




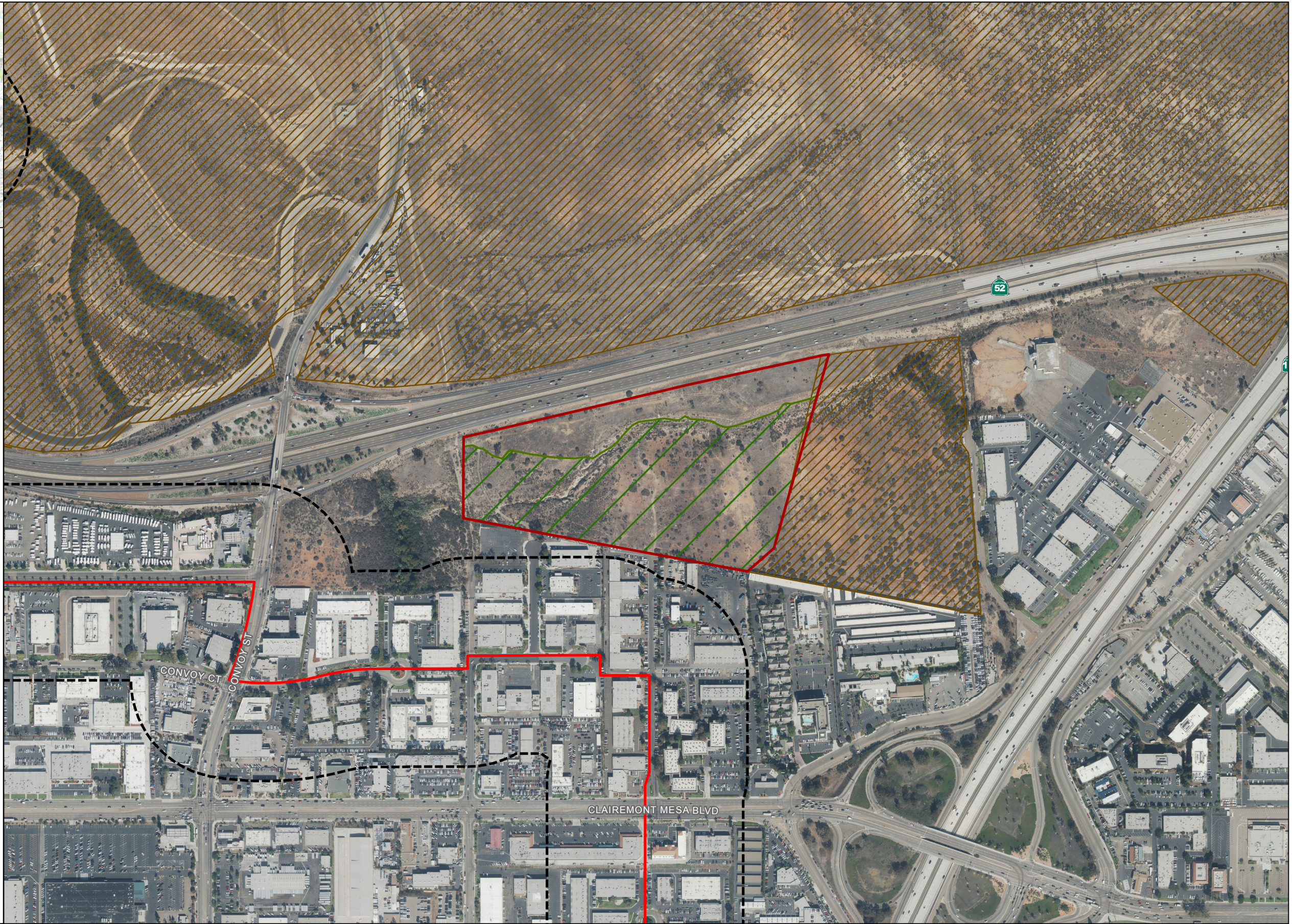


LEGEND

-  Project Study Area
-  SANDER Mitigation Site
-  Multi-Habitat Planning Area Boundary
-  MCAS Miramar

Project Pipeline Alternatives

-  San Vicente Pure Water Pipeline



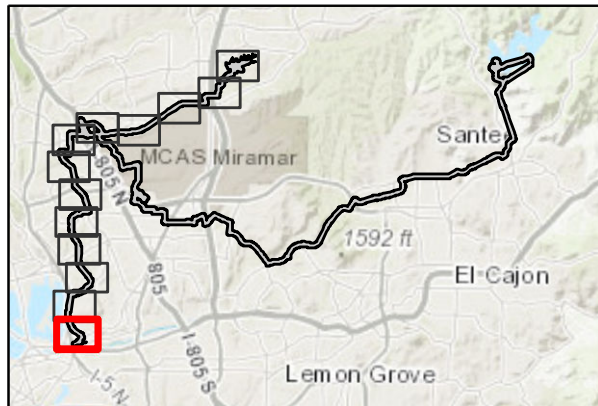
SOURCE: City of San Diego 2016, 2017; SanGIS; SANDAG



