent maritime succulent scrub, any work that may cause noise in excess of 60 A-weighted decibels hourly average, or the ambient if it is greater, shall be avoided during the breeding season for this species (March 1–August 15). If removal of habitat in the mitigation area must occur during the breeding season, a qualified biologist shall conduct a pre-implementation survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-implementation survey shall be conducted within 3 calendar days prior to the start

of restoration activities (including removal of vegetation). The applicant shall submit the results of the pre-implementation survey to the City for review and approval prior to initiating any restoration activities. If nesting birds are detected, a letter report in conformance with the City's Biology Guidelines (i.e., appropriate follow-up surveys, monitoring schedules, work and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report shall be submitted to the City for review and approval and implemented to the City's satisfaction. The City's Mitigation Monitoring Coordinator shall verify and approve that all measures identified in the report are in place prior to and/or during implementation.

8.2.8 Wildlife Corridors

The OMCP FEIR addressed the topic of wildlife corridors as part of an analysis of migratory wildlife. OMCP Mitigation Framework BIO-2 required biological analysis to "identify the limits of any identified local-scale wildlife corridors or habitat linkages…" As detailed in Section 5.6.1 and 5.6.2, wildlife movement studies were completed to evaluate wildlife usage and corridors within and surrounding the Specific Plan area. As detailed in Section 7.3, potential impacts to wildlife corridors resulting from implementation of project-level areas would be primarily related to the construction of Beyer Boulevard West. With implementation of project design features detailed in Section 1.3.2.3.b, implementation of a Long-Term Management and Monitoring Plan (see Attachment 16) for a period of 10 years, along with funding to support the management and monitoring of the wildlife features impacts to wildlife corridors would be less than significant.

8.2.9 Land Use Consistency-Otay Mesa Community Plan

As detailed in Section 7.4.1, implementation of the Specific Plan would not conflict with any policies of the OMCP related to biological resources. Impacts related to conflicts with environmental policies of the OMCP would be less than significant.

As detailed in Section 7.4.2, implementation of the project-level areas would not conflict with any policies of the OMCP related to biological resources. Impacts related to conflicts with environmental policies of the OMCP would be less than significant.

8.2.10 Project Requirements

The remaining lands between the development footprint and the parcel boundaries associated with the VTM (5.32 acres) would be placed in a covenant of easement (see Figure 50) per Section 143.0140(a) of the City's Municipal Code ESL regulation (City of San Diego 2022). These lands are not proposed as mitigation but would be protected from future development and managed in accordance with the covenant of easement.

8.2.11 Project Mitigation Timing

Table 20 provides a crosswalk of proposed mitigation measures and project design features with the initial phasing trigger to indicate when each of these would be initiated.

Table 20
Mitigation/Project Phasing Trigger Crosswalk

Biological Restoration or Mitigation Activity and Project Design Features	EIR Mitigation Measure	Phase 1/ EVA Road	Phase 2	Phase 4	Beyer Boulevard West
San Diego button-celery	PR-BIO-1	X			
Otay tarplant/Native grassland restoration	PR-BIO-2			X	X
San Diego barrel cactus and snake cholla salvage	PR-BIO-3	X	X	X	X
Thread-leaved brodiaea	PR-BIO-4	X	X	X	X
Quino checkerspot butterfly	PR-BIO-5, PR-BIO-16b	X			
San Diego and Riverside fairy shrimp	PR-BIO-6	X	X	X	X
Least Bell's vireo-construction	PR-BIO-7a	X	X	X	X
Least Bell's vireo-restoration	PR-BIO-7b	X	X	X	X
Coastal California gnatcatcher breeding season avoidance-construction	PR-BIO-8a	X	X	X	X
Coastal California gnatcatcher breeding season avoidance-restoration	PR-BIO-8b	X			
Crotch's bumble bee impact minimization	PR-BIO-9a	X	X	X	X
Crotch's bumble bee habitat mitigation	PR-BIO-9b	X	X	X	X
Burrowing owl pre-construction surveys	PR_BIO-10	X	X	X	X
Coastal cactus wren habitat restoration	PR-BIO-11				X
Western spadefoot habitat restoration	PR-BIO-12	X	X	X	X
Western spadefoot avoidance surveys	PR-BIO-13	X	X	X	X
Breeding bird avoidance surveys	PR-BIO-14	X	X	X	X
Upland Lands Mitigation Dedication	PR-BIO-15	X			
Wetland Plan Mitigation	PR-BIO-16a			X	X
Vernal pools and Quino checkerspot butterfly mitigation	PR-BIO-16b	X	X	X	X
Artificial burrowing owl burrows	N/A	X			
Bird safe glass	N/A	X	X		
Wildlife Crossings	N/A				X
Wetland Plan Project Design Feature	N/A			X	X
Trail Restoration Area Project Design Feature	N/A		X		
Replacement Conservation Lands for CDFW conservation easements, Furby-North Preserve, and Vernal Pool Restoration Area (2.13 acres)	N/A				X

EVA = Emergency Vehicle Access

~~Table 20~~ ~~Mitigation/Project Phasing Trigger Crosswalk~~	
~~Project Component~~	~~Initial Phasing Trigger~~
~~Cactus Wren Restoration Area~~	~~Beyer Boulevard~~
~~Upland Mitigation Dedication~~	~~Phase 1~~
~~Otay Tarplant/Native Grassland Restoration Area~~	~~Phase 4 or~~ ~~Beyer Boulevard~~
~~Vernal Pool/Quino Checkerspot Butterfly Restoration Area~~	~~Phase 1~~
~~Wetland Plan Mitigation~~	~~Phase 1~~
~~Wetland Plan Project Design Features~~	~~Phase 1~~
~~butterfly Additional Potential Habitat Preservation (Project Design)~~	~~Beyer Boulevard~~
~~Trail Restoration Area (Project Design)~~	~~Phase 1~~
~~Furby North Replacement Land~~	~~Beyer Boulevard~~
~~VPHCP Major Amendment[1]~~	~~Beyer Boulevard~~
~~FESA Section 10 HCP (QCB, western spadefoot)[1]~~	~~Phase 1~~
~~Covenant of Easements-Protection of ESL within VTM (MHPA BLA related)~~	~~Phase 1~~
~~Potential Vernal Pool Restoration Area (2.13 acres)~~	~~Beyer Boulevard~~

9.0 Significance after Mitigation

9.1 Program-level Significance

Impacts related to consistency with the MSCP and VPHCP, wildlife corridors, and land use consistency at the program-level were found less than significant without mitigation and, therefore, are not discussed further in this section.

9.1.1 Sensitive Vegetation Communities, Plants and Wildlife Species

As detailed in Section 7.1.1.1 and 7.1.1.2, impacts to sensitive vegetation communities, plants, and wildlife species associated with future development within the program-level areas would be considered significant. Future development would be required to implement the Specific Plan Mitigation Framework SP-BIO-1~~ and SP-BIO-2~~, which requires site-specific biological surveys to determine the potential for sensitive vegetation communities, plant and wildlife species, along with the requirement for site-specific mitigation, if necessary, to reduce impacts to sensitive species or habitats. Implementation of these measures would require site specific application of the City's Biology Guidelines, the MSCP, the VPHCP, ESL regulations which would ensure project-specific mitigation measures are identified to reduce impacts to less than significant. Therefore, with implementation SP-BIO-1~~ and SP-BIO-2~~, impacts to sensitive vegetation communities, and plants and wildlife species would be less than significant. This conclusion is consistent with the findings of the OMCP FEIR.

9.1.2 Jurisdictional Resources

As detailed in Section 7.1.1.3, impacts to jurisdictional resources within the program-level areas would be significant. Compliance with City regulations and policies, ESL Regulations, the MSCP Subarea Plan, VPHCP, the City's Biology Guidelines, and implementation of SP-BIO-~~3~~ 2 would serve to reduce impacts to wetlands, vernal pools, and other jurisdictional resources at the program-level to below a level of significance because they would require a no-net loss of resources. With implementation of City regulations and policies, ESL Regulations, the MSCP Subarea Plan, VPHCP, the City's Biology Guidelines, and SP-BIO-~~3~~2, impacts would be reduced to less than significant. This conclusion is consistent with the findings of the OMCP FEIR.

9.1.3 Indirect Impacts

Indirect impacts to sensitive plans and vegetation communities, sensitive wildlife, and jurisdictional resources associate with future program-level development would be reduced to less than significant through implementation of the MHPA Land Use Adjacency Guidelines required as standard City conditions, in addition to implementation of SP-BIO-1 and~~,~~ SP-BIO-2~~, and SP-BIO-3~~. Implementation of these measures would ensure indirect effects of future development are addressed through the requirement for project-level analysis and mitigation. With implementation

of the Specific Plan Mitigation Framework, indirect impacts would be reduced to less than significant. This conclusion is consistent with the findings of the OMCP FEIR.

9.2 Project-level Significance

Impacts related to consistency with the MSCP and VPHCP, wildlife corridors, and land use consistency at the project-level were found less than significant without mitigation and, therefore, are not discussed further in this section.

9.2.1 Sensitive Upland Habitats

The project would impact 37.59 acres of Tier I, 44.17 acres of Tier II, and 105.84 acres of Tier IIIb. Significant direct impact to sensitive upland habitats would be mitigated to less than significant through dedication of sensitive uplands of equal and/or higher biological value within proposed mitigation lands located within the MHPA. A minimum of 49.62 acres of Tier I, 47.38 acres of Tier II, and 56.23 acres of Tier IIIb would be required as mitigation. Specifically, the mitigation proposal includes preservation of 160.94 acres of sensitive uplands, consisting of 114.76 acres of Tier I, 27.29 acres of Tier II, and 18.89 acres of Tier IIIB (see Table 15a). This mitigation package includes 7.71 acres of excess mitigation beyond required mitigation ratios. In addition, impacts to 0.12 acre of native grassland would be mitigated through creation of an additional 0.12 acre within the Otay tarplant/native grassland mitigation area within the southeastern mitigation lands (see Attachment 15). Dedication of these mitigation lands to the City and completion of the native grassland restoration would ensure impacts to sensitive upland habitats would be mitigated to less than significant.

9.2.2 Sensitive Plants

Indirect impacts to sensitive plants associated with trail restoration efforts would be reduced to less than significant by the measure detailed in Section 8.2.3.

9.2.2.1 San Diego Button-Celery

Impacts to 28 San Diego button-celery would be mitigated through implementation salvage of impacted San Diego button-celery individuals and in-kind restoration as detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (RECON 2020c; see Attachment 14). In addition, the 0.01 acre vernal pool supporting this species would be mitigated at a 3:1 ratio as part of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14). Proposed salvage and restoration would ensure long term survival of the species would not be impacted and impacts to this species would be reduced to less than significant.

9.2.2.2 Otay Tarplant

Impacts to approximately 1,900 Otay tarplant individuals within an approximately 0.21-acre area would be mitigated through implementation of a proposed Otay tarplant restoration area to be located within the MHPA lands south of the Specific Plan area, where suitable soils are present.

Mitigation would provide for a 4:1 replacement of impacted Otay tarplant, ensuring impacts would be fully mitigated to less than significant. The Otay Tarplant and Native Grassland Restoration Plan would ensure the mitigation site meets specified performance standards to ensure mitigation success (see Attachment 15; RECON 2024e). With implementation of the Otay Tarplant and Native Grassland Restoration Plan, impacts to Otay tarplant would be reduced to less than significant.

9.2.2.3 San Diego Barrel Cactus and Snake Cholla

Impacts to individual San Diego barrel cactus and snake cholla would be mitigated through salvage of impacted individuals and translocation into the proposed restoration areas as detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) and the Coastal Cactus Wren Mitigation Plan (see Attachment 13). Individual barrel cactus and snake cholla would be replaced at a 1:1 ratio. San Diego barrel cactus is an appropriate species for planting within upland areas and on the mima mounds near the vernal pools and both species are appropriate for planting within the coastal cactus wren habitat and translocation would be conducted accordingly. Salvage and translocation of impacted individuals would mitigate direct impacts to this species to less than significant.

9.2.2.4 Thread-leaved Brodiaea

Thread-leaved brodiaea were not detected during rare plant surveys; however, due to its moderate potential to occur, potentially significant impacts would be reduced to less than significant with mitigation requiring a focused rare plant survey to be conducted in the spring prior to the start of construction and restoration activities to identify any individuals. If present, the species would be salvaged for transplant which would reduce the impacts to less than significant.

9.2.3 Sensitive Wildlife

9.2.3.1 San Diego and Riverside Fairy Shrimp Species

Direct and indirect impacts to 1.33 acres of basins either supporting or assumed to support San Diego fairy shrimp (with Candlelight impact area) or a total of 1.06 acres (without Candlelight) would be required to be mitigated at a 2:1 ratio with a total of 2.66 acres of vernal pool surface area (with Candlelight) or 2.12 acres (without Candlelight mitigation). This acreage also encompasses mitigation for impacts to the one 0.03-acre vernal pool containing both San Diego and Riverside fairy shrimp. The project would mitigate for impacts to San Diego fairy shrimp species through a 2:1 inoculation of a minimum of 2.66 acres of vernal pool surface area (with Candlelight mitigation) or 2.12 acres (without Candlelight mitigation). Of those totals, one 0.03-acre vernal pool and one 0.17-acre seasonal basin ("VP12" per Alden 2013) within Candlelight would be impacted that also contains Riverside fairy shrimp. A minimum of 0.40 acre of that total would be inoculated with both San Diego fairy shrimp and Riverside fairy shrimp to mitigate for impacts to Riverside fairy shrimp. As detailed in the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14), a total of 3.86 acres of re-established vernal pools would be inoculated with both species, exceeding the 2:1 mitigation obligation. Inoculation of newly created vernal pools with these sensitive species consistent with the VPHCP would reduce impacts to less than significant. Potential indirect impacts

to San Diego and Riverside fairy shrimp during trail corridor or vernal pool restoration activities would be significant and mitigated through the implementation of required VPHCP avoidance and minimization measures detailed in Section 6.2.2.2.a and measures detailed the Trails Restoration Plan (see Attachment 1) and vernal pool restoration plan (see Attachment 14) which requires that no enhancement activities occur within vernal pools when ponded, surveying to identify any occupied pools within and adjacent to the restoration area, and marking/fencing any occupied pools to protect from adjacent restoration activities. Implementation of these measures would mitigate for indirect impacts to San Diego and Riverside fairy shrimp during restoration activities.

9.2.3.2 Quino Checkerspot Butterfly

Impacts to 0.93 acre of Quino checkerspot butterfly habitat would be reduced to less than significant through implementation of restoration and enhancement of host and nectar plant patches within the proposed vernal pool restoration area. A total of 1.89 acres of enhancement and preservation (see Figure 46) would be provided within the vernal pool restoration area. Implementation of the proposed Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) would ensure sufficient Quino checkerspot butterfly habitat would be restored to mitigate impacts to less than significant. During all construction and restoration activities, avoidance measures would be implemented to ensure Quino checkerspot butterfly host and nectar plants are protected including implementation of BMPs such as silt fences and watering to avoid dust generation. Indirect impacts to Quino checkerspot butterfly would be avoided in areas adjacent to proposed grading through implementation of dust control measures, erosion control, and fencing to demark the limits of disturbance. Additionally, prior to formalizing any primitive trails (e.g., narrowing the trail to 4 feet and restoring disturbed habitats surrounding the trail), and conducting other restoration activities, sensitive plant survey updates would be conducted to ensure avoidance of sensitive plant species including host and nectar plants. Where needed to protect sensitive areas, measures such as peeler pole fencing and/or buffering sensitive plants from the trail and restriction of herbicide application would be implemented. With implementation of these measures, indirect impacts to Quino checkerspot butterfly would be mitigated to less than significant.

The project would also obtain appropriate approvals from the USFWS.

9.2.3.3 Western Spadefoot

The project would directly and indirectly impact 1.33 acres of western spadefoot assumed occupied habitat (including habitat within Candlelight). Implementation of the vernal pool preserve restoration efforts would increase potential habitat for western spadefoot and would mitigate the impact to an estimated 1.33 acres of occupied habitat through vernal pool creation and translocation of western spadefoot eggs to the created pools during the restoration effort. As noted above, a total of 3.86 acre of vernal pool basins would be established within a 33.71-acre vernal pool restoration area which would provide suitable habitat for western spadefoot. In addition to the proposed vernal pool restoration area, other lands to be conserved as part of the project support existing populations of spadefoot toad as detailed on Figures 40.1 through 40.4. In addition, western spadefoot was detected in 23 basins covering 1.96 acres within parts of the survey area proposed to be preserved as a part of habitat-based mitigation. With implementation of proposed vernal pool

reestablishment and enhancement to expand spadefoot toad habitat in addition to conservation of existing populations within the mitigation lands, impacts would be reduced to less than significant.

Potentially significant impact during construction would be reduced to less than significant through implementation of pre-construction surveys and relocation of any eggs, tadpoles, or adults encountered. In addition, mitigation measures to be implemented during construction and restoration activities working outside of the wet season, having a biological monitor present, and realigning trail restoration areas or marking/fencing occupied ponds within or adjacent to restoration areas that would ensure impacts to the species are reduced to less than significant.

9.2.3.4 Least Bell's Vireo

Potentially significant impacts to least Bell's vireo associated with wetland mitigation activities and construction would be reduced to less than significant through the mitigation requirement for pre-construction surveys for least Bell's vireo. The mitigation measure would require avoidance of the least Bell's vireo breeding season, or if the breeding season cannot be avoided, then avoidance measures must be implemented such as noise monitoring and attenuation. Implementation of these measures before and during construction and restoration implementation would ensure adverse impacts to least Bell's vireo during construction and restoration would be reduced to less than significant.

Loss of 0.28 acre of least Bell's vireo foraging habitat would be mitigated through preservation of approximately 0.31 acre of southern willow scrub and implementation of the Wetland Plan (see Attachment 18), which would restore 0.36 acre of riparian habitat, thus expanding and enhancing suitable least Bell's vireo habitat and reducing this impact to less than significant.

9.2.3.5 Coastal California Gnatcatcher

Potentially significant impacts to coastal California gnatcatcher associated with construction operations within the MHPA would be reduced to less than significant through the mitigation requirement for pre-construction surveys for the gnatcatcher. The mitigation measure would require avoidance of the breeding season, or if the breeding season cannot be avoided, then other measures must be implemented such as noise monitoring and attenuation. Implementation of these measures before and during construction would ensure adverse impacts to the gnatcatcher during construction would be reduced to less than significant.

The project would directly impact approximately 27.25 acres of gnatcatcher nesting and foraging habitat within the MHPA, as well as indirectly impact 0.09 acre of habitat due to Beyer Road extension noise impacts. To mitigate for this loss of gnatcatcher habitat, the project would be required to provide a minimum of 54.5 acres of habitat-based mitigation, for a 2:1 ratio and 0.09 acre of habitat to mitigate the operational noise impact at a 1:1 mitigation ratio. To meet this mitigation requirements, the project would preserve 160.94 acres of sensitive upland vegetation communities through dedication to the City, including over 140 acres of coastal sage scrub and maritime succulent scrub, which would protect substantial foraging habitat and reduce this impact to less than significant. This habitat preservation area includes 7.71 acres beyond the minimum

required habitat preservation mitigation, which would also reduce the significant impact from operational noise impacts from Beyer Boulevard to less than significant.

9.2.3.6 Burrowing Owl

A potentially significant impact to burrowing owl during construction would be reduced to less than significant through implementation of mitigation including pre-construction burrowing owl surveys, consistent with the MSCP conditions of coverage for burrowing owl. Implementation of this mitigation would ensure that any burrowing owls that may take up residence within the planned grading areas are identified and relocated prior to any disturbance. If detected, a translocation plan will be required for any owls discovered within the impact area prior to or during construction, with coordination and the approval of the Wildlife Agencies, MSCP, and EAS. In addition, the project would install an artificial berm within the vernal pool mitigation area as a project design feature. With implementation of these measures, impacts to burrowing owl during construction would be reduced to less than significant.

Impacts to 103.77 acres of burrowing owl foraging habitat would be mitigated through implementation of 224 acres of habitat-based mitigation that would ensure adequate foraging potential is available within the proposed mitigation lands reducing this impact to less than significant.

9.2.3.7 Coastal Cactus Wren

Significant direct impacts to 0.63 acre of coastal cactus wren suitable habitat and operational noise impacts to 0.46 acre assumed to be occupied would be reduced to less than significant through implementation of a translocation and restoration effort within a 2.54-acre area as detailed in the coastal cactus wren mitigation plan (see Attachment 13). Overall, the 1.09 acres of cactus wren habitat restoration within Furby North Preserve and additional upland sensitive habitats would reduce impacts to below a level of significance. Potentially significant impacts to nesting coastal cactus wren impacts during construction would be reduced to less than significant through the requirement for pre-construction surveys as detailed in Section 8.2.4.7.

The project also would mitigate for the loss of 20 acres of potential foraging habitat for this species in the vicinity of the Beyer Boulevard West project component through the habitat-based mitigation via preservation of 160.94 acres of sensitive uplands, as detailed in Section 8.2.2. The dedication of these lands to the City would protect substantial foraging habitat reducing this impact to less than significant.

9.2.3.8 Crotch's Bumble Bee

Potentially significant impacts to Crotch's bumble bee during construction would be mitigated to less than significant through the implementation of appropriate focused surveys prior to construction as outlined in Section 8.2.3.6.

Impacts to approximately 190 acres of potential foraging and nesting habitat, including approximately 42 acres that supports moderate to high cover of nectar resources, would be mitigated via preservation of 169.94 acres of upland, wetland, and disturbed vegetation

communities and approximately 36 acres of lands within the wetland, vernal pool, and Otay tarplant/native grassland mitigation plan areas, all suitable for foraging by this species. In addition, there are several project design features that include habitat restoration of approximately 17 acres, i.e., trail restoration and wetland plan areas, that would provide additional habitat for this species. This habitat preservation would reduce the impact to foraging and nesting habitat to less than significant.

Additionally, additional coordination and an incidental take permit from CDFW would be required which may result in different or additional mitigation requirements. The ITP shall be obtained prior to issuance of Grading Permit, Demolition Plans/Permits and Building Plans/Permits. Take of any endangered, threatened, candidate species that results from the project is prohibited, except as authorized by State law (California Fish and Game Code §§ 86, 2062, 2067, 2068, 2080, 2085; California Code of Regulations, Title 14, § 786.9) under the CESA.

With implementation of these measures and coordination and permitting with CDFW, impacts to Crotch's bumble bee would be reduced to less than significant.

9.2.3.9 Nesting Avian Species

Potentially significant impacts to nesting avian species including northern harrier, Cooper's hawk, white-tailed kite, merlin, California horned lark, loggerhead shrike, yellow warbler, yellow-breasted chat, grasshopper sparrow, Bell's sage sparrow, and southern California rufous-crowned sparrow during construction would be reduced to less than significant through implementation of the requirement for pre-construction bird surveys during the breeding seasons of these species via mitigation and ASMD compliance. The measure would ensure impacts are reduced to less than significant because it would ensure no take of birds or eggs or disturbance of breeding activities occurs through required surveys, monitoring and avoidance measures. Implementation of species-specific conditions of coverage would be assured through conditions of project approval. ASMDs for MSCP covered species, least Bell's vireo, Cooper's hawk, southern California rufous-crowned sparrow, northern harrier, coastal California gnatcatcher, burrowing owl, and coastal cactus wren would also be implemented as detailed in Section 6.2.1.2.g.

In addition, habitat-based mitigation via preservation of 160.94 acres of sensitive vegetation communities as described in Section 8.2.2 and approximately 36 acres of lands within the wetland, vernal pool, and Otay tarplant/native grassland plan areas would reduce impacts to up to 190 acres of foraging habitat for Cooper's hawk, white-tailed kite, northern harrier, and southern California rufous-crowned sparrow. In addition, there are several project design features that include habitat restoration of approximately 17 acres, i.e., trail restoration and wetland plan areas, that would provide additional habitat for these species. Therefore, this mitigation would reduce impacts to less than significant.

9.2.3.10 MSCP Covered Reptiles

Direct and indirect impacts to orange-throated whiptail and coast horned lizard would not reduce their populations to less than self-sustaining and would not be significant; however, implementation of species-specific conditions of coverage would be assured through conditions of project approval and ASMDs would be implemented as detailed in Section 6.2.1.2.g.

9.2.4 Jurisdictional Resources

Significant i~~I~~mpacts to 0.36 acre of wetland resources with a riparian function would be fully mitigated to less than significant through the implementation of wetland restoration and enhancement in Spring Canyon that would provide~~ing~~ a minimum 2:1 ratio, with a 1:1 component constituting wetland creation/establishment and the remaining proposed as enhancement. The detailed mitigation components in addition to project design features that would be implemented are detailed in the Southwest Village Wetland Plan (see Attachment 18) which would ensure a no-net loss of wetland resources. Wetland impacts within the Southwind property would be mitigated by the first project to proceed and, if completed by ~~Southwest Village~~the proposed project, mitigation would include wetland restoration in Spring Canyon.

Significant direct and indirect impacts to 1.09 acres of vernal pool and disturbed wetland resources would be mitigated at a 2:1 mitigation ratio (3:1 for the 0.01 acre of vernal pool that supports San Diego button-celery) for a minimum mitigation requirement of 2.18 acres (with Southwind) or 2.10 acres (without Southwind). This would be met through implementation of the Vernal Pool and Quino Checkerspot Butterfly Mitigation Plan (see Attachment 14) which proposes to establish 3.86 acres of vernal pool basins and enhance 0.05 acre of existing vernal pool basins, which would provide an excess of 1.68 acres of vernal pool creation (including impacts from the Southwind project) and 0.05 acre of enhancement beyond the standard mitigation ratios required by the City. If Southwind (as detailed in Table 18a) were to proceed first and mitigate for impacts separately and elsewhere, there would be an excess of 1.76 acres. This plan demonstrates consistency with the City's VPHCP, ensuring that impacts to vernal pools would be mitigated consistently with the City's long term regional conservation planning for this species. Additionally, long term management requirements within the vernal pool preserve is detailed in the Vernal Pool and Quino Checkerspot Butterfly Habitat Management Plan (see Attachment 17). Implementation of these plans as mitigation for impacts to vernal pools would ensure resources are fully mitigated and impacts would be reduced to less than significant.

Impacts to USACE, CDFW and RWQCB wetlands and USACE non-wetland waters of the U.S. and CDFW streambed would be accomplished in a similar manner through wetland and vernal pool restoration and creation (see Section 8.2.5). However, mitigation requirements for each of these agencies would be determined through required wetland permitting as detailed in Section 8.2.5.2. With the implementation of the planned vernal pool and wetland mitigation effort and any additional mitigation required by wetland regulatory agencies, impacts to jurisdictional resources would be replaced to ensure no net loss, resulting in a less than significant impact.

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ATTACHMENTS

ATTACHMENT 1

Trails Restoration Plan for the Southwest Village Specific Plan Project

Trails Restoration Plan for the Southwest Village Specific Plan San Diego, California Project No. 614791

Prepared for
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RECON Number 8868
August 22, 2024

Raquel Atik, Restoration Biologist

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Acronyms and Abbreviations

City	City of San Diego
City MMC	City of San Diego Mitigation Monitoring and Coordination office
MHPA	Multi-Habitat Planning Area
MMC	Mitigation Monitoring Coordination
MSCP	Multiple Species Conservation Program
PEP	Plant Establishment Period
plan	Trails Restoration Plan for the Southwest Village Specific Plan
project	Southwest Village Specific Plan project
RECON	RECON Environmental, Inc.
RWQCB	Regional Water Quality Control Board
Specific Plan	Southwest Village Specific Plan
USFWS	U.S. Fish and Wildife Service
USGS	U.S. Geological Survey

1.0 Introduction

The proposed Southwest Village Specific Plan (Specific Plan) is in the community of Otay Mesa, within the city of San Diego (Figures 1 through 3). The project includes the adoption of a Specific Plan, which is a policy framework intended to guide the future development of residences, commercial and retail spaces, public facilities including an elementary school, parks, and trails, and open space and habitat conservation areas within a 490-acre area. The project also includes implementation of a portion of the Specific Plan residential development including a portion of the planned trail network, which are evaluated at the project-level as detailed in the biology report.

As part of implementation of the Specific Plan, a trail network is planned to be located within the natural open space surrounding the Specific Plan development area. The Specific Plan defines the formal trail network within the Specific Plan boundary, while an amendment to the Otay Mesa Community Plan is proposed to formalize revised trail networks in the area surrounding the Specific Plan area. Trails within the open space areas surrounding the proposed development areas are planned as primitive trails. As detailed in the Specific Plan, primitive trails would have a maximum width of 4 feet. However, actual trail widths may be less than 4 feet where trails are constrained by sensitive resources. Due to the extent of disturbance and existing unauthorized trail networks throughout the open space, the Specific Plan calls for restoration of disturbed areas within a 50-foot buffer on each side of planned primitive trail alignments (100-foot total). The purpose of the restoration effort is to remove access to unauthorized trail alignments from the formal trail network, while enhancing habitat value.

This restoration plan (plan) details the methods for implementing restoration and enhancement of disturbed lands and disturbed habitat areas within a 100-foot corridor surrounding the planned primitive trail system located within lands owned by Tri Pointe Homes. The plan includes a discussion of existing conditions, an implementation and maintenance plan, adaptive management, performance standards, and monitoring requirements.

Restoration would be implemented concurrent with the establishment of formal primitive trails (4 feet wide maximum), which would occur after completion of the restoration efforts proposed for Otay tarplant (*Deinandra conjugens*)/Native Grassland and wetland restoration within Spring Canyon, since the existing road would be needed for access to these restoration sites (Figure 4). While the Southwest Village wetland restoration area is not directly accessible by the road/trail, the area north of the wetland mitigation site identified on Figure 4 is part of a separate restoration effort for another Tri Pointe Homes project. After the restoration sites are signed off by the City of San Diego (City) Mitigation Monitoring and Coordination (MMC) office and applicable regulatory agencies, the trail can be established (reduced) to a 4-foot-wide trail with restoration implemented within the 100-foot corridor.

Project Location

RECON

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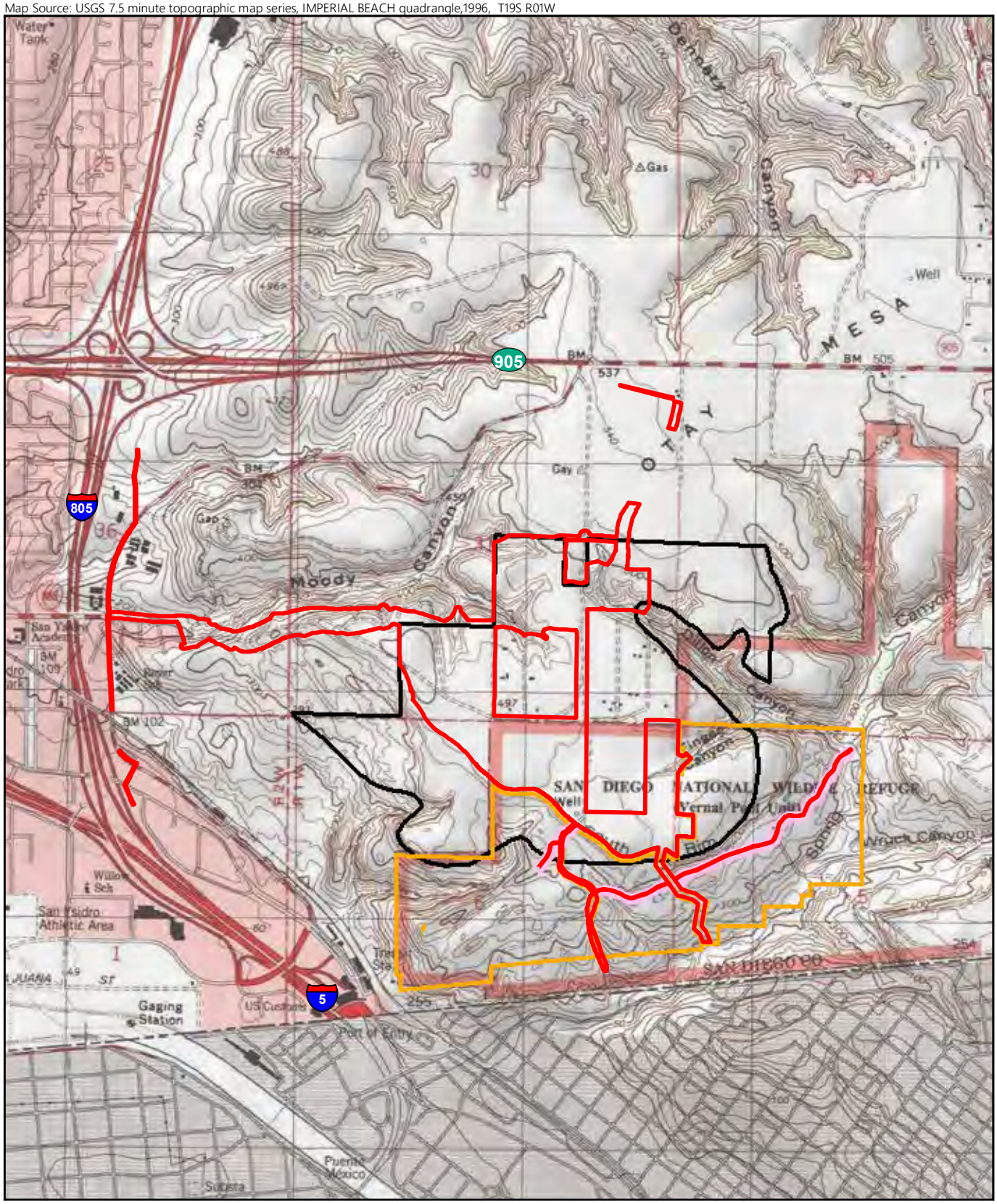
FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, IMPERIAL BEACH quadrangle,1996, T19S R01W



Project-level Analysis Area

Trail Restoration

Land to be Conserved and Managed by the City

Specific Plan Boundary

0 Feet 2,000

FIGURE 2

Restoration Site Location on USGS Map

RECON

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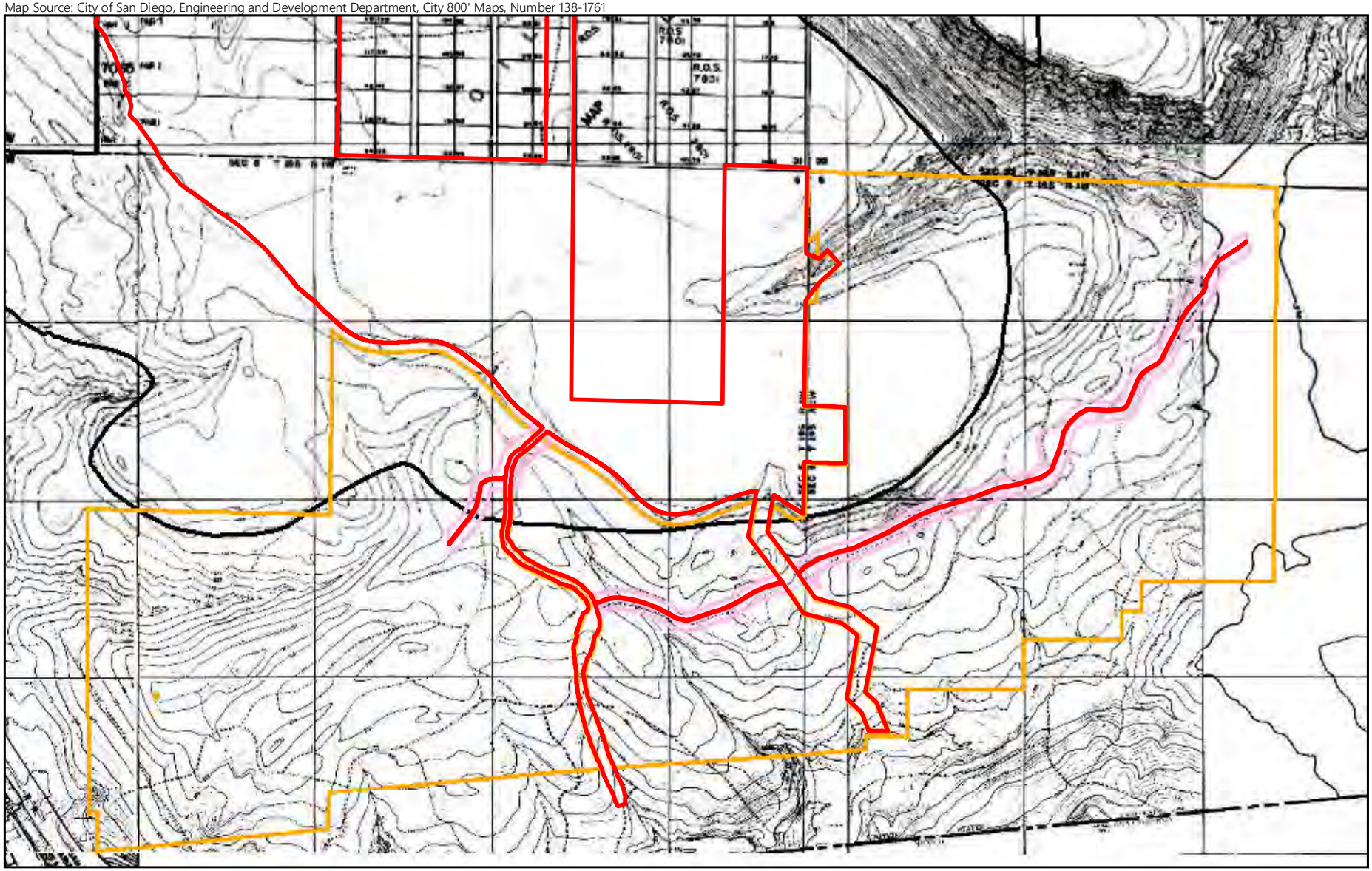
Map Source: City of San Diego, Engineering and Development Department, City 800' Maps, Number 138-1761



Project-level Analysis Area

Trail Restoration

Land to be Conserved and Managed by the City

Specific Plan Boundary

0 Feet 800

FIGURE 3
Restoration Site Location
on City 800' Map

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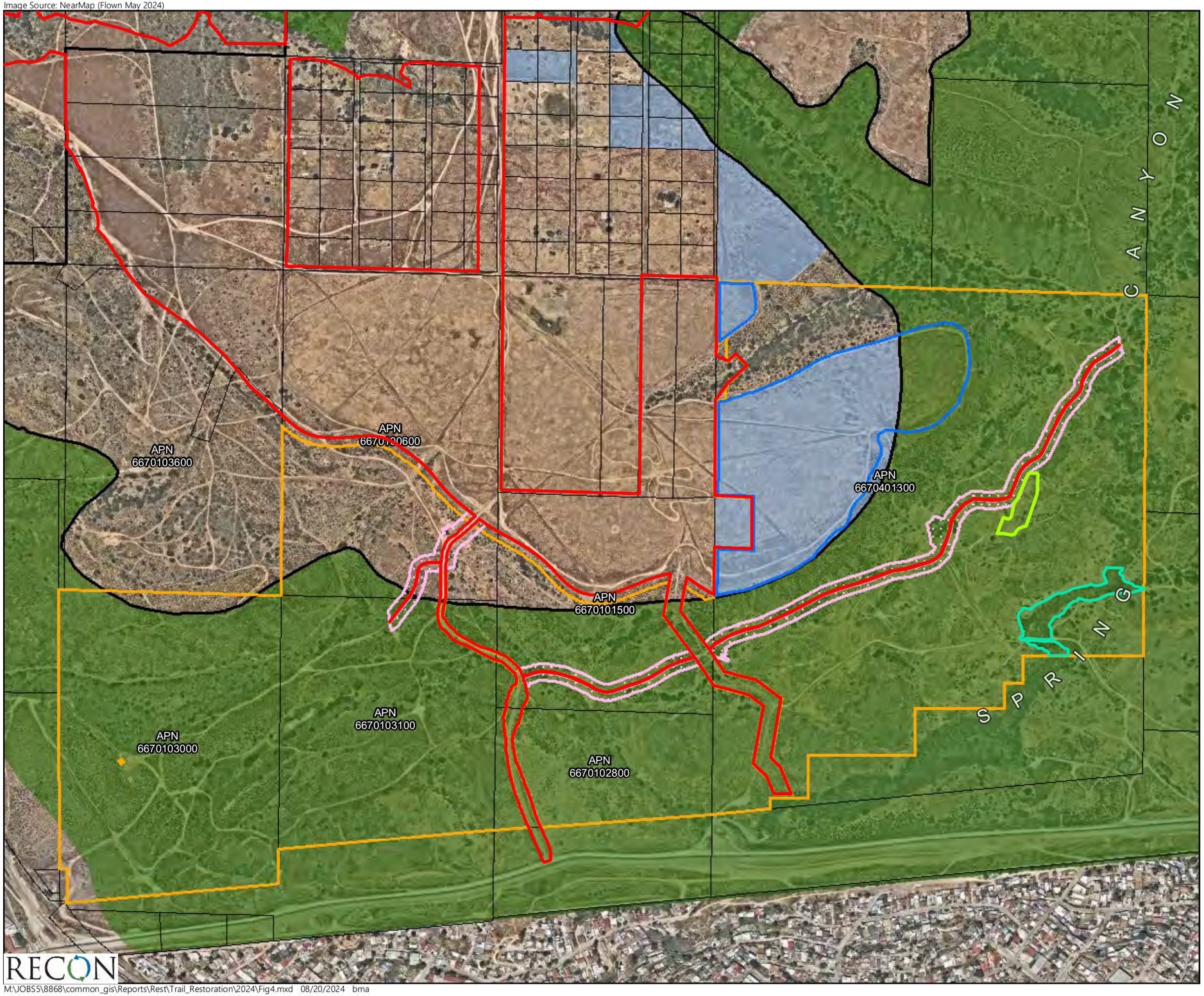
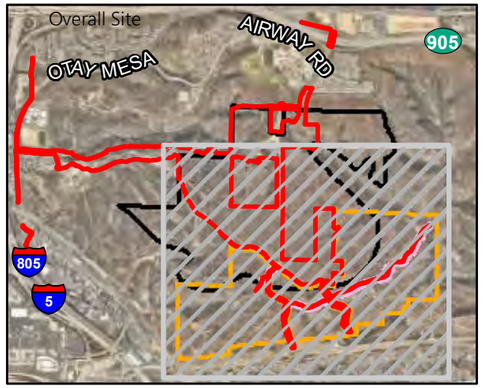
Image Source: NearMap (Flown May 2024)





- Project-level Analysis Area
- Trail Restoration
- Vernal Pool Mitigation Site
- Wetland Mitigation Site
- Otay Tarplant / Native Grassland Mitigation Site
- Land to be Conserved and Managed by the City
- Specific Plan Boundary
- City of SD MHPA
- VPHCP MHPA
- Parcels

0 Feet 600

RECON

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FIGURE 4
Restoration Site Location on Aerial Photograph

Restoration within the 100-foot-wide trail buffer would be limited to disturbed areas, including existing disturbed trail alignments that are not planned to be part of the formal trail network and non-native grassland and disturbed habitat areas located within the 100-foot-wide trail buffer. Additionally, habitat enhancement would occur within disturbed maritime succulent scrub, disturbed wetlands, and vernal pools. All other native habitats and jurisdictional resources would be left in their existing condition.

The approximately one-mile 100-foot trail corridor encompasses approximately 12 acres of land that is occupied with Diegan coastal sage scrub, disturbed coastal sage scrub, maritime succulent scrub, disturbed maritime succulent scrub, non-native grassland, disturbed lands, and jurisdictional resources including vernal pools, disturbed wetlands, and wetlands. The disturbed and non-native grassland habitats would be subject to restoration to either Diegan coastal sage scrub or maritime succulent scrub, based on dominant habitats in the vicinity. The disturbed maritime succulent scrub, disturbed wetlands and vernal pools would be subject to enhancement. All other native habitats and jurisdictional resources outside of the designated trail buffer would be left in their existing condition. Due to the anticipated timeline of implementation of restoration being approximately 7 to 10 years from the time of report preparation, verification of site conditions would occur prior to implementation to define the limits of the restoration effort based on resources present at the time of implementation.