Biological Resources Report for the North City Project

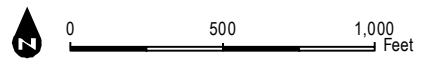
FIGURE 4-1
SANDER Mitigation Site

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Coastal Zone Boundary
- Project Pipeline Alternatives**
 - Morena Wastewater Forcemain and Brine/Centrate Line
 - Morena Pump Station - Influent Diversion Sewers
 - Morena Pump Station - Overflow Pipes
- Project Facilities**
 - Morena Pump Station
- Sensitive Plants**
 - Juncus acutus* ssp. *leopoldii*
- Jurisdictional Aquatic Resources**
 - Non-wetland Waters (ACOE/RWQCB/CDFW)
 - Wetland or Riparian Area (ACOE/RWQCB/CDFW)
- Vegetation Communities/Land Covers**
 - ARU, Arundo-Dominated Riparian
 - CAM, Cismontane Alkali Marsh
 - DEV, Urban/Developed
 - DEV-CC, Developed - Concrete Channel
 - DH, Disturbed Habitat
 - DW, Disturbed Wetland
 - EUC, Eucalyptus Woodland
 - FWM, Coastal and Valley Freshwater Marsh
 - HW, Herbaceous Wetland
 - MFS, Mulefat Scrub
 - NNV, Non-native Vegetation
 - NVC, Non-vegetated Channel or Floodway
 - OW, Open Water
 - SWS, Southern Willow Scrub
 - dSWS, disturbed Southern Willow Scrub
 - Multi-Habitat Planning Area

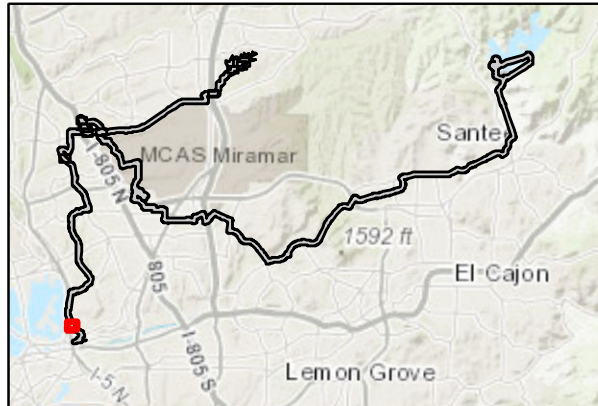


SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

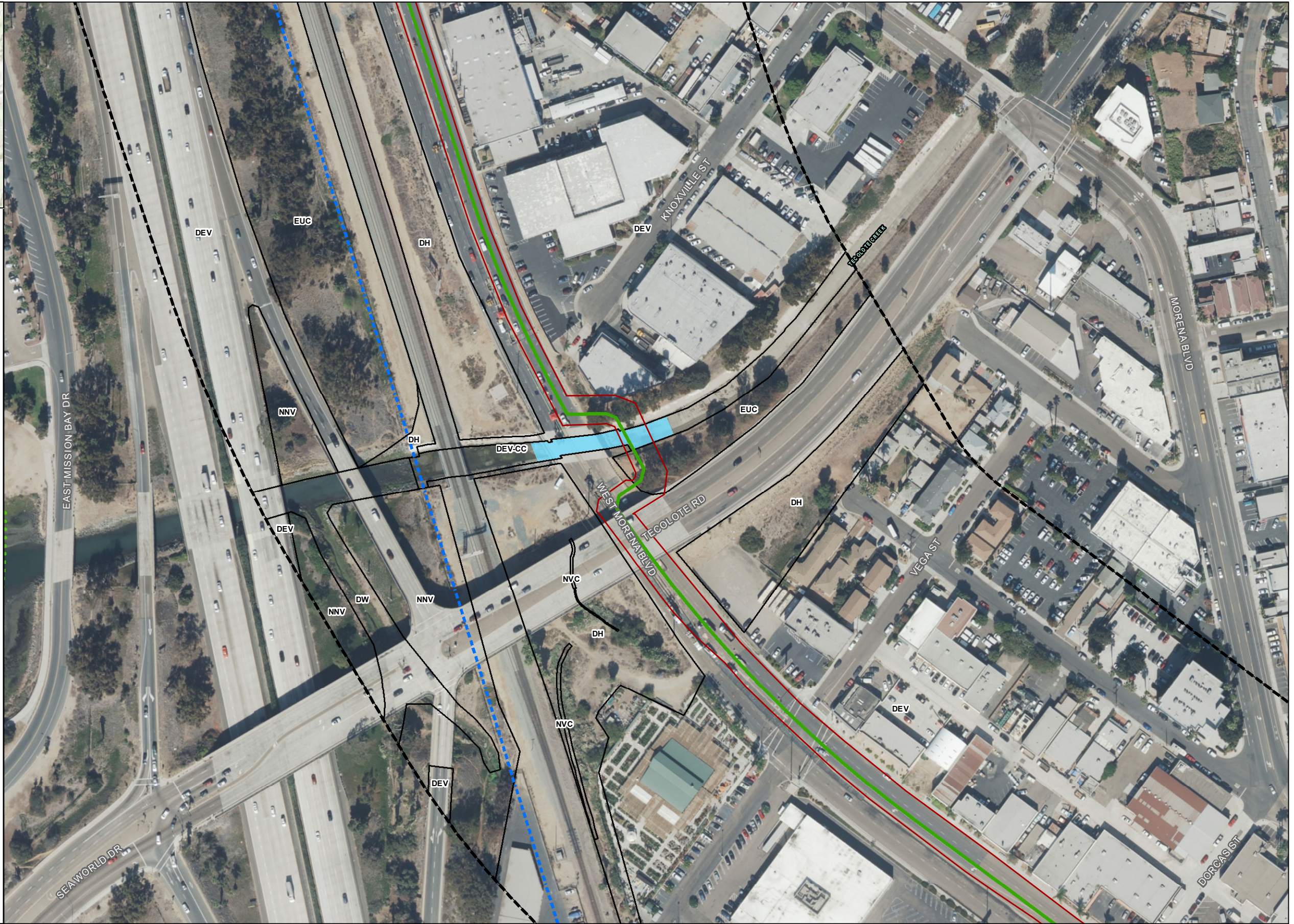


FIGURE 4-2A
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Coastal Zone Boundary
 - Project Pipeline Alternatives**
 - Morena Wastewater Forcemain and Brine/Centrate Line
 - Jurisdictional Aquatic Resources**
 - Non-wetland Waters (ACOE/RWQCB/CDFW)
 - Vegetation Communities/Land Covers**
 - DEV, Urban/Developed
 - DEV-CC, Developed - Concrete Channel
 - DH, Disturbed Habitat
 - DW, Disturbed Wetland
 - EUC, Eucalyptus Woodland
 - NNV, Non-native Vegetation
 - NVC, Non-vegetated Channel or Floodway
 - Multi-Habitat Planning Area



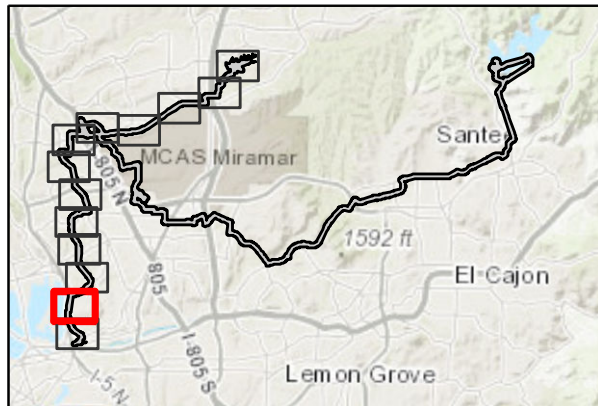
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