As the proposed trail restoration effort is a project design feature and not a mitigation requirement, the restoration and enhancement would be implemented consistent with City Landscape Manual for revegetation adjacent to native vegetation (Section IV), which requires maintenance for a period not less than 25 months or until final sign-off by the City MMC.

2.0 Existing Conditions

This section describes the project location, a general description of the restoration site, existing soils and vegetation, and a rationale for expecting restoration success.

2.1 Project Location

The trails restoration site is within the community of Otay Mesa within the city of San Diego, and more specifically within the Southwest District of the Otay Mesa Community Plan, south of State Route 905 and east of Interstate 805 (see Figure 1). The proposed project is within Township 19 South, Range 01 West, of the U.S. Geological Survey (USGS) 7.5-minute topographic map, Imperial Beach, California quadrangle (see Figure 2; USGS 1996) and is presented on the City 800-foot-scale map numbers 138-1761 (see Figure 3). The restoration site is surrounded by open space in all directions. Additionally, the City's Multi-Habitat Planning Area (MHPA) occurs within and adjacent to the project site (see Figure 4).

The trails restoration corridor totals approximately 12 acres, with the trail width at a maximum 4 feet wide, and restoration occurring within 50 feet on both sides of the trail. A 100-foot corridor surrounding a segment of the emergency only vehicle access road would also be restored. While the total restoration area is approximately 12 acres, the restoration and enhancement would occur within

an approximate 10-acre area including disturbed lands, non-native grassland, disturbed maritime succulent scrub, disturbed wetlands, and vernal pools. All other native habitats and jurisdictional resources would be left in their existing condition.

2.2 Restoration Site Description

The trails restoration site falls within several undeveloped parcels owned by Tri Pointe Homes. These parcels include Assessor's Parcel Numbers 667-010-06, 667-010-30, 667-010-31, 667-010-28, 667-040-13, and a very small area of 667-010-36 (see Figure 4). The proposed primitive trails are located south of the development footprint and occur within existing City's MHPA or within areas that would be added to the MHPA are part of the project's boundary line adjustment. The restoration site occurs on undulating topography and is adjacent to undeveloped land and/or other planned restoration sites. Additionally, the restoration site has been subject to recent and historic disturbances, mostly unauthorized off-road vehicle use. The restoration area is proposed within a 100-foot corridor around the 5,091 linear feet (approximately one mile) of proposed primitive trails. The proposed primitive trails are located within existing disturbed trails and/or roads that have resulted from unauthorized use. In addition, the restoration area includes the 100-foot area around the northern segment of the emergency only vehicle access road. Restoration in this location would support closure of trail segments that are not intended for public use, while retaining the access road for future emergency only vehicle access needs.

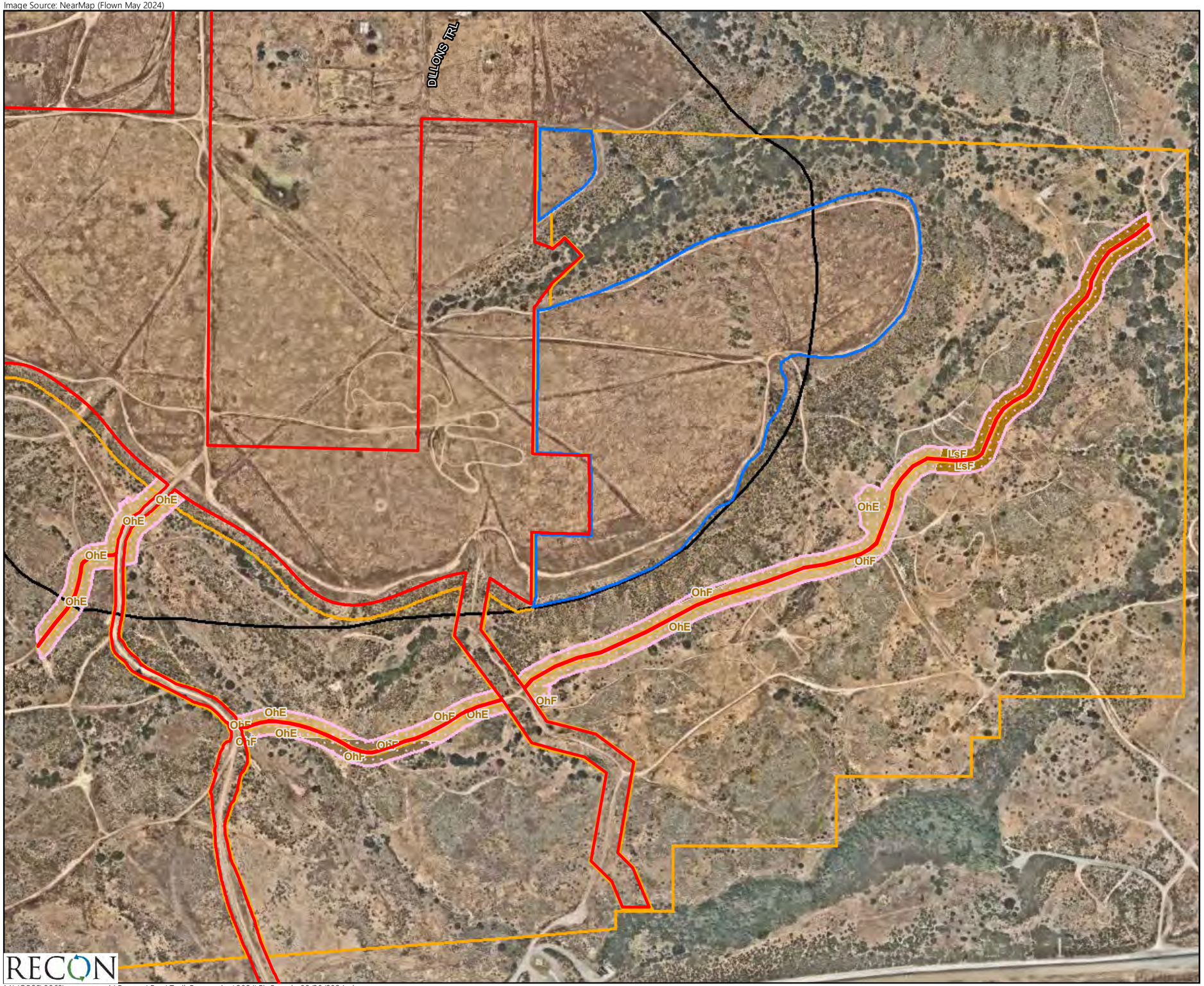
2.3 Soils

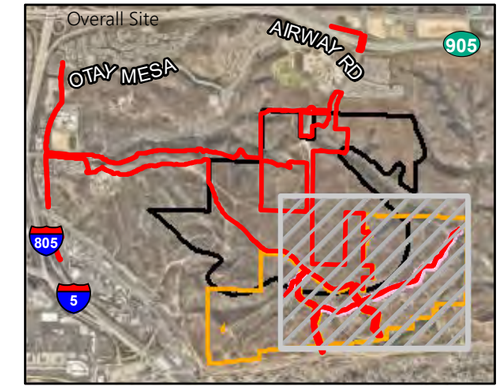
Three soil types occur within the restoration site: Linne clay loam, 30 to 50 percent slopes (LsF), Olivenhain cobbly loam, 9 to 30 percent slopes (ohE), and Olivenhain cobbly loam, 30 to 50 percent slopes (OhF) (Figure 5; U.S. Department of Agriculture 1973). Linne clay loam soils formed from calcareous sandstone and shale and are located on hillslopes. The soil is typically well drained with medium to very rapid runoff and moderately slow permeability. Olivenhain cobbly loam soils formed in ancient cobbly and gravelly alluvium and are located on marine terraces and mesas. The topsoil is typically well-drained cobbly loam with a very cobbly clay subsoil (U.S. Department of Agriculture 1973).

2.4 Vegetation Communities

Existing vegetation communities within the one-mile, 100-foot-wide trail corridor include: maritime succulent scrub, disturbed maritime succulent scrub, Diegan coastal sage scrub, non-native grassland, disturbed lands, tamarisk scrub, disturbed wetland, and vernal pools with fairy shrimp for a total of 12.18 acres (Figures 6.1 through 6.6 and Table 1).

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Vernal Pool Restoration Areas
Land to be Conserved and Managed by the City
Specific Plan Boundary

Soil Type

LsF | Linne clay loam, 30 to 50 percent slopes
OhE | Olivenhain cobbly loam, 9 to 30 percent slopes
OhF | Olivenhain cobbly loam, 30 to 50 percent slopes

0 Feet 400

FIGURE 5
Restoration Site Location on Soils Map

RECON

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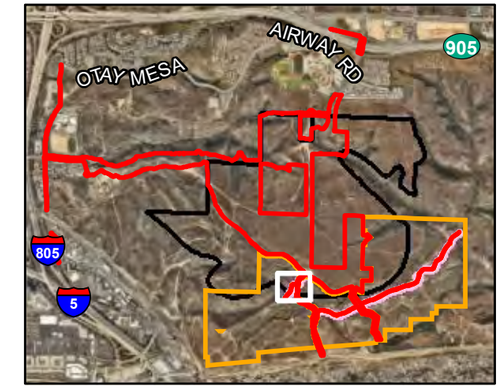
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Vegetation Communities

Diegan Coastal Sage Scrub
Maritime Succulent Scrub
Disturbed Maritime Succulent Scrub
Non-native Grassland
Disturbed Wetland
Disturbed Land

*Impacts associated with the primitive trail conservatively assumes a 10-foot wide impact footprint; however, the ultimate trail width would generally be, at a maximum, approximately 4 feet wide. Restoration would occur beyond the 4-foot wide trail.

0 Feet 80

FIGURE 6.1
Existing Vegetation within
Trail Restoration Areas

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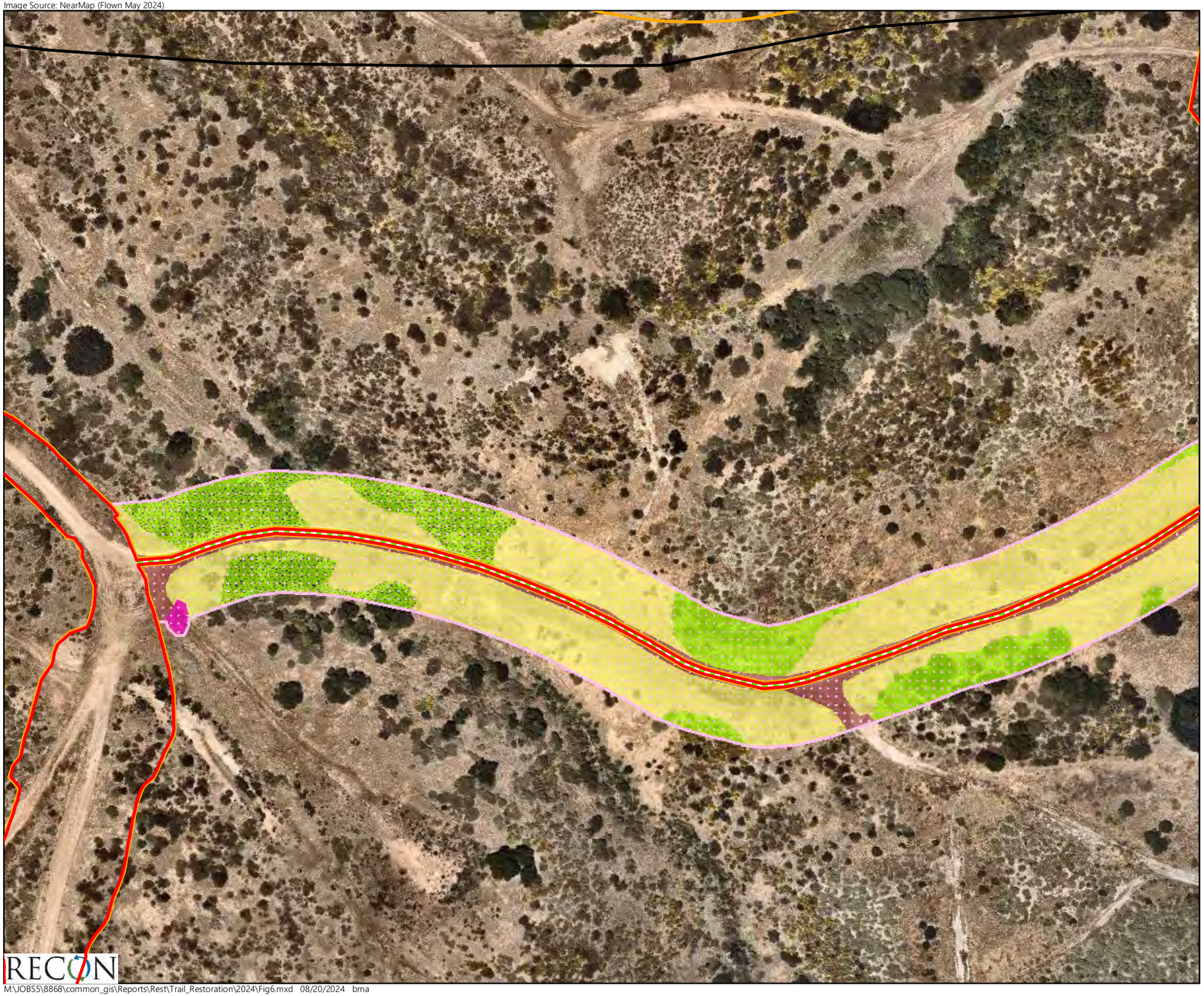
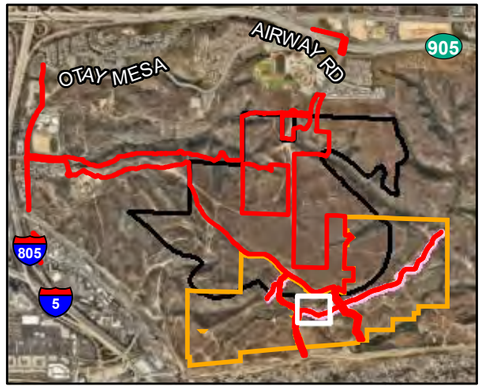
Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Vegetation Communities

Maritime Succulent Scrub
Disturbed Maritime Succulent Scrub
Non-native Grassland
Vernal Pool with Fairy Shrimp
Disturbed Land

*Impacts associated with the primitive trail conservatively assumes a 10-foot wide impact footprint; however, the ultimate trail width would generally be, at a maximum, approximately 4 feet wide. Restoration would occur beyond the 4-foot wide trail.

0 Feet 80

FIGURE 6.2
Existing Vegetation within
Trail Restoration Areas

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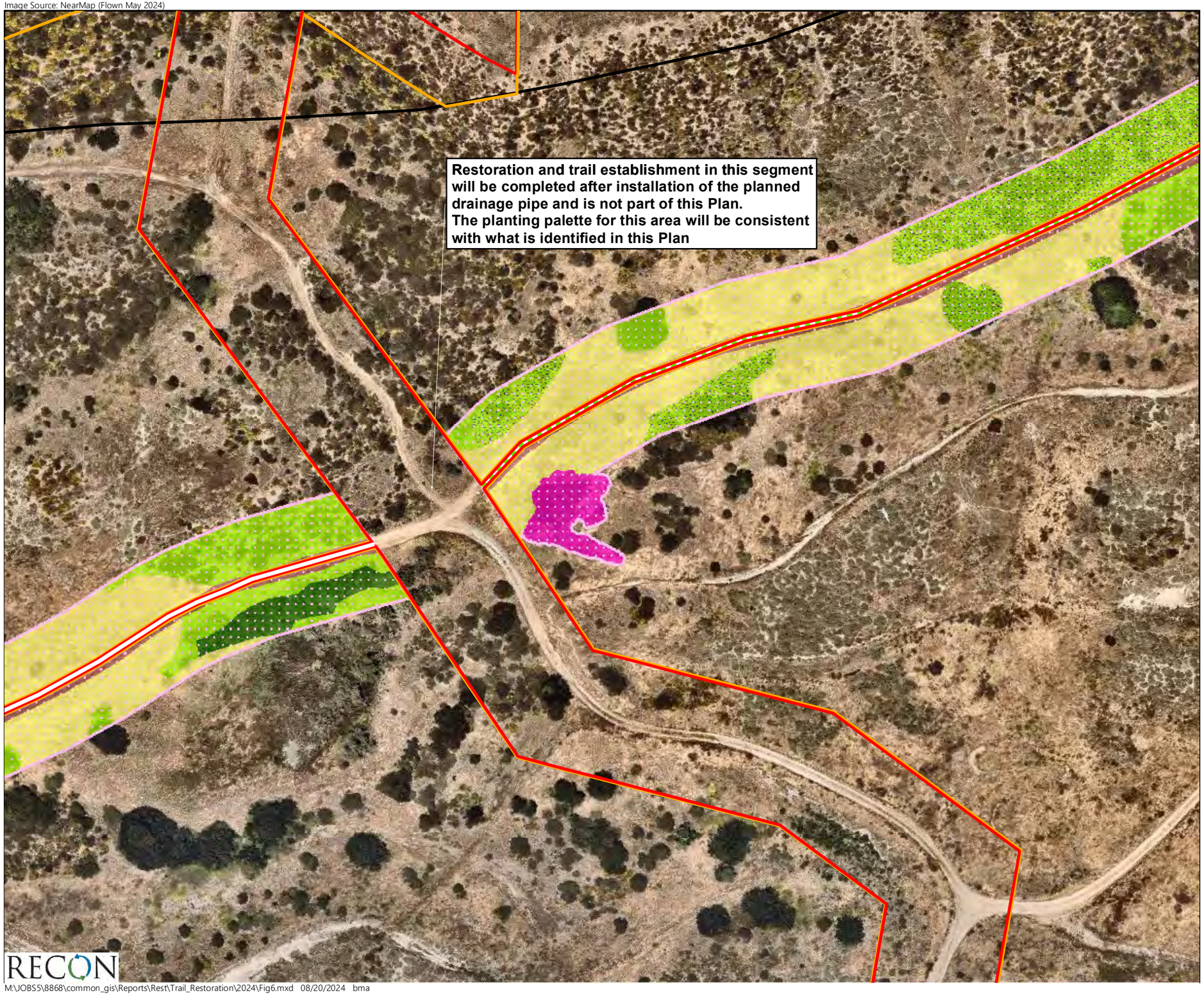
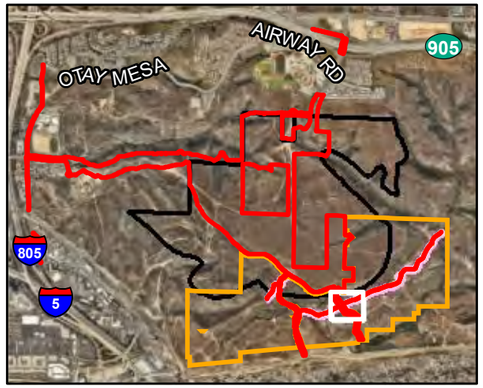
Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Vegetation Communities

Maritime Succulent Scrub
Disturbed Maritime Succulent Scrub
Non-native Grassland
Tamarisk Scrub
Vernal Pool with Fairy Shrimp
Disturbed Land

*Impacts associated with the primitive trail conservatively assumes a 10-foot wide impact footprint; however, the ultimate trail width would generally be, at a maximum, approximately 4 feet wide. Restoration would occur beyond the 4-foot wide trail.

0 Feet 80

FIGURE 6.3
Existing Vegetation within Trail Restoration Areas

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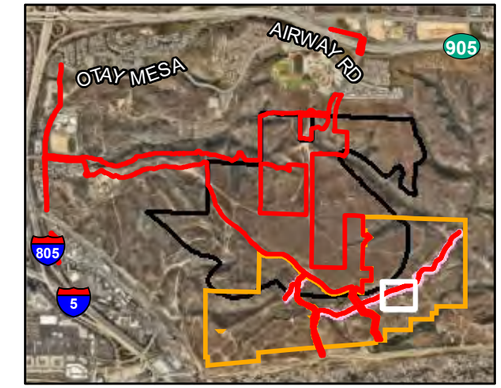
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Vegetation Communities

Maritime Succulent Scrub
Disturbed Maritime Succulent Scrub
Non-native Grassland
Disturbed Wetland
Disturbed Land

*Impacts associated with the primitive trail conservatively assumes a 10-foot wide impact footprint; however, the ultimate trail width would generally be, at a maximum, approximately 4 feet wide. Restoration would occur beyond the 4-foot wide trail.

0 Feet 80

FIGURE 6.4
Existing Vegetation within Trail Restoration Areas

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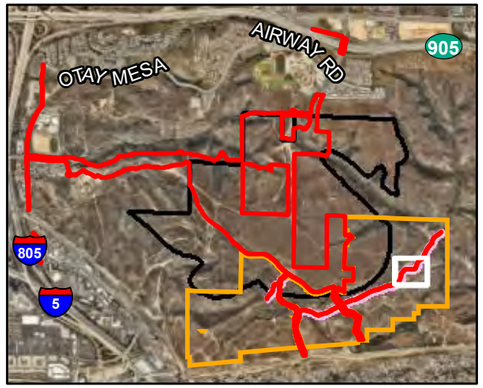
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Vegetation Communities

Diegan Coastal Sage Scrub
Maritime Succulent Scrub
Disturbed Maritime Succulent Scrub
Non-native Grassland
Disturbed Wetland
Disturbed Land

*Impacts associated with the primitive trail conservatively assumes a 10-foot wide impact footprint; however, the ultimate trail width would generally be, at a maximum, approximately 4 feet wide. Restoration would occur beyond the 4-foot wide trail.

0 Feet 80

FIGURE 6.5
Existing Vegetation within
Trail Restoration Areas

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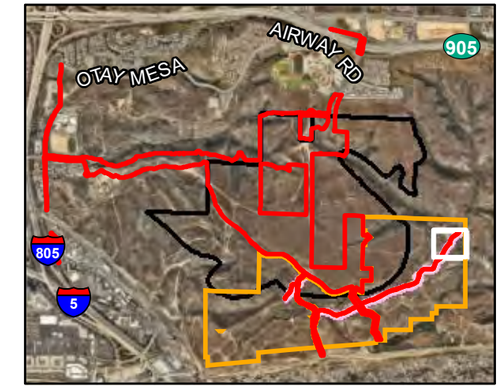
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Vegetation Communities

Diegan Coastal Sage Scrub
Disturbed Maritime Succulent Scrub
Non-native Grassland
Disturbed Land

*Impacts associated with the primitive trail conservatively assumes a 10-foot wide impact footprint; however, the ultimate trail width would generally be, at a maximum, approximately 4 feet wide. Restoration would occur beyond the 4-foot wide trail.

0 Feet 80

FIGURE 6.6
Existing Vegetation within Trail Restoration Areas

RECON

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Table 1 Existing Vegetation Communities within the One mile, 100 foot wide Trail Corridor	
Existing Vegetation Community	Acreage
Maritime Succulent Scrub	2.18
Disturbed Maritime Succulent Scrub	1.86
Diegan Coastal Sage Scrub	0.41
Non-native Grassland	6.02
Disturbed Lands	1.10
Tamarisk Scrub	0.08
Disturbed Wetland	0.44
Vernal Pools with Fairy Shrimp	0.09
TOTAL:	12.18
NOTE: A 4-foot-wide trail corridor and the emergency vehicle access road is excluded from the corridor acreages as they would not be subject to restoration.	

The restoration effort would be limited to disturbed lands, non-native grassland, disturbed maritime succulent scrub, disturbed wetlands, and vernal pools. Currently, these disturbed areas are dominated by dense non-native annual grasses, such as slender wild oat (*Avena barbata*) and wall barley (*Hordeum murinum*), as well as patches of black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), tocalote (*Centaurea melitensis*), and fennel (*Foeniculum vulgare*). These areas would be restored to either Diegan coastal sage scrub or maritime succulent scrub habitats based on what the dominant vegetation community is in the surrounding area (see Section 5.0 of this plan for restored/enhanced habitats). Disturbed wetlands and vernal pools would be enhanced as detailed in Section 5.1.1.

2.5 Sensitive Species

2.5.1 Sensitive Plants

As discussed in the biological resources technical report (RECON Environmental, Inc. [RECON] 2024), general biological surveys and focused rare plants surveys were conducted, and a total of 19 sensitive plant species were observed during the surveys conducted in project-level analysis areas and/or lands to be conveyed to the City for long-term management. Sensitive plant species observed include: ashy spike-moss (*Selaginella cinerascens*), bobtail barley (*Hordeum intercedens*), California adolphia (*Adolphia californica*), California box-thorn (*Lycium californicum*), cliff spurge (*Euphorbia misera*), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*), golden-ray pentachaeta (*Pentachaeta aurea* ssp. *aurea*), Otay tarplant (*Deinandra conjugens*), Palmer's grapplinghook (*Harpagonella palmeri*), San Diego barrel cactus (*Ferocactus viridescens*), San Diego bur-sage (*Ambrosia chenopodiifolia*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), San Diego County viguiera (*Bahiopsis laciniata*), San Diego County needle grass (*Stipa* [=*Achnatherum*] *diegoensis*), seaside cistanthe (*Cistanthe maritima*), snake cholla (*Cylindropuntia californica var. californica*), south coast saltscale (*Atriplex pacifica*), variegated dudleya (*Dudleya variegata*), and western dichondra (*Dichondra occidentalis*).

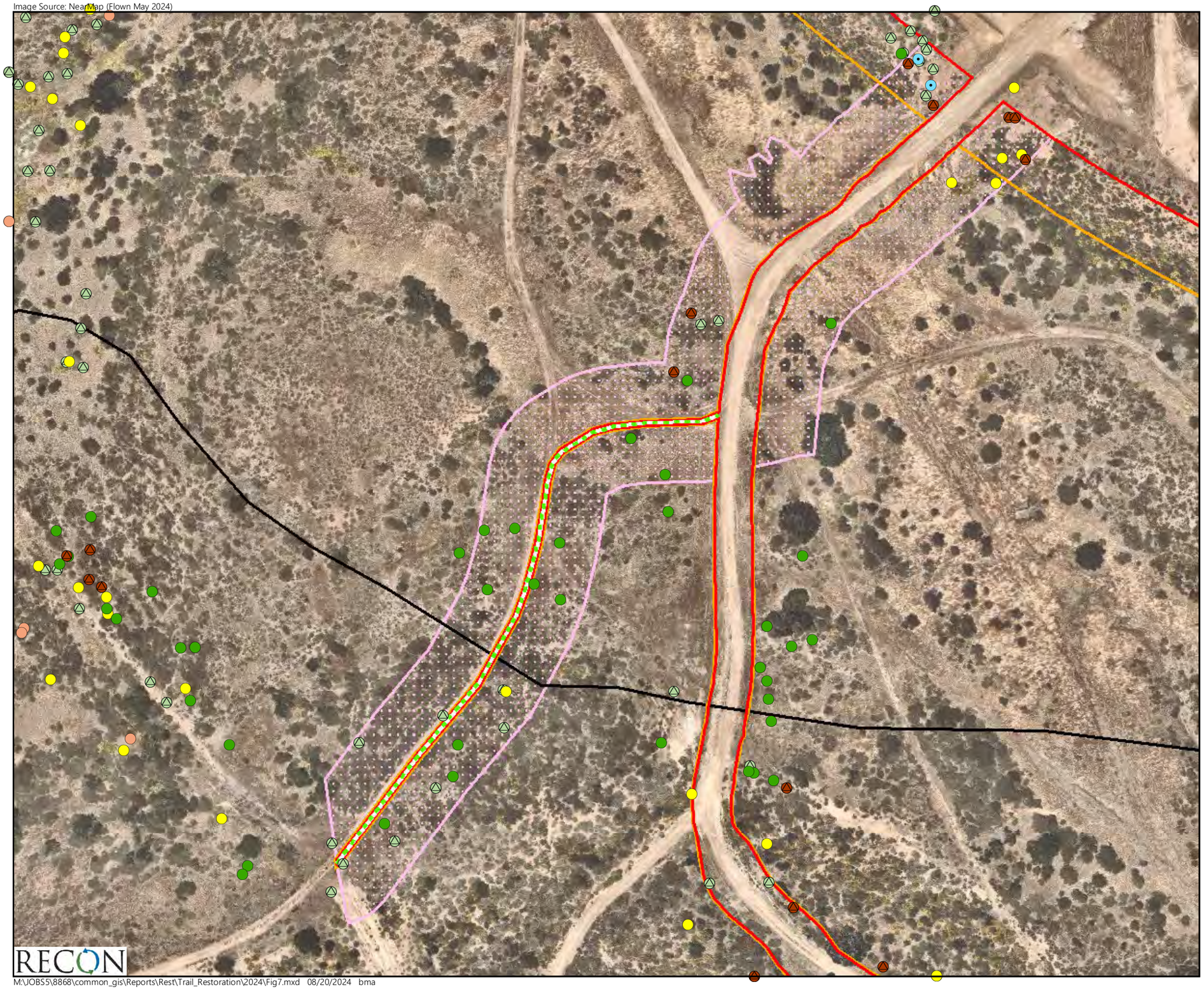
Two of these observed species, Otay tarplant and San Diego button-celery, are federally and state listed endangered and covered under the Multiple Species Conservation Program (MSCP) and Vernal Pool Habitat Conservation Plan, respectively. Otay tarplant, variegated dudleya, San Diego button-celery, and snake cholla are narrow endemic, MSCP-covered species. San Diego barrel cactus is a MSCP-covered species. The remaining sensitive plant species are considered locally sensitive and have a rare plant ranking as assigned by California Native Plant Society. Figures 7.1 through 7.6 depict the sensitive plants occurring within or adjacent to the trail restoration areas. Of the sensitive plant species observed within the project survey areas, only San Diego bur-sage, ashy spike-moss, San Diego County viguiera, cliff spurge, San Diego barrel cactus, and snake cholla were identified within the trail restoration plan area. Refer to Section 4.3.1 for mitigation measures that would be implemented prior to restoration to ensure avoidance of sensitive species.

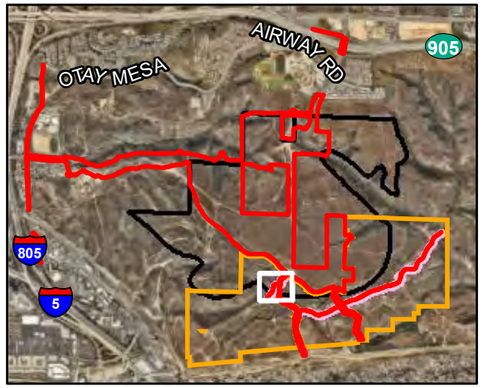
2.5.2 Sensitive Wildlife

Per the biological resources technical report (RECON 2024), a total of 24 sensitive wildlife species were observed or assumed present within the project-level survey area during the general and focused surveys conducted for the project. Sensitive wildlife species observed include: Quino checkerspot butterfly (*Euphydryas edithaa quino*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), western spadefoot (*Spea hammondii*), coastal California gnatcatcher (*Polioptila californica californica*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvillii*), red diamond rattlesnake (*Crotalus ruber*), two-striped gartersnake (*Thamnophis hammondii*), Cooper's hawk (*Accipiter cooperii*), burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), merlin (*Falco columbarius*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), California horned lark (*Eremophila alpestris actia*), yellow warbler (*Setophaga petechia*), yellow-breasted chat (*Icteria virens*), least Bell's vireo (*Vireo bellii pusillus*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), grasshopper sparrow (*Ammodramus savannarum*), and San Diego desert woodrat (*Neotoma lepida intermedia*).

Six additional wildlife species were not observed within the trail restoration area but have a moderate to high potential to occur within the project-level analysis area, including Crotch's bumble bee (*Bombus crotchii*) (observed in the surrounding mitigation lands but not in the trail restoration area), Coronado skink (*Plestiodon skiltonianus interparietalis*), Bell's sage sparrow (*Artemisiospiza belli belli*), loggerhead shrike (*Lanius ludovicianus*), southern mule deer (*Odocoileus hemionus fuliginata),* and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*). Figures 8.1 through 8.6 present the sensitive wildlife species that have been detected to occur within or adjacent to the trail restoration areas. Refer to Section 4.0 for mitigation measures that would be implemented during trail restoration and construction activities that would ensure impacts to these species would be avoided.

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Plants

- San Diego Bur-sage (*Ambrosia chenopodiifolia*)
- Ashy Spike-moss (*Selaginella cinerascens*)
- San Diego County Viguiera (*Bahiopsis laciniata*)
- Cliff Spurge (*Euphorbia misera*)
- San Diego Barrel Cactus (*Ferocactus viridescens*)
- California Adolphia (*Adolphia californica*)

0 Feet 80

FIGURE 7.1
Sensitive Plant Species Occurring within or Adjacent to Trail Restoration Areas

RECON

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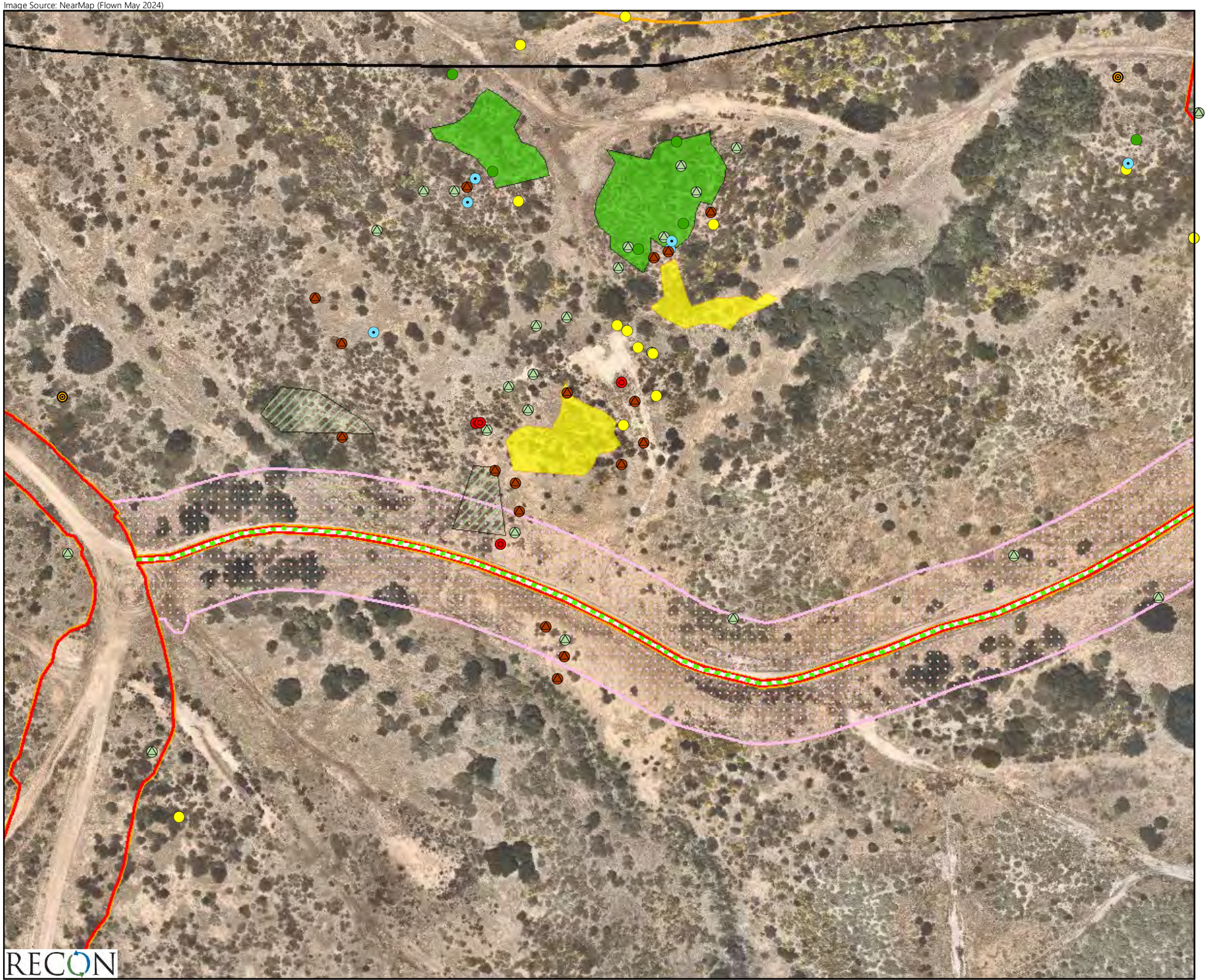
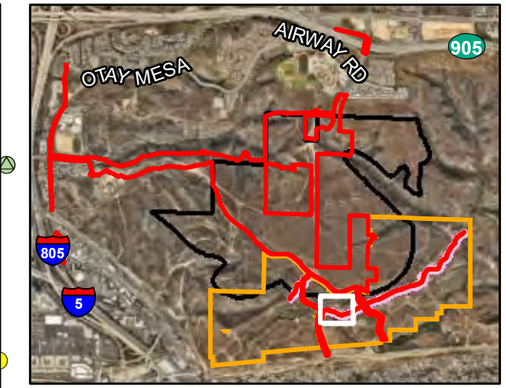
Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Plants

San Diego Bur-sage (*Ambrosia chenopodiifolia*)
Ashy Spike-moss (*Selaginella cinerascens*)
San Diego County Viguiera (*Bahiopsis laciniata*)
Cliff Spurge (*Euphorbia misera*)
San Diego Barrel Cactus (*Ferocactus viridescens*)
San Diego County Needle Grass (*Stipa diegoensis*)
Snake Cholla (*Cylindropuntia californica* var. *californica*)

0 Feet 80

FIGURE 7.2
Sensitive Plant Species Occurring within or Adjacent to Trail Restoration Areas

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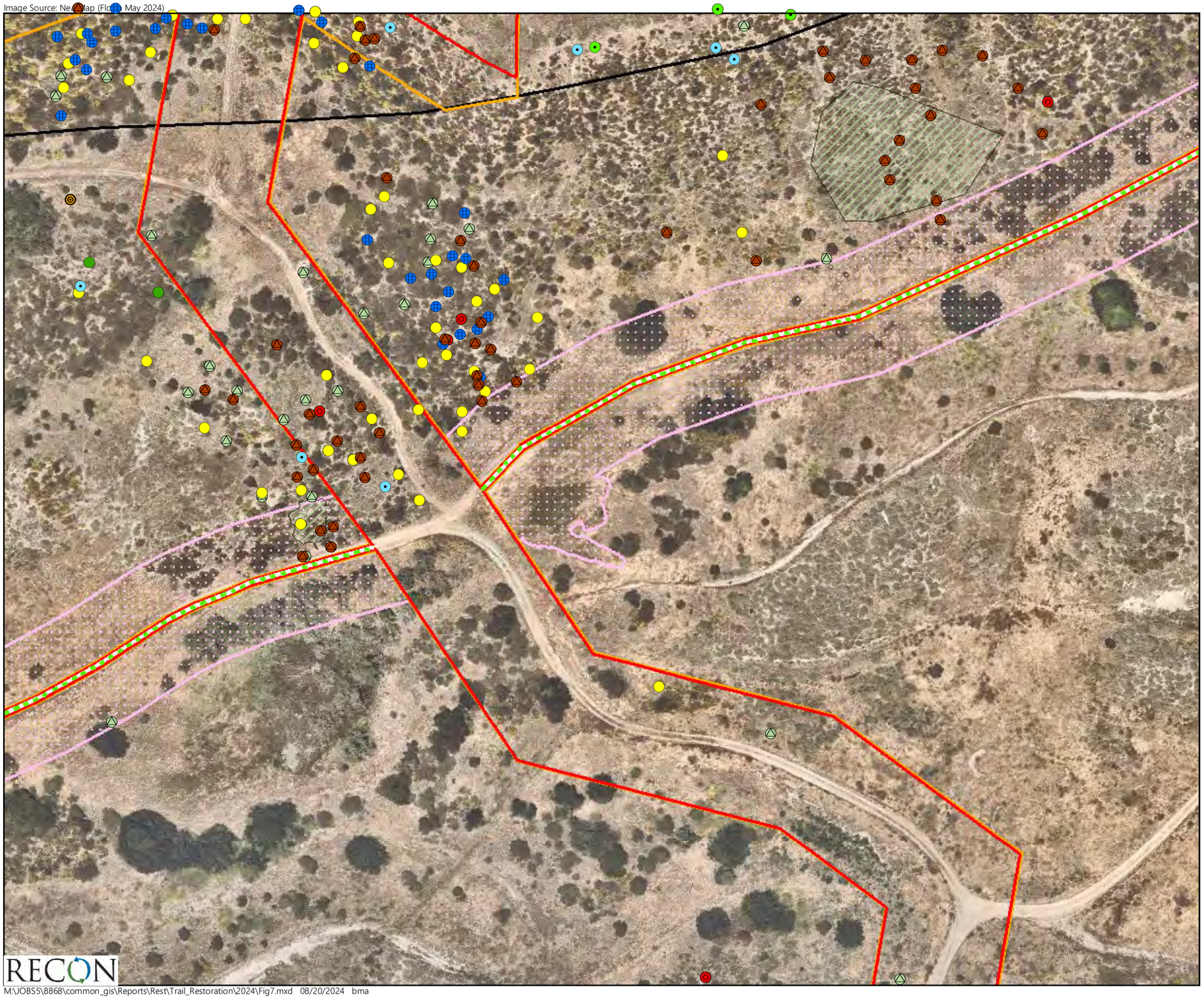
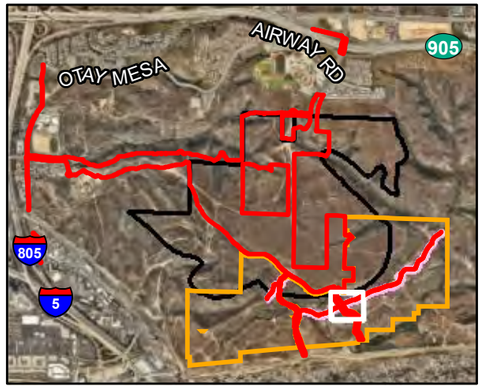
Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Plants

San Diego Bur-sage (*Ambrosia chenopodiifolia*)
Ashy Spike-moss (*Selaginella cinerascens*)
San Diego County Viguiera (*Bahiopsis laciniata*)
Cliff Spurge (*Euphorbia misera*)
San Diego Barrel Cactus (*Ferocactus viridescens*)
Palmer's Grapplinghook (*Harpagonella palmeri*)
San Diego County Needle Grass (*Stipa diegoensis*)
Seaside Cistanthe (*Cistanthe maritima*)
Snake Cholla (*Cylindropuntia californica* var. *californica*)

0 Feet 80

RECON

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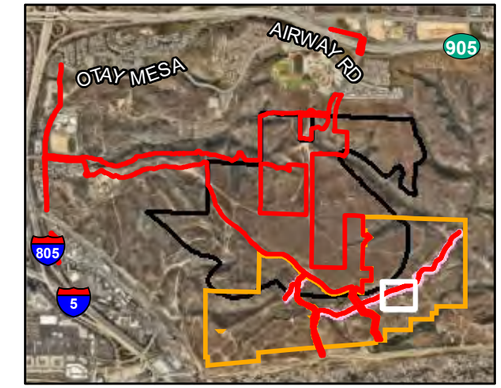
FIGURE 7.3
Sensitive Plant Species Occurring within or Adjacent to Trail Restoration Areas

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Plants

- San Diego Bur-sage (*Ambrosia chenopodiifolia*)
- Ashy Spike-moss (*Selaginella cinerascens*)
- San Diego County Viguiera (*Bahiopsis laciniata*)
- Palmer's Grapplinghook (*Harpagonella palmeri*)
- Snake Cholla (*Cylindropuntia californica* var. *californica*)

0 Feet 80

FIGURE 7.4
Sensitive Plant Species Occurring within or Adjacent to Trail Restoration Areas