DUDEK

Biological Resources Report for the North City Project

FIGURE 4-2-A1
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

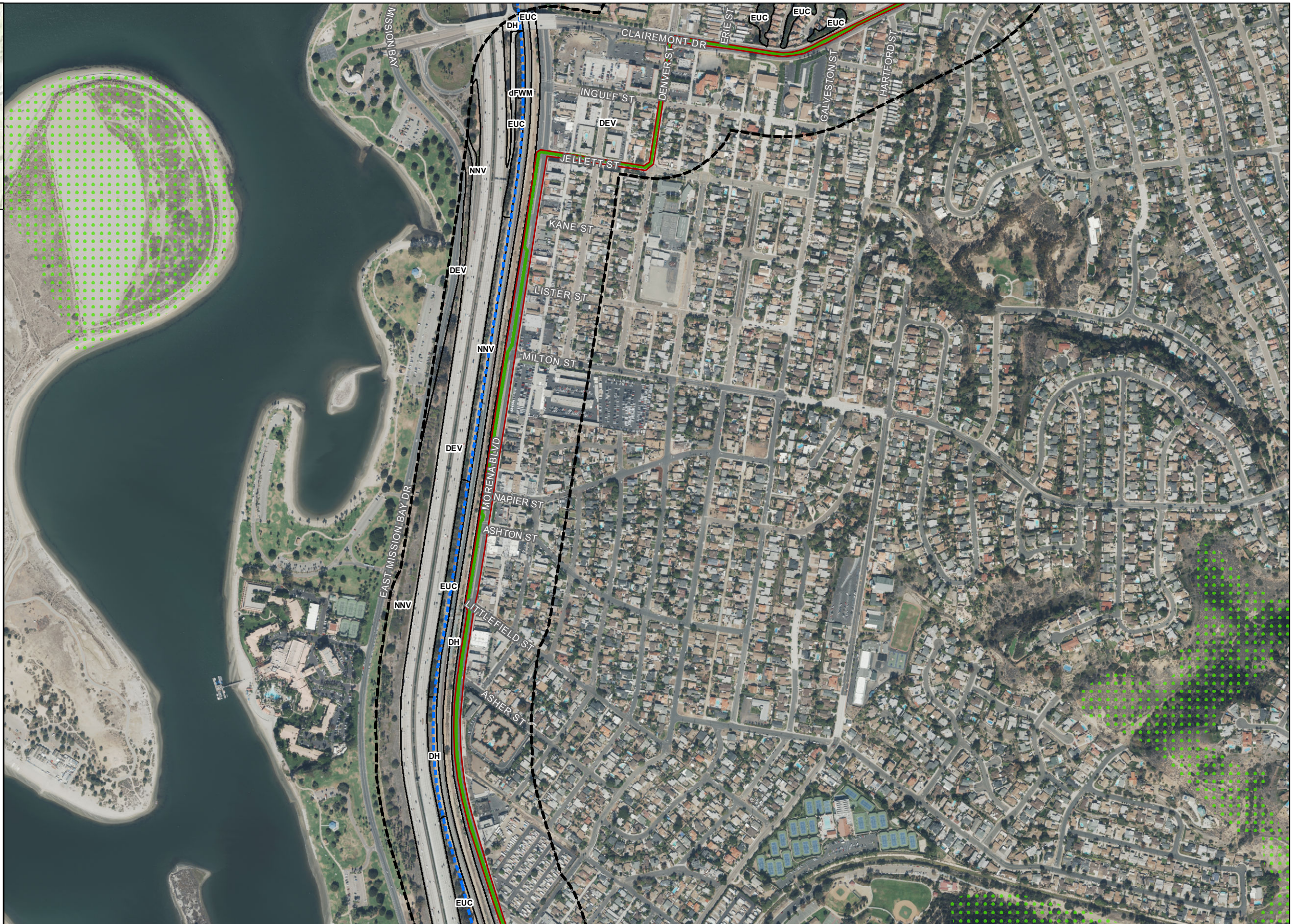
- Project Study Area
- Direct Impact Area
- Coastal Zone Boundary

Project Pipeline Alternatives

- Morena Wastewater Forcemain and Brine/Centrate Line

Vegetation Communities/Land Covers

- DEV, Urban/Developed
- DH, Disturbed Habitat
- EUC, Eucalyptus Woodland
- NNV, Non-native Vegetation
- dFWM, disturbed Coastal and Valley Freshwater Marsh
- Multi-Habitat Planning Area



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



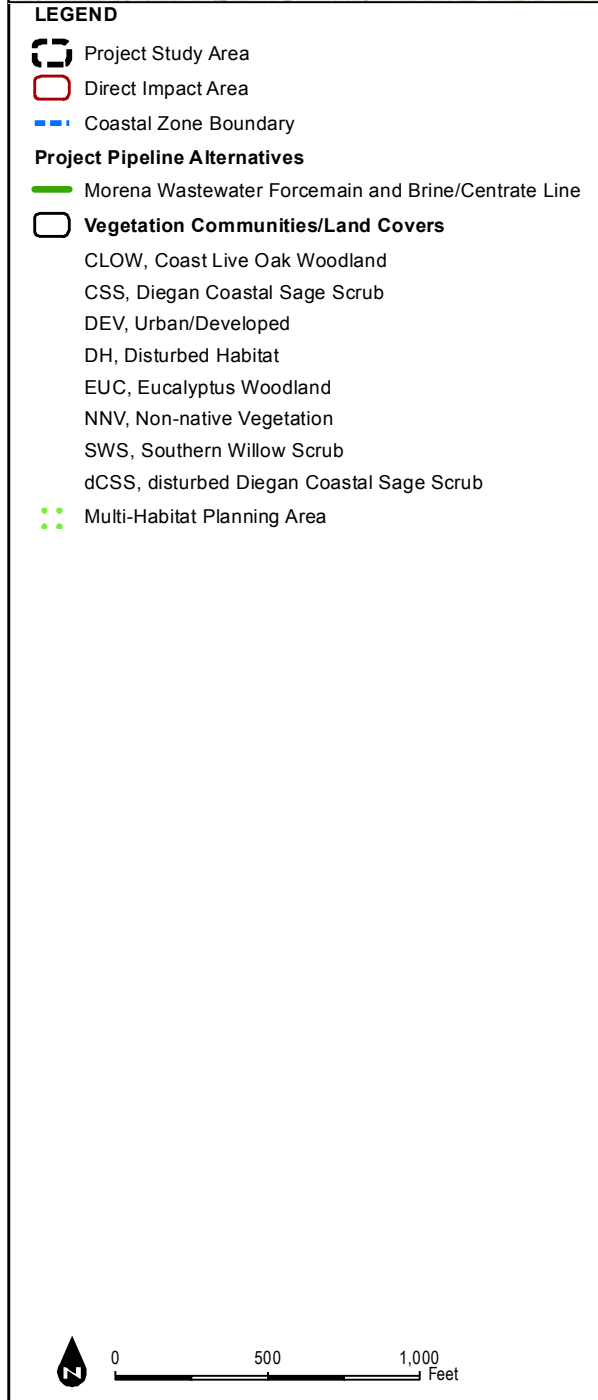
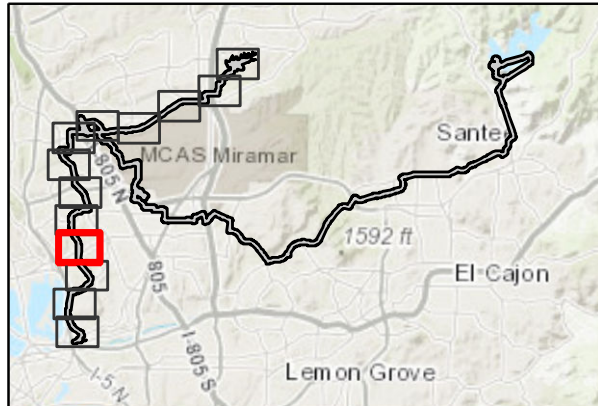
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



Biological Resources Report for the North City Project

FIGURE 4-2C
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

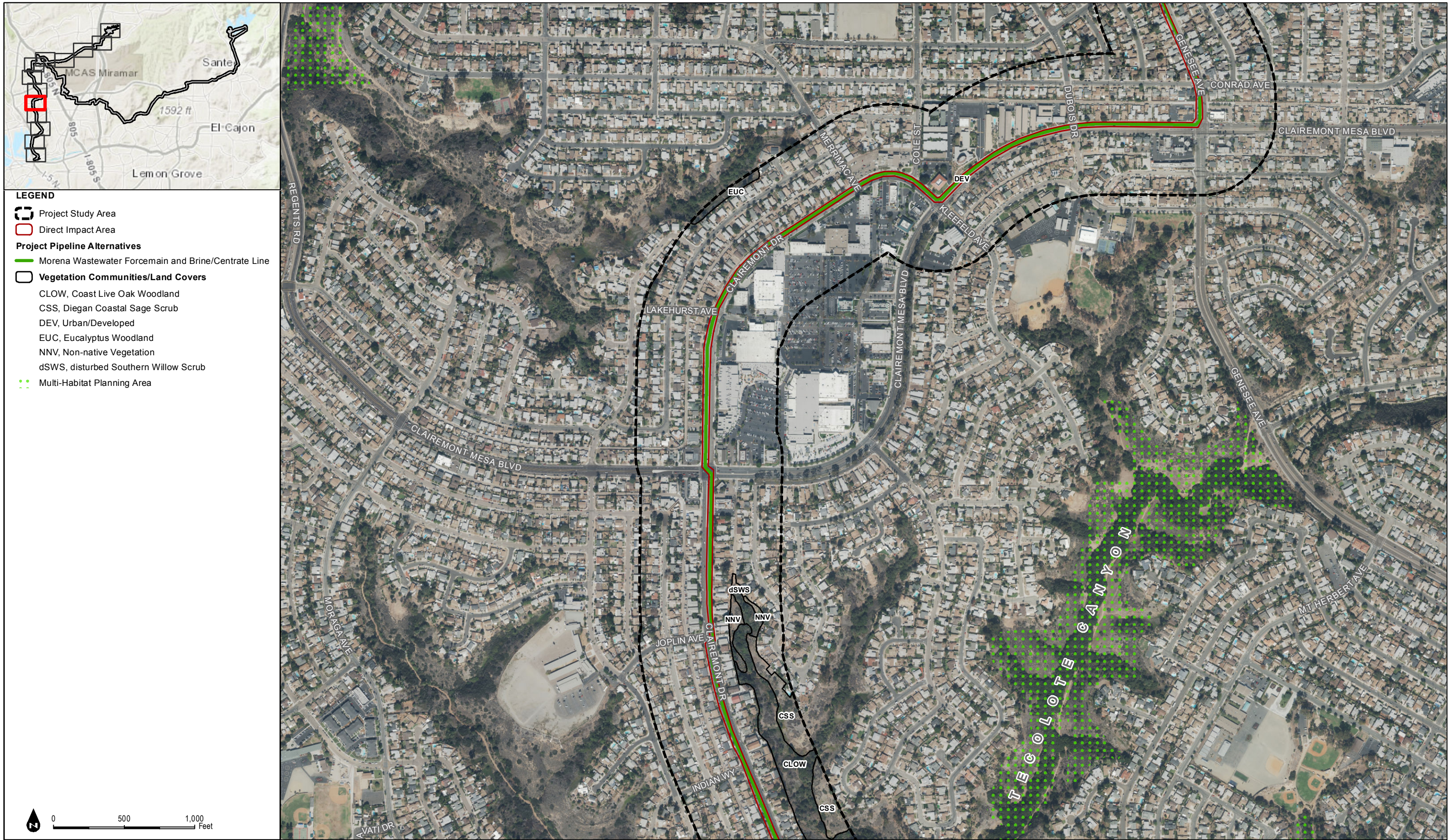
INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