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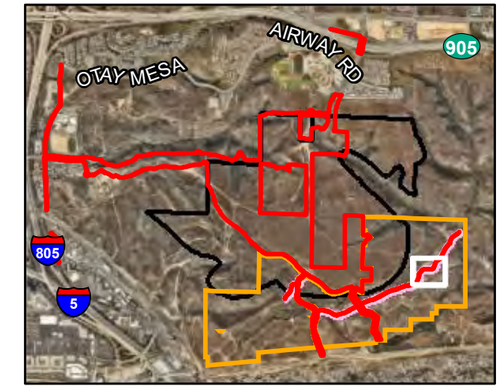
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Sensitive Plants

San Diego Bur-sage (*Ambrosia chenopodiifolia*)
San Diego County Viguiera (*Bahiopsis laciniata*)

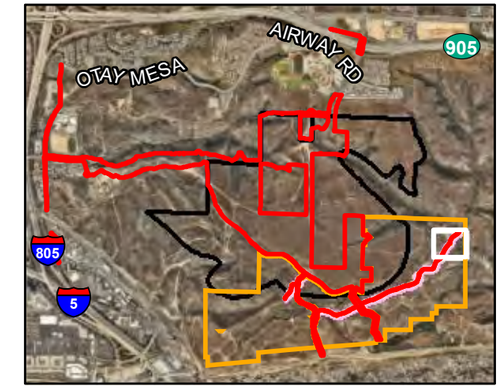
0 Feet 80

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig7.mxd 08/20/2024 bma

FIGURE 7.5
Sensitive Plant Species Occurring within or Adjacent to Trail Restoration Areas

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Sensitive Plants

San Diego Bur-sage
(*Ambrosia chenopodiifolia*)

0 Feet 80

FIGURE 7.6
Sensitive Plant Species Occurring within or Adjacent to Trail Restoration Areas

RECON

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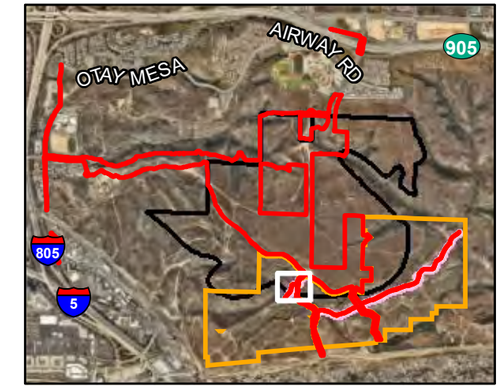
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Wildlife

Birds

Coastal California Gnatcatcher
(*Polioptila californica californica*)

Northern Harrier
(*Circus hudsonius*)

Reptiles and Amphibians

Western Spadefoot
(*Spea hammondii*)

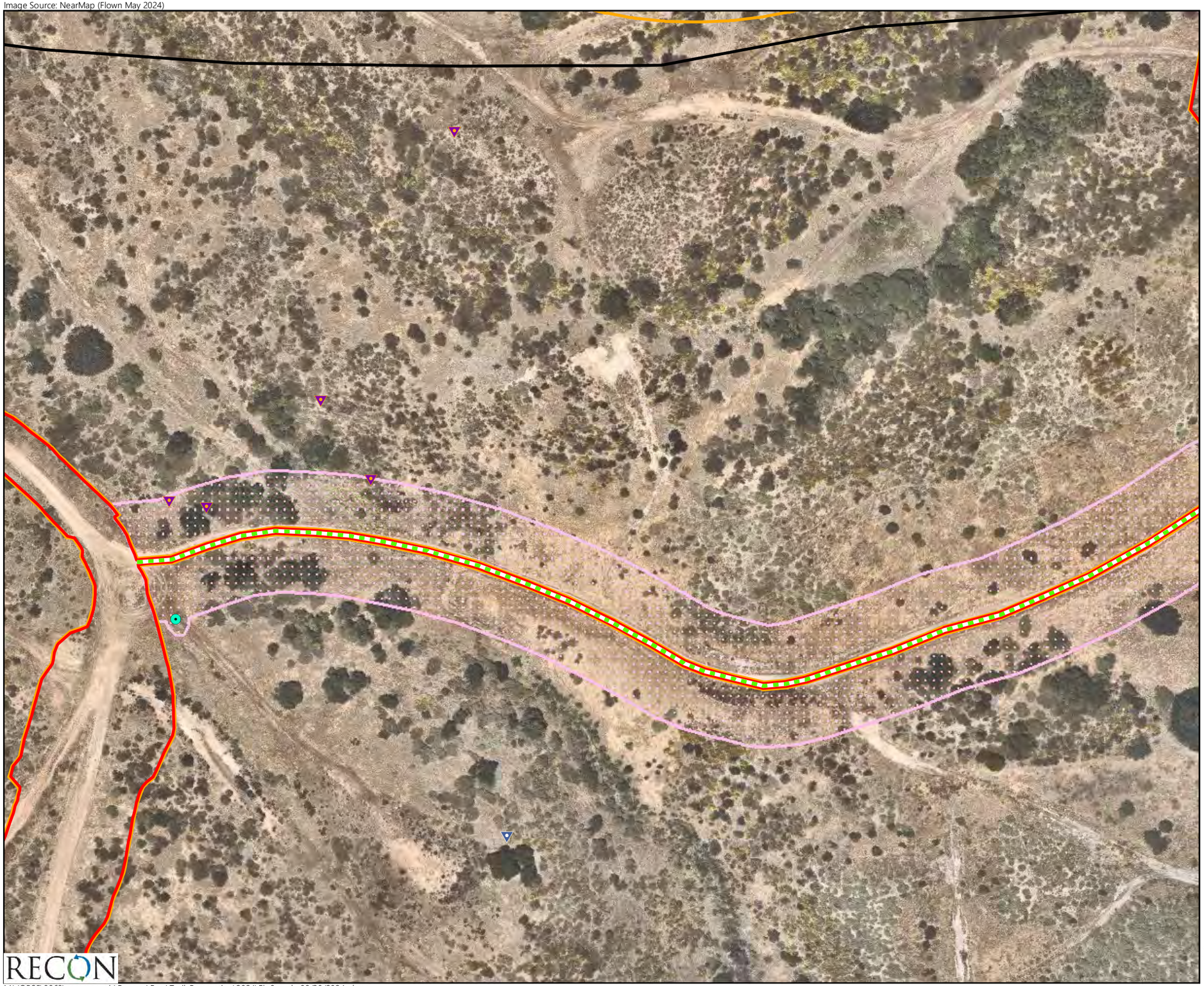
0 Feet 80

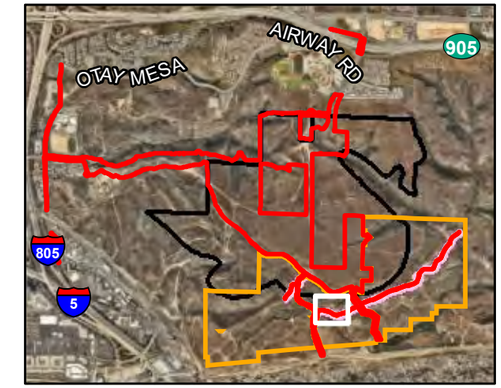
RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig8.mxd 08/20/2024 bma

FIGURE 8.1
Sensitive Wildlife Species Occurring within or Adjacent to Trail Restoration Areas

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Wildlife

Birds

Coastal California Gnatcatcher (*Polioptila californica californica*)

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

Crustaceans

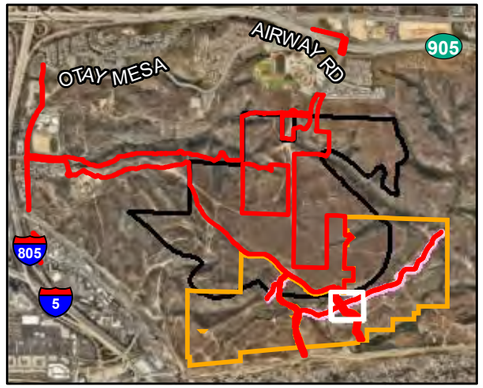
San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

0 Feet 80

FIGURE 8.2
Sensitive Wildlife Species Occurring within or Adjacent to Trail Restoration Areas

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig8.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Wildlife

Birds

Coastal California Gnatcatcher (*Polioptila californica californica*)
Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)
California Horned Lark (*Eremophila alpestris actia*)

Reptiles and Amphibians

Orange-throated Whiptail (*Aspidoscelis hyperythra*)
Western Spadefoot (*Spea hammondii*)

Crustaceans

San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

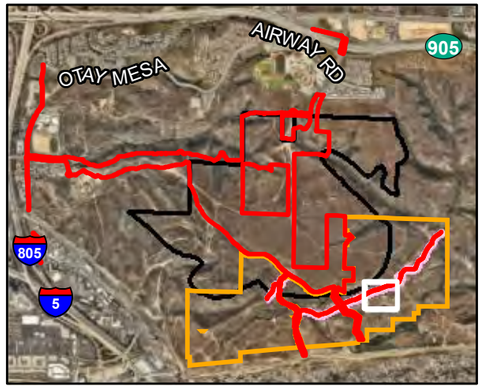
0 Feet 80

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig8.mxd 08/20/2024 bma

FIGURE 8.3
Sensitive Wildlife Species Occurring within or Adjacent to Trail Restoration Areas

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Sensitive Wildlife

Birds

Coastal California Gnatcatcher
(*Polioptila californica californica*)

Southern California Rufous-crowned Sparrow
(*Aimophila ruficeps canescens*)

Reptiles and Amphibians

Western Spadefoot
(*Spea hammondii*)

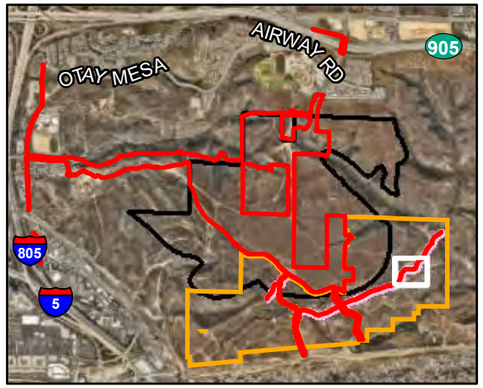
0 Feet 80

FIGURE 8.4
Sensitive Wildlife Species Occurring within or Adjacent to Trail Restoration Areas

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig8.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Sensitive Wildlife

Birds

Coastal California Gnatcatcher
(*Polioptila californica californica*)

Reptiles and Amphibians

Western Spadefoot
(*Spea hammondii*)

Crustaceans

Riverside Fairy Shrimp
(*Streptocephalus woottoni*)

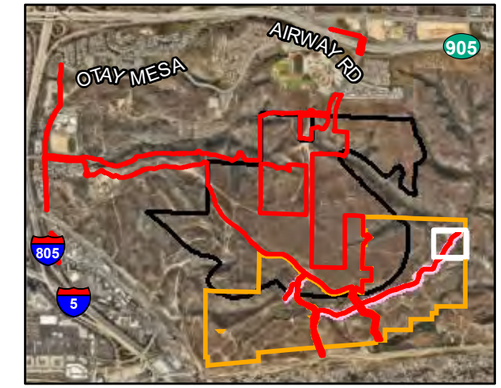
0 Feet 80

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig8.mxd 08/20/2024 bma

FIGURE 8.5
Sensitive Wildlife Species Occurring within or Adjacent to Trail Restoration Areas

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Sensitive Wildlife

Birds

Coastal California Gnatcatcher (*Polioptila californica californica*)

(Yellow-breasted Chat (*Icteria virens*)

0 Feet 80

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig8.mxd 08/20/2024 bma

FIGURE 8.6
Sensitive Wildlife Species Occurring within or Adjacent to Trail Restoration Areas

2.6 Rationale for Expecting Success

2.6.1 Restoration Goals

The goals for this restoration project are to restore and enhance habitat immediately adjacent to the proposed primitive trail system with the goal of closing unauthorized trail segments that may intersect with the formal trail system while improving biological value of the surrounding habitats. The restoration activities and methods described in this plan are intended to restore disturbed and non-native habitats and enhance existing native habitat, primarily maritime succulent scrub vegetation. Additionally, this plan includes methods and measures that would be taken to ensure impacts to sensitive plant and wildlife species are avoided during the course of the restoration effort.

2.6.2 Restoration Site Suitability

The site is suitable for restoration because the restoration corridor contains evidence of anthropogenic impacts including unauthorized trails and roads. Such anthropogenic impacts result in habitat fragmentation, and loss of native habitat and pollinators. The restoration activities described would remove the fragmentation and effects of the anthropogenic impacts to create one contiguous restoration buffer around the approved trails system. In addition, it is anticipated that restoration of the disturbed lands and non-native grassland to native habitat would prevent continued unauthorized use of unauthorized trail alignments and would reduce the extent of non-native invasive plants and would increase the habitat quality of the vegetation communities.

The proposed restoration is suitable for the following reasons:

1) The restoration site is located within the MHPA.
2) The surrounding areas would be maintained as open space.
3) There is adequate site access for implementation and maintenance activities.
4) It is adjacent to intact maritime succulent scrub and Diegan coastal sage scrub habitats.
5) The restoration site is outside any brush management zones.
6) The restoration effort would close unauthorized trails to limit ongoing human disturbance into surrounding open space.
7) The restoration effort has been designed to ensure adverse impacts to sensitive plant and wildlife species would be avoided during restoration installation and maintenance activities.

3.0 Roles and Responsibilities

3.1 Project Proponent and Financial Responsibility

The project proponent (Tri Pointe Homes) would be responsible for retaining (1) a qualified restoration specialist with over five years of experience monitoring habitat restoration to oversee the installation and monitoring of the restoration program and (2) a qualified installation/maintenance contractor with expertise in restoration of native habitat and sensitive plant species. Tri Pointe Homes would be

responsible for financing the installation and maintenance of the proposed restoration described in this plan.

3.2 Responsible Agencies

The City's Development Services Department and MSCP (City of San Diego 1997) would be responsible for the review and approval of this plan.

3.3 Restoration Specialist

Overall supervision of the installation and maintenance of this restoration effort would be the responsibility of a restoration specialist with at least five years of native habitat and sensitive plant species restoration experience. The restoration specialist would oversee the installation/maintenance for the life of the restoration project. Specifically, the restoration specialist would educate all participants about restoration goals and requirements; inspect plant material; directly oversee seeding, weeding, and other maintenance activities; and conduct regular monitoring as well as annual assessments of the restoration effort. The restoration specialist would prepare and submit an annual and final report documenting restoration implementation.

3.4 Installation/Maintenance Contractor

Tri Pointe Homes would hire a qualified restoration contractor. The contractor would be a firm holding a valid C-27 Landscape Contracting License from the State of California, a valid Pest Control Business License, and a Qualified Applicator Certificate or Qualified Applicator License, with Category B, that would allow them to perform the required work for this restoration effort.

During the installation, the contractor would be responsible for initial weed control/dethatching, native container plant installation, seeding, as well as maintenance of the restoration site during the 120-day Plant Establishment Period (PEP) and 25-month maintenance period.

Following installation, the contractor would submit marked-up as-builts for all activities that occurred during implementation to the City MMC. Following formal sign-off of the PEP, the contractor would maintain the restoration site for a minimum of 25 months. During this period, the contractor would service the entire restoration site according to the maintenance schedule (Section 6.0, below). Service would include, but not be limited to, weed control, trash removal, watering, remedial planting and/or seeding, and pest and disease management. All activities conducted would be seasonally appropriate and approved by the restoration specialist.

4.0 Mitigation Measures

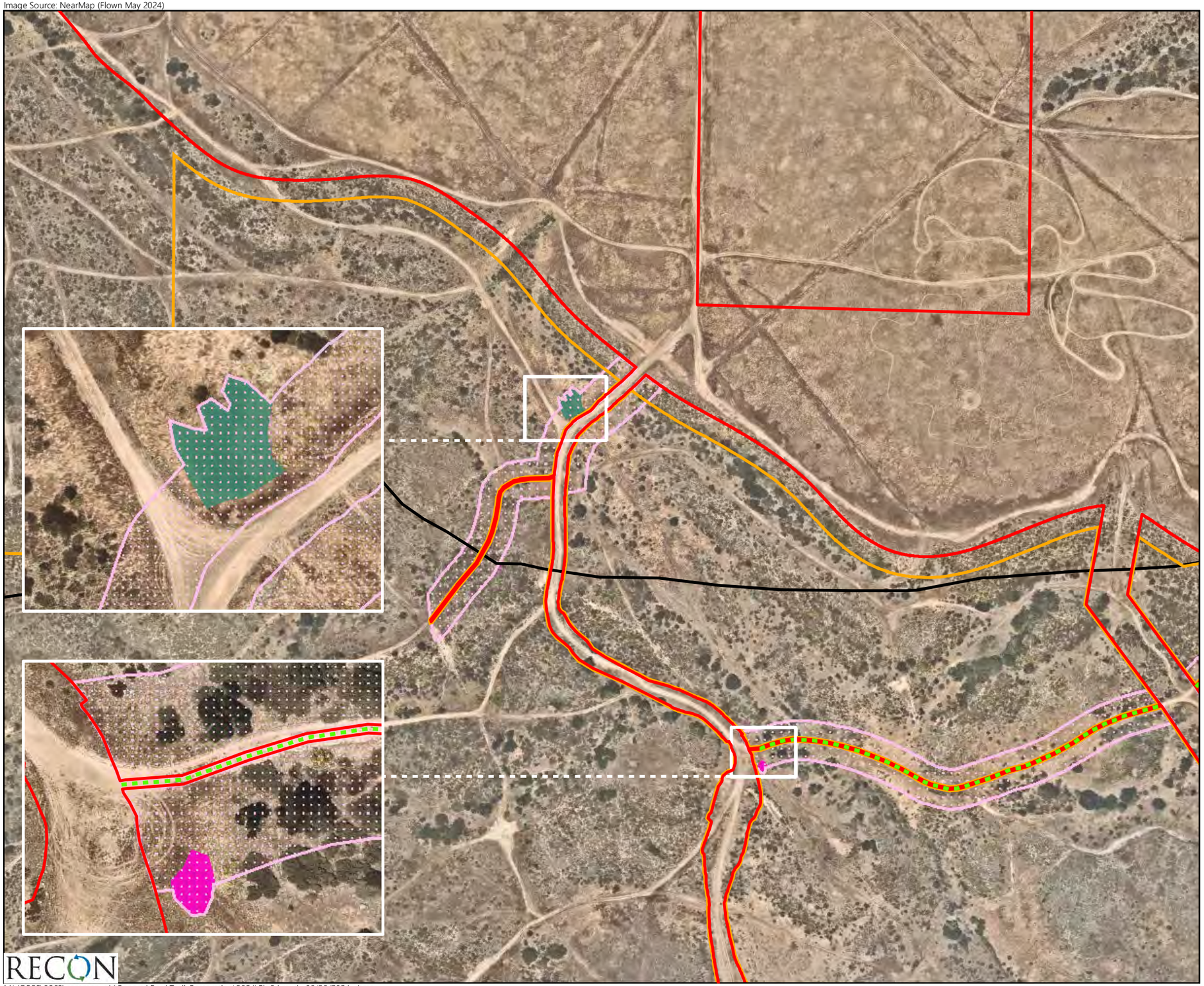
The following mitigation measures to avoid and minimize impacts to sensitive biological resources are provided as detailed in the Biological Resources Report for the Southwest Village Specific Plan, San Diego, California, Project No. 614791 (RECON 2024).

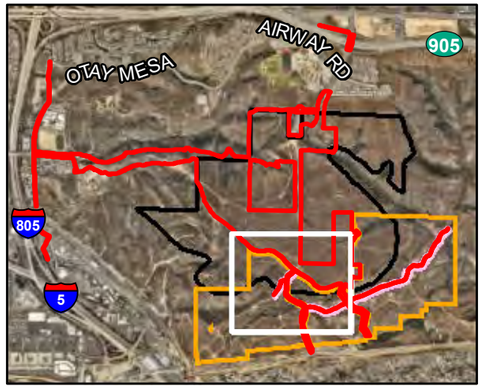
4.1 Jurisdictional Resources

Jurisdictional resources would be avoided during final siting of the trail to avoid impacts to wetlands, vernal pools, and other jurisdictional features as depicted on Figures 9.1 and 9.2. The following mitigation measures would be followed during restoration implementation to avoid and minimize impacts to jurisdictional resources:

- Enhancement of existing vernal pools that are located within the restoration corridor would comply with the general avoidance and minimization measures consistent with the City's Vernal Pool Habitat Conservation Plan (City of San Diego 2019), including avoidance measurements for the western spadefoot toad which was observed as eggs and tadpoles during fairy shrimp protocol surveys and general biological surveys. To avoid impacts to western spadefoot, no work shall occur within the vernal pools when ponded and herbicide application would not occur within a 10-foot buffer of vernal pools.
- Compliance with the City's Vernal Pool Habitat Conservation Plan general avoidance and minimization measures including but not limited to temporary fencing, grading techniques, monitoring, and topsoil salvage to preclude any construction impacts to the on-site vernal pool and wetland restoration areas.
- A qualified biological monitor shall be on-site when enhancement/restoration work is being performed at or adjacent to jurisdictional resources.
- Field crews performing enhancement/restoration work within jurisdictional resources shall not use heavy equipment, only hand tools would be utilized.
- All jurisdictional resources shall be flagged to ensure avoidance.

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Jurisdictional Waters of the US (USACE), Waters of the State (RWQCB), City of SD Wetland

Vernal Pool with Fairy Shrimp
Disturbed Wetland

0 Feet 250

FIGURE 9.1
Jurisdictional Resources within Trail Restoration

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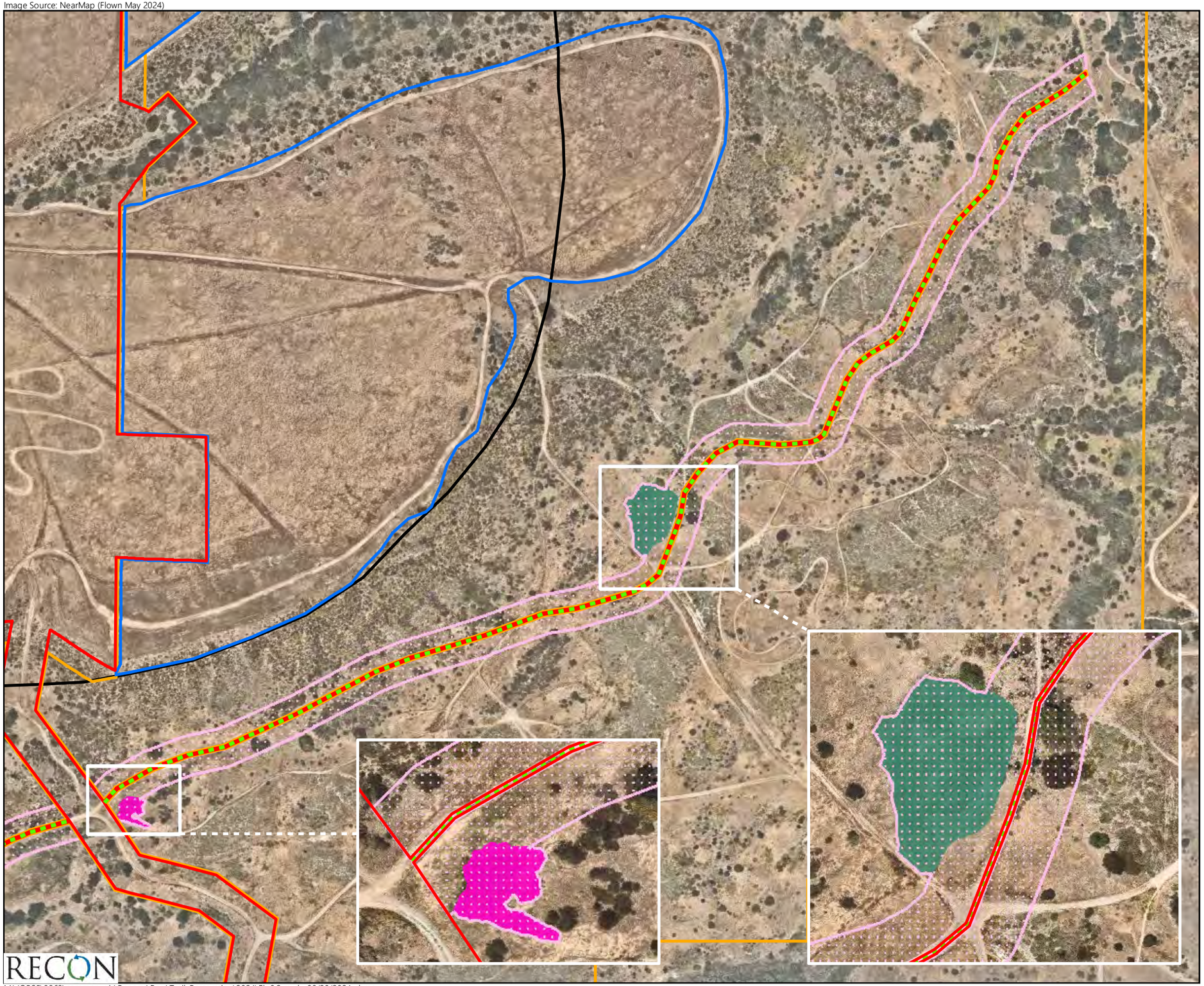
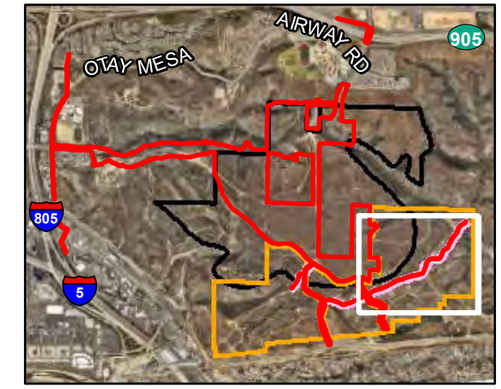
Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Vernal Pool Restoration Areas
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Jurisdictional Waters of the US (USACE), Waters of the State (RWQCB), City of SD Wetland

Vernal Pool with Fairy Shrimp
Disturbed Wetland

0 Feet 250

FIGURE 9.2
Jurisdictional Resources within Trail Restoration

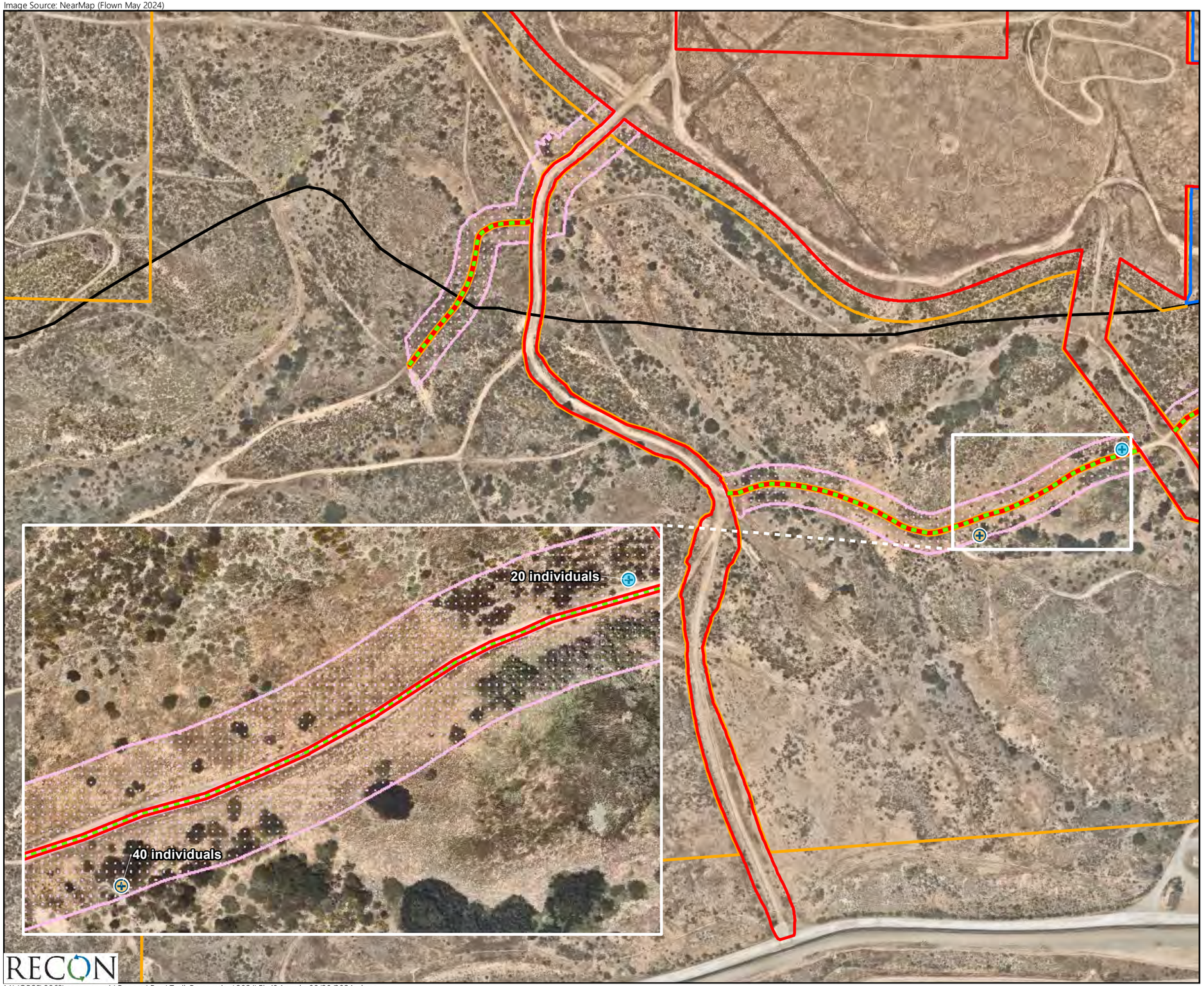
M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig9.2.mxd 08/20/2024 bma

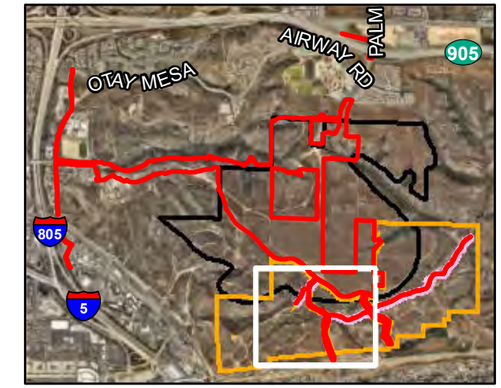
4.2 Quino Checkerspot Butterfly Suitable Habitat Areas

No Quino checkerspot butterfly host plants were identified in the trail restoration area; however, the location of nectar plants is presented in Figures 10.1 and 10.2. These Quino checkerspot butterfly habitat areas would be avoided during restoration implementation and maintenance activities. To avoid potential direct impacts to Quino checkerspot butterfly and suitable habitats during restoration activities, the following mitigation measures would be required:

- Prior to restoration implementation, locations of Quino checkerspot butterfly host and nectar plants would be mapped.
- During restoration activities, Quino checkerspot butterfly nectar plants shall be avoided.
- Herbicide application would not occur within the 10-foot buffers of Quino checkerspot butterfly host plant patches, if present. Buffers shall be used to prohibit restoration activities from occurring or personnel from entering areas where Quino checkerspot butterfly larvae have potential be present between host plant patches, and to ensure only target species are treated with herbicide. The field crew shall not enter occupied Quino checkerspot butterfly areas or areas where host plants are present.
- Only locations with dense non-native plant cover and no Quino checkerspot butterfly host, if present, may be sprayed with a glyphosate-based herbicide. A field crew trained in habitat restoration would spray weeds in areas where Quino checkerspot butterfly and its host plants have not been documented.
- Herbicide shall not be applied when wind speed and direction may cause herbicide drift to areas with host plants, if present. Marker dye would be added to the herbicide mixture so the restoration field crew can see any drift.
- The California Invasive Plant Council Best Management Practices for wildland stewardship, including covering host plant patches with tarps during herbicide applications, shall be adhered to (California Invasive Plant Council 2015).

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Vernal Pool Restoration Areas
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

QCB Suitable Habitat

Nectar Plants

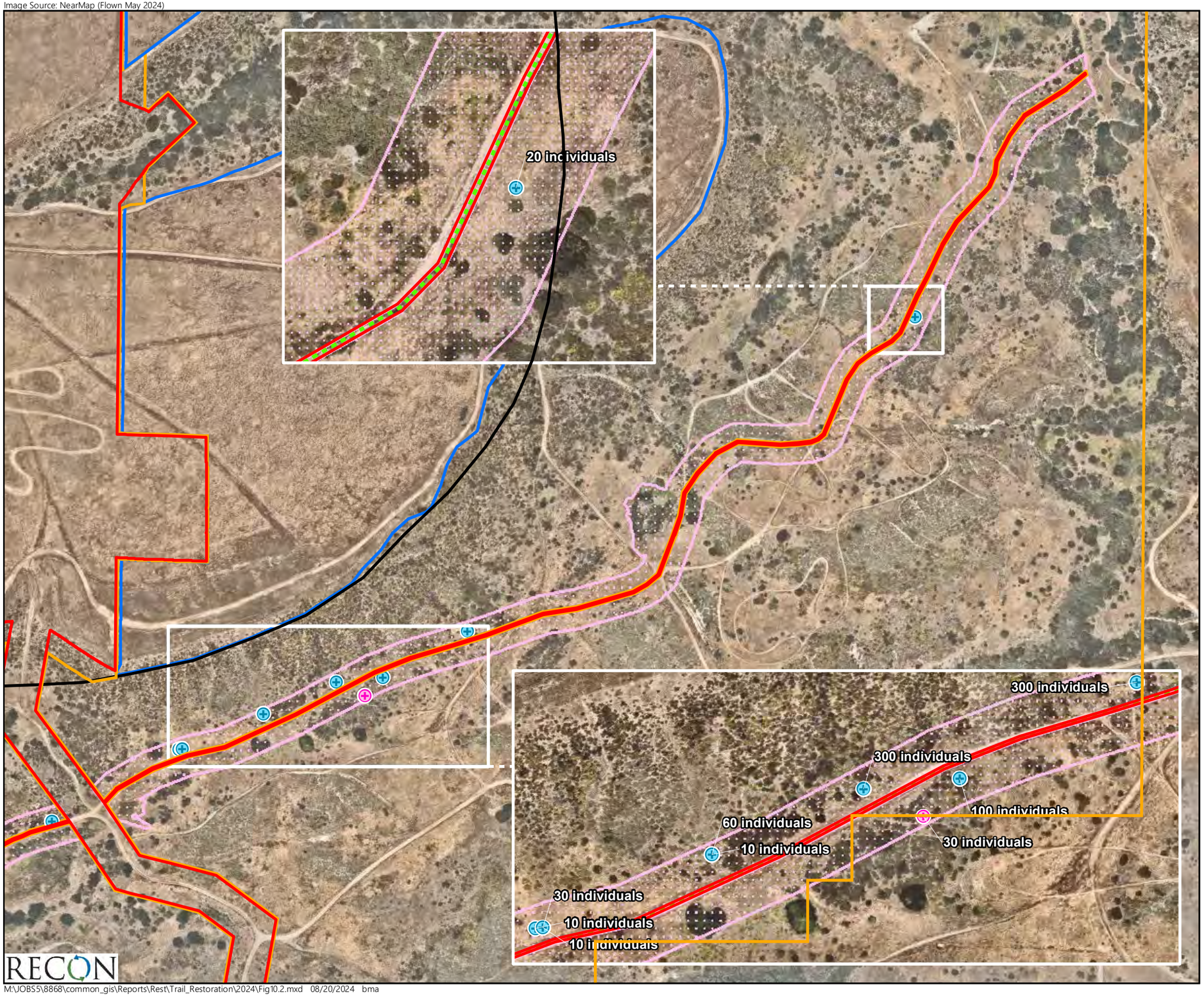
Blue Dicks (*Dipterostemon capitatus*)
Popcornflower (*Plagiobothrys* sp. and *Cryptantha* sp.)

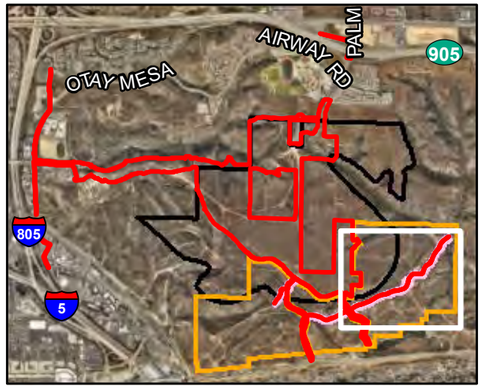
0 Feet 250

FIGURE 10.1
Quino Suitable Habitat within Trail Restoration

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig10.1.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Vernal Pool Restoration Areas
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

QCB Suitable Habitat

Nectar Plants

Farinose Ground Pink (*Linanthus dianthiflorus*)
Blue Dicks (*Dipterostemon capitatus*)

0 Feet 250

FIGURE 10.2
Quino Suitable Habitat within Trail Restoration

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig10.2.mxd 08/20/2024 bma

4.3 Other Sensitive Plant and Wildlife Mitigation Measures

4.3.1 Rare Plants

- Conduct a focused rare plant survey in the spring prior to the start of construction to determine the presence of sensitive plant species not previously detected. If no rare plants are detected, no additional measures would be required.

- The ultimate trail alignment shall be sited to avoid impacts to sensitive plant species and all rare plant species within the restoration area shall be flagged to ensure avoidance during restoration efforts. All sensitive plants shall be avoided to the maximum extent feasible within the temporary impact and restoration areas.

4.3.2 Crotch's Bumble Bee

- Additional coordination and an Incidental take Permit are anticipated to be conducted with the California Department of Fish and Wildlife (CDFW). The results of this additional coordination may adjust the required mitigation. If Crotch's bumble bee is no longer a candidate or listed species at the time of implementation, this measure would not apply.

- To avoid impacts to Crotch's bumble bee, removal of habitat in the proposed area of disturbance must occur outside of the Colony Active Period between April 1 through August 31. If removal of habitat in the proposed area of disturbance must occur during the Colony Active Period, a Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of Crotch's bumble bee within the proposed area of disturbance.

- The Qualified Biologist must be approved by CDFW and hold a Memorandum of Understanding to catch and release Crotch's bumble bees in accordance with the CDFW guidance (i.e., Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species, dated June 6, 2023). Survey methods that involve lethal take of species are not acceptable.

- The pre-construction survey shall be conducted during the colony active period between April 1 through August 31 by the Qualified Biologist prior to the issuance of Grading Permit, Demolition Plans/Permits and Building Plans/Permits and within one year prior to the initiation of project activities (including removal of vegetation). The pre-construction survey shall consist of photographic surveys following CDFW guidance (i.e., Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species, dated June 6, 2023). The surveys shall consist of three separate visits spaced two to four weeks apart. Survey results will be considered valid until the start of the next colony active period.

- The Qualified Biologist/owner/permittee shall submit the results (including positive or negative survey results) of the pre-construction survey to City Development Services Department (Mitigation Monitoring and Coordination) City Planning Department (MSCP)

staff and CDFW for review and written approval prior to the issuance of Grading Permit, Demolition Plans/Permits and Building Plans/Permits.

- If pre-construction surveys identify Crotch's bumble bee individuals on-site, the Qualified Biologist shall notify CDFW and the measures identified in the Incidental Take Permit will be implemented.

- Survey data shall be submitted by the Qualified Biologist to the California Natural Diversity Database in accordance with the Memorandum of Understanding with CDFW, or Scientific Collecting Permit requirements, as applicable.

- Herbicide application should consider proximity to known Crotch's bumble bee (*Bombus crotchii*) occurrences or nests (i.e., known occurrences within 1 kilometer of the mitigation site) during the nesting season (February 15 to September 15), and to the extent feasible herbicide shall be avoided during the peak blooming season for potential foraging resources of Crotch's bumble bee.

4.3.3 San Diego Fairy Shrimp and Western Spadefoot

- To ensure that impacts do not occur to any fairy shrimp or western spadefoot, a scouting survey shall be conducted to map any new ponding areas within the trail alignment and within the restoration area that may result from road ruts. The trail alignment would be sited to avoid direct impacts to vernal pool, potential vernal pools resources, and sensitive wildlife that may occur within the pools. Restoration efforts adjacent to the trail alignment would also avoid any ponded resources that supports sensitive wildlife.

4.3.4 Coastal California Gnatcatcher

- To avoid indirect impacts to coastal California gnatcatcher nesting within the adjacent MHPA, any work that may cause noise in excess of 60 A-weighted decibels hourly average, or the ambient if it is greater, shall be avoided during the breeding season for these species, March 1 to August 15.

- If removal of habitat in the mitigation area must occur during the breeding season, a qualified biologist shall conduct a pre-implementation survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-implementation survey shall be conducted within three calendar days prior to the start of mitigation activities (including removal of vegetation).

- The applicant shall submit the results of the pre-implementation survey to the City for review and approval prior to initiating any mitigation activities. If none are detected, no additional monitoring beyond general biological monitoring will be required.

- If nesting birds are detected, a letter report in conformance with the City's Biology Guidelines (i.e., appropriate follow-up surveys, monitoring schedules, work and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided.

- The report shall be submitted to the City for review and approval and implemented to the City's satisfaction. The City's MMC shall verify and approve that all measures identified in the report are in place prior to and/or during implementation.

4.3.5 Other Nesting Avian Species

- A biological monitor would check suitable habitat areas for any nesting birds three days prior to vegetation removal tasks.

- To avoid any direct impacts to avian species identified as a listed, candidate, sensitive, or special status species in the MSCP, removal of habitat that supports active nests in the mitigation area should occur outside the breeding season for these species (February 1 to September 15).

- If removal of habitat in the mitigation area must occur during the breeding season, a qualified biologist shall conduct a pre-implementation survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-implementation survey shall be conducted within 3 calendar days prior to the start of mitigation activities (including removal of vegetation).

- The applicant shall submit the results of the pre-implementation survey to the City, CDFW, U.S. Fish and Wildlife Service (USFWS), and Regional Water Quality Control Board (RWQCB) for review and approval prior to initiating any mitigation activities. If no nesting birds are detected, no additional monitoring beyond general biological monitoring will be required.

- If nesting birds are detected, a letter report in conformance with the City's Biology Guidelines (i.e., appropriate follow-up surveys, monitoring schedules, work and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided.

- The report shall be submitted to the City, CDFW, USFWS, and RWQCB for review and approval and implemented to the City's satisfaction. The City's Mitigation Monitoring Coordinator and CDFW, RWQCB, and USFWS shall verify and approve that all measures identified in the report are in place prior to and/or during implementation.

5.0 Implementation Plan

This section describes the design of the proposed restoration and how it would be implemented. Implementation of the restoration would be conducted under the direction of the qualified habitat restoration specialist.

Implementation activities include seed collection and bulking, weed dethatching, native container plant installation, and seed installation. Restoration activities would occur in the order included in the following sections, although seasonal variability would be taken into consideration and the contractor's best professional judgment should be applied. Some activities may be conducted concurrently.

Implementation of the trail improvements and associated restoration effort would occur after completion of the restoration effort proposed for Otay tarplant (*Deinandra conjugens*)/Native Grassland and Wetland Restoration (see Figure 4) and sign-off by the City and applicable regulatory agencies, as the existing access road would be needed to provide access for this restoration effort. Seed collection would occur prior to the start of construction of the project. Weed dethatching would occur approximately one year prior to native plant installation.

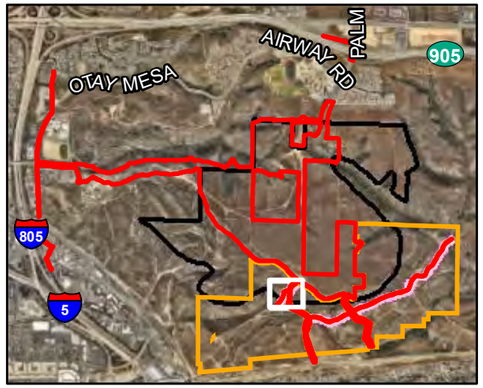
5.1 Habitat to be Restored/Enhanced

Restoration and enhancement activities would aim to create contiguous patches of native habitat in the buffer areas around the trails. The disturbed and non-native grassland habitats would be subject to restoration to either Diegan coastal sage scrub or maritime succulent scrub, based on dominant habitats in the vicinity. Disturbed maritime succulent scrub, disturbed wetlands and vernal pools would be subject to enhancement. All other native habitats and jurisdictional resources would be left in their existing condition.