FIGURE 4-2D
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - Morena Wastewater Forcemain and Brine/Centrate Line
 - Vegetation Communities/Land Covers**
 - CLOW, Coast Live Oak Woodland
 - CSS, Diegan Coastal Sage Scrub
 - DEV, Urban/Developed
 - EUC, Eucalyptus Woodland
 - NNV, Non-native Vegetation
 - dSWS, disturbed Southern Willow Scrub
 - Multi-Habitat Planning Area

0 500 1,000 Feet

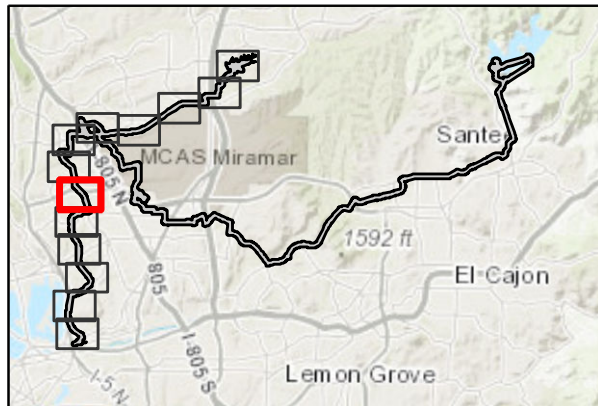
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

DUDEK

Biological Resources Report for the North City Project

FIGURE 4-2E
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK

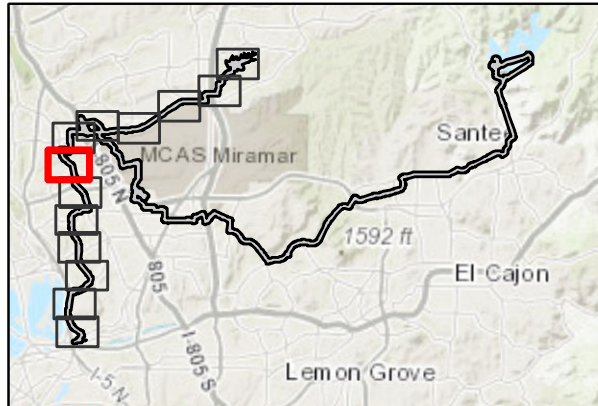


- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - Morena Wastewater Forcemain and Brine/Centrates Line
 - Trenchless Segments of Alignment
 - Special Status Species**
 - coastal California gnatcatcher
 - western pond turtle
 - Sensitive Plants**
 - Artemisia palmeri*
 - Jurisdictional Aquatic Resources**
 - Non-wetland Waters (ACOE/RWQCB/CDFW)
 - Wetland or Riparian Area (CDFW Only)
 - Non-wetland Water (ACOE/RWCQB)/Riparian Area (CDFW)
 - Vegetation Communities/Land Covers**
 - CLOW, Coast Live Oak Woodland
 - CSS, Diegan Coastal Sage Scrub
 - CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - EUC, Eucalyptus Woodland
 - MFS, Mulefat Scrub
 - NNG, Non-native Grassland
 - NNV, Non-native Vegetation
 - NVC, Non-vegetated Channel or Floodway
 - SCLO, Southern Coast Live Oak Riparian Forest
 - SRF, Southern Riparian Forest
 - SWRF, Southern Arroyo Willow Riparian Forest
 - dCLOW, disturbed Coast Live Oak Woodland
 - dCSS, disturbed Diegan Coastal Sage Scrub
 - dSRF, disturbed Southern Riparian Forest
 - Multi-Habitat Planning Area



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - Morena Wastewater Forcemain and Brine/Centrate Line
 - Trenchless Segments of Alignment
 - Special Status Species**
 - Cooper's hawk
 - yellow warbler
 - Sensitive Plants**
 - Ceanothus verrucosus*
 - Iva hayesiana*
 - Romneya coulteri*
 - Vegetation Communities/Land Covers**
 - CSS, Diegan Coastal Sage Scrub
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - EUC, Eucalyptus Woodland
 - FWM, Coastal and Valley Freshwater Marsh
 - NNV, Non-native Vegetation
 - SCLO, Southern Coast Live Oak Riparian Forest
 - SWRF, Southern Arroyo Willow Riparian Forest
 - SWS, Southern Willow Scrub
 - dCSS, disturbed Diegan Coastal Sage Scrub
 - Multi-Habitat Planning Area