There are six areas where the restoration buffer overlaps with existing vernal pools and disturbed wetlands (see Figures 9.1 and 9.2). The boundary of the restoration corridor (shown in light pink hatched markings on Figures 9.1 and 9.2) has been expanded in these areas to encompass the entire disturbed wetland and vernal pool features. These features would be subject to enhancement including removal of non-native species during the implementation and maintenance periods of this restoration project.

A summary of the proposed restored/enhanced vegetation communities within the trail corridor is presented in Table 2 and Figures 11.1 through 11.6. As detailed in Table 2, the restoration/ enhancement effort would convert disturbed lands, non-native grassland, and disturbed maritime succulent scrub to either coastal sage scrub or maritime succulent scrub depending on the dominant vegetation community in the area. Additionally, 0.44 acre of disturbed wetlands (vernal pools that lack vernal pool plant indicators) would be enhanced by adding vernal pool plants to create functional vernal pools. The restoration/enhancement effort would total approximately 9.50 acres.

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Proposed Restored Vegetation Communities

Diegan Coastal Sage Scrub
Maritime Succulent Scrub
Vernal Pool

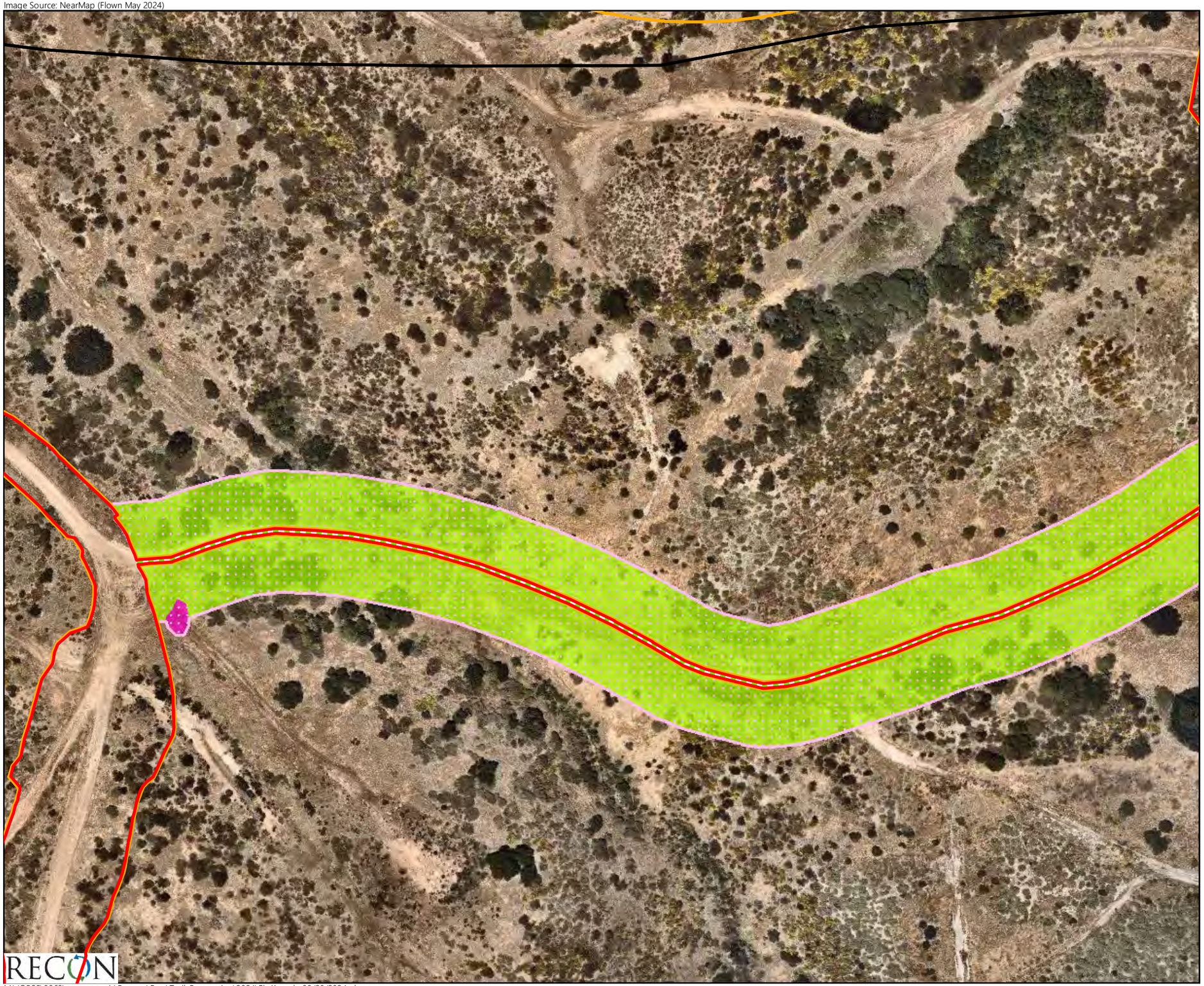
0 Feet 80

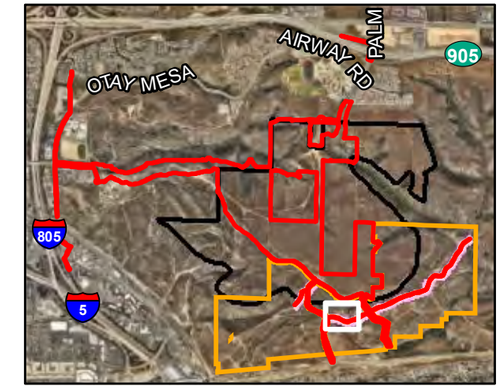
FIGURE 11.1
Proposed Restored Vegetation Communities within Trail Restoration Areas

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig11.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Proposed Restored Vegetation Communities

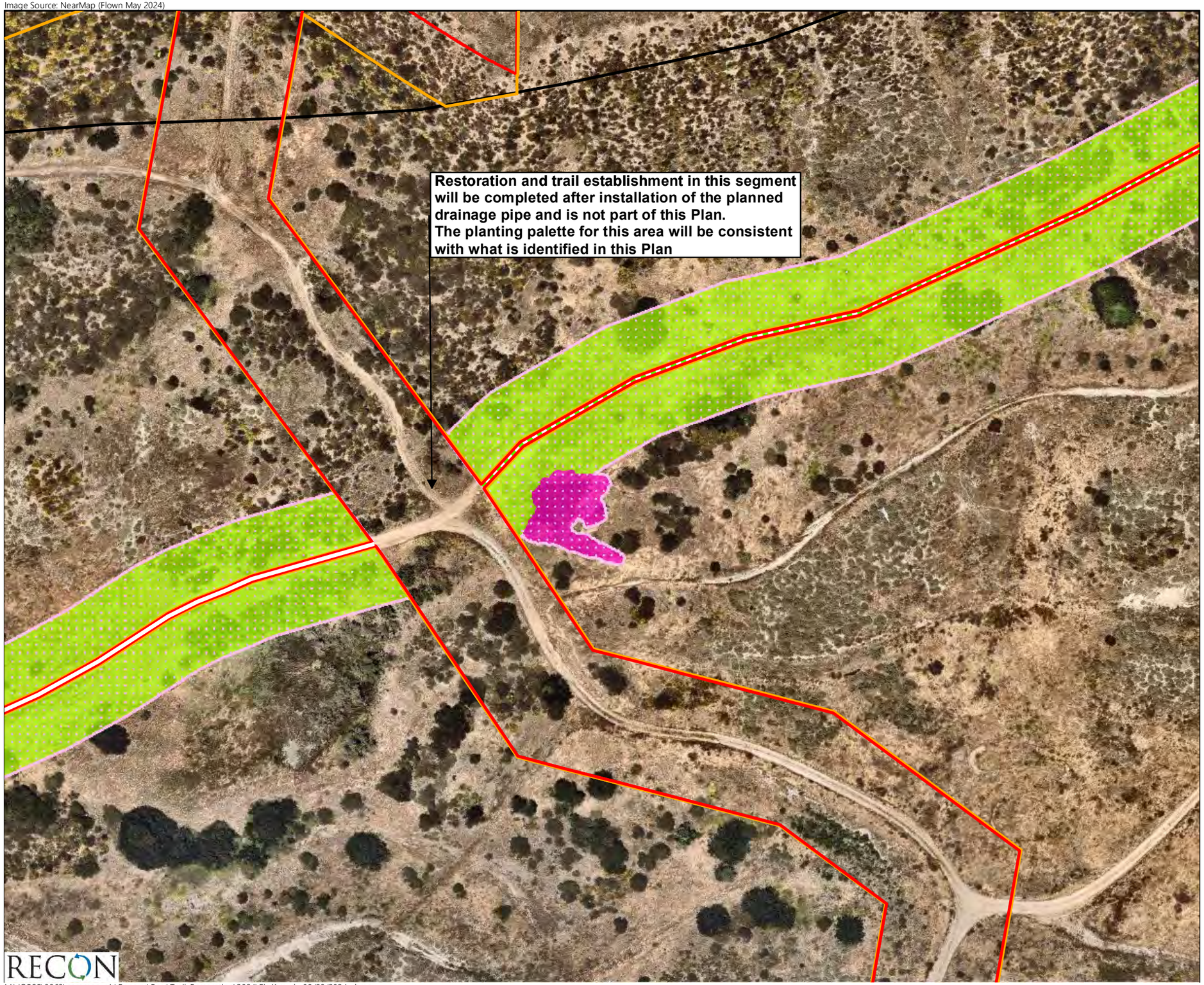
Maritime Succulent Scrub
Vernal Pool with Fairy Shrimp

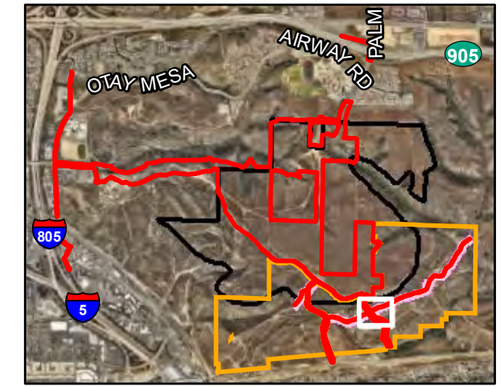
0 Feet 80

FIGURE 11.2
Proposed Restored Vegetation Communities within Trail Restoration Areas

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig11.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)





Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Proposed Restored Vegetation Communities

Maritime Succulent Scrub
Vernal Pool with Fairy Shrimp

0 Feet 80

FIGURE 11.3
Proposed Restored Vegetation Communities within Trail Restoration Areas

RECON

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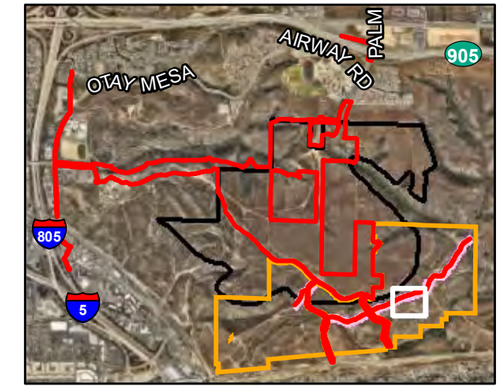
Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Specific Plan Boundary
Primitive Trail Alignment

Proposed Restored Vegetation Communities

Maritime Succulent Scrub
Vernal Pool

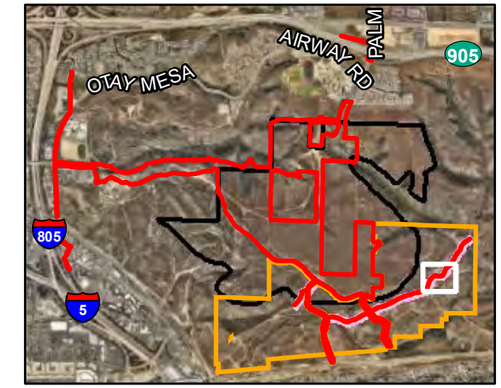
0 Feet 80

FIGURE 11.4
Proposed Restored Vegetation Communities within Trail Restoration Areas

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig11.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Proposed Restored Vegetation Communities

Diegan Coastal Sage Scrub
Maritime Succulent Scrub
Vernal Pool

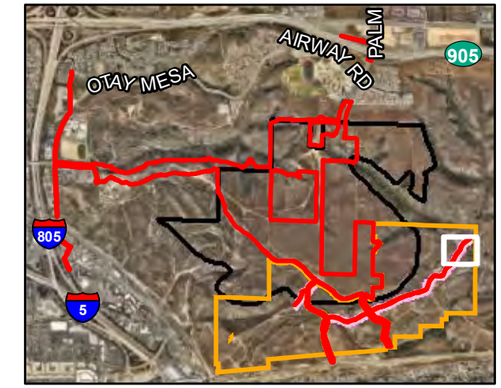
0 Feet 80

FIGURE 11.5
Proposed Restored Vegetation Communities within Trail Restoration Areas

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig11.mxd 08/20/2024 bma

Image Source: NearMap (Flown May 2024)



Project-level Analysis Area
Trail Restoration
Land to be Conserved and Managed by the City
Primitive Trail Alignment

Proposed Restored Vegetation Communities

Diegan Coastal Sage Scrub
Maritime Succulent Scrub

0 Feet 80

FIGURE 11.6
Proposed Restored Vegetation Communities within Trail Restoration Areas

RECON

M:\JOBS5\8868\common_gis\Reports\Rest\Trail_Restoration\2024\Fig11.mxd 08/20/2024 bma

Table 2 Existing and Proposed Vegetation Communities within the One mile, 100 foot wide Restoration Corridor			
Existing Vegetation Community	Existing Vegetation Community Acreage	Proposed Restored Vegetation Community	Proposed Vegetation Community Acreage
Vegetation Communities Proposed for Revegetation or Enhancement			
Disturbed Maritime Succulent Scrub	1.86	Maritime Succulent Scrub	1.86
Non-native Grassland	6.02	Maritime Succulent Scrub	6.02
Disturbed Lands	1.10	Maritime Succulent Scrub	1.07
		Diegan Coastal Sage Scrub	0.03
Tamarisk Scrub	0.08	Maritime Succulent Scrub	0.08
Disturbed Wetland	0.44	Vernal Pool	0.44
Subtotal	**9.50**		**9.50**
Existing Vegetation Communities Not Proposed to Change			
Maritime Succulent Scrub	2.18	No change	2.18
Diegan Coastal Sage Scrub	0.41	No change	0.41
Vernal Pools with Fairy Shrimp	0.09	No change	0.09
Subtotal	**2.68**		**2.68**
TOTAL	**12.18**		**12.18**
Note: Vegetation and restoration acreages are based on conditions at the time of preparation of this report and a verification survey would be conducted to document updated site conditions prior to restoration as conditions may change prior to implementation of the restoration effort.			

Detailed vegetation descriptions, presented below, include those vegetation communities that would be restored and/or enhanced and include representative plant species found on-site for each habitat type.

5.1.1 Jurisdictional Resources

A total of 0.09 acre of vernal pools with fairy shrimp, and 0.44 acre of disturbed wetlands fall within the restoration buffer outline (see Figures 9.1 and 9.2). The proposed enhancement activities for these wetland features are discussed below.

5.1.1.1 Vernal Pools

San Diego mesa claypan vernal pools are shallow, isolated, seasonal wetlands distinguished from other ephemeral wetlands in the region by characteristic plant and animal species. San Diego mesa claypan vernal pools typically support a characteristic suite of plant and animal species. Plants in vernal pools may be aquatic or may germinate following the drying of the pool. Pool sizes range from very small to moderate (up to 700 square meters).

Within the restoration buffer, two vernal pools with fairy shrimp occur, totaling 0.09 acre (see Figure 9.2). These pools are located along roadsides and are regularly disturbed by off-road and passenger vehicles and therefore are considered to be low-quality. Vernal pools that contain non-native species would be enhanced through non-native weed removal. To ensure avoidance of

sensitive species that may be present (e.g., San Diego fairy shrimp or spadefoot), all enhancement activities would occur when no ponding is present.

5.1.1.2 Disturbed Wetlands

Disturbed wetlands meet the 3-parameter criteria to be a United States Army Corps of Engineers wetland. While they are similar to vernal pools, being isolated ponding basins, they have no vernal pool flora indicator species. Like vernal pools, these disturbed wetlands may contain San Diego fairy shrimp.

There are two disturbed wetlands (0.44 acre) that fall within the restoration buffer. These areas would be enhanced through weed removal and the addition of common vernal pool plant species via hand seeding and/or plant installation. This enhancement effort would result in the 0.44 acre of disturbed wetlands to meet the criteria of a vernal pool. Additionally, the watersheds of these disturbed wetlands would be improved by planting native container stock. To ensure avoidance of sensitive species that may be present (e.g., San Diego fairy shrimp or spadefoot), all enhancement activities would occur when no ponding is present.

5.1.2 Disturbed Maritime Succulent Scrub

Disturbed maritime succulent scrub is considered a Tier I (rare uplands) vegetation community by the City's Biology Guidelines (City of San Diego 2018). Maritime succulent scrub is a low (two to three feet high), open (25-75 percent cover) vegetation community dominated by drought deciduous, subligneous (somewhat woody), malacophyllous (soft-leaved) shrubs with a rich mixture of stem and leaf succulents. The proportion of cacti is typically highest in inland areas. Ground cover is somewhat devoid of vegetation between shrubs. Growth and flowering are concentrated in the spring.

Maritime succulent scrub occurs on thin, rocky, or sandy soils, often on steep slopes of coastal headlands and bluffs. This type of succulent scrub intergrades with southern coastal bluff scrub on more exposed headlands and bluffs and with sage scrub on better developed, moister soils away from the immediate coast (Holland 1986). This community is typically dominated by jojoba (*Simmondsia chinensis*), San Diego sunflower (*Bahiopsis laciniata*), San Diego bur-sage (*Ambrosia chenopodiifolia*), and coast barrel cactus (*Ferocactus viridescens*). Other associated species typically include California buckwheat, California sagebrush, lemonadeberry (*Rhus integrifolia*), and California adolphia (*Adolphia californica*).

For disturbed maritime succulent scrub, the dominant shrub species are similar to what occurs in maritime succulent scrub; however, the density of native shrub and herbaceous species is much less in the disturbed community and there are much wider interspaces between the native shrubs. The understory in disturbed maritime succulent scrub consists of brome grasses including ripgut grass (*Bromus diandrus*) and red brome (*Bromus madritensis* ssp. *rubens*), and native species fascicled tarplant (*Deinandra fasciculata*), and ashy spike-moss (*Selaginella cinerascens*). Additionally, there is evidence of trash dumping within this vegetation community. Enhancement activities would be performed in disturbed maritime succulent scrub areas through the removal of non-native invasive species.

5.1.3 Non-Native Grassland

Non-native grassland is considered a Tier IIIB (common uplands) species by the City's Biology Guidelines (City of San Diego 2018). Non-native grassland is a vegetation community characterized by a dense to sparse cover of annual grasses reaching up to 3 feet high, which may include numerous native wildflowers, particularly in years of high rainfall. Typically, non-native grassland includes at least 50 percent cover of the entire herbaceous layer attributable to annual non-native grass species, although other plant species (native and non-native) may be intermixed (City of San Diego 2018).

Non-native grassland contains species including, but not limited to, bromes (*Bromus* spp.), wild oat, ryegrass (*Lolium* spp.), and fescues (*Vulpia* spp.). These annuals germinate with the onset of the rainy season and set seeds in the late winter or spring. With a few exceptions, the plants are dead through the summer-fall dry season, persisting as seeds.

Non-native grassland is usually found on fine-textured, usually clay soils that range from being moist or waterlogged in the winter to being very dry during the summer and fall. Typically, the plant community is found in valleys and foothills throughout most of California (except for the north coastal and desert regions) at elevations below 3,000 to 4,000 feet (Holland 1986).

The non-native grassland in the project area is dominated by ripgut grass, red brome, and fascicled tarplant. The vegetation height ranges from six inches to two feet in height. Restoration of non-native grasslands would be to either Diegan coastal sage scrub or maritime succulent scrub, based on which native habitats are dominant in the immediate vicinity. Restoration would be accomplished through weed removal, native container stock installation, and seed application.

5.1.4 Disturbed Lands

Disturbed lands are composed of areas that have been previously disturbed and no longer function as a native or naturalized vegetation community. Vegetation, if present, is dominated by opportunistic non-native species. Disturbed land can also include previously graded lands such as fire breaks, off-road vehicle trails, and construction staging sites (Oberbauer et al. 2008).

The disturbed land is comprised mainly of unauthorized trails and dirt access roads, roads created by off-road vehicles, and artificial earthen berms. These roads traverse primarily through the non-native grassland vegetation, but also travel through maritime succulent scrub and Diegan coastal sage scrub habitats. For the most part, these disturbed lands are unvegetated or have minimal vegetation comprised of non-native species. Restoration of disturbed lands would be to either Diegan coastal sage scrub or maritime succulent scrub, based on which native habitats are dominant in the immediate vicinity. Restoration would be accomplished through weed removal, native container stock installation, and seed application.

5.2 Implementation Activities

Implementation activities include seed collection and bulking, non-native weed biomass dethatching, container plant installation, and seeding. The implementation schedule is shown in Table 3.

Table 3
Restoration Implementation Activities Schedule

Task	Time of Year
1. Seed Collection and Bulking	Fall through spring three years prior to Step 4, plant installation
2. Sign Installation	Summer/Fall - 1 year prior to Step 4 (native plant installation) and prior to dethatching task
3. Dethatching	Summer/Fall - 1 year prior to Step 4 (native plant installation)
4. Native Plant Installation	To be implemented after sign-off of the Otay tarplant/native grassland and wetland restoration effort in the winter, after first winter rains and prior to a predicted rain event
5. Seeding	Winter, prior to a predicted rain event and following plant installation

5.2.1 Seed Collection and Bulking

Once species targeted for seed collection have set seed, typically between late spring to early fall with variability due to species and seasonal weather patterns, seed would be collected from the existing plant populations found within adjacent intact native habitat. The collected seed would be taken to an approved native plant nursery, rough cleaned, and stored until the fall. In the fall, when temperatures cool and conditions begin to favor native plant germination, a portion of the seed would be sown into flats to germinate over the winter for seed bulking. Individuals would be properly cared for through flowering and seed set and seed would be collected and rough cleaned. The bulking process would continue until adequate seed quantities and container plants are obtained to meet the project requirements, which may require several seasons (at least two) of bulking. Seed collection and bulking activities would be closely coordinated between the restoration specialist and native plant nursery to ensure proper timing of collection, bulking, and storage activities. Species targeted for collection have been included in Table 4.

Table 4
Plant Species Targeted for Collection

Scientific Name	Common Name
Achillea millefolium	yarrow
Adolphia californica	California adolphia
Ambrosia chenopodiifolia	San Diego bur-sage
Amsinckia menziesii	rancher's fiddleneck
Artemisia californica	coastal sage brush
Bahiopsis laciniata	San Diego sunflower
Bloomeria crocea	common goldenstar
Dichelostemma capitatum	blue dicks
Encelia californica	California encelia
Eriogonum fasciculatum	California buckwheat
Eriophyllum confertiflorum	golden yarrow
Grindelia camporum	common gumplant

Table 4 Plant Species Targeted for Collection	
Scientific Name	Common Name
Isocoma menziesii	coastal goldenbush
Lasthenia gracilis	common goldfields
Lupinus succulentus	arroyo lupine
Peritoma arborea	bladderpod
Salvia apiana	white sage
Salvia mellifera	black sage
Simmondsia chinensis	jojoba
Sisyrinchium bellum	blue-eyed grass
Stipa pulchra	purple needlegrass
NOTE: Quantities to be determined based on seed collection and bulking quantities.	

5.2.2 Sign Installation

Signs would be installed at strategic points along the trails to provide notice that the buffer areas are part of an ecological preserve, notify that trespassing is prohibited, and cite penalties for trespass violation including liability for repair of any damage to soil or biological resources. Signs in both Spanish and English would be installed at approximately 200-foot intervals along the trails and would be mounted onto metal T-posts or similar.

5.2.3 Dethatching

Prior to planting or seeding, crews familiar with native and non-native plants would remove the accumulated weedy thatch throughout the restoration site using mechanical line trimmers and rakes. Weedy thatch biomass may be removed using mechanized equipment such as a ride-on mower or tracked skid steer with mowing attachment, if site conditions allow, and would not disturb the soil.

Cut material would be raked into piles, removed from the site, and taken to a landfill or put into a green waste dumpster for disposal. Removal of the thatch aides in preparing the site for seeding and reducing future weed growth that may inhibit establishment of native container plants and seed.

5.2.4 Native Plant Installation

The areas of the restoration site that are to be restored to Diegan coastal sage scrub and maritime succulent scrub habitat would be prepared for planting by decompacting the topsoil with hand tools, if needed. All native container planting would be installed in a way that mimics natural plant distribution, and not in rows.

Native container stock grown from seed collected from within the project vicinity would be installed within these restoration areas. For the maritime succulent scrub and Diegan coastal sage scrub restoration areas, approximately 1,500 plants per acre would be procured from a local nursery, such as Native West Nursery, that specializes in the propagation of native plants from locally grown seed. Planting within disturbed areas that offer access to unauthorized trails would include plant selections that would deter access such as plants that would grow large and/or plants with spines that would make human entry undesirable.

Final planting quantities would be based upon existing conditions, with some areas adjacent to the trails having higher densities of native cover than other areas. Container plant installation is anticipated to occur in the winter season following the onset of the rainy season to ensure high survivorship of container stock. Plants would be installed following the standard procedure for container plant installation. Holes would be dug equal in depth and approximately twice the width of the root ball. Plants would be positioned in the holes so that the surface of the root ball is slightly above grade, and the holes would be backfilled with native soil. Each plant would then be watered.

The species and quantities anticipated to be installed within the maritime succulent scrub and Diegan coastal sage scrub restoration areas are presented in Tables 5 and 6. Container plantings would be placed within disturbed areas to achieve an approximate plant density of 1,500 plants per acre.

Table 5
Anticipated Maritime Succulent Scrub Container Plant Species and Quantities[1]

Scientific Name	Common Name	Quantity of Plants (per acre)[2]
Adolphia californica	California adolphia	95
Ambrosia chenopodiifolia	San Diego bur-sage	125
Artemisia californica	California sagebrush	150
Bahiopsis laciniata	San Diego sunflower	85
Cylindropuntia prolifera	coast cholla	115
Dudleya pulverulenta	chalk dudleya	70
Eriogonum fasciculatum	California buckwheat	175
Euphorbia misera	cliff spurge	85
Opuntia littoralis	coast prickly pear	135
Rhus integrifolia	lemonadeberry	50
Simmondsia chinensis	jojoba	230
Stipa lepida	foothill needlegrass	110
Yucca schidigera	Mohave yucca	75
TOTAL		1,500

[1]Species and quantities may be adjusted based on availability at the time of implementation.
[2]Up to 1,500 plants per acre may be installed, taking into account existing native plant density.

Table 6
Anticipated Diegan Coastal Sage Scrub Container Plant Species and Quantities[1]

Scientific Name	Common Name	Quantity of Plants (per acre)[2]
Artemisia californica	California sagebrush	200
Baccharis sarothroides	broom baccharis	175
Cylindropuntia californica	coast cholla	100
Encelia californica	California encelia	175
Eriogonum fasciculatum	California buckwheat	200
Isocoma menziesii	coastal goldenbush	175
Malosma laurina	laurel sumac	75
Opuntia littoralis	coast prickly pear	100
Salvia apiana	white sage	150
Salvia mellifera	black sage	150
TOTAL		1,500

[1]Species and quantities may be adjusted based on availability at the time of implementation.
[2]Final quantities would be based on a 1,500 plants per acre density, taking into account existing native plant density.

5.2.5 Seed Installation

5.2.5.1 Diegan Coastal Sage Scrub and Maritime Succulent Scrub

Native species seed would be distributed within the restoration areas following native container stock installation. The exact quantities for seed dispersion would be based on the results of the seed collection and bulking efforts (see Table 4 for proposed species). The methods of seed dispersal would be determined based upon site access at the time of restoration implementation. Seeding methods would be as recommended by the restoration specialist and may include application via hydroseeding, drill seeding, seed imprinting, or hand seeding. Seed would be scheduled for distribution in the fall/winter sometime following the first significant rain event of the season, after a weed maintenance event, and immediately prior to a forecasted rain event (not more than 48 hours). All seed used for restoration purposes would be collected from the site vicinity where feasible and as approved by the restoration specialist.

5.2.5.2 Jurisdictional Resources

Enhancement of jurisdictional resources including disturbed wetlands and vernal pools (see Figures 9.1 and 9.2) may be achieved through the reintroduction of plants into the jurisdictional features on-site.

This may be accomplished by one or a combination of the following:

- The redistribution of topsoil containing seeds, spores, bulbs, invertebrate eggs, fairy shrimp cysts, and other propagules salvaged from on-site vernal pools to be impacted; and
- The distribution of vernal pool plant seed collected from an off-site source approved by the City MSCP and Wildlife Agencies.

The vernal pool plant indicator species listed in Table 7 should be considered for introduction into the enhanced vernal pools. The hand-collected or bulked vernal pool seeds would be distributed in the enhanced vernal pools at the discretion of the restoration specialist. Re-introduction of vernal pool biota into vernal pools to be enhanced would not be conducted until the City MSCP, CDFW, and USFWS (cumulatively known as the Wildlife Agencies) have approved the site preparation.

If natural rain is inadequate to support the plant establishment of vernal pool indicator species, then artificial watering of the established/enhanced pools and their watersheds may be done upon approval by the City MSCP and Wildlife Agencies and in order to establish plants but not hydrate shrimp. Any artificial watering shall be done in a manner that prevents ponding in the pools. Any water to be used shall be identified and documented to be free of contaminants that could harm the pools.

Table 7 Vernal Pool Plant Indicator Species Occurring on the Southwest Village Vernal Pool Mitigation Sites	
Plant Species	Common Name
Callitriche marginata	water-starwort
Crassula aguatica	stone-crop
Eleocharis macrostachya	pale spikerush
Eryngium aristulatum var. *parishii*	San Diego button celery
Isoetes orcuttii	Orcutt's quillwort
Juncus bufonius	toad rush
Lepidium latipes	dwarf peppergrass
Plagiobothrys acanthocarpus	adobe popcornflower
Plantago elongata	plantain
Psilocarphus brevissimus	dwarf woolly-heads
Triglochin scilloides	flowering quillwort

5.3 As-Built Reporting

At the completion of implementation, the installation shall be approved by the City MMC prior to entering into the 120-day PEP. An as-built report would be submitted that documents implementation activities and the dates they were completed. The report would include but not be limited to dates of on-site work, final container plant lists and quantities, final seed lists and quantities, and any modifications to the restoration program. The report may be a brief letter report with photos of the final site design and figures with locations of site elements.

5.4 120-day Plant Establishment Period

The 120-day PEP would begin once the implementation activities are approved by the City MMC, likely once all native container stock and native seeding have been completed. The PEP shall last for 120 calendar days and shall consist of all maintenance activities and methods discussed in Section 6.0. Regular (at least every other week) qualitative monitoring would be conducted to assess native plant growth from container stock and seed germination, non-native weed germination, and to make recommendations for maintenance activities, as needed (Table 8). Year 1 would begin after successful completion of the PEP and any required remedial plant and/or seed installation has been completed. At the completion of the PEP, the restoration specialist would prepare a letter report for submittal to the City MMC to document activities conducted during the PEP and the site progress towards final success criteria.

Table 8 Maintenance Schedule			
Task	120-day PEP	Year 1	Year 2
Weed Control (herbicide treatment)	As needed	Monthly[1]	Monthly[1]
Watering	As needed	As needed	As needed
Supplemental Planting/Seeding	At end of PEP	Fall/Winter	Fall/Winter
Trash Removal	In conjunction with weed control	In conjunction with weed control	In conjunction with weed control
Barrier/Sign Maintenance	As needed	As needed	As needed
[1]Minimum frequency			

6.0 Maintenance Plan

Regular maintenance of the trails restoration site would be required during the 25-month maintenance period to establish and enhance native vegetation and control non-native invasive species. The need for weeding is expected to decrease substantially by the end of the maintenance period provided successful habitat restoration has been achieved. Maintenance activities would include weed control, watering, supplemental planting/seeding of native species, trash removal, and sign maintenance. Maintenance activities would be conducted at a frequency and duration that ensures attainment of the final success criteria. Maintenance activities would be performed per the schedule in Table 8 or as needed to achieve project success.

6.1 Weed Control

Weed control would be performed consistent with the Avoidance and Minimization Measures detailed in Section 4.0, in addition to the following:

- All herbicide and pesticide use would be under the direction of a licensed qualified applicator and would be applied by personnel trained to apply herbicide. All weeding personnel would be trained to distinguish between native and non-native species.
- Herbicide would only be applied when wind speed is less than five miles per hour, and spray nozzles would be of a design to maximize the size of droplets, to reduce the potential for drift of herbicide to non-target plants. Application of herbicide would not occur if rain is projected within 12 hours of the scheduled application.
- Weeds would only be removed by hand from within the vernal pool areas, and by line-trimmers in areas immediately adjacent to the vernal pools.
- When vernal pools are ponding or close to saturation, weeds germinating along the basin edge would be cut using line trimmers by specially trained field personnel to ensure that germinating native species are not harmed. Cut material would be lightly raked away from the pools and care would be taken to not disturb the soil with raking activities.

- Weeding of the uplands would be done at a frequency and duration to ensure that weeds are not allowed to flower and set seed within the site. During the growing season this may be as frequently as weekly, depending on weather patterns. Any weeds that have set seed would be removed by hand and disposed of off-site.

- Herbicide treatment would be avoided within a 10-foot buffer from any concentrations of sensitive plant species and would not be applied within vernal pools or disturbed wetlands.

- Timing of herbicide and pesticides application would take into consideration proximity to known Crotch's bumble bee occurrences/nests (within 1 kilometer of the mitigation site) during nesting season (approximately February 15 to September 15), and to the extent feasible avoid the peak blooming season for potential foraging resources.

6.2 Watering

Hand watering would be performed consistent with the following:

- The watering frequency and duration would be done in a manner to mimic natural rainfall, support annual plants through seed set, and encourage deep root establishment of shrubs, but not enough to create runoff.

- Watering would be carefully tapered off once installed native plants and seed begin to reach their flowering stages, to allow for the plants to experience their typical summer dormancy and avoid over-watering, or excessive soil shrinking and swelling, that can damage plant roots.

6.3 Supplemental Planting

Supplemental planting would be performed consistent with the following:

- Cactus cuttings would be installed, as needed, adjacent to the trails to deter trespassing and/or increase vegetative coverage.

- Additional containers of Diegan coastal sage scrub and maritime succulent scrub plant species may be installed to provide competition for non-native weed species and preclude weed encroachment along the trail edges.

6.4 Supplemental Seeding

Remedial seeding would be performed consistent with the following:

- Restoration areas where native seed struggled to recruit would be remedially seeded during Years 1 and 2.

- Remedial seeding of native grasses and forbs would be conducted to increase native competition with weed species.

6.5 Trash Removal and Sign Maintenance

Trash removal and barrier/sign maintenance would be performed consistent with the following:

- Trash and other debris would be removed as necessary.
- All signs would be checked and repaired as necessary.
- Other site problems, such as vehicle damage and trespassing, would be reported to the City MMC and the Applicant.

6.6 Adaptive Management Approach

While the restoration and maintenance measures proposed by this plan are intended to close unauthorized trails and improve the quality of the habitat around the trails, unforeseen changes may occur because of unpredictable weather patterns, ecological processes, or other natural or anthropogenic stressors. The contractor would respond to any unexpected events that have a detrimental impact on the restoration site using an adaptive management approach. Adaptive management is defined, for the purposes of this restoration project, as a flexible, iterative approach to the management of biological resources that is directed over time by the results of ongoing monitoring activities, and direct observation of environmental stressors that are producing adverse results within the restoration site.

Achieving the key goals of the restoration program and establishing self-sustaining native habitats would be the focus of all adaptive management decisions. Adaptive management measures would be based on qualitative data gathered in the field throughout the maintenance and monitoring period and may include remedial container plant installation, collection and dispersal of seed, additional weed control efforts, additional watering, and other actions deemed appropriate through consultation with the City MMC.

If the performance standards (see Section 7.0) are not met at the end of the 25-month maintenance period, remedial actions may be required and the City MMC may extend the required maintenance period. Maintenance and monitoring obligations would continue until the City MMC deems the restoration site successful.

7.0 Performance Standards

Restoration would be considered successful when the final performance standards have been met. At the end of the 25-month monitoring and maintenance period, the restoration site should meet the following performance standards:

- 50 percent or more of native cover within restored CSS and MSS habitats.
- 10 percent or less of non-native herbaceous cover within restored CSS and MSS habitats.

- 0 percent of perennial or Cal-IPC listed "high" weed species present within enhanced vernal pools and restored CSS and MSS habitats.
- Access to unauthorized trails effectively blocked by established vegetation or other methods such as placement of boulders or other barriers.

8.0 Monitoring Requirements

Biological monitoring goals would include qualitative monitoring, quantitative vegetation monitoring, and photographic documentation. The monitoring schedule is presented in Table 9.

Table 9
Monitoring Schedule

Task	Year 1	Year 2
Qualitative Monitoring	Monthly	Monthly during growing season and quarterly during dormant stage
Quantitative Monitoring[1]	Annually	Annually
Photograph Documentation	As Needed	Annually
[1]Quantitative monitoring to begin in Year 1.		

8.1 Qualitative Monitoring

The overall health and growth of native and non-native vegetation cover, and native species richness would be qualitatively evaluated starting in Year 1 of the restoration project. Qualitative monitoring of the restoration site would also be performed to guide maintenance activities and would be conducted as follows:

- Qualitative monitoring would occur every month during Year 1, and during the growing season in Year 2 (January – June).
- Monitoring would include, but not be limited to, assessment of native seed germination, weed presence, and unauthorized trespassing. Monitoring results would be used to determine the timing and frequency of maintenance activities.

8.2 Quantitative Monitoring

Quantitative monitoring would be performed annually, during the spring season, by a restoration biologist to assess the percent of native versus non-native cover within the restoration site, as well as to determine native species richness and container plant survival. The percent cover of both native and non-native species would be determined using ocular estimates.

8.3 Photographic Documentation

Permanent photo points would be established prior to the start of restoration activities. Representative photographs would be taken before implementation, at the completion of

implementation, completion of the PEP, and annually to visually document the progress of vegetation cover development over the monitoring period.

8.4 Reporting

Annual reports that assess the progress toward the final performance standards for the site would be submitted to the City's MMC by December 1 of each year. The reports would also summarize the restoration project's compliance with all applicable permit conditions. A final monitoring report would be prepared and submitted to the City MMC for use in the notification of completion and final acceptance of the restoration effort. A copy of the final report would also be submitted to CDFW.

9.0 Notification of Completion

If the restoration site is not meeting its performance standards at the end of the 25-month monitoring program, the project proponent's maintenance and monitoring obligations would continue, until the City MMC deems the restoration program as successful.

Following receipt of the final annual report, the City MMC shall be invited to visit the restoration site to confirm completion of the restoration effort. The project would be deemed complete once the final success criteria are met and after written approval by the City MMC has been received.

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ATTACHMENT 2

Spring Survey Report, Southwest Village Wildlife Movement/Crossing Study

June 3, 2020

Ms. Jennifer Campos and Ms. Beth Procsal
RECON Environmental, Inc.
3111 Camino del Rio North, Suite 600
San Diego, CA 92108

SUBJECT: Spring Survey Report, Southwest Village Wildlife Movement/Crossing Study

Dear Ms. Campos and Procsal,

This letter report presents observations obtained during a wildlife survey conducted by Wildlife Tracking Company, Inc. for the Southwest Village Project. This report describes the study methodology, the terrestrial wildlife resources present in the study area and addresses wildlife crossing locations with regard to the proposed project.

Introduction

The proposed Southwest Village Project site is located in San Diego County, California. It is located east of Interstate 805, west of Caliente Avenue, south of State Route 905 (Otay Mesa Freeway), and north of the United States border with Mexico, and is situated within the U.S. Geological Survey 7.5-minute Imperial Beach quadrangle (Figure 1). The proposed Southwest Village Project is within the City of San Diego Multiple Species Conservation Plan (MSCP) Subarea Plan and portions of the project site are within the City of San Diego Multi-Habitat Planning Area (MHPA). Elevations range from approximately 210 feet above mean sea level (AMSL) to 504 AMSL.

The proposed Southwest Village Project is designed as a village-concept plan with a mix of uses including residential and commercial areas and community facilities such as schools and parks, transit sites, public facilities, and permanently protected open space. The project would also include extending the existing Beyer Boulevard easterly to facilitate traffic flow into and out of the proposed Southwest Village Project. Because the road extension would have the effect of further fragmenting existing habitat, a wildlife undercrossing has been proposed under the road extension to allow movement of wildlife between the areas that lie north and south of the proposed road.

Field Methodology

The study area comprises an area larger than the Southwest Village Project area, being bound approximately by Otay Mesa Road and the railroad to the west, State Route 905/Otay Mesa Road to the north, Cactus Road to the east and the United States/Mexico border to the south (Figure 2). The study area extends to the east to be included also within the U.S. Geological Survey 7.5-minute Otay Mesa quadrangle. Property ownership in the study area is a patchwork including ownership by private citizens, County of San Diego, City of San Diego, Caltrans, and Pardee Homes (the project proponent). Various portions of the site have been in continuous use for decades until the recent past, having supported homesteads, agricultural establishments, etc. The study area contains a mix of mesa and canyon areas that support a variety of scrub and riparian habitats, with elevations ranging from approximately 120 feet above mean sea level (AMSL) to 505 feet AMSL. Several vegetated ephemeral water bodies traverse the site.

Various properties in the study area are within the City of San Diego MSCP Subarea Plan and the City of San Diego MHPA. Most of the site is undeveloped; and includes a network of primarily dirt roads within the area along with remnants of a few single-family dwellings. The study area is crisscrossed with a maze of fencing of various types.

Access to all properties within the study area was not available at the commencement of the survey, and at the time of the preparation of this report, had not been granted for the County of San Diego parcel that contains the area proposed for the wildlife crossing. Furthermore, during the survey period, access to several parcels was questionable and were avoided (Figure 1).

The spring 2020 field surveys consisted of three phases, augmented by literature searches, reconnaissance-level desktop analyses, aerial imagery and topographic maps. The Phase 1 survey of spring 2020 was an extensive overview to determine species presence/absence, movement regimens, connectivity (gene pool exchange integrity), prey presence/absence, habitat quality related to specific species, i.e. cover sufficiency, resource availability and birthing areas. Animal presence was determined by direct observation or by sign including tracks, scat, scrapes, rubs, kill sites, cache sites, dens, burrows, trails, runs, hair, feathers, etc.

1) Phase 1: Point Data Collection. This included a reconnaissance survey and spring 2020 baseline data collection. Eighty-two 50-meter diameter data collection points were assigned throughout the study area. Each data collection point was inspected for animal sign. All evidence found in these circles was recorded on an Apple iPad Mini 4 using ESRI Collector. Incidental observations were also recorded.
2) Phase 2: Trailing. This included following up on evidence found in Phase 1, including following fresh tracks for a preliminary determination of movement direction and habits. Squeeze points such as culverts and canyon bottoms or washes that include steep slopes were examined to the extent possible, ranging out from the points that the

topography allowed or within and/or on either end of culverts to ascertain species movement.

3) Phase 3: Cameras. Cameras were placed at key locations on a 5 to 7-day check interval for one month. Camera locations were determined by detections and observations in Phases 1 and 2.
4) Phase 4: Seasonal repetition of Phases 1-3. This would include an abbreviated version of Phases 1-3 (less survey points in Phase 1 and narrower focus in Phases 2 and 3). The number of remaining surveys will be determined after consultation with the client and the City of San Diego.

Results

Nineteen mammal species and five reptile species were detected or observed during the spring 2020 survey. Predator species detected or observed include gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), striped skunk (*Mephites mephitis*) and long-tailed weasel (*Mustela frenata*) with the apex predators onsite being the coyote (*Canis latrans*) and bobcat (*Lynx rufus*). Prey species detected or observed include cottontail (*Sylvilagus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), pocket gopher (*Thomomys bottae*), kangaroo rat (*Dipodomys simulans*), pocket mice (*Chaetodipus* sp.), deer mice (*Peromyscu*s sp.) and shrew (*Soricidae* sp.). A species list is included in Appendix B.

The survey resulted in the detection of one wildlife access point into the study area from the north. This connection facilitates animal movement between a Dennery Canyon finger that reaches south and connects to a small culvert that runs diagonally beneath the intersection of Otay Mesa Road and Corporate Center Road. This culvert connects to a canyon that meanders into the area northeast of the Southwest Village project site. Numerous raccoon tracks were present in the culvert and canyon, as were one set each of coyote and bobcat.

Sixteen points were not surveyed due to delays in right- of- entry permissions (Figure 1).

The study area was divided into three areas (Figure 3) for ease in describing features or animal movement. Area A is comprised of the western portion of the study area and contains the proposed Beyer Boulevard extension and the proposed wildlife undercrossing. Area B is comprised of the south-central portion of the study area and Area C is comprised of the eastern portion of the study area.

Sign observed of coyote demonstrated regular movement of these animals on the dirt roads along the mesa edge as well as several north-south natural pathways in Area A, in particular the swales highlighted in Figure 4. High-use transit areas were found in east-west directions through Area B with some north-south movement on and off the mesa. One high use zone for coyote was found in Area B (Figure 8). Bobcat movement patterns were more compact than those of coyotes and centered more in Areas A and C.

Discussion

The area surveyed contains a mix of mesa and canyon habitats and water sources capable of supporting a diversity of wildlife. Coyote and bobcat are the dominant carnivores in the study area and their presence is an indication of the health of the ecosystem and an indicator of the abundance of the smaller prey species (Gehrt et al. 2009). Sign of diverse prey species was also found. Coyote and bobcat are the focal species for this study and will help determine the best placement for a wildlife crossing location. Specific recommendations regarding wildlife crossing placement(s) will be made after the summer survey have been completed.

The coyote is the largest wild carnivore in most metropolitan areas across its range (Gehrt et al 2009), and coyotes in the southwest are smaller than northern and eastern coyotes. Typical coyote populations are comprised of resident groups, or packs, maintaining exclusive territories across the landscape, with solitary individuals of both sexes inhabiting large home ranges that overlap one another and the smaller group territories (Bekoff and Wells 1980; Gese and Ruff 1997, 1998; Gese 2001). A Ventura County, California study found conservative minimum population density estimates of 0.21 coyotes per km^2 in fragmented areas and 0.53 coyotes per km^2 in the contiguous natural areas adjacent to urbanization (Tigas et al. 2002). Packs are composed of an alpha adult male and female that breed and are dominant over one or more associates that help defend territories and provision the young of the alpha pair.

Most studies of urban coyotes have focused on resident, territorial individuals when attempting to determine home range sizes. For annual home ranges, a mean value of 13.4 km^2 (5.17 mi^2) was derived from an aggregate of urban coyote studies and for solitary nomad coyotes the range sizes are quite large, 90-100 km^2 (Gehrt et al. 2009).

The Ventura County study documented coyotes crossing roads, both freeways and secondary roads, and dispersing between habitat fragments (Tigas et al. 2002) and from fragmented urban areas to large contiguous natural areas. While 52% of 110 radio-collared coyotes crossed major secondary roads in the area, only 4.5% of 110 coyotes crossed US 101, a 10 to 12 lane freeway.

Activity patterns of urban coyotes tend to be primarily during night, and this allows less likelihood of human encounters or traffic. They have a free-flowing pattern of movement with several areas wherein more evidence of activity appears, indicating potential seasonal range centers within the natural areas. Diet studies of coyotes in urban areas are dominated by small mammals such as rodents and lagomorphs with human related food sources such as pet food, cats and garbage as high as 25-30% in fragmented areas. In less fragmented areas generally more diverse diets including birds and woodrats among other species are prevalent.

The bobcat is the most adaptable cat species in the Western Hemisphere. On average an adult bobcat is twice the size of a typical house cat and about 10 times smaller than a mountain lion. An adult bobcat's weight averages 9.6 kg (21.1 pounds) for males and 6.8 kg (15 pounds) for females (Gehrt et al 2009). Bobcats are strict carnivores that focus on large rodents or

lagomorphs but can also rely on a variety of prey. Scat studies have found that while rabbits are the most common prey, woodrats, pocket gophers and voles, among others, can be included.

Potentially active at any time of the day or night, bobcats are often considered to be primarily nocturnal or crepuscular, with most activity occurring in the evening and early morning (Anderson and Lovallo 2003). Forays into developed areas occur primarily between 2200 and 0500 (Tigas et al. 2002). In the Ventura County study, on average, female home ranges (95% MCPs) were 2.3 kilometers $(km)^2$ (.888 $miles^2$) and male home ranges were 5.2 km^2 (2.01 $miles^2$). Some studies have found smaller urban home ranges, including in San Diego (Lembeck 1978; Lembeck and Gould 1979) where two adult female home ranges averaged 1.0 km2 and male home ranges averaged 3.1 km^2.

Bobcat populations in Ventura, San Diego and Orange County studies that included radio-tracking in highly fragmented landscapes have found that bobcats utilize the entire landscape, including developed areas, although they still predominantly used natural habitat.

Bobcats have been detected across a broad range of fragment sizes, including in fragments smaller than even a single female's home range (Tigas et al. 2003). It has been discovered that up to 3 different bobcats may use small fragments simultaneously and that they will move between them, even across very busy roads and freeways. However, Crooks (2002) found that bobcats were absent from most (27 out of 29) isolated fragments smaller than 1 km^2 but present in all nine sites surveyed larger than 2.5 km^2. This has implications for the Southwest Village Project.

Habitat fragmentation caused by development, as seen in Southern California, leads to smaller home ranges and greater home range overlap when animals are restricted in their regular movement across the landscape (Young et al. 2019) (assuming that resources are sufficiently dense to support all individuals). However, if urban areas represent lower-quality habitat than natural areas, we might expect bobcat home ranges that include developed areas to be larger. Both effects could also be occurring simultaneously: animals whose ranges abut, but do not include, developed areas may have smaller ranges (this currently appears to be the case in much of the current Southwest Village Project study area), while animals whose ranges include development may use more area as the amount of development increases. If the ranges of the focal species are consistent with the two above cited studies (Tigas et al. 2002, Young et al. 2019) then we can expect that the coyote and bobcat ranges may be smaller here than in other parts of the country, and expect that the study area comprises a portion of the coyote range and potentially a large portion of the bobcat ranges. The initial fieldwork for this wildlife survey series resulted in the identification of several hotspots of activity for the focal species. The remaining surveys may enable a better understanding of how large the seasonal areas of focal species use are within the study area. Refining data on species movements with emphasis on Area A will be the priority in the next surveys.

For discussion of the movements of the two focal species, the area was divided into three areas (Figures 3, 4, 5 and 6). Area A is comprised of the western portion of the study area and contains the proposed Beyer Boulevard extension and the proposed wildlife undercrossing. Area B is comprised of the southern portion of the study area and Area C is comprised of the eastern portion of the study area. Each of these areas contains a mix of habitat types with resources capable of supporting a wide variety of species. The observations thus far have identified several coyote and bobcat high use zones or hot spots within each of these areas (Figures 6, 7, and 8). For the purposes of this report high use zones or hot spots are defined as areas containing evidence of high species activity. While coyotes are much more mobile and their range centers are more fluid than bobcats, the observations indicate coyote high use areas which are also depicted in Figure 8.

Area A is the westernmost segment of the overall area (Figure 4). The southern extent of Area A contains a system of east/west ridges and canyons with a prime feature being two deep canyons. The deep canyon in the middle of the area curves south and joins the adjacent east/west deep canyon at its western mouth. In the vicinity of this confluence, and just north, are coyote and bobcat high use areas. The canyons are well vegetated and provide excellent cover and resources for these focal species. The canyon topography gives way to a more plain-like or rolling hill area that gradually slopes up toward the primary area of interest to the north, where the easterly/westerly oriented Beyer canyon network provides another high use area for both focal species. The more plain-like area contains a small seasonal pond, abundant prey species, and a mix of chaparral and grassland with ample rolling hill terrain, vegetative cover, and a "tri-swale" topographical feature situated on a generally northwest/southeast alignment. This is strongly conducive to unfettered movement of the focal species. There is a strong presence of both bobcat and coyote throughout Area A with a tendency of movement into and out of the two southern canyons as well as along the adjacent canyon ridges. The focal species' flow pattern favors the northwest-southeast oriented swales with evidence of movement via the dirt roads through these three swales and along the mesa east of the swales from between the canyon complex that lies south and the Beyer Canyon complex in the north part of Area A. There is also substantial movement between the Area A south canyon complex and Area B to the east. The mid-section plain/rolling hill zone in Area A is liberally used by focal species for hunting as are the north and south canyon complexes (Photos 1and 2) (Figures 4 and 8).

Area B is the south section (Figure 5). Within the northern part of this area lies a mesa which descends from the mesa top in roughly 3 steps in a southerly direction. The focal species make liberal use of the mesa, primarily patrolling along the dirt road along the mesa edge during hunting forays. The mesa supports abundant prey and as they move along the mesa edge, bobcat and coyote have access to vegetative cover just below the mesa top. The first level below the mesa is relatively heavily vegetated compared to the mesa and has plenty of resources for survival. The focal species use Area B extensively, primarily as a transit zone however there are water catches in several locations through here and plenty of prey. The third and lowest level contains a stream riparian zone that supports considerable activity of the focal species. This riparian zone contained evidence of being a high use zone for bobcat. The network

of dirt roads facilitates mobility for the focal species in each of the three areas (A, B, C) but more so in Area B where there is a much greater border patrol presence/activity. The riparian zone in the southern part of Area B is an extension of, and downstream from, the canyon complex in Area C.

Area C contains a main canyon on a primarily north/south orientation with a complex network of finger canyons feeding into the main canyon, spilling south and curving westerly as it nears the United States/Mexico border (Figure 6). As with the rest of the overall area, canyons are interspersed with flat mesa areas. Area C is quite diverse and supports the focal species with all the elements a natural area can offer. Area C is the beneficiary of a lone, tenuous culvert connection that runs under Otay Mesa Road at Corporate Center Drive. This culvert is at the north origin of the main Area C trunk canyon. The culvert is small and not capable of functioning as a sufficient wildlife corridor for larger mammals such as mule deer (*Odocoileus hemionus*) given its relatively small dimensions and overall length. No mule deer sign was found here or anywhere south of this culvert. In years past deer were present to the north of this culvert. Gene pool exchange between areas north and south of Otay Mesa Road and the 905 Freeway is possible via this passage for smaller animals but it is not ideal for frequent safe passages. No other connections to the study area have been found. At the present time, the area detailed in Figure 2 is relatively large and varied enough to accommodate a diverse array of species, despite being a habitat fragment. This one culvert connection is, therefore, very important but could use improvement or augmentation and the entire area would benefit by the installation of additional crossings. Area C supports several high activity bobcat hotspots and coyote movement is prevalent throughout. The movement frequency is very high between mesas and canyons throughout this area for both species. While the same pattern of mesa forays for hunting exists in Area C as in Areas A and B, the extensive and larger canyon complex here offers a comparatively more diverse array of resources. The potential for human intrusion in Area C, while still significant, is less pronounced than in the other areas. Consequently, there was found to be more evidence of focal species activity overall in Area C. There is an overall north/south focal species flow pattern up and down the main canyon. This flow connects with an east/west hunting pattern linking to several hunting areas interspersed along the expanse of Area C and into Area B to the west. Several hotspot areas were found in Area C (Figure 8). Photographs 3 and 4 are from the center of Area C.

The study area is constricted on the west and north by roads and to the south by border activities; therefore, the positioning of wildlife crossings in a developed setting such as this would be critical in order to accommodate the natural movements of the animals as development proceeds, thereby minimizing the potential of vehicle encounters as animals adjust to the changing land use.

Conclusions

The area surveyed contains a mix of mesa and canyon habitats and water sources capable of supporting a diversity of wildlife. Coyote and bobcat are the dominant carnivores in the study

area and their presence is an indication of the health of the ecosystem and an indicator of the abundance of the smaller prey species (Gehrt et al. 2009). Sign of diverse prey species was also found. Coyote and bobcat are the designated focal species for this study and further evidence of their movements will help determine the best placement for a wildlife crossing location.

Several high use areas and regularly-used transit areas for each species has been identified.

One corridor facilitating movement in and out of the study area was identified and determined to be a tenuous connection between the project area and the Otay River watershed via a small culvert undercrossing at the south end of Dennery Canyon. While evidence of focal species use of this tunnel was found, the culvert's small size makes it useful primarily for small animals. No other connections to the overall area have been found. It would be beneficial to enhance this culvert.

Specific recommendations regarding Beyer Boulevard wildlife crossing placement(s) will be made after the summer survey has been completed, provided appropriate right of entry permissions are acquired to the County of San Diego parcels that contain the lands proposed for the wildlife tunnel.

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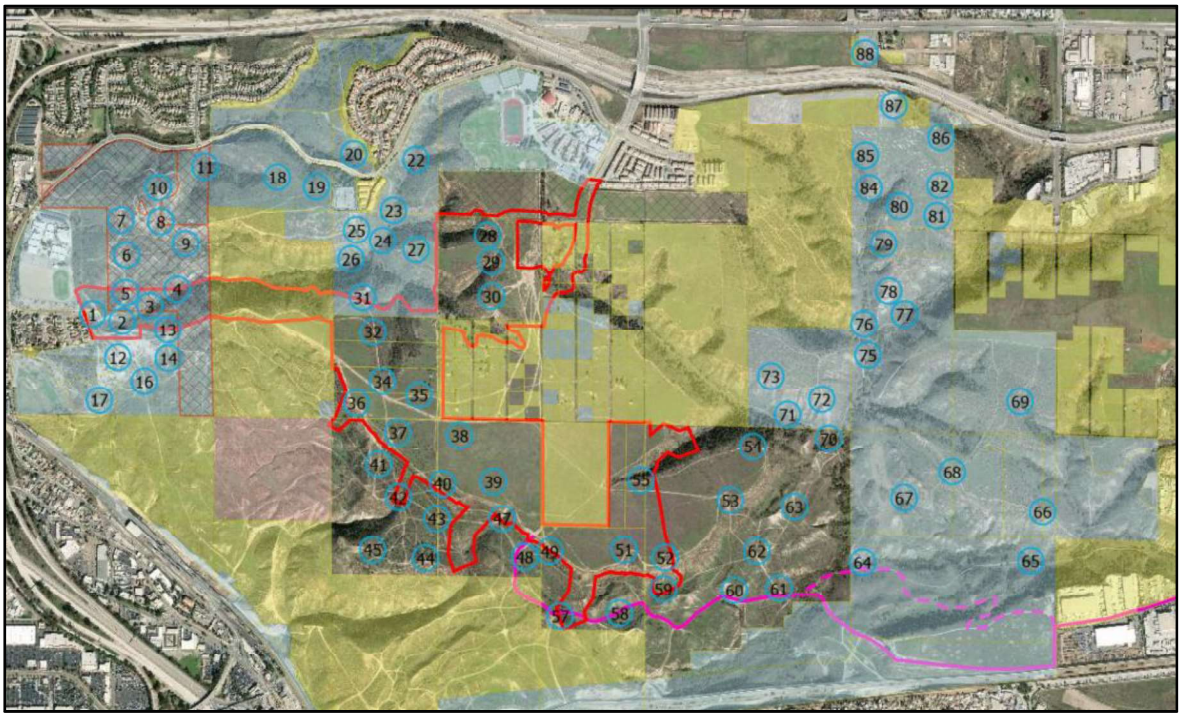
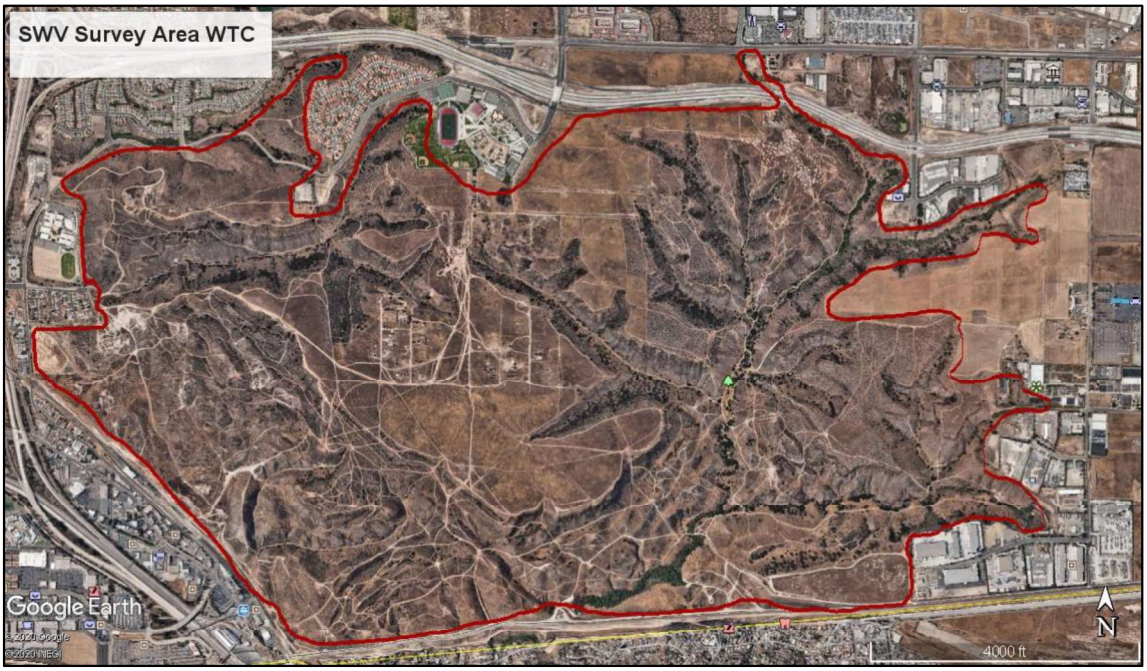
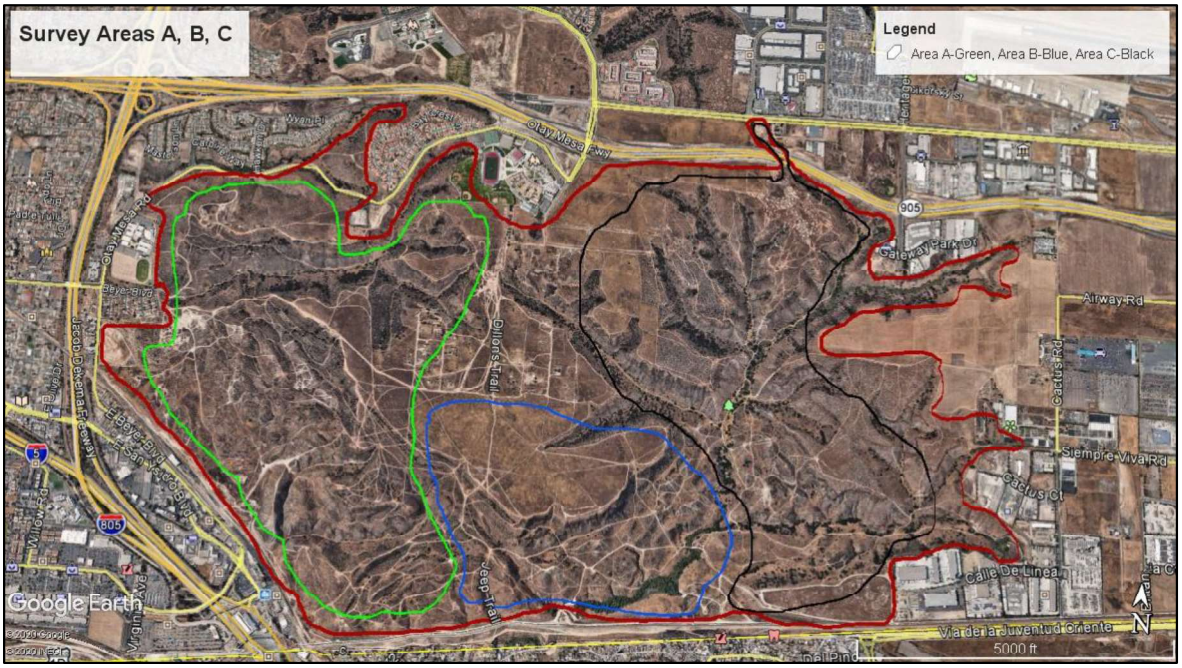
Appendix A
Figures



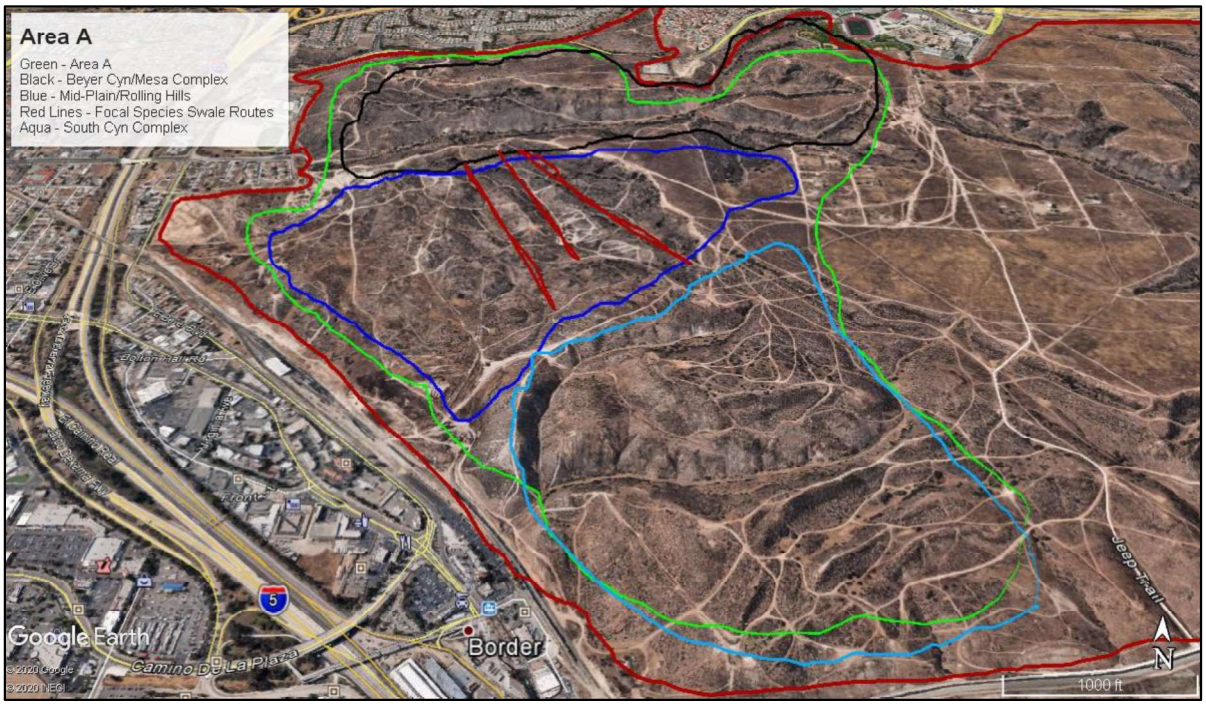
1. Project Area, Access Permissions and Sample Points. No Color = Client, Full Access. Yellow/Pink = Private, No Entry. Blue = County or City of San Diego, Notice Required. Blue/Red Hash = Permission Pending



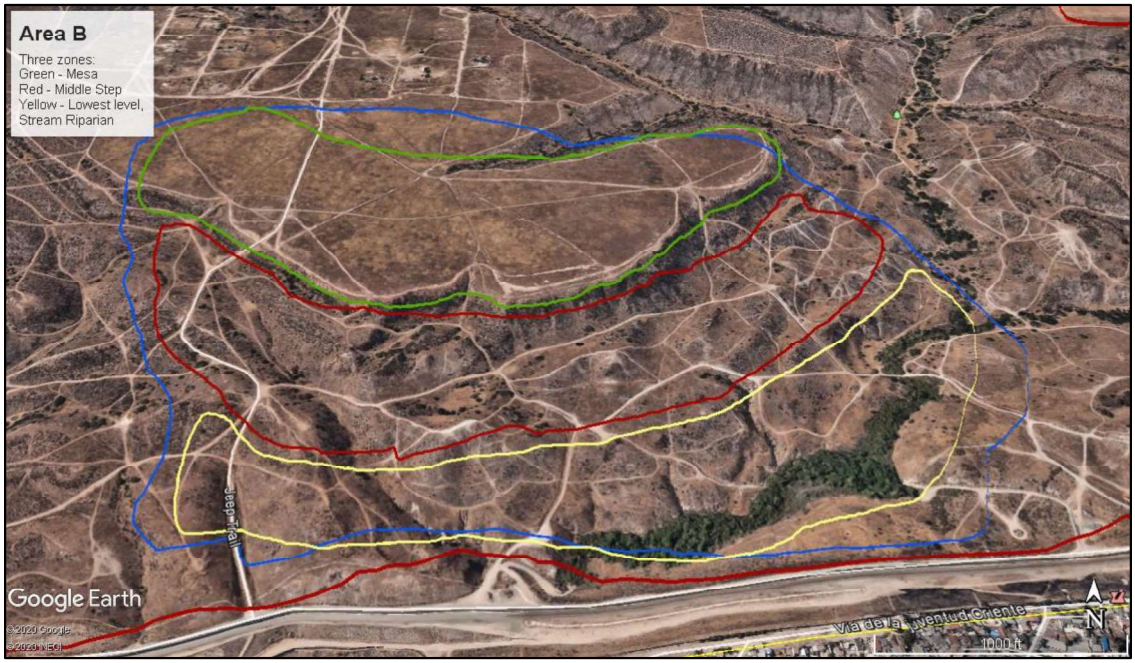
2. Study Area



3. Areas A, B, and C



4. Area A



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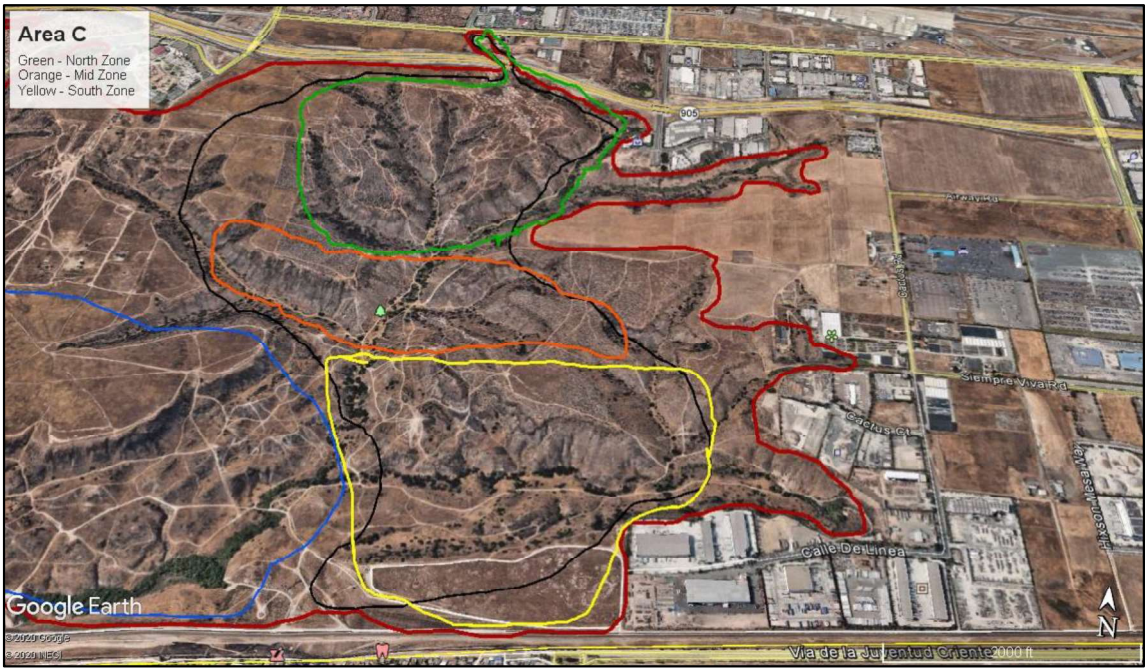
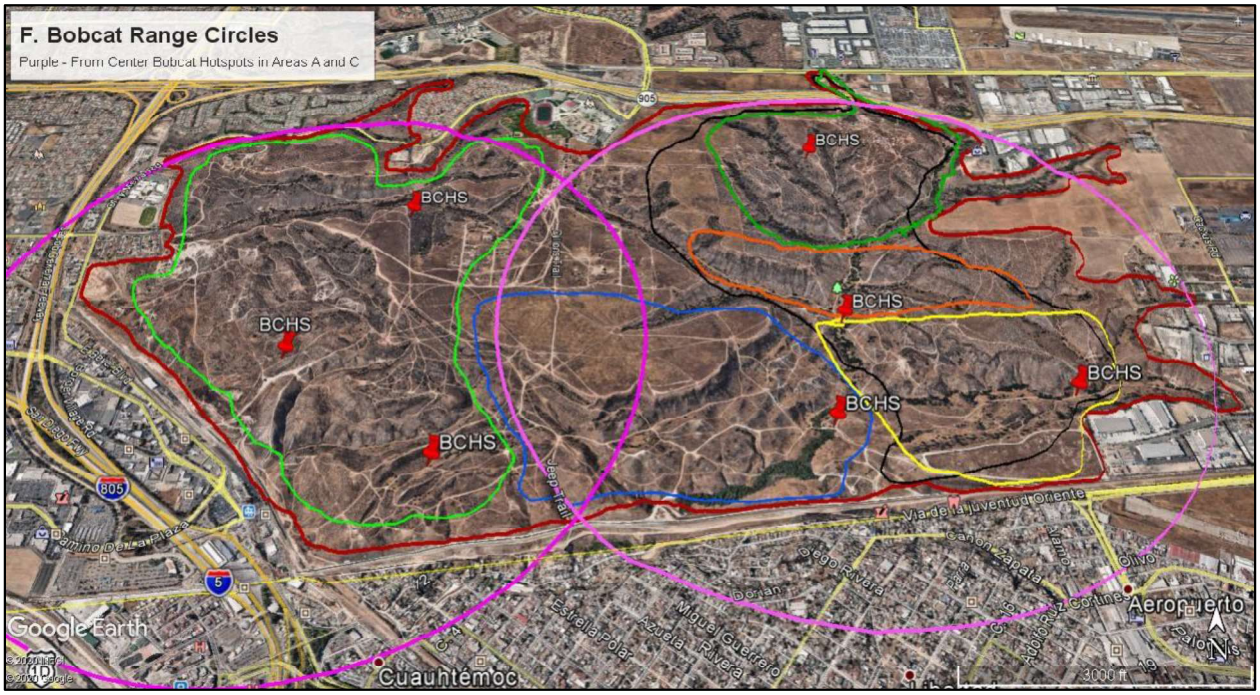
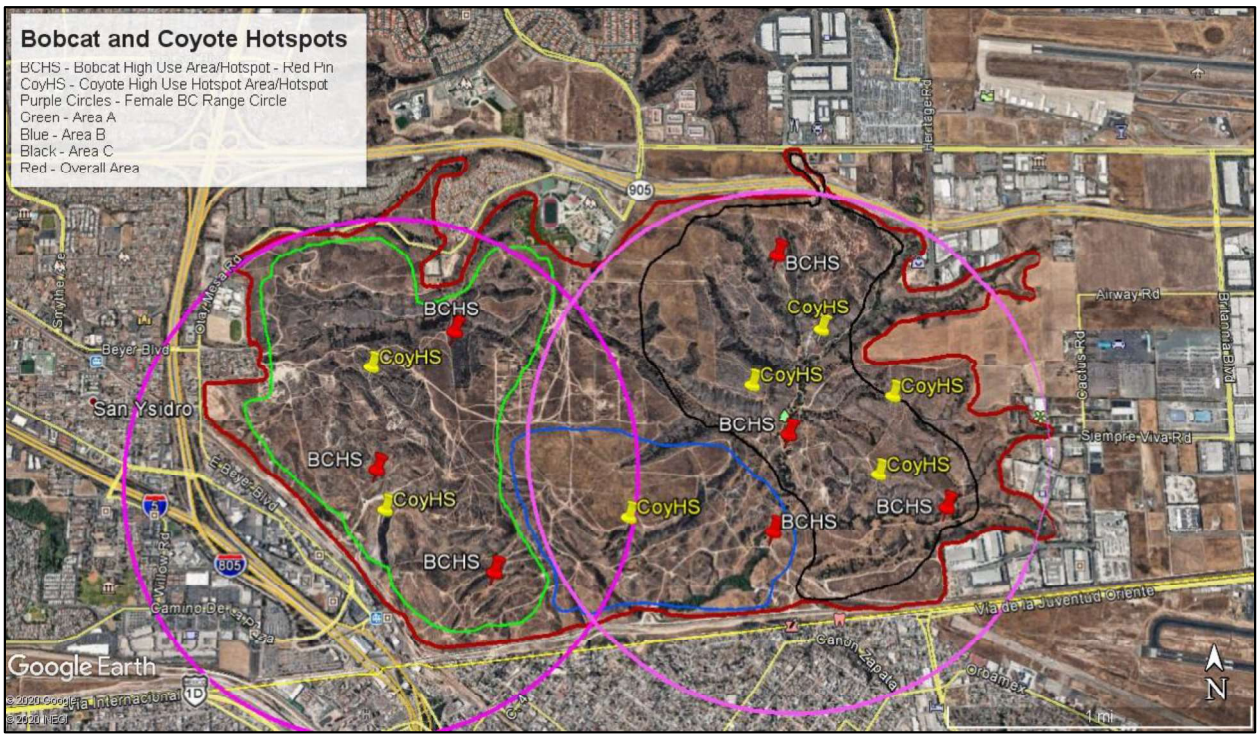


6. Area C



7. Bobcat High Use (Hotspots) and Range Circles



8. Coyote/Bobcat Hotspots

Appendix B
Animal Species Observed

SCIENTIFIC NAME	COMMON NAME
BIRDS	
	Kites, Eagles and Hawks
Circus hudsonius	Northern harrier†
Buteo jamaicensis	Red-tailed hawk
Cathartes aura	Turkey vulture
	Caracaras and Falcons
Falco sparverius	American kestrel
	Upland Game Birds
Callipepla californica	California quail
	Pigeons and Doves
Zenaida macroura	Mourning dove
	Hummingbirds
Calypte anna	Anna's hummingbird
	Tyrant Flycatchers
Tyrannus vociferans	Cassin's kingbird
Sayornis nigricans	Black phoebe
Sayornis saya	Say's phoebe
	Jays, Crows, and Allies
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
	Chickadees, Nuthatches, and Allies
Psaltriparus minimus	American bushtit
	Cuckoos and Allies
Geococcyx californianus	Greater roadrunner
	Mockingbirds and Thrashers
Mimus polyglottos	Northern mockingbird
Toxostoma redivivum	California thrasher
	Waxwings, Flycatchers, and Starlings
Sturnus vulgaris	European starling
	Wrens
Troglodytes aedon	House wren
	Kinglets, Old World Warblers, and Gnatcatchers
Polioptila californica	California gnatcatcher†
Chamaea fasciata	Wrentit

	Wood Warblers
	Orange crowned warbler
	Emberizen Sparrows and Allies
Melozone crissalis	California towhee
	Icterids
Sturnella neglecta	Western meadowlark
Reptiles	
	Anguid Lizards
Elgaria multicarinata	Southern alligator lizard
	Spiny Lizards
Sceloporus occidentalis	Western fence lizard
Phrynosoma blanvillii	Blainville's horned lizard†
	Non-Venomous Colubrid Snakes
Pacific gopher snake	Pacific gopher snake
	Vipers
Crotalus helleri	Southern pacific rattlesnake
Mammals	
	Hedgehogs, Moles, and Shrews
Soricidae sp.	Shrew
	Rodents
Thomomys bottae	Botta's pocket gopher
Otospermophilus beechyi	California ground squirrel
Microtus californicus	California vole
Peromyscus sp.	Deer mouse
Reithrodontomys sp.	Harvest mouse
Dipodomys simulans	Dulzura kangaroo rat
Chaetodipus sp.	Pocket mouse
Neotoma bryanti	Bryant's (San Diego) woodrat
Neotoma macrotis	Big-eared woodrat
	Lagomorphs
Lepus californicus bennettii	San Diego black-tailed jackrabbit†
Sylvilagus bachmani	Brush rabbit
Sylvilagus audubonii	Desert cottontail
	Mustelids
Mustela frenata	Long-tailed weasel†
	Procyonids
Procyon lotor	*Raccoon*
	Canids
Canis familiaris	Domestic dog

Canis latrans	Coyote
Urocyon cinereoargenteus	Gray fox
	Felids
Lynx rufus	Bobcat
†Sensitive species on a state or local level	

Appendix C
Site Photographs

1. Coyote - Beyer Canyon

2. Bobcat Kill Site – Jackrabbit rumen and skull, Area A.

3. Coyote – Area C

4. Bobcat – Area C

MARCH 2022 ADDENDUM

To The

SOUTHWEST VILLAGE WILDLIFE MOVEMENT STUDY

Pertaining to the Proposed Beyer Boulevard Wildlife Underpass

Dated September 2020

Prepared for:
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March 2022

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FIGURE A 9

EXECUTIVE SUMMARY AND INTRODUCTION

During 2020 Wildlife Tracking Company conducted wildlife tracking surveys for the Southwest Village Project to discern wildlife presence, wildlife movement patterns, identify focal mammal species, and to identify connectivity constraints to adjacent areas. Dated September 14, 2020, a report, derived from the data gathered during these surveys, was submitted with recommendations regarding placement and design of a proposed wildlife undercrossing. Bobcat, coyote and gray fox were the most prevalent medium-to-large mammals documented within the study area, and sign of numerous species of small mammals were observed.

The purpose of the 2020 study was to recommend crossing points to facilitate wildlife movement across the proposed Beyer Boulevard extension. It was made clear to WTC that an undercrossing was the preferred method of conveyance for species between the areas north and south of the Beyer Boulevard extension. Suggestions regarding a bridge possibility, were not considered. Recommendations were given for an undercrossing and after consultations with the road construction engineers a location and design features for the undercrossing was negotiated and agreed upon.

In February 2022 WTC was asked to give input on a wildlife bridge alternative. This is an addendum to the original 2020 report and will deal with the newly proposed overcrossing and some considerations intended to optimize its success.

EXISTING WILDLIFE MOVEMENT

This addendum is based upon the 2020 findings detailed in the original September 2020 report. For clarity purposes the entire area surveyed was divided into sections. The proposed location of the Beyer Boulevard extension and overcrossing lies within the northern tier of the section designated Area A. (Fig. A) Moody Canyon is an east/west oriented landscape feature that lies within Area A. The Beyer Boulevard extension will traverse parallel to the canyon along its north facing rim. (See Figs 3 and 8 in the 2020 report).

As detailed in the 2020 report with regard to the “Focal Species” (the more mobile predators that are resident to the project area and surroundings), “The canyonland topography in the south of Area A gives way to a more plain-like or rolling hill area that gradually slopes up toward the primary area of interest to the north, where the east/west oriented Moody Canyon network provides another high use area for focal species. The more plain-like area in the middle of area A contains a small seasonal pond, abundant prey species for coyote, bobcat and gray fox, and a mix of chaparral and grassland with ample rolling hill terrain, vegetative cover, and a tri-swale topographical feature situated on a generally northwest-southeast alignment. This feature is strongly conducive to, and evidence supports, movement of the focal species.” (See Addendum Fig. A).

“Bobcat, coyote, and gray fox sign was found throughout the Moody Canyon area. All three species use the canyon bottom extensively, moving along the dry watercourse and adjacent trails, and hunting along the canyon sides and the overlooking mesas north and south.”

“The north-facing slope in the vicinity of the proposed undercrossing has sign of coyote, bobcat and gray fox in addition to abundant sign of their prey species. Just across Moody Canyon from here to the north on the mesa, presence of coyote and bobcat was recorded on the dirt road along the mesa edge overlooking the canyon from the north; however not as much focal species activity was recorded on this mesa as in the canyon or south of the canyon.”

“South of Moody Canyon along the rim trail and off the trail to the north, in the vicinity of the proposed undercrossing location, there was abundant focal species’ evidence during both survey seasons. This indicates that this is an area of habitual use by bobcat and coyote. This section is near the northern terminus area of the three Area A swales mentioned above. Focal species movement occurs to and from the south from this area. The canyon rim trail ties in to the mesa trail that comes from the mesa southeast of this location. There was evidence of coyote, gray fox and bobcat using this mesa route regularly.”

All of this is justification for creating a situation conducive to free-flowing movement over and under any potential obstruction to the already free flow of wildlife movement in this location. The report findings indicate that resources in the entire area are widely spread and any restrictions to movement or further fragmentation of habitat will have a negative impact on satisfaction of basic needs, especially in the case of a road being cut through a transition area.

OVERCROSSING LOCATION

The proposed location of the overcrossing lines up closer to where the Area A northwest/southeast oriented swales terminate at the existing Moody Canyon rim road. This location is closer to the originally suggested undercrossing location which was proposed on the basis of accommodating what already seems to be a natural movement pattern of the focal species in the area. It also appears to take advantage of a small leveling of the topography situated below the present canyon north rim that contained ample evidence of focal species’ activity during the 2020 survey cycle.

OVERCROSSING vs UNDERCROSSING

While there are many very successful under-crossings throughout San Diego County and the world, new technologies and evidence of success with overcrossings is becoming prevalent and design technologies are advancing the state of the art. (Arc Solutions 2017) (Conservation NW I-90).

The situation in Area A regarding the movement patterns of the focal species (Bobcat, Coyote and Gray Fox) are conducive to utilization of the more natural features an overpass would present, if properly incorporated, since these species are accustomed to using the swales, mentioned above, to move north and south, and the canyon rim road where the swales terminate. This rim road that parallels Moody Canyon facilitates movement along the edge of the transition zone from plateau habitat to a lusher canyon-side habitat where there is a more secluded area that currently contains abundant prey, good cover and plenty of evidence of hunting activity. An overpass would blend with the existing situation and be more inviting to the focal species.

In a 2002 study on behavioral responses of bobcats and coyotes to habitat fragmentation and corridors in an urban environment Tigas et. al. states, "…. Both species tended to cross over roads rather than use culverts. Culverts were more likely to be used earlier in the night, during heavier traffic, and if they contained less water. Bobcats and coyotes used corridors as habitat and, less often, for travel. Both species also crossed development to move between fragments, but seemed to prefer corridors when available. Our results indicate that bobcats and coyotes persisting in an urban environment adjust behaviorally to habitat fragmentation and human activities, in part through temporal and spatial avoidance. **Both species appeared willing to cross well-travelled roads despite the availability of culverts; consequently, vehicular collision is an important cause of mortality (50%) and needs attention."** (Tigas, et. al. 2002).

This research supports a more natural overpass alternative particularly considering the willingness of both bobcats and coyotes to cross well-travelled roads despite the availability of culverts.

Under-crossings have been successful in accommodating movement of a variety of species and the addition of frequently spaced culverts will aid in perforating the barrier effect of the road especially for smaller species. The openness ratio is an important factor for larger animals such as mule deer, which are not presently found in the study area. By combining non-flooding 6-foot culverts spaced on either side of an overcrossing (in which openness ratio becomes moot), a more optimal situation under the SWV development plan is presented for all the species currently found in this area. If coyotes and bobcats have a propensity to attempt to cross roads even when a culvert exists in the area, fencing as recommended, will help mitigate this but the presence of an overpass provides a preferable alternative as well.