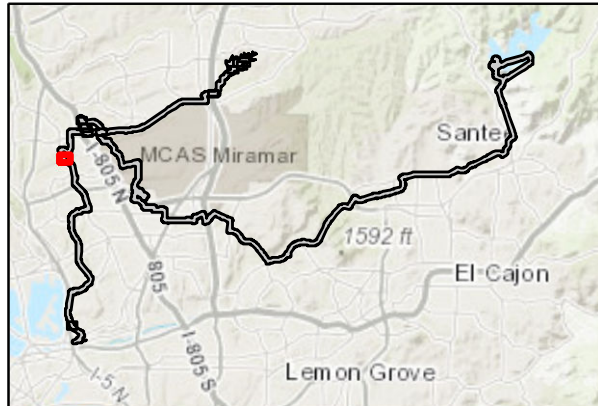
FIGURE 4-2G

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Morena Wastewater Forcemain and Brine/Centrates Line
- Trenchless Segments of Alignment
- Special Status Species**
- yellow warbler
- Sensitive Plants**
- Ceanothus verrucosus*
- Romneya coulteri*
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DH, Disturbed Habitat
- EUC, Eucalyptus Woodland
- NNV, Non-native Vegetation
- SWRF, Southern Arroyo Willow Riparian Forest
- SWS, Southern Willow Scrub
- dCSS, disturbed Diegan Coastal Sage Scrub
- Multi-Habitat Planning Area

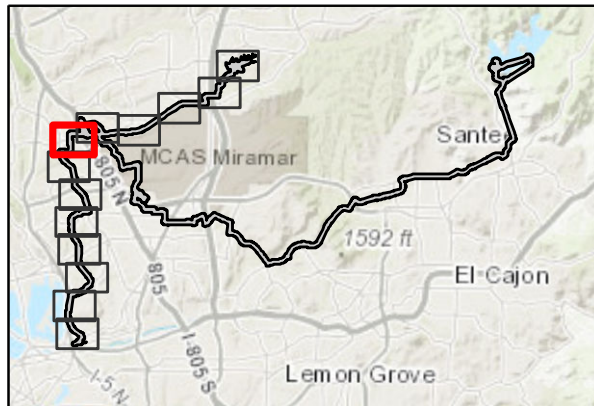
0 75 150 Feet



FIGURE 4-2-G1

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
 - North City Pure Water Pipeline
 - Morena Wastewater Forcemain and Brine/Centrate Line
 - Landfill Gas Pipeline
 - Trenchless Segments of Alignment
- Project Facilities**
 - North City Pure Water Facility
 - North City Water Reclamation Plant Expansion
 - North City Pure Water Renewable Energy Facility
 - North City Pure Water Facility Influent Pump Station
- Special Status Species**
 - Cooper's hawk
 - coastal California gnatcatcher
- Sensitive Plants**
 - Holocarpha virgata ssp. elongata*
 - Iva hayesiana*
 - Quercus dumosa*
 - Selaginella cinerascens*
 - Viguiera laciniata*
- Basin Data**
 - Vernal pool
 - Basin (SDFS present)
 - Basin
 - MCAS Mapped Watershed
- Jurisdictional Aquatic Resources**
 - Wetland or Riparian Area (CDFW Only)
- Vegetation Communities/Land Covers**
 - CSS, Diegan Coastal Sage Scrub
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - EUC, Eucalyptus Woodland
 - FWM, Coastal and Valley Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNG, Non-native Grassland
 - NNV, Non-native Vegetation
 - SCLO, Southern Coast Live Oak Riparian Forest
 - VP, Vernal Pool
 - dCSS, disturbed Diegan Coastal Sage Scrub
 - Multi-Habitat Planning Area