Regarding inclusion of culverts and an over-crossing for enhanced permeability, "Even roads that are not well traveled and are fairly narrow can have devastating effects on animals' movements; however, the extent to which an animal is affected varies greatly between species. Deer mice, meadow voles, and red-backed voles preferred small crossing structures having larger diameters. Small mammals prefer dense and proximate overhead cover because smaller structures seem safer for them. Smaller mammals are less likely to use overpasses due to energy demands and predator risks. Small- and medium-sized animals use crossing structures having lower traffic volume during night time. Enhancing entrance cover at crossing structures and along the exclusion fence influence small mammals' movement across the crossing structures and fence. Simple crossing structures may reduce energy demands and confusion. Mice travel easily on ground and arboreal substrates, so they had success in all cover amounts, while meadow voles felt discomfort on non-grassy substrates under heavy cover." (Stewart, Lauren, et al. 2020).

These points are applicable to the species mix found in the SWV project area. Including both types of crossings will improve the chances of the whole habitat remaining viable for a variety of species. Both appeal to specific species, i.e., some preferring the openness of the over-crossing and others preferring a culvert, with some comfortable using either option under certain circumstances.

CULVERT CONSIDERATIONS

Wildlife crossings have been important for protecting biodiversity in many areas of southern California. Wildlife in areas that have been increasingly fragmented by road construction have benefitted greatly from culvert perforations under the roads (Haas 2000). Within the 2020 study area related to the SWV project is a 6-foot culvert connecting Dennery Canyon with Area C of the study area which lies east of the SWV project site. While this is a substandard culvert in terms of providing for movement of large mammals such as mule deer, it does accommodate smaller mammals including our focal species and a variety of smaller prey species, when it isn't flooded.

Having 6-foot, non-flooding culverts per the proposed Beyer Boulevard plan would afford another alternative to small species *and* the larger focal species that will help ensure an abundant species mix and genetic transfer between both sides of the road (Haas 2000).

This comports well with the Stewart, Lauren, et. al. (2020) study cited above and further bolsters the argument for inclusion of both these alternatives (over and under-crossings) in this project in order to maintain diverse species viability in the area.

FENCING

Section 7.2.2 in the September 2020 report recommends 6- or 8-foot fencing depending upon whether it is placed on the upslope or downslope side of the road. Fencing is an essential part of ensuring the success of all wildlife crossings and must be an integral part of the final product in the SWV project. Burying the foot of the fencing 6 to 12 inches to discourage digging is also an essential element of the total mix. In San Bernardino County, biologists have erected fences along SR 58 to complement underpasses (culverts) that are being used by the threatened desert tortoise. Tortoise deaths on the highway declined by 93% during the first four years after the introduction of the fences, proving that even makeshift wildlife crossings (storm-drainage culverts in this case) have the ability to increase highway permeability and protect sensitive species (Chilson 2003). Additionally, studies by Haas (2000) and Lyren (2001) report that underpasses in Orange, Riverside, and Los Angeles Counties have drawn significant use from a variety of species including bobcats, coyotes, gray fox, mule deer and long-tailed weasels.

OVERCROSSING CONSIDERATIONS

The overcrossing should have wide (flared) approaches with the appropriate mix of area specific, naturally occurring flora interspersed along the extent of the bridge replicating the surrounding habitat. Guiding fencing must be incorporated into the design.

Surface soil endemic to the immediate area should be used and be of sufficient depth over the bridge (3') to support the root structures of the plants.

The surface should be irregular in a way that replicates the surrounding natural terrain.

Refugia should be incorporated into the surface landscape in order to provide for safe passage of small species using the overcrossing. These may include rocky structures, thick bushes, appropriate bunch grasses, piles of decaying woody plant material, etc.

The sides of the bridge should be designed to discourage any climbing animals (gray fox, opossum, raccoon) from using it as a pathway due to the danger of falling onto the road below. Dimensions recommended by the DOT for "large mammals, high-mobility medium-sized mammals, low mobility medium-sized mammals, small mammals, amphibians (if adapted) and reptiles: Minimum width, 32' (10 m), Recommended width, 50-130' (15-40m). (USDOT 2011).

Bushes such as lemonade berry and others that develop good height (6-8') interspersed along the bridge, especially the edges, would shield the road from view and be conducive to bird movement. Regarding bird movements across roads Johnson, et al (2017) writes, "…serious consideration should be given to the implementation of vegetated wildlife overpasses over larger roads and motorways. Although costly, this method has previously proven to be highly successful in promoting the movements of several species and has additional mitigation value for multiple taxa beyond birds. (Johnson et al 2017).

In the interest of keeping human traffic from using the overcrossing, a 6' to 8' tall metal fence at the entrances, with relatively widely spaced (12-16") horizontal metal bars supported by vertical bars every 6' would allow wildlife to pass through but discourage humans. Signage informing that this is a "sensitive wildlife crossing, please stay out," would be incorporated into the structure or visible just beyond it on posts. The bottom bars of the of the fence would be up to 20" from the ground to encourage wildlife movement through.

CONCLUSIONS/OPINION

From the Department of Transportation Federal Highway Administration; "*Landscape connectivity is the degree to which the landscape facilitates animal movement and other ecological flows.* High levels of landscape connectivity occur when the area between core habitats in the landscape comprise relatively benign types of habitats without barriers, thus allowing wildlife to move freely through them in meeting their biological needs.

Landscape connectivity is important for two reasons:

1. Many animals regularly move through the landscape to different habitats to meet their daily, seasonal and basic biological needs.
2. Connectivity allows areas to be recolonized, for dispersal, for maintaining regional metapopulations and minimizing risks of inbreeding within populations.

Reduced landscape connectivity and limited movements due to roads may result in higher wildlife mortality, lower reproduction rates, ultimately smaller populations and overall lower population viability. These harmful effects have underscored the need to maintain and restore essential movements of wildlife across roads to maintain within population movements and genetic interchange. This is particularly important on roads with high traffic volumes that can be complete barriers to movement.

The fragmentation effect of roads begins as animals become reluctant to move across roads to access mates or preferred habitats for food and cover. The degree of aversion to roads may vary by age group and gender. The reasons why roads are avoided can generally be attributed to features associated with the road, e.g., traffic volume, road width *or major habitat alterations caused by the road.*

High-volume and high-speed roads tend to be the greatest barriers and most effective in disrupting animal movements and population interchange. *However, some studies have shown that secondary highways and unpaved roads can also impede animal movements*." (USDOT 2011) (Italics by author for emphasis).

In the literature dealing with habitat fragmentation, combined with the anecdotal experience of this author after over 30 years of observations involving fragmented habitat, introducing a road into an already fractured landscape is a death knell for species there. Will there be a gradual decline in the efficacy of Moody Canyon and surrounding habitat areas as a result of the new development? Based upon experience and the literature, this observer's opinion is an unqualified yes. However, the idea of requiring an overpass is a refreshing change in attitude and it will be interesting to observe, post construction, focal species' activity trends over time. Successful outcomes in this case may be precedent setting.

It has become widely accepted, after years of resistance, mainly due to cost factors, that the open and more natural overcrossing alternatives are worth pursuing. "The total number of motor vehicle accidents with large wildlife each year has been estimated at one to two million in the United States and at 45,000 in Canada. These numbers have increased even more in the last decade. In the United States alone, these collisions were estimated to cause 211 human fatalities, 29,000 human injuries and over US$1 billion in property damage annually." (USDOT 2011)

Based upon work by researchers such as Crooks and Riley on small and medium carnivores in fragmented habitats, it was pointed out in the September 2020 report that there are adaptations these carnivores make in order to survive and thrive. At what point do these adaptations begin to crumble if further fragmentation compromises the prey base to the point that the carnivore population is unable to sustain itself at the level it had enjoyed previously.

Current examples of successful overcrossings indicate that these concerns may be mitigated by inclusion of an adequately designed and constructed overcrossing in conjunction with strategically placed 6-foot dry culverts and directive fencing. With maximum permeable features build into the road, recent research indicates that wildlife benefit greatly and the effects of fragmentation are decreased.

In summation, the addition of a wildlife overcrossing to this project is supported by the successful outcomes of many overcrossing projects worldwide. A more open and natural appearing crossing such as the one proposed is likely to be a more attractive alternative to a wider variety of species seeking to move between the north and south sides of the Beyer Boulevard extension.

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CITATIONS

ARC SOLUTIONS 2017 https://arc-solutions.org/wp-content/uploads/2017/04/ARC-Special-Pub-Design Parameters.pdf

Chilson, P. (June 2003). "Cutting Edge: Right of Way" Audubon Magazine

Christopher D. Johnson, Daryl Evans, Darryl Jones (2017). Birds and Roads: Reduced Transit for Smaller Species over Roads within an Urban Environment. *Frontiers in Ecology and Evolution*, 2017; 5 DOI: 10.3389/fevo.2017.00036

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Haas, C. D. (2000). Distribution, relative abundance, and roadway underpass responses of carnivores throughout the Puente-Chino Hills (Master Thesis). California State Polytechnic University.

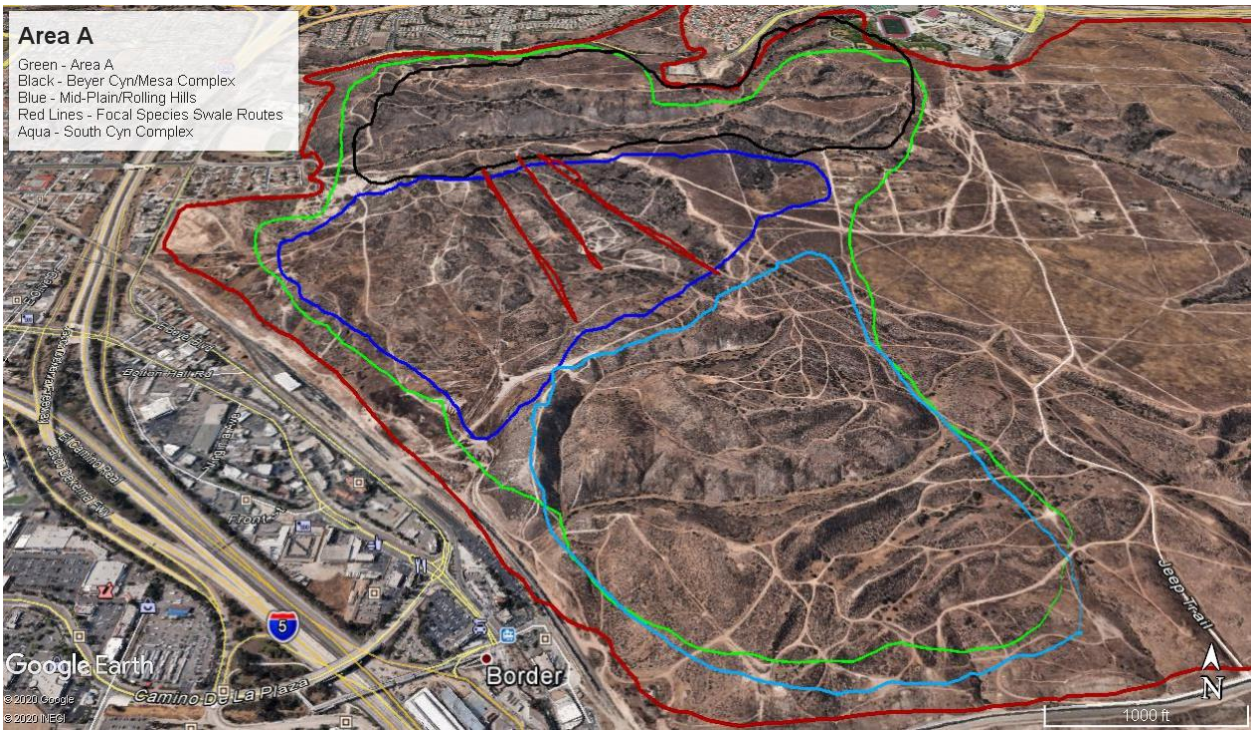
Lyren, L. M. (2001). Movement patterns of coyotes and bobcats relative to road underpasses in Chino Hills of southern California (Master Thesis). California State Polytechnic University.

Stewart, Lauren, et al. (2020)."Wildlife Crossing Design Influences Effectiveness for Small and Large Mammals in Banff National Park." *Case Studies in the Environment* 4.1.

Tigas, Lourraine & Vuren, Dirk & Sauvajot, Raymond. (2002). Behavioral responses of bobcats and coyotes to habitat fragmentation and corridors in an urban environment. Biological Conservation. 108. 299-306. 10.1016/S0006-3207(02)00120-9.

USDOT Federal Highway Administration (March 2011) WILDLIFE CROSSING STRUCTURE HANDBOOK DESIGN AND EVALUATION IN NORTH AMERICA Publication No. FHWA-CFL/TD-11-003.

FIGURE A


Area A
Green - Area A
Black - Beyer Cyn/Mesa Complex
Blue - Mid-Plain/Rolling Hills
Red Lines - Focal Species Swale Routes
Aqua - South Cyn Complex
Google Earth
© 2020 Google
© 2020 INEGI
Camino De La Plaza
Border
Jeep Trail
1000 ft
N

ATTACHMENT 3

Survey Dates, Times, and Weather Conditions

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
General Biological/Vegetation Mapping				
11/5/2017	E. McKinney, M. Weston	General Biological in Phase 1 and Beyer Boulevard	8:30 a.m.	2:30 p.m.
12/5/2017	E. McKinney, M. Weston	General Biological in Phase 1 and Beyer Boulevard	11:00 a.m.	3:00 p.m.
1/12/2018	E. McKinney, M. Weston	General Biological in mitigation lands and proposed vernal pool restoration areas	8:30 a.m.	2:30 p.m.
9/11/2019	A. Leavitt, R. Atik	General Biological in Beyer Boulevard, Phase 2, Phase 4, and within storm drain outfalls	8:30 a.m.	2:00 p.m.
9/17/2019	A. Leavitt, M. Dodero	General Biological in Phase 2, Phase 4, proposed vernal pool restoration areas, and mitigation lands	8:00 a.m.	12:30 p.m.
9/24/2019	A. Leavitt, M. Dodero	General Biological in Beyer Boulevard, Phase 2, Phase 4 and mitigation lands	8:00 a.m.	3:00 p.m.
10/7/2019	B. Procsal, R. Atik	General Biological on Beyer Boulevard	8:30 a.m.	12:30 p.m.
10/18/2019	B. Procsal, R. Atik	General Biological on Beyer Boulevard	8:30 a.m.	12:30 p.m.
2/10/2020	J. Sundberg	General Biological on portion of Phase 4 and Phase 2	8:30 a.m.	9:30 a.m.
3/24/2020	R. Atik, J. Mercado	General Biological in Phase 1 and Beyer Boulevard	8:30 a.m.	2:30 p.m.
3/26/2020	R. Atik, J. Sundberg	General Biological in Phase 1 and Beyer Boulevard	3:00 p.m.	3:30 p.m.
4/6/2020	B. Parker, R. Atik	Programmatic Trail surveys – Phases 3-7	8:30 a.m.	2:15 p.m.
4/15/2020	B. Parker, R. Atik	Programmatic Trail surveys – Phases 3-7	9:00 a.m.	2:30 p.m.
4/17/2020	B. Parker, A. Leavitt	Programmatic Trail surveys – Phases 3-7	9:30 a.m.	2:00 p.m.
2/8/2023	J. Woll, C. Thomson	Reverifying vegetation mapping in all Phases and spring rare plant survey, verifying limits of cactus wren habitat, snake cholla, and searches for burrowing owl sign	8:00 a.m.	3:00 p.m.
2/9/2023	J. Woll, C. Thomson	Reverifying vegetation mapping in all Phases and spring rare plant survey, verifying limits of cactus wren habitat, snake cholla, and searches for burrowing owl sign	8:00 a.m.	3:00 p.m.
3/24/2023	B. Procsal, A. Leavitt, K. Valenti, J. Sundberg, A. Smisek	Verification of suitable habitat for Quino checkerspot butterfly within the project-level analysis area	-	-

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/27/2023	B. Procsal, W. Loeffler, C. Thomson, J. Sundberg, A. Smisek	Verification of suitable habitat for Quino checkerspot butterfly within the project-level analysis area	-	-
3/28/2023	B. Procsal, J. Woll	Verification of suitable habitat for Quino checkerspot butterfly within the vernal pool restoration areas	-	-
6/14/2023	B. Procsal, G. Scheid	Survey of all disturbed wetlands for vernal pool plant indicator species	-	-
10/16/2023	C. Thomson	Off-site project improvement areas	8:35 a.m.	12:15 p.m.
1/17/2024	A. Smisek, J. Sundberg	EVA Road and Phase 4 Development Area Verification	-	-
5/30/2024	C. Thomson	Mesa top replacement lands	9:20 a.m.; 61ºF; winds 0–1 mph; 80% cloud cover	12:25 p.m.; 67ºF; winds 1-4 mph; 0% cloud cover
Jurisdictional Waters/Wetland Delineations				
3/4/2018	J. Sundberg, B. Procsal	Wetland Delineation in Phase 1 and Beyer Boulevard-ponding areas	-	-
3/6/2018	J. Sundberg, B. Procsal	Wetland Delineation in Phase 1 and Beyer Boulevard-ponding areas	-	-
3/15/2018	J. Sundberg, B. Procsal	Wetland Delineation in Phase 1a and Phase 1b-drainages	8:30 a.m.	2:00 p.m.
3/19/2018	B. Procsal, J. McBee	Wetland Delineation in Phase 1a and Phase 1b-ponding areas	8:30 a.m.	10:45 a.m.
3/26/2018	B. Procsal, M. Dodero	Wetland Delineation in Phase 1a and Phase 1b-ponding areas	11:30 a.m.	3:15 p.m.
3/29/2018	J. Sundberg, B. Procsal	Wetland Delineation in Phase 1a and Phase 1b-ponding areas	-	-
4/4/2018	J. Sundberg, B. Procsal	Wetland Delineation in Phase 1a and Phase 1b-ponding areas	8:00 a.m.	3:00 p.m.
4/6/2018	J. Sundberg, B. Procsal	Wetland Delineation in Phase 1a and Phase 1b-ponding areas	8:00 a.m.	2:00 p.m.
3/29/2019	J. Sundberg, B. Procsal, J. McBee	Wetland Delineation in Phase 1, Beyer Boulevard, Portion of Phase 4 and 2, and proposed vernal pool restoration areas-ponding areas	8:00 a.m.	3:00 p.m.
4/11/2019	J. Sundberg, B. Procsal, J. McBee	Wetland Delineation in Phase 1 Beyer Boulevard, Portion of Phase 4 and 2, and proposed vernal pool restoration areas-ponding areas	8:00 a.m.	2:00 p.m.

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
4/23/2019	J. Sundberg, B. Procsal, J. McBee	Wetland Delineation in Phase 1 Beyer Boulevard, Portion of Phase 4 and 2, and proposed vernal pool restoration areas-ponding areas	8:00 a.m.	2:00 p.m.
12/9/2019	B. Procsal; J. Sundberg	Wetland Delineation – Phase 1b and Phase 2a-drainages	8:00 a.m.	12:00 p.m.
12/13/2019	B. Procsal; J. Sundberg	Wetland Delineation – Phase 1, Beyer Boulevard, Phase 2, Phase 4, and within storm drain outfalls-drainages	8:00 a.m.	3:00 p.m.
1/14/2020	B. Procsal; G. Scheid	Wetland Delineation – Phase 1 Beyer Boulevard, Phase 2, Phase 4, and within storm drain outfalls-drainages	9:00 a.m.	3:00 p.m.
2/13/2020	J. Sundberg	Wetland Delineation – Phase 1, Beyer Boulevard, Phase 2, and Phase 4-drainages	9:00 a.m.	3:00 p.m.
2/27/2020	B. Procsal; R. Atik	Wetland Delineation – Phase 1, Beyer Boulevard, Phase 2 Phase 4, -ponding areas	9:00 a.m.	4:00 p.m.
3/3/2020	B. Procsal; J. Sundberg; A. Smisek; K. Chappaz	Wetland Delineation – Phase 1, Beyer Boulevard, Phase 2, Phase 4, -ponding areas	9:00 a.m.	4:00 p.m.
3/26/2020	J. Sundberg; R. Atik	Wetland Delineation – Phase 1, Beyer Boulevard, Phase 2, Phase 4, and Mitigation Lands-ponding areas	9:00 a.m.	4:00 p.m.
4/14/2020	B. Procsal; A. Leavitt	Wetland Delineation –Phase 1, Beyer Boulevard, Phase 2, Phase 4, -ponding areas and drainages	9:00 a.m.	4:30 p.m.
6/24/2020	B. Procsal; G. Scheid	Wetland Delineation –Phase 1, Beyer Boulevard, Phase 2, Phase 4, Areas-ponding areas	1:00 p.m.	4:00 p.m.
7/13/2020	G. Scheid	Wetland Delineation – Phase 1, Beyer Boulevard and Phase 2-ponding areas	8:00 a.m.	11:00 a.m.
3/17/2021	B. Procsal; G. Scheid	Wetland Delineation – Mitigation Lands- ponding areas and drainages	9:00 a.m.	4:30 p.m.
4/19/2021	B. Procsal, A. Smisek	Wetland Delineation – Mitigation Lands-ponding areas	9:00 a.m.	4:30 p.m.
8/18/2021	B. Procsal; G. Scheid	Stream Duration Assessment Method forms– Phases 1 & 2 Areas and Mitigation Lands	-	-
8/20/2021	B. Procsal; G. Scheid	Stream Duration Assessment Method forms– Phases 1 & 2 Areas and Mitigation Lands	-	-

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
2/9/2022	B. Procsal; A. Smisek	Wetland Delineation – Phases 1 & 2 Areas-drainages and vernal pools	-	-
5/5/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Phases 1 & 2 Areas-soil pits and paired sample points for ponding areas	-	-
5/8/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Phases 1 & 2 Areas-soil pits and paired sample points for ponding areas	-	-
6/16/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Phases 1 & 2 Areas- soil pits and paired sample points for ponding areas	-	-
6/20/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Mitigation Lands-soil pits and paired sample points for ponding areas	-	-
6/21/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Phases 1 & 2 Areas-soil pits and paired sample points for ponding areas	-	-
6/27/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Mitigation Lands -soil pits and paired sample points for ponding areas	-	-
7/5/2023	A. Smisek; C. Polevy; C. Thomson; J. Sundberg	Wetland Delineation – Phases 1 & 2 Areas-soil pits and paired sample points for ponding areas	-	-
8/8/2023	A. Smisek; D. Gadia	Wetland Delineation – Phases 1 & 2 Areas-paired sample points for ponding areas	-	-
8/17/2023	A. Smisek; D. Gadia	Wetland Delineation – Phases 1 & 2 Areas-paired sample points for ponding areas	-	-
1/17/2024	A. Smisek; J. Sundberg	EVA Road and Phase 4 Development Area Verification	-	-
Rare Plant Surveys				
4/9/2018	J. Sundberg	Rare Plant Survey in Phase 1, Beyer Boulevard, and portion of Phase 2	8:30 a.m.	3:30 p.m.
4/16/2018	J. Sundberg, A. Smisek, K. Valenti	Rare Plant Survey in Phase 1, Beyer Boulevard, and portion of Phase 2	8:30 a.m.	3:30 p.m.
5/30/2018	J. Sundberg, A. Capobianco	Rare Plant Survey in Phase 1, Beyer Boulevard, and a portion of Phase 2	8:30 a.m.	3:30 p.m.
6/24/2019	R. Atik, J. Mercado	Rare Plant Survey in Phase 1, 2 and Beyer Boulevard	9:00 a.m.	3:00 p.m.
7/23/2019	J. Sundberg, J. Mercado	Rare Plant Survey in Phase 1, 2, Beyer Boulevard, within storm drain outfalls, and within the vernal pool restoration areas	7:30 a.m.	3:00 p.m.

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
2/10/2020	J. Sundberg, M. Dodero	Rare Plant Survey in Phase 1, 2, Beyer Boulevard, and Mitigation Lands	8:30 a.m.	3:30 p.m.
2/11/2020	J. Sundberg, M. Dodero	Rare Plant Survey in Phase 1 and Beyer Boulevard	9:00 a.m.	3:00 p.m.
2/26/2020	J. Sundberg	Rare Plant Survey in Phase 2, , proposed vernal pool restoration areas, and mitigation lands	8:30 a.m.	3:30 p.m.
2/28/2020	J. Sundberg	Rare Plant Survey in Phase 1 and Beyer Boulevard, proposed vernal pool restoration areas, and mitigation lands	8:30 a.m.	12:00 p.m.
3/2/2020	J. Sundberg, K. Chappaz, J. Mercado	Rare Plant Survey in Beyer Boulevard, Phase 2, within storm drain outfalls, and within the vernal pool restoration areas	8:30 a.m.	3:30 p.m.
3/3/2020	J. Sundberg, K. Chappaz, A. Smisek	Rare Plant Survey in Beyer Boulevard, Phase 2, within storm drain outfalls, and within the vernal pool restoration areas	8:30 a.m.	3:30 p.m.
3/4/2020	J. Sundberg, K. Valenti	Rare Plant Survey in Phase 1, and Beyer Boulevard, and portion of Phase 2	9:00 a.m.	3:00 p.m.
3/6/2020	J. Sundberg	Rare Plant Survey in Phase 2, proposed vernal pool restoration areas, and mitigation lands	8:30 a.m.	3:30 p.m.
5/5/2020	J. Sundberg, M. Dodero, J. Mercado	Rare Plant Survey in Phase 1, portion of Phase 2 Beyer Boulevard, proposed vernal pool restoration areas, and mitigation lands	8:30 a.m.	3:30 p.m.
5/6/2020	J. Sundberg, K. Valenti, J. Mercado	Rare Plant Survey in Phase 1, Beyer Boulevard, portion of Phase 2, proposed vernal pool restoration areas, and mitigation lands	8:30 a.m.	3:00 p.m.
5/7/2020	J. Sundberg, J. Mercado	Rare Plant Survey in Beyer Boulevard, Phase 2, within storm drain outfalls, and within the vernal pool restoration areas	8:30 a.m.	3:30 p.m.
5/8/2020	J. Sundberg, K. Chappaz	Rare Plant Survey in Beyer Boulevard, Phase 2, storm drain outfalls, and within the vernal pool restoration areas	8:30 a.m.	3:30 p.m.
6/8/2020	J. Sundberg, A. Smisek	Rare Plant Survey with focus on Otay Tarplant within Beyer Boulevard	9:00 a.m.	4:00 p.m.

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
6/10/2020	J. Sundberg, A. Smisek	Rare Plant Survey with focus on Otay Tarplant within Beyer Boulevard	9:00 a.m.	4:00 p.m.
3/31/2021	J. Mercado	Rare plant survey within Phase Beyer Boulevard, storm drain outfalls, additional Phase 1 and 2 areas, and trails in Mitigation Lands	7:00 a.m.	2:00 p.m.
6/4/2021	J. Mercado	Rare plant survey within Beyer Boulevard, storm drain outfalls, additional Phase 2areas, and trails in Mitigation Lands	8:30 a.m.	11:30 a.m.
6/14/2023	B. Procsal, G. Scheid	Verification of the limits of Otay tarplant within the Beyer Boulevard alignment	-	-
4/12/2024	J. Sundberg	Rare plant survey #1 within the EVA Road and Phase 4 Development Area	-	-
6/7/2024	J. Sundberg	Rare plant survey #2 within the EVA Road and Phase 4 Development Area	-	-
Coastal California Gnatcatcher (CAGN) Surveys				
4/3/2018	M. Weston, K. Valenti[1]	CAGN Protocol Survey #1 – Mitigation Lands	6:50 a.m.; 55ºF; winds 0–1 mph; 95% cloud cover	10:10 a.m.; 64ºF; winds 1–3 mph; 95% cloud cover
4/11/2018	B. Procsal, K. Valenti[1]	CAGN Protocol Survey #2 – Mitigation Lands	7:45 a.m.; 63ºF; winds 0–1 mph; 99% cloud cover	10:25 a.m.; 75ºF; winds 0–3 mph; 10% cloud cover
4/18/2018	M. Weston, K. Valenti[1]	CAGN Protocol Survey #3 – Mitigation Lands	7:50 a.m.; 56ºF; winds 0–1 mph; 5% cloud cover	10:40 a.m.; 68ºF; winds 2–4 mph; 0% cloud cover
4/30/2018	M. Weston, B. Rigley[1]	CAGN Protocol Survey #1a – Phase 1, Beyer Boulevard, and a portion of Phase 2	6:15 a.m.; 56ºF; winds 4–7 mph; 100% cloud cover	11:30 a.m.; 62ºF; winds 4–7 mph; 100% cloud cover
5/1/2018	M. Weston, A. Fromer[1] B. Procsal, J. McBee[1]	CAGN Protocol Survey #1b – Phase 1, Beyer Boulevard, and a portion of Phase 2	8:10 a.m.; 58ºF; winds 3–5 mph; 80% cloud cover	9:45 a.m.; 58ºF; winds 4–7 mph; 100% cloud cover
5/8/2018	M. Weston. K. Valenti[1]	CAGN Protocol Survey #2a – Phase 1, Beyer Boulevard, and a portion of Phase 2	6:35 a.m.; 56ºF; winds 0–1 mph; 100% cloud cover	10:30 a.m.; 72ºF; winds 1–3 mph; 15% cloud cover
5/10/2018	M. Weston, J. McBee[1]	CAGN Protocol Survey #2b – Phase 1, Beyer Boulevard, and a portion of Phase 2	6:30 a.m.; 58ºF; winds 0–2 mph; 100% cloud cover	10:05 a.m.; 64ºF; winds 0–2 mph; 5% cloud cover
5/16/2018	M. Weston, K. Valenti[1]	CAGN Protocol Survey #3a – Phase 1, Beyer Boulevard, and a portion of Phase 2	6:55 a.m.; 60ºF; winds 0–1 mph; 100% cloud cover	11:05 a.m.; 73ºF; winds 3–5 mph; 3% cloud cover
5/17/2018	M. Weston, K. Valenti[1]	CAGN Protocol Survey #3b – Phase 1, Beyer Boulevard, and a portion of Phase 2	6:40 a.m.; 59ºF; winds 0–2 mph; 30% cloud cover	10:30 a.m.; 73ºF; winds 1–5 mph; 10% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
2/19/2020	B. Procsal, B. Parker[1]/ M. Dodero, A. Fromer[1]	CAGN Protocol Survey #1 – Beyer Boulevard, portion of Phase 1 and 2, and within storm drain outfalls	8:30 a.m.; 54ºF; winds 0–1 mph; 30% cloud cover	12:00 p.m.; 66ºF; winds 0-2 mph; 0% cloud cover
2/26/2020	B. Procsal, R. Atik[1]/ M. Dodero, A. Fromer[1]	CAGN Protocol Survey #2 — Beyer Boulevard, portion of Phase 1 and 2 and within storm drain outfalls	8:15 a.m.; 66ºF; winds 0–3 mph; 0% cloud cover	12:00 p.m.; 73ºF; winds 5-10 mph; <5% cloud cover
3/4/2020	B. Procsal, B. Parker[1]/ M. Dodero, A. Fromer[1]	CAGN Protocol Survey #3 — Beyer Boulevard, portion of Phase 1 and 2, and within storm drain outfalls	7:30 a.m.; 52ºF; winds 0–2 mph; 0% cloud cover	11:20 a.m.; 68ºF; winds 2–4 mph; 15% cloud cover
Quino Checkerspot Butterfly (QCB) Surveys				
2/16/2018	B. Procsal, E. McKinney	QCB Habitat Assessment – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:50 a.m.	2:10 p.m.
2/24/2018	D. Saucedo, T. Cooper, V. Novik	QCB Protocol Survey #1 – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:00 a.m.; 60°F; winds 3–5 mph; 0% cloud cover	12:45 p.m.; 68°F; winds 0–2 mph; 0% cloud cover
2/26/2018	W. Loeffler, A. Smisek	QCB Protocol Survey #2 – Phase 1, Beyer Boulevard, and a portion of Phase 2	11:00 a.m.; 63°F; winds 3–8 mph; 1% cloud cover	2:55 p.m.; 67°F; winds 4–6 mph; 3% cloud cover
3/05/2018	J. Sundberg, A. Smisek	QCB Protocol Survey #3 – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:00 a.m.; 61°F; winds 3–5 mph; 0% cloud cover	2:45 p.m.; 74°F; winds 0–4 mph; 70% cloud cover
3/12/2018	B. Procsal, A. Smisek	QCB Protocol Survey #4 – Phase 1, Beyer Boulevard, and a portion of Phase 2	11:25 a.m.; 74°F; winds 0–2 mph; 50% cloud cover	3:45 p.m.; 70°F; winds 4–7 mph; 20% cloud cover
3/19/2018	B. Procsal, A. Fromer	QCB Protocol Survey #5 – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:45 a.m.; 66°F; winds 3–5 mph; 30% cloud cover	2:45 p.m.; 67°F; winds 3–5 mph; 10% cloud cover
3/28/2018	E. McKinney, A. Fromer	QCB Protocol Survey #6 – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:10 a.m.; 65°F; winds 1–3 mph; 0% cloud cover	2:30 p.m.; 74°F; winds 7–8 mph; 0% cloud cover
4/02/2018	D. Saucedo, A. Smisek	QCB Protocol Survey #7a – Phase 1, Beyer Boulevard, and a portion of Phase 2	11:45 a.m.; 71°F; winds 4–7 mph; 100% cloud cover	3:20 p.m.; 69°F; winds 5–8 mph; 100% cloud cover
4/03/2018	V. Novik	QCB Protocol Survey #7b – Phase 1, Beyer Boulevard, and a portion of Phase 2	11:00 a.m.; 70°F; winds 4–7 mph; 50% cloud cover	1:00 p.m.; 71°F; winds 2–6 mph; 10% cloud cover
4/09/2018	D. Saucedo, A. Smisek	QCB Protocol Survey #8 – Phase 1, Beyer Boulevard, and a portion of Phase 2	9:30 a.m.; 71°F; winds 1–4 mph; 0% cloud cover	1:40 p.m.; 79°F; winds 4–7 mph; 10% cloud cover
4/16/2018	D. Saucedo, B. Procsal	QCB Protocol Survey #9 – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:00 a.m.; 66°F; winds 0–1 mph; 45% cloud cover	2:00 p.m.; 70°F; winds 4– mph; 20% cloud cover
4/23/2018	J. Sundberg, A. Smisek	QCB Protocol Survey #10 – Phase 1, Beyer Boulevard, and a portion of Phase 2	10:15 a.m.; 70°F; winds 0–3 mph; 0% cloud cover	2:35 p.m.; 74°F; winds 6–8 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/04/2018	D. Saucedo, B. Procsal	QCB Protocol Survey #11 – Phase 1, Beyer Boulevard, and a portion of Phase 2	9:15 a.m.; 74°F; winds 1–4 mph; 0% cloud cover	1:35 p.m.; 83°F; winds 2–5 mph; 0% cloud cover
5/07/2018	D. Saucedo, J. Sundberg	QCB Protocol Survey #12 – Phase 1, Beyer Boulevard, and a portion of Phase 2	8:55 a.m.; 67°F; winds 1–3 mph; 5% cloud cover	12:45 p.m.; 73°F; winds 5–7 mph; 0% cloud cover
2/15/2019	J. Sundberg, J. McBee	QCB Habitat Assessment – Phase 1b, areas adjacent to Phase 1b, VP Restoration Areas	8:30 a.m.	2:00 p.m.
2/19/2019	B. Procsal, A. Smisek	QCB Protocol Survey #1a – Beyer Blvd, Phase 2, VP Restoration Areas	12:15 p.m.; 60°F; winds 0–3 mph; 1% cloud cover	3:30 p.m.; 60°F; winds 2–6 mph; 1% cloud cover
2/22/2019	B. Procsal, J. Sundberg	QCB Protocol Survey #1b – Beyer Blvd, Phase 2, VP Restoration Areas	1:30 p.m.; 60°F; winds 5–8 mph; 10% cloud cover	2:30 p.m.; 60°F; winds 3–5 mph; 10% cloud cover
2/27/2019	B. Procsal, B. Ogg	QCB Protocol Survey #2 – Beyer Blvd, Phase 2, VP Restoration Areas	11:20 a.m.; 67°F; winds 2–8 mph; <1% cloud cover	3:35 p.m.; 64°F; winds 3–7 mph; 4% cloud cover
3/5/2019	J. Sundberg, A. Smisek	QCB Protocol Survey #3a – Beyer Blvd, Phase 2, VP Restoration Areas	1:45 p.m.; 70.5°F; winds 6–8 mph; 30% cloud cover	2:30 p.m.; 63°F; winds 7–10 mph; 90% cloud cover
3/9/2019	A. Leavitt, B. Ogg	QCB Protocol Survey #3b – Beyer Blvd, Phase 2, VP Restoration Areas	11:10 a.m.; 70°F; winds 2–6 mph; 70% cloud cover	1:30 p.m.; 69°F; winds 3–10 mph; 70% cloud cover
3/13/2019	A. Smisek, B. Ogg	QCB Protocol Survey #3c – Beyer Blvd, Phase 2VP Restoration Areas	12:00 p.m.; 67°F; winds 1–5 mph; 45% cloud cover	4:30 p.m.; 70°F; winds 2–6 mph; 5% cloud cover
3/15/2019	B. Procsal, A. Fromer	QCB Protocol Survey #4 – Beyer Blvd, Phase 2, VP Restoration Areas	10:30 a.m.; 62°F; winds 2–4 mph; 50% cloud cover	4:10 p.m.; 74°F; winds 2–5 mph; 40% cloud cover
3/19/2019	B. Procsal, W. Loeffler	QCB Protocol Survey #5 – Beyer Blvd, Phase 2, VP Restoration Areas	10:45 a.m.; 74°F; winds 0–1 mph; 2% cloud cover	3:00 p.m.; 68°F; winds 2–6 mph; 3% cloud cover
3/26/2019	B. Procsal, A. Smisek	QCB Protocol Survey #6 – Beyer Blvd, Phase 2, VP Restoration Areas	12:00 p.m.; 68°F; winds 2–4 mph; 45% cloud cover	3:40 p.m.; 71°F; winds 2–6 mph; 45% cloud cover
4/1/2019	B. Ogg, A. Smisek	QCB Protocol Survey #7 – Beyer Blvd, Phase 2, VP Restoration Areas	12:13 p.m.; 78°F; winds 2–6 mph; 10% cloud cover	4:15 p.m.; 81°F; winds 3–7 mph; 15% cloud cover
4/8/2019	B. Parker, A. Leavitt	QCB Protocol Survey #8 – Beyer Blvd, Phase 2, VP Restoration Areas	9:50 a.m.; 81°F; winds 4–6 mph; 40% cloud cover	2:00 p.m.; 85°F; winds 7–9 mph; 20% cloud cover
4/17/2019	B. Parker, A. Fromer, B. Ogg	QCB Protocol Survey #9 – Beyer Blvd, Phase 2, VP Restoration Areas	9:30 a.m.; 62°F; winds 1–3 mph; 0% cloud cover	12:00 p.m.; 74°F; winds 5–8 mph; 0% cloud cover
4/24/2019	B. Procsal, A. Fromer, B. Ogg	QCB Protocol Survey #10 – Beyer Blvd, Phase 2, VP Restoration Areas	10:30 a.m.; 74°F; winds 0–2 mph; 0% cloud cover	12:30 p.m.; 78°F; winds 2–9 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/1/2019	A. Leavitt, A. Fromer	QCB Protocol Survey #11 – Beyer Blvd, Phase 2, VP Restoration Areas	10:30 a.m.; 65°F; winds 0–4 mph; 50% cloud cover	1:20 p.m.; 71°F; winds 5–10 mph; <5% cloud cover
5/8/2019	A. Smisek, B. Procsal, A. Fromer	QCB Protocol Survey #12 – Beyer Blvd, Phase 2, VP Restoration Areas	1:00 p.m.; 72°F; winds 1–4 mph; 100% cloud cover	2:45 p.m.; 72°F; winds 2–5 mph; 100% cloud cover
2/03/2020	A. Leavitt, J. Sundberg	QCB Habitat Assessment – Survey Area A	-	-
2/04/2020	A. Leavitt, J. Sundberg, J. Mercado	QCB Habitat Assessment – Survey Area B	-	-
2/05/2020	A. Leavitt, J. Sundberg	QCB Habitat Assessment – Survey Area C	-	-
2/17/2020	B. Parker	QCB Protocol Survey #1 – Survey Area A	9:40 a.m.; 64°F; winds 1-3 mph; 0% cloud cover	1:40 p.m.; 70°F; winds 3-5 mph; 0% cloud cover
2/17/2020	K. Valenti, A. Leavitt	QCB Protocol Survey #1 – Survey Area B and D	10:00 a.m.; 64°F; winds 1-3 mph; 0% cloud cover	1:43 p.m.; 69°F; winds 3-6 mph; 0% cloud cover
2/17/2020	B. Procsal	QCB Protocol Survey #1 – Survey Area C	9:15 a.m.; 66°F; winds 0-3 mph; <1% cloud cover	1:20 p.m.; 70°F; winds 2-6 mph; 0% cloud cover
2/24/2020	K. Valenti	QCB Protocol Survey #2a – Survey Area A	9:55 a.m.; 62°F; winds 0-3 mph; 0% cloud cover	1:38 p.m.; 75°F; winds 2-5 mph; 0% cloud cover
2/24/2020	W. Loeffler	QCB Protocol Survey #2a – Survey Area B	10:10 a.m.; 65°F; winds 2-4 mph; 0% cloud cover	2:00 p.m. ; 68°F; winds 5-10 mph 0% cloud cover
2/24/2020	B. Procsal	QCB Protocol Survey #2a – Survey Area C	10:00 a.m.; 67°F; winds 0-2 mph; 0% cloud cover	2:15 p.m.; 68°F; winds 5-10 mph 0% cloud cover
2/24/2020	B. Parker	QCB Protocol Survey #2a – Survey Area D	10:00 a.m.; 65°F; winds 1-3 mph; 0% cloud cover	2:02 p.m.; 68°F; winds 5-10 mph 0% cloud cover
2/27/2020	B. Procsal, B. Ogg	QCB Protocol Survey #2b – Survey Area D	11:20 a.m.; 67°F; winds 2-8 mph; <1% cloud cover	3:35 p.m.; 64°F; winds 3-7 mph; 4% cloud cover
3/4/2020	A. Smisek, J. Sundberg	QCB Protocol Survey #3a – Survey Area A	10:15 a.m.; 65°F; winds 2-7 mph; 10% cloud cover	11:40 a.m.; 67°F; winds 3-8 mph 10% cloud cover
3/4/2020	A. Smisek, J. Sundberg	QCB Protocol Survey #3a – Survey Area C and D	11:45 a.m.; 67°F; winds 3-7 mph; 10% cloud cover	2:20 p.m.; 68°F; winds 3-6 mph 10% cloud cover
3/4/2020	E. LaCoste	QCB Protocol Survey #3a – Survey Area A	9:00 a.m.; 66°F; winds 2-4 mph; 5% cloud cover	12:45 p.m.; 68°F; winds 2-4 mph 5% cloud cover
3/5/2020	E. LaCoste	QCB Protocol Survey #3b – Survey Area B	9:30 a.m.; 75°F; winds 1-2 mph; 5% cloud cover	2:00 p.m.; 75°F; Winds 4-7 mph; 10% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/9/2020	M. Busby	QCB Protocol Survey #4 – Survey Area A	9:30 a.m.; 67°F; winds 2-4 mph; 30% cloud cover	1:45 p.m.; 72°F; Winds 5-8 mph; 10% cloud cover
3/9/2020	D. Busby, E. LaCoste	QCB Protocol Survey #4 – Survey Area B	1:30 p.m.; 72°F; winds 2-4 mph; 30% cloud cover	3:30 p.m.; 75°F; winds 3-5 mph; 100% cloud cover
3/9/2020	E. LaCoste	QCB Protocol Survey #4 – Survey Area C	9:20 p.m.; 67°F; winds 1-3 mph; 40% cloud cover	1:30 p.m.; 72°F; winds 3-6 mph; 30% cloud cover
3/9/2020	D. Busby	QCB Protocol Survey #4 – Survey Area D	9:30 a.m.; 67°F; winds 2-4 mph; 30% cloud cover	12:30 p.m.; 72°F; winds 2-4 mph; 30% cloud cover
3/21/2020	D. Busby, E. LaCoste	QCB Protocol Survey #5a – Survey Area B	10:00 a.m.; 64°F; winds 2-4 mph; 20% cloud cover	2:00 p.m.; 66°F; winds 2-4 mph; 30% cloud cover
3/21/2020	E. LaCoste	QCB Protocol Survey #5a – Survey Area D	10:00 a.m.; 64°F; winds 1-2 mph; 5% cloud cover	1:00 p.m.; 66°F; winds 2-4 mph; 30% cloud cover
3/22/2020	D. Busby, E. LaCoste	QCB Protocol Survey #5b – Survey Area A	1:00 p.m.; 71°F; winds 2-4 mph; 100% cloud cover	3:15 p.m.; 70°F; winds 3-6 mph; 20% cloud cover
3/22/2020	E. LaCoste	QCB Protocol Survey #5b – Survey Area C	10:30 a.m.; 73°F; winds 1-2 mph; 70% cloud cover	1:00 p.m.; 63°F; winds 2-4 mph; 30% cloud cover
3/27/2020	E. LaCoste	QCB Protocol Survey #6a – Survey Area C	10:45 a.m.; 65°F; winds 3-5 mph; 20% cloud cover	4:15 p.m.; 65°F; winds 5-10 mph; 10% cloud cover
3/27/2020	D. Busby, E. LaCoste	QCB Protocol Survey #6a – Survey Area D	2:15 p.m.; 68°F; winds 3-5 mph; 40% cloud cover	4:15 p.m.; 65°F; winds 5-10 mph; 10% cloud cover
3/28/2020	D. Busby	QCB Protocol Survey #6b – Survey Area A	10:15 a.m.; 68°F; winds 3-5 mph; 40% cloud cover	2:30 p.m.; 70°F; winds 3-7 mph; 10% cloud cover
3/28/2020	E. LaCoste	QCB Protocol Survey #6b– Survey Area B	9:30 a.m.; 62°F; winds 2-4 mph; 5% cloud cover	2:00 p.m.; 67°F; winds 5-8 mph; 50% cloud cover
4/2/2020	E. LaCoste	QCB Protocol Survey #7 – Survey Area B (portion of Survey Area B)	12:45 p.m.; 71°F; winds 7-10 mph; 50% cloud cover	4:00 p.m.; 70°F; winds 7-10 mph; 40% cloud cover
4/2/2020	K. Valenti	QCB Protocol Survey #7 – Survey Area C (southwest portion)	11:00 a.m.; 72°F; winds 1-4 mph; 90% cloud cover	3:10 p.m.; 78°F; winds 3-5 mph; 40% cloud cover
4/2/2020	M. Dodero	QCB Protocol Survey #7– Survey Area D	11:25 a.m.; 70°F; winds 3-8 mph; 85% cloud cover	2:11p.m.; 63°F; winds 2-10 mph; 40% cloud cover
4/2/2020	M. Dodero	QCB Protocol Survey #7 – Survey Area C (northeast portion)	2:20 p.m.; 63°F; winds 5-10 mph; 30% cloud cover	3:05 p.m.; 62°F; winds 8-10 mph; 35% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
4/3/2020	E. LaCoste	QCB Protocol Survey #7b – Survey Area B (remainder of Survey Area B)	10:00 a.m.; 67°F; winds 1-3 mph; 5% cloud cover	11:15 a.m.; 70°F; winds 1-3 mph; 5% cloud cover
4/3/2020	E. LaCoste	QCB Protocol Survey #7b – Survey Area A	11:15 a.m.; 70°F; winds 1-3 mph; 5% cloud cover	2:45 a.m.; 75°F; winds 5-8 mph; 10% cloud cover
4/11/2020	E. LaCoste	QCB Protocol Survey #8a – Survey Area B	10:00 a.m.; 65°F; winds 2-4 mph; 50% cloud cover	3:30 p.m.; 68°F; winds 4-7 mph; 30% cloud cover
4/11/2020	D. Busby	QCB Protocol Survey #8a – Survey Area A	10:30 a.m.; 65°F; winds 2-4 mph; 30% cloud cover	3:00 p.m.; 68°F; winds 3-5 mph; 30% cloud cover
4/14/2020	A. Fromer	QCB Protocol Survey #8b – Survey Area C	10:00 a.m.; 73°F; winds 1-3 mph; 10% cloud cover	1:45 p.m.; 72°F; winds 6-13 mph; <5% cloud cover
4/14/2020	A. Smisek	QCB Protocol Survey #8b – Survey Area D	10:10 a.m.; 73.9°F; winds 3-5 mph; 10% cloud cover	12:55 p.m.; 73.6°F; winds 5-10 mph; 1% cloud cover
4/15/2020	E. LaCoste	QCB Protocol Survey #9a – Survey Area A	11:00 a.m.; 76°F; winds 2-4 mph; 0% cloud cover	3:00 p.m.; 78°F; winds 2-4 mph; 0% cloud cover
4/15/2020	D. Busby	QCB Protocol Survey #9a – Survey Area B	9:15 a.m.; 64°F; winds 2-5 mph; 0% cloud cover	2:00 p.m.; 78°F; winds 2-5 mph; 0% cloud cover
4/16/2020	K. Valenti A. Leavitt	QCB Protocol Survey #9b – Survey Area C and D	10:00 a.m.; 71°F; winds 0-5 mph; 0% cloud cover	1:45 p.m.; 81°F; winds 2-7 mph; 0% cloud cover
4/22/2020	D. Busby	QCB Protocol Survey #10a – Survey Area B	9:00 a.m.; 68°F; winds 1-3 mph; 10% cloud cover	3:00 p.m.; 83°F; winds 4-7 mph; 0% cloud cover
4/22/2020	J. Sundberg, B. Parker	QCB Protocol Survey #10a – Survey Area C and D	10:15 a.m.; 72°F; winds 0-3 mph; 0% cloud cover	1:45 p.m.; 78°F; winds 3-6 mph; 0% cloud cover
4/22/2020	J. Sundberg, B. Parker	QCB Protocol Survey #10a – Survey Area C and D (remainder of Survey Areas C and D)	9:45 a.m.; 72°F; winds 0-3 mph; 0% cloud cover	1:45 p.m.; 78°F; winds 3-6 mph; 0% cloud cover
4/24/2020	D. Busby	QCB Protocol Survey #10b – Survey Area A	10:30 a.m.; 78°F; winds 2-4 mph; 0% cloud cover	3:00 p.m.; 82°F; winds 3-7 mph; 0% cloud cover
4/27/2020	J. Sundberg, B. Parker	QCB Protocol Survey #11a – Survey Area C and D	10:15 a.m.; 72°F; winds 2-5 mph; 60% cloud cover	2:05 p.m.; 78°F; winds 4-8 mph; 5% cloud cover
4/29/2020	E. LaCoste	QCB Protocol Survey #11b – Survey Area A	11:15 a.m.; 70°F; winds 1-2 mph; 100% cloud cover	3:15 p.m.; 76°F; winds 2-4 mph; 25% cloud cover
4/30/2020	E. LaCoste	QCB Protocol Survey #11c – Survey Area B	10:30 a.m.; 70°F; winds 2-4 mph; 10% cloud cover	3:30 p.m.; 80°F; winds 3-6 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/4/2020	J. Sundberg, B. Parker	QCB Protocol Survey #12a – Survey Area C and D	9:50 a.m.; 73°F; winds 0-2 mph; 0% cloud cover	2:10 p.m.; 75°F; winds 4-8 mph; 0% cloud cover
5/6/2020	D. Busby	QCB Protocol Survey #12b – Survey Area A	11:15 a.m.; 86°F; winds 4-8 mph; 10% cloud cover	3:30 p.m.; 92°F; winds 4-8 mph; 10% cloud cover
5/7/2020	D. Busby	QCB Protocol Survey #12c – Survey Area B	10:00 a.m.; 76°F; winds 3-5 mph; 0% cloud cover	2:10 p.m.; 91°F; winds 4-6 mph; 0% cloud cover
2/17/2021	B. Parker	QCB Protocol Survey #1 – Survey Area 1	10:00 a.m.; 65°F; winds 2-5 mph; 25% cloud cover	11:40 a.m.; 67°F; winds 5-8 mph; 10% cloud cover
2/17/2021	B. Procsal	QCB Protocol Survey #1 – Survey Area 2	10:30 a.m.; 62°F; winds 0-1 mph; 10% cloud cover	11:40 a.m.; 64°F; winds 2-3 mph; 10% cloud cover
2/24/2021	B. Parker	QCB Protocol Survey #2 – Survey Area 1	1:00 p.m.; 74°F; winds 1-3 mph; 0% cloud cover	2:30 p.m.; 70°F; winds 6-9 mph; 0% cloud cover
2/24/2021	A. Fromer	QCB Protocol Survey #2 – Survey Area 2	1:20 p.m.; 68°F; winds 3-5 mph; 0% cloud cover	2:10 p.m.; 68°F; winds 3-6 mph; 0% cloud cover
3/4/2021	B. Parker	QCB Protocol Survey #3 – Survey Area 1	10:40 a.m.; 66°F; winds 1-3 mph; 15% cloud cover	11:50 a.m.; 65°F; winds 5-7 mph; 15% cloud cover
3/4/2021	A. Fromer	QCB Protocol Survey #3 – Survey Area 2	10:30 a.m.; 64°F; winds 3-5 mph; <5% cloud cover	11:50 a.m.; 70°F; winds 5-7 mph; 15% cloud cover
3/9/2021	J. Sundberg	QCB Protocol Survey #4 – Survey Area 1	1:00 p.m.; 61°F; winds 5-8 mph; 40% cloud cover	2:00 p.m.; 60°F; winds 7-9 mph; 45% cloud cover
3/9/2021	A. Fromer	QCB Protocol Survey #4 – Survey Area 2	1:20 p.m.; 61°F; winds 5-10 mph; 40% cloud cover	2:00 p.m.; 60°F; winds 7-9 mph; 45% cloud cover
3/19/2021	A. Smisek	QCB Protocol Survey #5 – Survey Area 1	11:50 a.m.; 65°F; winds 0-3 mph; 0% cloud cover	1:40 p.m.; 70°F; winds 4-7 mph; 0% cloud cover
3/19/2021	B. Procsal	QCB Protocol Survey #5– Survey Area 2	12:05 p.m.; 64°F; winds 2-5 mph; 0% cloud cover	1:25 p.m.; 64°F; winds 1-5 mph; 0% cloud cover
3/24/2021	K. Valenti	QCB Protocol Survey #6 – Survey Area 1	12:25 p.m.; 74°F; winds 1-3 mph; 0% cloud cover	2:15 p.m.; 68°F; winds 5-8 mph; 10% cloud cover
3/24/2021	B. Procsal	QCB Protocol Survey #6 – Survey Area 2	12:40 p.m.; 66°F; winds 2-5 mph; <1% cloud cover	1:55 p.m.; 68°F; winds 5-8 mph; 2% cloud cover
3/31/2021	A. Fromer	QCB Protocol Survey #7 – Survey Areas 1 and 2	12:00 p.m.; 90°F; winds 8-15 mph; 0% cloud cover	2:40 p.m.; 88°F; winds 6-12 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
4/8/2021	A. Fromer	QCB Protocol Survey #8 – Survey Areas 1 and 2	3:15 p.m.; 80°F; winds 3-7 mph; <10% cloud cover	5:30 p.m.; 67°F; winds 5-7 mph; <10% cloud cover
4/16/2021	A. Fromer	QCB Protocol Survey #9 – Survey Areas 1 and 2	12:00 p.m.; 69°F; winds 3-8 mph; <10% cloud cover	2:00 p.m.; 72°F; winds 2-6 mph; <5% cloud cover
4/20/2021	A. Fromer	QCB Protocol Survey #10 – Survey Area 1	3:50 p.m.; 71°F; winds 4-8 mph; <5% cloud cover	4:55 p.m.; 68°F; winds 3-6 mph; <10% cloud cover
4/20/2021	B. Procsal	QCB Protocol Survey #10 – Survey Area 2	4:05 p.m.; 80°F; winds 2-4 mph; <1% cloud cover	4:45 p.m.; 68°F; winds 2-4 mph; <3% cloud cover
4/28/2021	B. Parker	QCB Protocol Survey #11 – Survey Area 1	10:30 a.m.; 68°F; winds 2-5 mph; 0% cloud cover	11:45 a.m.; 74°F; winds 4-7 mph; 0% cloud cover
4/28/2021	A. Fromer	QCB Protocol Survey #11 – Survey Area 2	10:10 a.m.; 70°F; winds 1-3 mph; 0% cloud cover	11:20 a.m.; 71°F; winds 5-10 mph; 0% cloud cover
5/4/2021	B. Parker	QCB Protocol Survey #12 – Survey Areas 1 and 2	11:00 a.m.; 74°F; winds 3-5 mph; 0% cloud cover	1:40 p.m.; 74°F; winds 3-5 mph; 0% cloud cover
2/18/2022	A. Fromer	Habitat Assessment	-	-
2/20/2022	J. Sundberg	QCB Protocol Survey #1 – Survey Area 1	1:00 p.m.; 68°F; winds 3 mph; 10% cloud cover	1:31 p.m.; 69°F; winds 2 mph; 10% cloud cover
2/20/2022	J. Sundberg	QCB Protocol Survey #1 – Survey Area 2	10:10 a.m.; 65°F; winds 3 mph; 5% cloud cover	11:36 a.m.; 68°F; winds 5 mph; 5% cloud cover
2/25/2022	B. Procsal	QCB Protocol Survey #1 – Survey Area 1 (additional areas)	11:46 a.m.; 62°F; winds 0-2 mph; 10% cloud cover	12:15 p.m.; 62°F; winds 0-2 mph; 5% cloud cover
2/28/2022	A. Fromer	QCB Protocol Survey #2 – Survey Area 1	10:30 a.m.; 61°F winds 2-4 mph 0% cloud cover	10:55 a.m.; 61°F winds 1-3 mph 0% cloud cover
2/28/2022	A. Fromer	QCB Protocol Survey #2 – Survey Area 2	11:45 a.m.; 76°F winds 3-5 mph 0% cloud cover	12:55 p.m.; 78°F winds 2-4 mph 0% cloud cover
3/2/2022	A. Fromer	QCB Protocol Survey #2 – Survey Area 1 (additional areas)	9:30 a.m.; 71°F winds 0-1 mph 10% cloud cover	9:45 a.m.; 71°F winds 0-2 mph 10% cloud cover
3/7/2022	A. Fromer	QCB Protocol Survey #3 – Survey Area 1	10:30 a.m.; 60°F winds 2-5 mph 0% cloud cover	10:50 a.m.; 63°F winds 1-3 mph 0% cloud cover
3/7/2022	A. Fromer	QCB Protocol Survey #3 – Survey Area 2	11:15 a.m.; 63°F winds 3-6 mph 0% cloud cover	12:15 p.m.; 65°F winds 3-7 mph 0% cloud cover
3/14/2022	A. Fromer	QCB Protocol Survey #4 – Survey Area 1	11:15 a.m.; 63°F winds 0-2 mph 0% cloud cover	11:45 a.m.; 64°F winds 0-2 mph 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/14/2022	A. Fromer	QCB Protocol Survey #4 – Survey Area 2	12:15 p.m.; 70°F winds 3-7 mph 0% cloud cover	1:15 p.m.; 70°F winds 4-7 mph 0% cloud cover
3/21/2022	A. Fromer	QCB Protocol Survey #5 – Survey Area 1	11:40 a.m.; 62°F winds 3-5 mph 15% cloud cover	12:15 p.m.; 64°F winds 5-7 mph 15% cloud cover
3/21/2022	A. Fromer	QCB Protocol Survey #5 – Survey Area 2	12:30 p.m.; 73°F winds 5-8 mph 15% cloud cover	1:40 p.m.; 74°F winds 2-6 mph 25% cloud cover
3/30/2022	A. Fromer	QCB Protocol Survey #6 – Survey Area 1	11:50 a.m.; 63°F winds 1-2 mph 10% cloud cover	12:30 p.m.; 64°F winds 2-4 mph 10% cloud cover
3/30/2022	A. Fromer	QCB Protocol Survey #6 – Survey Area 2	12:45 p.m.; 65°F winds 1-3 mph 10% cloud cover	1:45 p.m.; 67°F winds 2-5 mph <5% cloud cover
4/4/2022	A. Fromer	QCB Protocol Survey #7 – Survey Area 1	12:30 p.m.; 69°F winds 2-4 mph 0% cloud cover	1:00 p.m.; 69°F winds 3-5 mph 0% cloud cover
4/4/2022	A. Fromer	QCB Protocol Survey #7 – Survey Area 2	1:30 p.m.; 72°F winds 3-6 mph 0% cloud cover	2:35 p.m.; 70°F winds 5-8 mph <5% cloud cover
4/11/2022	A. Fromer	QCB Protocol Survey #8 – Survey Area 1	1:15 p.m.; 70°F winds 3-5 mph 35% cloud cover	1:45 p.m.; 72°F winds 2-4 mph 30% cloud cover
4/11/2022	A. Fromer	QCB Protocol Survey #8 – Survey Area 2	2:45 p.m.; 75°F winds 5-8 mph 25% cloud cover	3:40 p.m.; 68°F winds 3-6 mph 35% cloud cover
4/18/2022	A. Fromer	QCB Protocol Survey #9 – Survey Area 1	1:00 p.m.; 70°F winds 4-7 mph 30% cloud cover	1:30 p.m.; 70°F winds 3-4 mph 25% cloud cover
4/18/2022	A. Fromer	QCB Protocol Survey #9 – Survey Area 2	1:55 p.m.; 75°F winds 2-4 mph 25% cloud cover	2:45 p.m.; 78°F winds 5-7 mph 15% cloud cover
4/28/2022	A. Fromer	QCB Protocol Survey #10 – Survey Area 1	1:15 p.m.; 69°F winds 5-8 mph 15% cloud cover	1:45 p.m.; 69°F winds 6-9 mph 15% cloud cover
4/28/2022	A. Fromer	QCB Protocol Survey #10 – Survey Area 2	2:10 p.m.; 70°F winds 4-6 mph 15% cloud cover	2:55 p.m.; 71°F winds 2-4 mph 5% cloud cover
5/2/2022	J. Sundberg	QCB Protocol Survey #11 – Survey Area 1	11:58 a.m.; 65°F winds 3 mph 0% cloud cover	1:02 p.m.; 71°F winds 4 mph 0% cloud cover
5/2/2022	J. Sundberg	QCB Protocol Survey #11 – Survey Area 2	10:03 a.m.; 63°F winds 3 mph 0% cloud cover	10:58 a.m.; 71°F winds 4 mph 0% cloud cover
5/9/2022	A. Fromer	QCB Protocol Survey #12 – Survey Area 1	11:00 a.m.; 71°F winds 2-4 mph 5% cloud cover	11:20 a.m.; 74°F winds 2-4 mph 5% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/9/2022	A. Fromer	QCB Protocol Survey #12 – Survey Area 2	11:50 a.m.; 71°F winds 2-5 mph; 5% cloud cover	12:50 p.m.; 71°F winds 3-7 mph; 5% cloud cover
3/24/2023	A. Smisek, K. Valenti, A. Leavitt, B. Procsal J. Sundberg	QCB Habitat Assessment	-	-
3/27/2023	A. Smisek	QCB Protocol Survey #1 – Survey Area 1	10:25 a.m.; 68°F winds 6 mph; 35% cloud cover	2:15 p.m.; 71°F winds 6 mph; 1% cloud cover
3/27/2023	W. Loeffler	QCB Protocol Survey #1 – Survey Area 2	11:10 a.m.; 66°F; winds 4-8 mph; 30% cloud cover	3:28 p.m.; 75°F; winds 3-6 mph; 1% cloud cover
3/27/2023	B. Procsal	QCB Protocol Survey #1 – Survey Area 3	11:01 a.m.; 66°F; winds 4-7 mph; 30% cloud cover	3:40 p.m.; 66°F; winds 2-6 mph; 0% cloud cover
3/27/2023	C. Thomson	QCB Protocol Survey #1 – Survey Area 4	10:58 a.m.; 72°F; winds 6-11 mph; 30% cloud cover	3:46 p.m.; 75°F; winds 5-9 mph; 0% cloud cover
3/27/2023	J. Sundberg	QCB Protocol Survey #1 – Survey Area 5	10:06 a.m.; 62°F; winds 7 mph; 30% cloud cover	3:22 p.m.; 72°F; winds 4 mph; 1% cloud cover
3/28/2023	B. Procsal, J. Woll	Habitat Assessment – Vernal Pool Restoration Areas	-	-
4/5/2023	A. Smisek	QCB Protocol Survey #2 – Survey Area 1	9:49 a.m.; 61°F; winds 2 mph; 0% cloud cover	2:16 p.m.; 64°F; winds 7 mph; 0% cloud cover
4/5/2023	K. Valenti	QCB Protocol Survey #2 – Survey Area 2	10:25 a.m.; 70°F; winds 3-5 mph; 0% cloud cover	2:31 p.m.; 68°F; winds 4-7 mph 0% cloud cover
4/5/2023	A. Leavitt	QCB Protocol Survey #2 – Survey Area 3	10:15 a.m.; 70°F; winds 3-5 mph; 0% cloud cover	2:41 p.m.; 66°F; winds 6-9 mph 0% cloud cover
4/5/2023	C. Thomson	QCB Protocol Survey #2 – Survey Area 4	10:16 a.m.; 60°F; winds 3 mph; 0% cloud cover	2:21 p.m.; 69°F; winds 7 mph 0% cloud cover
4/5/2023	B. Procsal	QCB Protocol Survey #2 – Survey Area 5	9:59 a.m.; 62°F; winds 3-4 mph; 0% cloud cover	1:41 p.m.; 66°F; winds 7-14 mph 0% cloud cover
4/10/2023	A. Smisek	QCB Protocol Survey #3 – Survey Area 1	10:40 a.m.; 66°F; winds 3 mph; 0% cloud cover	3:12 p.m.; 69°F; winds 2-5 mph 0% cloud cover
4/11/2023	W. Loeffler	QCB Protocol Survey #3 – Survey Area 2	11:49 a.m.; 70°F; winds 2-4 mph; 10% cloud cover	4:09 p.m.; 70°F; winds 4-6 mph 30% cloud cover
4/10/2023	C. Thomson	QCB Protocol Survey #3 – Survey Area 3	11:13 a.m.; 68°F; winds 2 mph; 0% cloud cover	3:32 p.m.; 71°F; winds 6 mph 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
4/10/2023	B. Procsal	QCB Protocol Survey #3 – Survey Area 3 (additional areas)	3:13 p.m.; 66°F; winds 4-8 mph; 0% cloud cover	3:30 p.m.; 66°F; winds 3-8 mph 0% cloud cover
4/11/2023	C. Thomson	QCB Protocol Survey #3 – Survey Area 4	11:47 a.m.; 68°F; winds 2 mph; 0% cloud cover	4:01 p.m.; 74°F; Winds 4 mph; 15% cloud cover
4/10/2023	B. Procsal	QCB Protocol Survey #3 – Survey Area 5	10:52 a.m.; 69°F; winds 2-5 mph; 0% cloud cover	2:45 p.m.; 66°F; Winds 4-8 mph; 0% cloud cover
4/20/2023	K. Valenti	QCB Protocol Survey #4 – Survey Area 1	9:55 a.m.; 73°F; winds 1-3 mph; 0% cloud cover	2:17 p.m.; 84°F; winds 2-5 mph; <5% cloud cover
4/20/2023	A. Smisek	QCB Protocol Survey #4 – Survey Area 2	10:19 a.m.; 71°F; winds 5 mph; 0% cloud cover	2:33 p.m.; 78°F; winds 5 mph; 5% cloud cover
4/20/2023	B. Procsal	QCB Protocol Survey #4 – Survey Area 3	10:02 a.m.; 70°F; winds 0-1 mph; 0% cloud cover	2:29 p.m.; 75°F; winds 4-6 mph; 0% cloud cover
4/20/2023	C. Thomson	QCB Protocol Survey #4 – Survey Area 4	10:06 a.m.; 72°F; winds 2 mph; 0% cloud cover	2:09 p.m.; 75°F; winds 7 mph; 1% cloud cover
4/20/2023	J. Sundberg	QCB Protocol Survey #4 – Survey Area 5	9:53 a.m.; 68°F; winds 1 mph; 0% cloud cover	2:40 p.m.; 75°F; winds 4 mph; 2% cloud cover
4/25/2023	A. Smisek	QCB Protocol Survey #5 – Survey Area 1	11:29 a.m.; 70°F; winds 1 mph; 35% cloud cover	3:55 p.m.; 76°F; winds 4 mph; 85% cloud cover
4/25/2023	W. Loeffler	QCB Protocol Survey #5 – Survey Area 2	11:57 a.m.; 72°F; winds 3-6 mph; 40% cloud cover	3:30 p.m.; 75°F; winds 3-8 mph; 30% cloud cover
4/25/2023	B. Procsal	QCB Protocol Survey #5 – Survey Area 3 (additional areas)	11:39 a.m.; 72°F; winds 0-4 mph; 15% cloud cover	3:57 p.m.; 70°F; winds 3-6 mph; 80% cloud cover
4/25/2023	W. Loeffler	QCB Protocol Survey #5 – Survey Area 3 (additional areas)	3:43 p.m.; 70°F; winds 1-5 mph; 85% cloud cover	4:01 p.m.; 70°F; winds 3-6 mph 80% cloud cover
4/25/2023	C. Thomson	QCB Protocol Survey #5 – Survey Area 4 (additional areas)	11:45 a.m.; 72°F; winds 3 mph; 30% cloud cover	3:43 p.m.; 72°F; winds 6 mph; 80% cloud cover
4/28/2023	A. Fromer	QCB Protocol Survey #5 – Survey Area 4 (additional areas)	11:10 a.m.; 68°F; winds 1-4 mph; 10% cloud cover	11:20 a.m.; 68°F; winds 1-4 mph; 10% cloud cover
4/25/2023	J. Sundberg	QCB Protocol Survey #5 – Survey Area 5	11:36 a.m.; 72°F; winds 1 mph; 20% cloud cover	3:58 p.m.; 74°F; winds 5 mph; 80% cloud cover
5/5/2023	A. Smisek	QCB Protocol Survey #6 – Survey Area 1	11:05 a.m.; 73°F; winds 1 mph; 95% cloud cover	3:19 p.m.; 71°F; winds 3 mph; 85% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/5/2023	W. Loeffler	QCB Protocol Survey #6 – Survey Area 2	11:43 a.m.; 70°F; winds 3-7 mph; 90% cloud cover	3:49 p.m.; 71°F; winds 3 mph; 85% cloud cover
5/5/2023	A. Fromer	QCB Protocol Survey #6 – Survey Area 3 (additional areas)	11:34 a.m.; 70°F; winds 3-5 mph; 95% cloud cover	4:00 p.m.; 70°F; winds 4-8 mph; 80% cloud cover
5/5/2023	C. Thomson	QCB Protocol Survey #6 – Survey Area 3 (additional areas)	3:12 p.m.; 702°F; winds 4 mph; 80% cloud cover	3:42 p.m.; 70°F; winds 5 mph; 75% cloud cover
5/5/2023	C. Thomson	QCB Protocol Survey #6 – Survey Area 4	11:09 a.m.; 74°F; winds 1 mph; 95% cloud cover	3:09 p.m.; 70°F; winds 4 mph; 80% cloud cover
5/5/2023	J. Sundberg	QCB Protocol Survey #6 – Survey Area 5	11:13 a.m.; 74°F; winds 1 mph; 95% cloud cover	3:34 p.m.; 71°F; winds 4 mph; 80% cloud cover
5/12/2023	A. Smisek	QCB Protocol Survey #7 – Survey Area 1	11:03 a.m.; 74°F; winds 2 mph; 000% cloud cover	3:18 p.m.; 76°F; winds 6 mph; 30% cloud cover
5/12/2023	W. Loeffler	QCB Protocol Survey #7 – Survey Area 2	10:59 a.m.; 74°F; winds 3-7 mph; 100% cloud cover	3:05 p.m.; 72°F; winds 3-7 mph; 40% cloud cover
5/12/2023	C. Thomson	QCB Protocol Survey #7 – Survey Area 3	10:39 a.m.; 71°F; winds 3 mph; 100% cloud cover	3:18 p.m.; 72°F; winds 5 mph; 40% cloud cover
5/12/2023	K. Valenti	QCB Protocol Survey #7 – Survey Area 4	11:03 a.m.; 73°F; winds 2-4 mph; 100% cloud cover	3:07 p.m.; 72°F; winds 5-7 mph; 40% cloud cover
5/12/2023	J. Sundberg	QCB Protocol Survey #7 – Survey Area 5	10:59 a.m.; 72°F; winds 2 mph; 100% cloud cover	3:17 p.m.; 76°F; winds 3 mph; 40% cloud cover
2/16/2024	B. Procsal, C. Defrenne	QCB Habitat Assessment - EVA Road and Phase 4 Development Area	9:00 a.m.	2:00 p.m.
2/23/2024	A. Fromer	QCB Protocol Survey #1 – EVA Road and Phase 4 Development Area	10:15 a.m.; 63°F; winds 1-3 mph; 5% cloud cover	12:40 p.m.; 73°F; winds 3-6 mph; 65% cloud cover
2/29/2024	A. Fromer, C. Thomson	QCB Protocol Survey #2 – EVA Road and Phase 4 Development Area	12:50 p.m.; 64°F; winds 3 mph; 50% cloud cover	2:13 p.m., 65°F; winds 3 mph; 45% cloud cover
3/8/2024	A. Fromer	QCB Protocol Survey #3 – EVA Road and Phase 4 Development Area	1:00 p.m.; 70°F; winds 0-3 mph; 0% cloud cover	2:50 p.m.; 65°F; winds 0-2 mph; 0% cloud cover
3/15/2024	A. Fromer	QCB Protocol Survey #4 – EVA Road and Phase 4 Development Area	12:10 p.m.; 68°F; winds 0-1 mph; 15% cloud cover	2:10 p.m.; 68°F; winds 2-6 mph; 40% cloud cover
3/21/2024	A. Fromer, C. Thomson	QCB Protocol Survey #5 – EVA Road and Phase 4 Development Area	12:10 p.m.; 73°F; winds 0-3 mph; 0% cloud cover	3:43 p.m.; 72°F; winds 6 mph; 80% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/25/2024	A. Fromer	QCB Protocol Survey #6 – EVA Road and Phase 4 Development Area	11:30 a.m.; 73°F; winds 2-4 mph; 100% cloud cover	2:10 p.m.; 63°F; winds 1-3 mph; 50% cloud cover
4/1/2024	A. Fromer	QCB Protocol Survey #7 – EVA Road and Phase 4 Development Area	2:00 p.m.; 71°F; winds 1-4 mph; 15% cloud cover	4:15 p.m.; 65°F; winds 3-6 mph; 10% cloud cover
4/9/2024	A. Fromer	QCB Protocol Survey #8 – EVA Road and Phase 4 Development Area	12:45 p.m.; 75°F; winds 2-4 mph; 0% cloud cover	3:20 p.m.; 70°F; winds 3-8 mph; 15% cloud cover
4/16/2024	A. Fromer	QCB Protocol Survey #9 – EVA Road and Phase 4 Development Area	1:15 p.m.; 77°F; winds 2-5 mph; 0% cloud cover	3:50 p.m.; 72°F; winds 2-6 mph; 0% cloud cover
4/23/2024	A. Fromer	QCB Protocol Survey #10 – EVA Road and Phase 4 Development Area	11:30 a.m.; 72°F; winds 0-2 mph; 75% cloud cover	1:50 p.m.; 70°F; winds 3-4 mph; 0% cloud cover
5/2/2024	C. Thomson	QCB Protocol Survey #11 – EVA Road and Phase 4 Development Area	9:55 a.m.; 66°F; winds 2 mph; 40% cloud cover	1:42 p.m.; 72°F; winds 3 mph; 0% cloud cover
5/9/2024	A. Fromer	QCB Protocol Survey #12 – EVA Road and Phase 4 Development Area	12:20 p.m.; 78°F; winds 2-3 mph; 10% cloud cover	2:50 p.m.; 79°F; winds 2-4 mph; 0% cloud cover
3/20/2024	A. Fromer, C. Beck	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
3/21/2024	A. Fromer, C. Beck, C. Defrenne	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
3/26/2024	A. Fromer, C. Beck, C. Thomson, C. Defrenne	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
3/27/2024	A. Fromer, C. Beck, C. Thomson,	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
4/2/2024	A. Fromer, C. Beck, C. Thomson, C. Defrenne	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
4/12/2024	A. Fromer, C. Beck, E. Procsal, C. Defrenne	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
4/15/2024	C. Polevy, C. Beck, M. Hughes	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
4/16/2024	D. Gadia, C. Beck, M. Hughes	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
4/17/2024	A. Fromer, C. Thomson, D. Gadia	QCB Extensive Habitat Assessment-Mitigation Lands-#1	-	-
4/18/2024	A. Fromer, C. Polevy, C. Defrenne	QCB Extensive Habitat Assessment-Mitigation Lands-#2	-	-
4/23/2024	C. Beck, E. Procsal, C. Defrenne, R. Smith	QCB Extensive Habitat Assessment-Mitigation Lands-#2	-	-
4/24/2024	C. Beck, C. Thomson, C. Defrenne, R. Smith	QCB Extensive Habitat Assessment-Mitigation Lands-#2	-	-
4/25/2024	C. Beck, C. Thomson, C. Polevy, R. Smith	QCB Extensive Habitat Assessment-Mitigation Lands-#2	-	-
4/29/2024	C. Beck, C. Defrenne, R. Smith	QCB Extensive Habitat Assessment-Mitigation Lands-#2	-	-

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
Wet Season Fairy Shrimp (FS) Surveys[2]				
1/18/2018	V. Novik	FS Wet Season Protocol Survey #1 – Phase 1, Beyer Blvd, and portion of Phase 2	7:30 a.m.; 61° F; winds 1.5–2 mph; 10% cloud cover	12:33 p.m.; 78° F; winds 3–6 mph; 10% cloud cover
1/25/2018	V. Novik	FS Wet Season Protocol Survey #2 – Phase 1, Beyer Boulevard, portion of Phase 2	7:13 a.m. 48° F; winds 2–3 mph; 30% cloud cover	9:50 a.m.; 62° F; winds 4–6 mph; 40% cloud cover
2/1/2018	V. Novik	FS Wet Season Protocol Survey #3 – Phase 1, Beyer Boulevard, portion of Phase 2	7:15 a.m.; 62° F; winds 4–7 mph; 5% cloud cover	8:00 a.m.; 61.5° F; winds 0–2 mph; 5% cloud cover
3/6/2018	V. Novik	FS Wet Season Protocol Survey #4 – Phase 1, Beyer Boulevard, portion of Phase 2	7:33 a.m.; 65° F; winds 1–2 mph; 25% cloud cover	10:30 a.m.; 76° F; winds 3–6 mph; 10% cloud cover
3/13/2018	V. Novik	FS Wet Season Protocol Survey #5 – Phase 1, Beyer Boulevard, portion of Phase 2	7:20 a.m.; 63° F; winds 0 mph; 100% cloud cover	11:09 a.m.; 64° F; winds 4–6 mph; 100% cloud cover
3/20/2018	V. Novik	FS Wet Season Protocol Survey #6 – Phase 1, Beyer Boulevard, portion of Phase 2	7:50 a.m.; 56° F; winds 3–6 mph; 15% cloud cover	4:40 p.m.; 70° F; winds 5–10 mph; 35% cloud cover
3/27/2018	V. Novik	FS Wet Season Protocol Survey #7 – Phase 1, Beyer Boulevard, portion of Phase 2	7:30 a.m.; 54° F; winds 2–6 mph; 0% cloud cover	2:00 p.m.; 74° F; winds 9–15 mph; 0% cloud cover
4/3/2018	V. Novik	FS Wet Season Protocol Survey #8 – Phase 1, Beyer Boulevard, portion of Phase	8:30 a.m.; 65° F; winds 0 mph; 65% cloud cover	10:45 a.m.; 69° F; winds 2–5 mph; 55% cloud cover
4/10/2018	V. Novik	FS Wet Season Protocol Survey #9 – Phase 1, Beyer Boulevard, portion of Phase 2	7:30 a.m.; 68° F; winds 3–6 mph; 20% cloud cover	8:20 a.m.; 68° F; winds 3–6 mph; 20% cloud cover
12/4/2018	E. LaCoste, M. Weston[1]	FS Wet Season Protocol Survey #1 – Phase 1, Beyer Boulevard, portion of Phase 2, VP Restoration Areas	8:00 a.m.; 57 F; winds 3–6 mph; 90% cloud cover	11:00 a.m.; 70°F; winds 5–8 mph; 60% cloud cover
12/10/2018	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #2a – Phase 1, Beyer Boulevard, portion of Phase 2, VP Restoration Areas	8:45 a.m.; 59°F; winds 1–3 mph; 100% cloud cover	2:30 p.m.; 65°F; winds 1–3 mph; 100% cloud cover
12/11/2018	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #2b – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:15 a.m.; 60°F; winds 1–3 mph; 75% cloud cover	9:45 a.m.; 65°F; winds 1–3 mph; 65% cloud cover
12/17/2018	D. Busby, J. McBee[1]	FS Wet Season Protocol Survey #3 – Phase 1, Beyer Boulevard, portion of Phase 2, VP Restoration Areas	8:15 a.m.; 57°F; winds 1–3 mph; 90% cloud cover	1:00 p.m.; 75°F; winds 1–3 mph; 75% cloud cover
12/23/2018	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #4 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	9:15 a.m.; 61°F; winds 1–2 mph; 50% cloud cover	10:15 a.m.; 66°F; winds 1–2 mph; 50% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
12/31/2018	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #5 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:45 a.m.; 60°F; winds 3–5 mph; 100% cloud cover	10:00 a.m.; 60°F; winds 3–5 mph; 100% cloud cover
1/7/2019	D. Busby, J. McBee[1]	FS Wet Season Protocol Survey #6 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:20 a.m.; 48°F; winds 1–3 mph; 5% cloud cover	7:45 a.m.; 50°F; winds 1–3 mph; 5% cloud cover
1/11/2019	M. Busby, J. McBee[1]	FS Wet Season Protocol Survey #7 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:25 a.m.; 50°F; winds 0–1 mph; 95% cloud cover	9:50 a.m.; 57°F; winds 0–1 mph; 95% cloud cover
1/18/2019	D. Busby, M. Busby, J. McBee[1]	FS Wet Season Protocol Survey #8a – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:22 a.m.; 58°F; winds 1–3 mph; 95% cloud cover	1:35 p.m.; 63°F; winds 3–5 mph; 95% cloud cover
1/21/2019	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #8b – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:00 a.m.; 56°F; winds 3–6 mph; 50% cloud cover	12:00 p.m.; 61°F; winds 5–10 mph; 5% cloud cover
1/24/2019	D. Busby, E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #9 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:20 a.m.; 64°F; winds 1–3 mph; 5% cloud cover	1:20 p.m.; 72°F; winds 1–3 mph; 50% cloud cover
1/30/2019	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #10 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:30 a.m.; 63°F; winds 1–3 mph; 50% cloud cover	11:30 a.m.; 65°F; winds 1–3 mph; 50% cloud cover
2/6/2019	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #11 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:30 a.m.; 47°F; winds 1–3 mph; 75% cloud cover	1:15 p.m.; 55°F; winds 1–3 mph; 15% cloud cover
2/12/2019	D. Busby, M. Busby	FS Wet Season Protocol Survey #12 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:15 a.m.; 55°F; winds 3–5 mph; 0% cloud cover	4:00 p.m.; 60°F; winds 3–5 mph; 75% cloud cover
2/19/2019	D. Busby, E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #13a – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	9:00 a.m.; 52°F; winds 1–3 mph; 0% cloud cover	2:45 p.m.; 56°F; winds 1–3 mph; 0% cloud cover
2/20/2019	M. Busby, J. McBee[1]	FS Wet Season Protocol Survey #13b – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:30 a.m.; 42°F; winds 1–3 mph; 10% cloud cover	12:30 p.m.; 54°F; winds 3–5 mph; 100% cloud cover
2/26/2019	D. Busby, E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #14 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:15 a.m.; 47°F; winds 1–3 mph; 100% cloud cover	2:00 p.m.; 61°F; winds 1–3 mph; 100% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/4/2019	C. Dixon, A. Kort[1]	FS Wet Season Protocol Survey #15a – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:30 a.m.; 58°F; winds 0–2 mph; 90% cloud cover	1:30 p.m.; 60°F; winds 3–5 mph; 75% cloud cover
3/5/2019	C. Dixon, A. Kort[1]	FS Wet Season Protocol Survey #15b – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:18 a.m.; 57°F; winds 1–3 mph; 0% cloud cover	11:30 a.m.; 68°F; winds 1–3 mph; 5% cloud cover
3/12/2019	C. Dixon, J. McBee[1]	FS Wet Season Protocol Survey #16 – Phase 1, Beyer Boulevard, portion of Phase 2, VP Restoration Areas	8:40 a.m.; 54°F; winds 1–3 mph; 100% cloud cover	4:20 p.m.; 61°F; winds 5–7 mph; 5% cloud cover
3/19/2019	C. Dixon, J. McBee[1], M. Weston[1]	FS Wet Season Protocol Survey #17 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:20 a.m.; 55°F; winds 1–3 mph; 20% cloud cover	4:20 p.m.; 66°F; winds 3–5 mph; 5% cloud cover
3/25/2019	C. Dixon, K. Israel[1]	FS Wet Season Protocol Survey #18 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:34 a.m.; 63°F; winds 1–5 mph; 0% cloud cover	1:45 p.m.; 66°F; winds 3–8 mph; 0% cloud cover
4/2/2019	C. Dixon, J. McBee[1]	FS Wet Season Protocol Survey #19 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:00 a.m.; 59°F; winds 2–3 mph; 0% cloud cover	9:40 a.m.; 70°F; winds 2–3 mph; 0% cloud cover
4/9/2019	M. Busby, N. Yerka[1]	FS Wet Season Protocol Survey #20 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:45 a.m.; 64°F; winds 3–5 mph; 75% cloud cover	9:30 a.m.; 66°F; winds 3–5 mph; 75% cloud cover
4/16/2019	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #21 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	8:00 a.m.; 57°F; winds 3–5 mph; 100% cloud cover	8:40 a.m.; 60°F; winds 3–5 mph; 100% cloud cover
4/22/2019	M. Busby	FS Wet Season Protocol Survey #22 – Phase 1, Beyer Boulevard, portion of Phase 2, VP Restoration Areas	9:30 a.m.; 63°F; winds 1–3 mph; 25% cloud cover	10:00 a.m.; 64°F; winds 1–3 mph; 25% cloud cover
5/6/2019	E. LaCoste, J. McBee[1]	FS Wet Season Protocol Survey #23 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	9:15 a.m.; 65°F; winds 2–3 mph; 50% cloud cover	9:45 a.m.; 66°F; winds 2–3 mph; 50% cloud cover
5/14/2019	M. Busby	FS Wet Season Protocol Survey #24 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	10:00 a.m.; 59°F; winds 4–7 mph; 80% cloud cover	11:15 a.m.; 60°F; winds 5–7 mph; 80% cloud cover
5/23/2019	E. LaCoste, A. Kort[1]	FS Wet Season Protocol Survey #25 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	10:00 a.m.; 68°F; winds 5–8 mph; 95% cloud cover	12:00 a.m.; 69°F; winds 5–8 mph; 80% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/30/2019	D. Busby, C. Vettes[1]	FS Wet Season Protocol Survey #26 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:05 a.m.; 55°F; winds 0 mph; 100% cloud cover	8:40 a.m.; 59°F; winds 0 mph; 100% cloud cover
6/4/2019	E. LaCoste	FS Wet Season Protocol Survey #27 – Phase 1, Beyer Boulevard, portion of Phase 2 VP Restoration Areas	7:30 a.m.; 63°F; winds 0–1 mph; 100% cloud cover	8:00 a.m.; 63°F; winds 0–1 mph; 100% cloud cover
11/24/2019	E. LaCoste, A. Kort	FS Wet Season Protocol Survey #1 – Phases 1, 2, 4, and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 56°F; winds 0–6 mph; 0% cloud cover	3:30 p.m.; 74°F; winds 0–6 mph; 25% cloud cover
12/2/2019	E. LaCoste, D. Busby, A. Kort	FS Wet Season Protocol Survey #2 – Phases 1, 2, 4, Beyer Boulevard, and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 56°F; winds 0–6 mph; 25% cloud cover	3:00 p.m.; 71°F; winds 0–6 mph; 50% cloud cover
12/9/2019	E. LaCoste, D. Busby, A. Kort	FS Wet Season Protocol Survey #3a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 59°F; winds 0–2 mph; 0% cloud cover	3:15 p.m.; 64°F; winds 0–2 mph; 10% cloud cover
12/10/2019	E. LaCoste, D. Busby, A. Kort	FS Wet Season Protocol Survey #3b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 57°F; winds 0–6 mph; 15% cloud cover	2:45 p.m.; 64°F; winds 0–6 mph; 80% cloud cover
12/16/2019	E. LaCoste, D. Busby, C. Vettes	FS Wet Season Protocol Survey #4a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 60°F; winds 0–5 mph; 0% cloud cover	3:00 p.m.; 68°F; winds 0–5 mph; 5% cloud cover
12/17/2019	E. LaCoste, D. Busby, C. Vettes	FS Wet Season Protocol Survey #4b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 59°F; winds 5–15 mph; 5% cloud cover	1:30 p.m.; 68°F; winds 5–15 mph; 30% cloud cover
12/24/2019	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #5a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 53°F; winds 0–8 mph; 65% cloud cover	2:00 p.m.; 59°F; winds 0–8 mph; 80% cloud cover
12/27/2019	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #5b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 51°F; winds 0–3 mph; 5% cloud cover	3:00 p.m.; 59°F; winds 0–3 mph; 15% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
12/30/2019	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #6a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 53°F; winds 3–5 mph; 60% cloud cover	3:00 p.m.; 59°F; winds 3–5 mph; 100% cloud cover
12/31/2019	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #6b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 50°F; winds 0–3 mph; 10% cloud cover	2:30 p.m.; 64°F; winds 0–3 mph; 20% cloud cover
1/6/2020	D. Busby, C Vettes	FS Wet Season Protocol Survey #7a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	9:00 a.m.; 63°F; winds 0–1 mph; 5% cloud cover	3:45 p.m.; 72°F; winds 0–1 mph; 5% cloud cover
1/7/2020	D. Busby, C Vettes	FS Wet Season Protocol Survey #7b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 61°F; winds 1–3 mph; 10% cloud cover	1:45 p.m.; 68°F; winds 1–3 mph; 20% cloud cover
1/13/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #8a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 50°F; winds 2–5 mph; 0% cloud cover	12:00 p.m.; 63°F; winds 2–5 mph; 10% cloud cover
1/14/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #8b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 49°F; winds 0–4 mph; 0% cloud cover	2:00 p.m.; 63°F; winds 0–4 mph; 10% cloud cover
1/20/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #9 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:15 a.m.; 50°F; winds 1–3 mph; 100% cloud cover	12:30 p.m.; 59°F; winds 1–3 mph; 100% cloud cover
1/27/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #10 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 54°F; winds 0–6 mph; 0% cloud cover	2:30 p.m.; 64°F; winds 0–6 mph; 10% cloud cover
2/4/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #11 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:15 a.m.; 47°F; winds 4–9 mph; 0% cloud cover	12:15 p.m.; 57°F; winds 4–9 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
2/11/2020	D. Busby	FS Wet Season Protocol Survey #12 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	11:30 a.m.; 66°F; winds 1–4 mph; 1% cloud cover	12:50 p.m.; 66°F; winds 1–4 mph; 1% cloud cover
2/18/2020	E. LaCoste, A. Kort	FS Wet Season Protocol Survey #13 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 59°F; winds 0–3 mph; 50% cloud cover	11:30 a.m.; 64°F; winds 0–3 mph; 100% cloud cover
2/24/2020	E. LaCoste, A. Kort	FS Wet Season Protocol Survey #14 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	9:30 a.m.; 63°F; winds 0–4 mph; 0% cloud cover	3:00 p.m.; 68°F; winds 0–4 mph; 0% cloud cover
3/3/2020	E. LaCoste	FS Wet Season Protocol Survey #15 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 59°F; winds 0–4 mph; 0% cloud cover	12:00 p.m.; 70°F; winds 0–4 mph; 0% cloud cover
3/9/2020	E. LaCoste	FS Wet Season Protocol Survey #16 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 62°F; winds 0–1 mph; 50% cloud cover	9:30 a.m.; 63°F; winds 0–1 mph; 50% cloud cover
3/15/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #17a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 54°F; winds 1–7 mph; 60% cloud cover	2:45 p.m.; 63°F; winds 1–7 mph; 90% cloud cover
3/16/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #17b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 57°F; winds 1–5 mph; 95% cloud cover	12:30 p.m.; 63°F; winds 1–5 mph; 95% cloud cover
3/22/2020	E. LaCoste, D. Busby	FS Wet Season Protocol Survey #18a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 57°F; winds 1–4 mph; 0% cloud cover	10:30 a.m.; 63°F; winds 1–4 mph; 0% cloud cover
3/24/2020	E. LaCoste, D. Busby	FS Wet Season Protocol Survey #18b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 60°F; winds 1–6 mph; 0% cloud cover	3:30 p.m.; 66°F; winds 1–6 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/30/2020	D. Busby, C. Vettes	FS Wet Season Protocol Survey #19a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	10:00 a.m.; 61°F; winds 3–8 mph; 0% cloud cover	3:15 p.m.; 66°F; winds 3–8 mph; 5% cloud cover
3/31/2020	D. Busby, C. Vettes	FS Wet Season Protocol Survey #19b – Phases 1, 2, and vernal pool restoration areas, program-level trails, and Mitigation Lands	12:20 p.m.; 64°F; winds 2–3 mph; 80% cloud cover	4:00 p.m.; 64°F; winds 2–3 mph; 100% cloud cover
4/7/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #20a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 54°F; winds 1–3 mph; 100% cloud cover	1:40 p.m.; 61°F; winds 1–3 mph; 100% cloud cover
4/8/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #20b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 52°F; winds 1–7 mph; 65% cloud cover	11:30 p.m.; 57°F; winds 1–7 mph; 80% cloud cover
4/13/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #21a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 57°F; winds 0–5 mph; 90% cloud cover	3:15 p.m.; 57°F; winds 0–5 mph; 90% cloud cover
4/14/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #21b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 61°F; winds 0–8 mph; 0% cloud cover	3:00 p.m.; 66°F; winds 0–8 mph; 40% cloud cover
4/15/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #21c – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 64°F; winds 1–5 mph; 0% cloud cover	11:00 a.m.; 64°F; winds 1–5 mph; 0% cloud cover
4/20/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #22a – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:00 a.m.; 57°F; winds 0–7 mph; 80% cloud cover	2:15 p.m.; 64°F; winds 0–7 mph; 100% cloud cover
4/21/2020	E. LaCoste, C. Vettes	FS Wet Season Protocol Survey #22b – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	9:30 a.m.; 61°F; winds 0–8 mph; 25% cloud cover	2:45 p.m.; 66°F; winds 0–8 mph; 55% cloud cover
4/27/2020	E. LaCoste	FS Wet Season Protocol Survey #23 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	8:30 a.m.; 65°F; winds 0–4 mph; 0% cloud cover	2:00 p.m.; 75°F; winds 0–4 mph; 0% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
5/4/2020	D. Busby, C. Vettes	FS Wet Season Protocol Survey #24 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	10:45 a.m.; 75°F; winds 3–12 mph; 0% cloud cover	1:00 p.m.; 76°F; winds 3–12 mph; 0% cloud cover
5/11/2020	D. Busby	FS Wet Season Protocol Survey #25 – Phases 1, 2, 4, Beyer Boulevard and vernal pool restoration areas, program-level trails, and Mitigation Lands	11:30 a.m.; 73°F; winds 3–7 mph; 0% cloud cover	1:30 p.m.; 75°F; winds 3–7 mph; 0% cloud cover
Dry Season Fairy Shrimp Surveys				
6/14/2018	W. Loeffler, J. McBee[1], M. Weston[1], J. Sundberg[1]	FS Dry Season Survey-soil collection	8:00 a.m.	3:00 p.m.
6/20/2018	W. Loeffler, J. McBee[1], M. Weston[1], J. Sundberg[1]	FS Dry Season Survey-soil collection	8:00 a.m.	3:00 p.m.
7/30/2019	A. Leavitt, J. Mercado[1]	FS Dry Season Survey-soil collection	8:00 a.m.	2:30 p.m.
7/31/2019	A. Leavitt, K. Valenti	FS Dry Season Survey-soil collection	8:00 a.m.	3:00 p.m.
8/8/2019	K. Valenti, S. Vargas[1]	FS Dry Season Survey-soil collection	8:00 a.m.	3:00 p.m.
7/30/2020	K. Valenti, A. Smisek[1], K. Israel[1]	FS Dry Season Survey-soil collection	8:00 a.m.	4:00 p.m.
8/3/2020	Kayo Valenti, J. Mercado[1], J. Sundberg[1]	FS Dry Season Survey-soil collection	8:00 a.m.	4:00 p.m.
8/13/2020	Kayo Valenti, J. Mercado[1], A. Smisek[1]	FS Dry Season Survey-soil collection	8:00 a.m.	4:00 p.m.
Burrowing Owl (BUOW) Surveys				
3/14/2018	M. Weston, J. McBee	BUOW Habitat Assessment	8:30 a.m.	10:00 a.m.
4/5/2018	M. Weston, J. McBee	BUOW Survey – Phase 1, Beyer Boulevard, and portion of Phase 2and Phase 1b	6:20 a.m.; 55°F; winds 0–2 mph; 100% cloud cover	10:00 a.m.; 62°F; winds 0–2 mph; 20% cloud cover
4/26/2018	D. Saucedo, J. McBee	BUOW Survey – Phase 1, Beyer Boulevard, and portion of Phase 2	6:20 a.m.; 56°F; winds 1–2 mph; 100% cloud cover	10:00 a.m.; 65°F; winds 1–3 mph; 65% cloud cover
5/21/2018	M. Weston, J. McBee	BUOW Survey – Phase 1, Beyer Boulevard, and portion of Phase 2	6:10 a.m.; 57°F; winds 1–3 mph; 99% cloud cover	08:30 a.m.; 62°F; winds 2–5 mph; 99% cloud cover
6/26/2018	M. Weston, J. McBee	BUOW Survey – Phase 1, Beyer Boulevard, and portion of Phase 2	7:00 a.m.; 64°F; winds 1–3 mph; 100% cloud cover	8:40 a.m.; 64°F; winds 1–3 mph; 95% cloud cover
3/23/2018	D. Saucedo, J. McBee	BUOW Survey #1a –Mitigation Lands	6:20 a.m.; 55°F; winds 0–2 mph; 100% cloud cover	10:00 a.m.; 62°F; winds 0–2 mph; 20% cloud cover
4/13/2018	D. Saucedo, J. McBee	BUOW Survey #1b – Mitigation Lands	6:20 a.m.; 56°F; winds 1–2 mph; 100% cloud cover	10:00 a.m.; 65°F; winds 1–3 mph; 65% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
4/27/2018	M. Weston, J. McBee	BUOW Survey #2a – Mitigation Lands	6:10 a.m.; 57°F; winds 1–3 mph; 99% cloud cover	08:30 a.m.; 62°F; winds 2–5 mph; 99% cloud cover
5/18/2018	M. Weston, J. McBee	BUOW Survey #2b – Mitigation Lands	7:00 a.m.; 64°F; winds 1–3 mph; 100% cloud cover	8:40 a.m.; 64°F; winds 1–3 mph; 95% cloud cover
6/12/2018	M. Weston, J. McBee	BUOW Survey #3a – Mitigation Lands	6:10 a.m.; 57°F; winds 1–3 mph; 99% cloud cover	08:30 a.m.; 62°F; winds 2–5 mph; 99% cloud cover
6/21/2018	M. Weston, J. McBee	BUOW Survey #3b – Mitigation Lands	7:00 a.m.; 64°F; winds 1–3 mph; 100% cloud cover	8:40 a.m.; 64°F; winds 1–3 mph; 95% cloud cover
7/9/2018	M. Weston, J. McBee	BUOW Survey #4a – Mitigation Lands	6:10 a.m.; 57°F; winds 1–3 mph; 99% cloud cover	08:30 a.m.; 62°F; winds 2–5 mph; 99% cloud cover
7/12/2018	M. Weston, J. McBee	BUOW Survey #4b – Mitigation Lands	7:00 a.m.; 64°F; winds 1–3 mph; 100% cloud cover	8:40 a.m.; 64°F; winds 1–3 mph; 95% cloud cover
2/4/2020	B. Procsal, R. Atik	Habitat Assessment - Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	9:00 a.m.; 56°F; winds 0-4 mph; 0% cloud cover	2:00 9.m.; 58°F; winds 5-7 mph; 0% cloud cover
2/21/2020	B. Procsal, K. Israel B. Parker, A. Fromer	BUOW Survey #1a – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	7:00 a.m.; 58°F; winds 0-2 mph; 2% cloud cover	10:00 a.m.; 68°F; winds 0-2 mph; 20% cloud cover
2/25/2020	K. Israel, T. Chase	BUOW Survey #1b – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	6:50 a.m.; 50°F winds 0-1 mph; 0% cloud cover	9:00 a.m.; 68°F; winds 0-1 mph; 0% cloud cover
4/30/2020	B. Procsal, T. Chase B. Parker, A. Fromer	BUOW Survey #2a – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	7:00 a.m.; 62°F; winds 0-1 mph; 100% cloud cover	10:00 a.m.; 65°F; winds 0-21 mph; 100% cloud cover
5/6/2020	A. Fromer, T. Chase	BUOW Survey #2b – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	6:40 a.m., 59°F winds 0-2 mph; 5% cloud cover	9:10 a.m., 76°F winds 0-2 mph; 5% cloud cover
6/24/2020	A. Fromer, B. Parker K. Israel, T. Chase	BUOW Survey #3a – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	6:30 a.m.; 63°F; winds 0-2 mph; 100% cloud cover	10:00 a.m.; 71°F; winds 1-2 mph; 100% cloud cover

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
6/25/2020	K. Israel, T. Chase	BUOW Survey #3b – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	6:20 a.m.; 61°F; wind not recorded; 100% cloud cover	9:30 a.m.; 63°F; wind not recorded; 100% cloud cover
7/7/2020	B. Parker, K. Israel, T. Chase	BUOW Survey #4a – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	6:30 a.m.; 33°F; winds 0-2 mph; 100% cloud cover	10:00 a.m.; 70°F; winds 3-6 mph; 0% cloud cover
7/9/2020	A. Fromer, K. Israel, T. Chase	BUOW Survey #4b – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	6:35 a.m.; 64°F; winds 0-1 mph; 100% cloud cover	10:00 a.m.; 73°F; winds 3-5 mph; 0% cloud cover
2/22/2021	A. Fromer, T. Chase	BUOW Survey #1 – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	8:15 a.m.; 66°F; winds 0-2 mph; 0% cloud cover	9:00 a.m.; 68°F; winds 0-2 mph; 0% cloud cover
4/28/2021	A. Fromer, J, Woll	BUOW Survey #2 – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	9:00 a.m.; 66°F; winds 0-1 mph; 0% cloud cover	10:00 a.m.; 70°F; winds 1-2 mph; 0% cloud cover
5/27/2021	A. Fromer, J, Woll	BUOW Survey #3 – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	8:45 a.m.; 65°F; winds 1-3 mph; 15% cloud cover	10:00 a.m.; 68°F; winds 2-4 mph; 5% cloud cover
6/24/2021	A. Fromer, J, Woll	BUOW Survey #4 – Phases 1, 2, Beyer Boulevard, Phase 4 and vernal pool restoration areas plus a 150-meter buffer, and Mitigation Lands	8:15 a.m.; 66°F winds 3-5 mph; 100% cloud cover	10:00 a.m.; 70°F; winds 6-8 mph; 40% cloud cover
Western Spadefoot Surveys				
2/14/2024	B. Procsal, C. Polevy, C. Thomson	Western spadefoot survey	10:30 a.m.	4:00 p.m.
2/15/2014	W. Loeffler, B. Procsal	Western spadefoot survey	11:00 a.m.	4:00 p.m.
2/27/2024	W. Loeffler, B. Procsal	Western spadefoot survey	9:30 a.m.	3:30 p.m.
2/28/2024	A. Fromer, C. Polevy, D. Gadia	Western spadefoot survey	8:00 a.m.	4:00 p.m.
2/29/2024	W. Loeffler, A. Fromer, D Gadia	Western spadefoot survey	8:00 a.m.	4:00 p.m.
3/6/2024	C. Thomson, C. Beck	Western spadefoot survey	8:00 a.m.	4:30 p.m.
3/13/2024	A. Fromer	Western spadefoot survey	-	-
Crotch's Bumble Bee Habitat Assessment				
3/20/2024	A. Fromer, C. Beck	Extensive Habitat Assessment-Mitigation Lands	-	-

Attachment 3 Survey Dates, Times, and Weather Conditions				
Date	Surveyors	Survey Type	Beginning Conditions	Ending Conditions
3/21/2024	A. Fromer, C. Beck, C. Defrenne	Extensive Habitat Assessment-Mitigation Lands	-	-
3/26/2024	A. Fromer, C. Beck, C. Thomson, C. Defrenne	Extensive Habitat Assessment-Mitigation Lands	-	-
3/27/2024	A. Fromer, C. Beck, C. Thomson,	Extensive Habitat Assessment-Mitigation Lands	-	-
4/2/2024	A. Fromer, C. Beck, C. Thomson, C. Defrenne	Extensive Habitat Assessment-Mitigation Lands	-	-
4/12/2024	A. Fromer, C. Beck, E. Procsal, C. Defrenne	Extensive Habitat Assessment-Mitigation Lands	-	-
4/15/2024	C. Polevy, C. Beck, M. Hughes	Extensive Habitat Assessment-Mitigation Lands	-	-
4/16/2024	D. Gadia, C. Beck, M. Hughes	Extensive Habitat Assessment-Mitigation Lands	-	-
4/17/2024	A. Fromer, C. Thomson, D. Gadia	Extensive Habitat Assessment-Mitigation Lands	-	-
4/18/2024	A. Fromer, C. Polevy, C. Defrenne	Extensive Habitat Assessment-Project Area	-	-
4/23/2024	C. Beck, E. Procsal, C. Defrenne, R. Smith	Extensive Habitat Assessment-Project Area	-	-
4/24/2024	C. Beck, C. Thomson, C. Defrenne, R. Smith	Extensive Habitat Assessment-Project Area	-	-
4/25/2024	C. Beck, C. Thomson, C. Polevy, R. Smith	Extensive Habitat Assessment-Project Area	-	-
4/29/2024	C. Beck, C. Defrenne, R. Smith	Extensive Habitat Assessment-Project Area	-	-
Wildlife Tracking Surveys				
4/20/2020	B. Martin	Spring wildlife tracking survey	-	-
4/21/2020	B. Martin	Spring wildlife tracking survey	-	-
4/23/2020	B. Martin	Spring wildlife tracking survey	-	-
4/24/2020	B. Martin	Spring wildlife tracking survey	-	-
4/27/2020	B. Martin	Spring wildlife tracking survey	-	-
4/29/2020	B. Martin	Spring wildlife tracking survey	-	-
5/1/2020	B. Martin	Spring wildlife tracking survey	-	-
5/8/2020	B. Martin	Camera check	-	-
5/15/2020	B. Martin	Camera check	-	-
5/22/2020	B. Martin	Camera retrieval	-	-

NOTE: Additional details related to these surveys are included in the text of this report, and species-specific reports submitted as part of this project's survey efforts (RECON 2018a–2018f; 2019a–2019c; 2020a–2020b; 2021a–2021b; 2022; 2023a; 2024; Busby Biological 2019). For non-wildlife surveys, beginning and ending weather conditions were not recorded.

VTM = Vesting Tentative Map; °F = degrees Fahrenheit at ground level; mph = miles per hour; % = percent

[1]Under Supervision.

[2]Fairy shrimp protocol surveys for resources within the Candlelight project area were conducted by Alden Environmental to support the 401 Water Quality Certification No. R9-2023-0080 for the Candlelight Project issued March 13, 2023 and California Department of Fish and Wildlife Streambed Alteration Agreement Notification #1600-2016-0206-R5 issued January 24, 2022.

ATTACHMENT 4

Plant Species Observed

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
LYCOPODS			
ISOETACEAE	QUILLWORT FAMILY		
Isoetes orcuttii A.A. Eaton	Orcutt's quillwort	V, W	N
SELAGINELLACEAE	SPIKE-MOSS FAMILY		
Selaginella cinerascens A.A. Eaton	ashy spike-moss	CSS, MSS	N
FERNS			
PTERIDACEAE	BRAKE FAMILY		
Pentagramma triangularis (Kaulf.) Yatsk. Windham & E. Wollenw.	goldback fern	CSS	N
GYMNOSPERMS			
CUPRESSACEAE	CYPRESS FAMILY		
Hesperocyparis macrocarpa (Hartw.) Bartel [=*Callitropsis macrocarpa*]	Monterey cypress	DL	I
PINACEAE	PINE FAMILY		
Pinus halepensis Mill.	Aleppo pine	DL	I
ANGIOSPERMS: MONOCOTS			
AGAVACEAE	AGAVE FAMILY		
Agave americana L.	American century plant	DCSS	I
Chlorogalum parviflorum S. Watson	small-flower soap-plant, amole	CSS	N
Yucca guatemalensis Baker	bluestem yucca	DMSS	I
Yucca schidigera Ortgies	Mojave yucca	CSS	N
ALLIACEAE	ONION FAMILY		
Allium praecox Brandegee	early onion	CSS	N
IRIDACEAE	IRIS FAMILY		
Sisyrinchium bellum S. Watson	western blue-eyed grass	CSS	N
JUNCACEAE	RUSH FAMILY		
Juncus bufonius L.	toad rush	V	N
JUNCAGINACEAE	ARROW-GRASS FAMILY		
Triglochin scilloides (Poir.) Mering & Kadereit [=*Lilaea scilloides*]	flowering-quillwort	V	N

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
LILIACEAE	LILY FAMILY		
Calochortus splendens Benth.	splendid mariposa lily	NNG	N
Fritillaria biflora Lindl.	chocolate lily, mission bells	NNG	N
POACEAE (GRAMINEAE)	GRASS FAMILY		
Agrostis pallens Trin.	dune bent grass	NNG	N
Arundo donax L.	giant reed	DL	I
Avena sp.	oats	NNG	I
Avena barbata Pott ex Link	slender wild oat	NNG	I
Brachypodium distachyon (L.) P. Beauv.	purple falsebrome	NNG	I
Bromus diandrus Roth	ripgut grass	NNG	I
Bromus hordeaceus L.	soft chess	NNG	I
Bromus madritensis L. ssp. *rubens* (L.) Husn.	red brome	NNG	I
Cynodon dactylon (L.) Pers.	Bermuda grass	NNG, DL	I
Distichlis spicata (L.) Greene	salt grass	NNG, V	N
Festuca [=*Vulpia*] *myuros* L.	rattail sixweeks grass	NNG	I
Festuca perennis (L.) Columbus & J.P. Sm. [=*Lolium multiflorum* and *Lolium perenne*]	rye grass	NNG	I
Hordeum depressum (Scribn. & J. G. Sm.) Rydb.	dwarf barley	NNG	N
Hordeum intercedens Nevski	bobtail barley, vernal barley*	NNG	N
Hordeum murinum L.	wall barley	NNG	I
Lamarckia aurea (L.) Moench	golden-top	DL	I
Muhlenbergia microsperma (DC.) Kunth	littleseed muhly	CSS	N
Phalaris angusta Nees ex Trin.	timothy canary grass	NNG	N
Phalaris minor Retz.	little-seeded canary grass	NNG	I
Poa annua L.	annual blue grass	NNG	I
Schismus barbatus (L.) Thell.	Mediterranean schismus	DL, NNG, DCSS	I
Stipa [=*Nassella*] sp.	needle grass	CSS, MSS	N
Stipa [=*Achnatherum*] *diegoensis* Swallen	San Diego needle grass	MSS	N
Stipa [=*Nassella*] *lepida* Hitchc.	foothill needle grass	CSS, MSS	N

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
THEMIDACEAE	BRODIAEA FAMILY		
Bloomeria crocea (Torr.) Coville	common goldenstar	NNG	N
Brodiaea terrestris Kellogg ssp. *kernensis* (Hoover) T.F. Niehaus	dwarf brodiaea	NNG	N
Dichelostemma capitatum (Benth.) Alph. Wood	blue dicks	CSS, MSS	N
Muilla maritima (Torr.) S. Watson	common muilla	NNG	N
ANGIOSPERMS: DICOTS			
ADOXACEAE	ADOXA FAMILY		
Sambucus nigra L. ssp. *caerulea* (Raf.) Bolli [=*Sambucus mexicana*]	blue elderberry	CSS, DCSS	N
AIZOACEAE	FIG-MARIGOLD FAMILY		
Mesembryanthemum crystallinum L.	crystalline iceplant	DL, DMSS	I
Mesembryanthemum nodiflorum L.	slender-leaved iceplant	DL, DMSS	I
Tetragonia tetragonioides (Pall.) Kuntze	New Zealand spinach	DMSS	I
AMARANTHACEAE	AMARANTH FAMILY		
Amaranthus albus L.	tumbleweed	DL, NNG	I
ANACARDIACEAE	SUMAC OR CASHEW FAMILY		
Malosma laurina Nutt. ex Abrams	laurel sumac	CSS, DCSS, MSS, DMSS	N
Rhus integrifolia (Nutt.) Benth. & Hook. f. ex Rothr.	lemonade berry	CSS, DCSS, MSS, DMSS, SWS	N
Schinus molle L.	Peruvian pepper tree	DL, SWS	I
APIACEAE (UMBELLIFERAE)	CARROT FAMILY		
Apiastrum angustifolium Nutt.	mock-parsley	CSS	N
Daucus pusillus Michx.	rattlesnake weed	CSS	N
Eryngium aristulatum Jeps. var. *parishii* (J.M. Coult. & Rose) Mathias & Constance	San Diego button-celery	V	N
Foeniculum vulgare Mill.	fennel	DCSS, NNG, DL	I
Sanicula arguta J.M. Coult. & Rose	sharp-tooth sanicle	CSS	N
ASTERACEAE	SUNFLOWER FAMILY		
Amblyopappus pusillus Hook. & Arn.	pineapple weed	NNG, DL	N

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
Ambrosia chenopodiifolia (Benth.) Payne	San Diego bur-sage	CSS, MSS, DMSS, DL	N
Ambrosia confertiflora DC.	weak-leaf bur-sage	CSS, MSS, DMSS	N
Ambrosia psilostachya DC.	western ragweed	CSS	N
Artemisia californica Less.	California sagebrush	CSS, DCSS, MSS, DMSS	N
Baccharis salicifolia (Ruiz & Pav.) Pers. ssp. *salicifolia*	mule fat, seep-willow	CSS, DCSS, MFS, SWS	N
Baccharis sarothroides A. Gray	broom baccharis	CSS, DCSS	N
Bahiopsis [=*Viguiera*] *laciniata* (A. Gray) E.E. Schilling & Panero	San Diego viguiera, San Diego County viguiera	CSS, MSS	N
Brickellia californica (Torr. & A. Gray) A. Gray	California brickellbush	CSS	N
Carduus pycnocephalus L.	Italian thistle	DMSS, NNG	I
Centaurea melitensis L.	tocalote, Maltese star-thistle	NNG, CSS, DCSS, MSS, DMSS	I
Corethrogyne filaginifolia [= all previously known *Lessingia filaginifolia* varieties in California] (Hook. & Arn.) Nutt.	California-aster, San Diego sand aster*, San Dieguito sand aster*	CSS	N
Deinandra [=*Hemizonia*] *conjugens*	Otay tarplant	MSS, DCSS	N
Deinandra [=*Hemizonia*] *fasciculata* (DC.) Greene	fascicled tarweed	NNG, MSS, CSS	N
Dittrichia graveolens (L.) Greuter	stinkwort	DCSS, DMSS, NNG	I
Encelia californica Nutt.	California encelia	CSS, DCSS	N
Erigeron [=*Conyza*] *bonariensis* L.	flax-leaved horseweed	DL, NNG	I
Erigeron [=*Conyza*] *canadensis* L.	horseweed	NNG, CSS, DCSS	N
Eriophyllum confertiflorum (DC.) A. Gray var. *confertiflorum*	long-stem golden-yarrow	CSS	N
Glebionis coronaria (L.) Spach [=*Chrysanthemum coronarium*]	garland, crown daisy	NNG, DL, DCSS	I
Hazardia squarrosa (Hook. & Arn.) Greene	saw-toothed goldenbush	CSS	N
Hedypnois cretica (L.) Dum. Cours.	crete weed	DL, NNG	I
Helminthotheca [=*Picris*] *echioides* (L.) Holub	bristly ox-tongue	CSS, DCSS	I
Heterotheca grandiflora Nutt.	telegraph weed	CSS, DCSS, DL	N
Hypochaeris glabra L.	smooth cat's-ear	CSS, NNG	I
Isocoma menziesii (Hook. & Arn.) G.L. Nesom	coastal goldenbush	CSS, DCSS	N

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
Isocoma menziesii (Hook. & Arn.) G.L. Nesom var. *decumbens* (Greene) G.L. Nesom	decumbent goldenbush	CSS	N
Lactuca serriola L.	prickly lettuce	NNG, CSS, DL	I
Lasthenia gracilis (DC.) Greene [*L. californica* Lindley, misapplied in San Diego County]	common goldfields	NNG	N
Logfia [=*Filago*] sp.	herba impia	CSS, NNG	I
Logfia [=*Filago*] *gallica* (L.) Coss. & Germ.	daggerleaf cottonrose	CSS, NNG	I
Matricaria discoidea [=*Chamomilla suaveolens*] DC.	pineapple weed, rayless chamomile	CSS, MSS, NNG	N
Oncosiphon piluliferum (L. f.) Källersjö	stinknet, globe chamomile	DL, NNG	I
Osmadenia tenella Nutt.	osmadenia	NNG	N
Pentachaeta aurea Nutt. ssp. *aurea*	golden-ray pentachaeta	NNG	N
Pseudognaphalium biolettii Anderb. [=*Gnaphalium bicolor*]	bicolor cudweed	CSS	N
Pseudognaphalium [=*Gnaphalium*] *californicum* (DC.) Anderb.	California everlasting, green everlasting	CSS, NNG	N
Psilocarphus brevissimus Nutt. var. *brevissimus*	dwarf woollyheads	V	N
Psilocarphus tenellus Nutt.	slender woolly-marbles	V	N
Senecio vulgaris L.	common groundsel	DL, NNG	I
Sonchus asper (L.) Hill ssp. *asper*	prickly sow thistle	DL, NNG, CSS	I
Sonchus oleraceus L.	common sow thistle	DL, NNG	I
Stephanomeria sp.	wreath-plant	CSS	N
Stephanomeria diegensis Gottlieb	San Diego wreath-plant	CSS	N
Uropappus lindleyi (DC.) Nutt.	silver puffs	NNG	N
BORAGINACEAE	BORAGE FAMILY		
Amsinckia sp.	fiddleneck	NNG	N
Amsinckia menziesii (Lehm.) A. Nelson & J.F. Macbr.	common fiddleneck, small-flowered fiddleneck, rancher's fireweed	NNG, CSS	N
Cryptantha sp.	cryptantha	NNG	N
Cryptantha intermedia (A. Gray) Greene	nievitas cryptantha	NNG	N
Eucrypta chrysanthemifolia (Benth.) Greene	eucrypta	CSS	N
Harpagonella palmeri A. Gray	Palmer's grapplinghook	NNG	N
Pectocarya linearis (Ruiz & Pav.) DC. ssp. *ferocula* (I.M. Johnst.) Thorne	narrow-toothed pectocarya, comb-bur	CSS	N
Phacelia sp.	phacelia	CSS	N

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin
Phacelia cicutaria Greene var. *hispida* (A. Gray) J.T. Howell	caterpillar phacelia	CSS	N
Phacelia distans Benth.	wild-heliotrope	CSS	N
Phacelia minor (Harvey) Thell. ex F. Zimm.	wild canterbury bells	CSS	N
Pholistoma racemosum (Nutt. ex A. Gray) Constance	San Diego fiesta flower, pholistoma	NNG, CSS	N
Plagiobothrys sp.	popcornflower	NNG	N
Plagiobothrys acanthocarpus (Piper) I.M. Johnst.	adobe popcornflower	NNG	N
Plagiobothrys collinus (Phil.) I.M. Johnst.	valley popcornflower	NNG	N
BRASSICACEAE (CRUCIFERAE)	MUSTARD FAMILY		
Brassica nigra (L.) W.D.J. Koch	black mustard	NNG, DL,CSS, DCSS	I
Brassica tournefortii Gouan	Sahara mustard	NNG, DL	I
Descurainia pinnata (Walter) Britton	tansy-mustard	CSS, MSS	N
Hirschfeldia incana (L.) Lagr.-Fossat	short-pod mustard	NNG, CSS, DCSS	I
Lepidium latipes Hook.	San Diego pepperweed	NNG, DL	I
Lepidium nitidum Nutt.	shining peppergrass	CSS	N
Raphanus sativus L.	radish	DL, NNG	I
Sisymbrium sp.	mustard	NNG	I
Sisymbrium irio L.	London rocket	NNG, DCSS	I
CACTACEAE	CACTUS FAMILY		
Cylindropuntia californica (Torr. & A. Gray) F.M. Knuth var. *californica*	snake cholla	MSS	N
Cylindropuntia [=*Opuntia*] *prolifera* (Engelm.) F.M. Knuth	coast cholla	MSS	N
Ferocactus viridescens (Torr. & A. Gray) Britton & Rose	San Diego barrel cactus, coast barrel cactus*	MSS	N
Mammillaria dioica K. Brandegee	fish-hook cactus	MSS	N
Opuntia littoralis (Engelm.) Cockerell.	coast prickly-pear, shore cactus	CSS, MSS	N
CARYOPHYLLACEAE	PINK FAMILY		
Cardionema ramosissimum (Weinm.) A. Nelson & J.F. Macbr.	tread lightly	CSS	N
Silene gallica L.	small-flower catchfly, windmill pink	CSS	I
Spergularia bocconi (Scheele) Graebn.	Boccone's sand-spurrey	NNG	I
Stellaria sp.	chickweed	NNG	I

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Scientific Name	Common Name	Habitat	Origin
CHENOPODIACEAE	GOOSEFOOT FAMILY		
Atriplex canescens (Pursh) Nutt.	four-wing saltbush, shad-scale	DMSS	N
Atriplex pacifica A. Nelson	south coast saltscale, south coast saltbush*	MSS, DMSS	N
Atriplex semibaccata R. Br.	Australian saltbush	DL, NNG	I
Chenopodium murale L.	nettle-leaf goosefoot	DL, NNG	I
Salsola tragus L.	Russian thistle, tumbleweed	DL, NNG, DCSS	I
CLEOMACEAE	SPIDERFLOWER FAMILY		
Peritoma [=*Isomeris*] *arborea* (Nutt.) H. H. Iltis	bladderpod	CSS	N
CONVOLVULACEAE	MORNING-GLORY FAMILY		
Convolvulus arvensis L.	bindweed, orchard morning-glory	CSS	I
Cressa truxillensis Kunth	alkali weed	V	N
Dichondra occidentalis	western dichondra	MMS	N
CRASSULACEAE	STONECROP FAMILY		
Crassula aquatica (L.) Schönl.	water pygmy-weed, stone-crop	V	N
Crassula connata (Ruiz & Pav.) A. Berger	pygmy-weed	V	N
Dudleya pulverulenta (Nutt.) Britton & Rose	chalk lettuce, chalk dudleya	CSS, MSS	N
Dudleya variegata (S. Watson) Moran	variegated dudleya	CSS, MSS	N
CUCURBITACEAE	GOURD FAMILY		
Marah macrocarpa (Greene) Greene	wild cucumber	CSS	N
EUPHORBIACEAE	SPURGE FAMILY		
Croton [=*Eremocarpus*] *setiger* Hook.	turkey-mullein, dove weed	DL, NNG	N
Euphorbia misera Benth.	cliff spurge	MSS	N
Euphorbia [=*Chamaesyce*] *polycarpa* Benth.	smallseed sandmat	CSS	N
Ricinus communis L.	castor bean	DL, NNG, DCSS, MFS, SWS	I
FABACEAE (LEGUMINOSAE)	LEGUME FAMILY		
Acmispon glaber (Vogel) Brouillet [=*Lotus scoparius*]	deerweed, California broom	CSS	N
Astragalus trichopodus (Nutt.) A. Gray var. *lonchus* (M.E. Jones) Barneby	ocean locoweed	CSS	N
Lupinus concinnus J. Agardh	bajada lupine	NNG	N
Medicago polymorpha L.	California burclover	DL, NNG	I

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Scientific Name	Common Name	Habitat	Origin
Melilotus sp.	sweetclover	DL, NNG	I
Melilotus indicus (L.) All.	sourclover	DL, NNG	I
Trifolium willdenovii Spreng.	tomcat clover	NNG	N
GENTIANACEAE	GENTIAN FAMILY		
Zeltnera [=*Centaurium*] *venusta* (A. Gray) G. Mans.	California centaury, charming centaury	NNG	N
GERANIACEAE	GERANIUM FAMILY		
Erodium botrys (Cav.) Bertol.	long-beak filaree	DL, NNG	I
Erodium cicutarium (L.) L'Hér. ex Aiton	redstem filaree	DL, NNG, DCSS, CSS, MSS, DMSS	I
Erodium moschatum (L.) L'Hér. ex Aiton	greenstem filaree	DL, NNG	I
LAMIACEAE	MINT FAMILY		
Marrubium vulgare L.	horehound	NNG, DCSS	I
Salvia apiana Jeps.	white sage	CSS	N
Salvia mellifera Greene	black sage	CSS	N
LYTHRACEAE	LOOSESTRIFE FAMILY		
Lythrum hyssopifolia L.	grass poly, hyssop loosestrife	V	I
MALVACEAE	MALLOW FAMILY		
Malva parviflora L.	cheeseweed, little mallow	DL, NNG	I
MONTIACEAE	MONTIA FAMILY		
Cistanthe maritima [=*Calandrinia maritima*] (Nutt.) Hershk.	seaside cistanthe, seaside calandrinia*	MSS	N
Claytonia perfoliata Donn ex Willd.	miner's lettuce	CSS, MSS	N
MYRTACEAE	MYRTLE FAMILY		
Eucalyptus sp.	gum tree	DL	I
Eucalyptus conferruminata D.J. Carr & S.G.M. Carr	spider gum	DL	I
Eucalyptus globulus Labill.	blue gum	EUC	I
Eucalyptus sideroxylon A. Cunn. ex Woolls	red iron bark	DL	I
MYRSINACEAE	MYRSINE FAMILY		
Lysimachia [=*Anagallis*] *arvensis* (L.) U. Manns & Anderb.	scarlet pimpernel	DL, NNG	I

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Scientific Name	Common Name	Habitat	Origin
Mirabilis laevis [=*Mirabilis californica*] (Benth.) Curran var. *crassifolia* (Choisy) Spellenb.	wishbone bush	CSS, MSS	N
OLEACEAE	OLIVE FAMILY		
Olea europaea L.	olive	DL	I
OXALIDACEAE	OXALIS FAMILY		
Oxalis pes-caprae L.	Bermuda buttercup	DL, NNG, CSS	I
PAPAVERACEAE	POPPY FAMILY		
Papaver heterophyllum (Benth.) Greene [=*Stylomecon heterophylla*]	wind poppy	NNG, MSS	N
PHYTOLACCACEAE	POKEWEED FAMILY		
Phytolacca americana L.	pokeweed, pokeberry, pigeonberry	DL, NNG	I
PLANTAGINACEAE	PLANTAIN FAMILY		
Nuttallanthus texanus (Scheele) D.A. Sutton [= *Linaria canadensis*]	blue toadflax	NNG	N
Plantago erecta E. Morris	dot-seed plantain	NNG	N
POLEMONIACEAE	PHLOX FAMILY		
Gilia sp.	gilia	NNG	N
Gilia angelensis V.E. Grant	chaparral gilia	NNG	N
Linanthus dianthiflorus (Benth.) Greene	farinose ground pink	CSS	N
Navarretia hamata Greene	hooked navarretia	CSS, MSS	N
POLYGONACEAE	BUCKWHEAT FAMILY		
Chorizanthe sp.	spineflower	CSS	N
Eriogonum fasciculatum Benth.	California buckwheat	CSS, DCSS	N
Pterostegia drymarioides Fisch. & C.A. Mey.	California thread-stem, granny's hairnet	NNG	N
Rumex crispus L.	curly dock	DL	I
RHAMNACEAE	BUCKTHORN FAMILY		
Adolphia californica S. Watson	California adolphia, spineshrub, San Diego adolphia*	MSS	N
ROSACEAE	ROSE FAMILY		
Heteromeles arbutifolia (Lindl.) M. Roem.	toyon, Christmas berry	CSS	N

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RUBIACEAE	MADDER FAMILY		
Galium angustifolium Nutt. ex A. Gray ssp. *angustifolium*	narrow-leaf bedstraw	NNG	N
Galium aparine L.	stickywilly	NNG, CSS	N
SALICACEAE	WILLOW FAMILY		
Salix lasiolepis Benth.	arroyo willow	MFS, SWS	N
SIMMONDSIACEAE	JOJOBA FAMILY		
Simmondsia chinensis (Link) C.K. Schneid.	jojoba, goatnut	MSS, DMSS	N
SOLANACEAE	NIGHTSHADE FAMILY		
Lycium andersonii A. Gray	waterjacket	CSS, MSS	N
Lycium californicum Nutt.	California box-thorn, California lycium	MSS	N
Nicotiana attenuata Torr. ex S. Watson	coyote tobacco	MSS	N
Nicotiana glauca Graham	tree tobacco	DL, MFS, NNG	I
Solanum americanum Mill.	white nightshade	CSS	N
Solanum parishii A. Heller	Parish's nightshade	CSS	N
TAMARICACEAE	TAMARISK FAMILY		
Tamarix ramosissima Ledeb.	saltcedar	DL, MFS, SWS	I
URTICACEAE	NETTLE FAMILY		
Parietaria hespera Hinton var. *californica* Hinton	California pellitory	MSS	N
Urtica urens L.	dwarf nettle	DL	I
VERBENACEAE	VERVAIN FAMILY		
Verbena menthifolia Benth.	mint-leaf vervain	CSS	N

Attachment 4 Plant Species Observed			
Scientific Name	Common Name	Habitat	Origin

Notes: Scientific and common names were primarily derived from the Jepson Online Interchange (University of California 2018). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2014). Additional common names were obtained from the USDA maintained database (USDA 2013) or the Sunset Western Garden Book (Brenzel 2001) for ornamental/horticultural plants.

HABITATS

CSS = Diegan coastal sage scrub
DCSS = disturbed Diegan coastal sage scrub
DEV = urban/developed
DL = disturbed land
DMSS = disturbed maritime succulent scrub
EUC = eucalyptus woodland
MFS = mule fat scrub
MSS = maritime succulent scrub
NNG = non-native grassland
SWS = southern willow scrub
V = vernal pools
W = wetlands

ORIGIN

N = Native to locality
I = Introduced species from outside locality