0 500 1,000 Feet

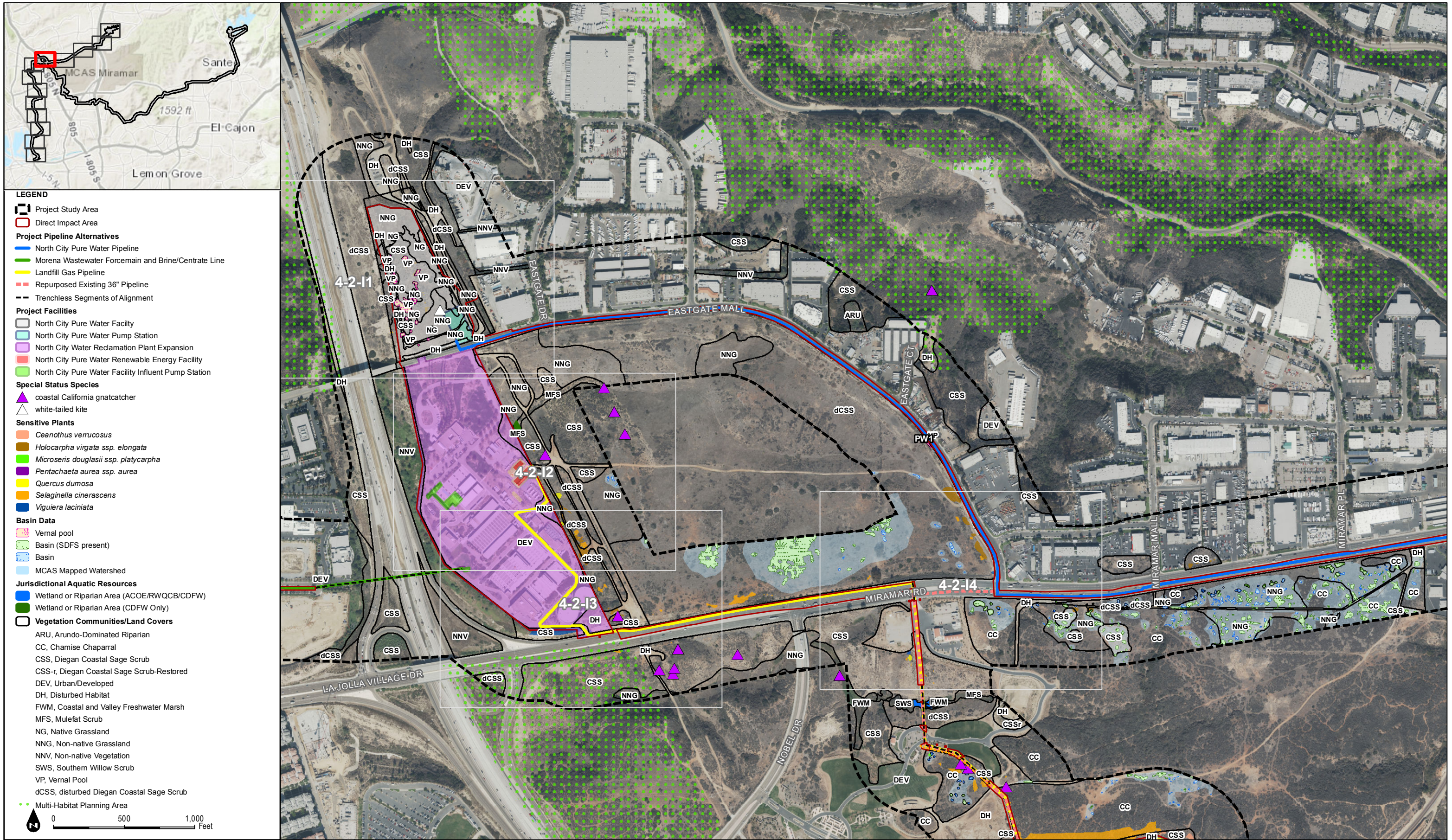


FIGURE 4-2H

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

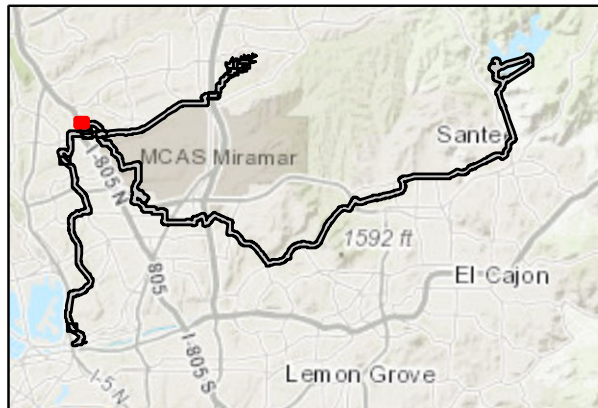
INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

FIGURE 4-2I
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- North City Pure Water Pipeline
- Project Facilities**
- North City Pure Water Facility
- North City Pure Water Pump Station
- North City Water Reclamation Plant Expansion
- Special Status Species**
- white-tailed kite
- Sensitive Plants**
- Holocarpha virgata* ssp. *elongata*
- Selaginella cinerascens*
- Basin Data**
- Vernal pool
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DH, Disturbed Habitat
- MFS, Mulefat Scrub
- NG, Native Grassland
- NNG, Non-native Grassland
- NNV, Non-native Vegetation
- VP, Vernal Pool
- dCSS, disturbed Diegan Coastal Sage Scrub
- Multi-Habitat Planning Area

0 75 150 Feet

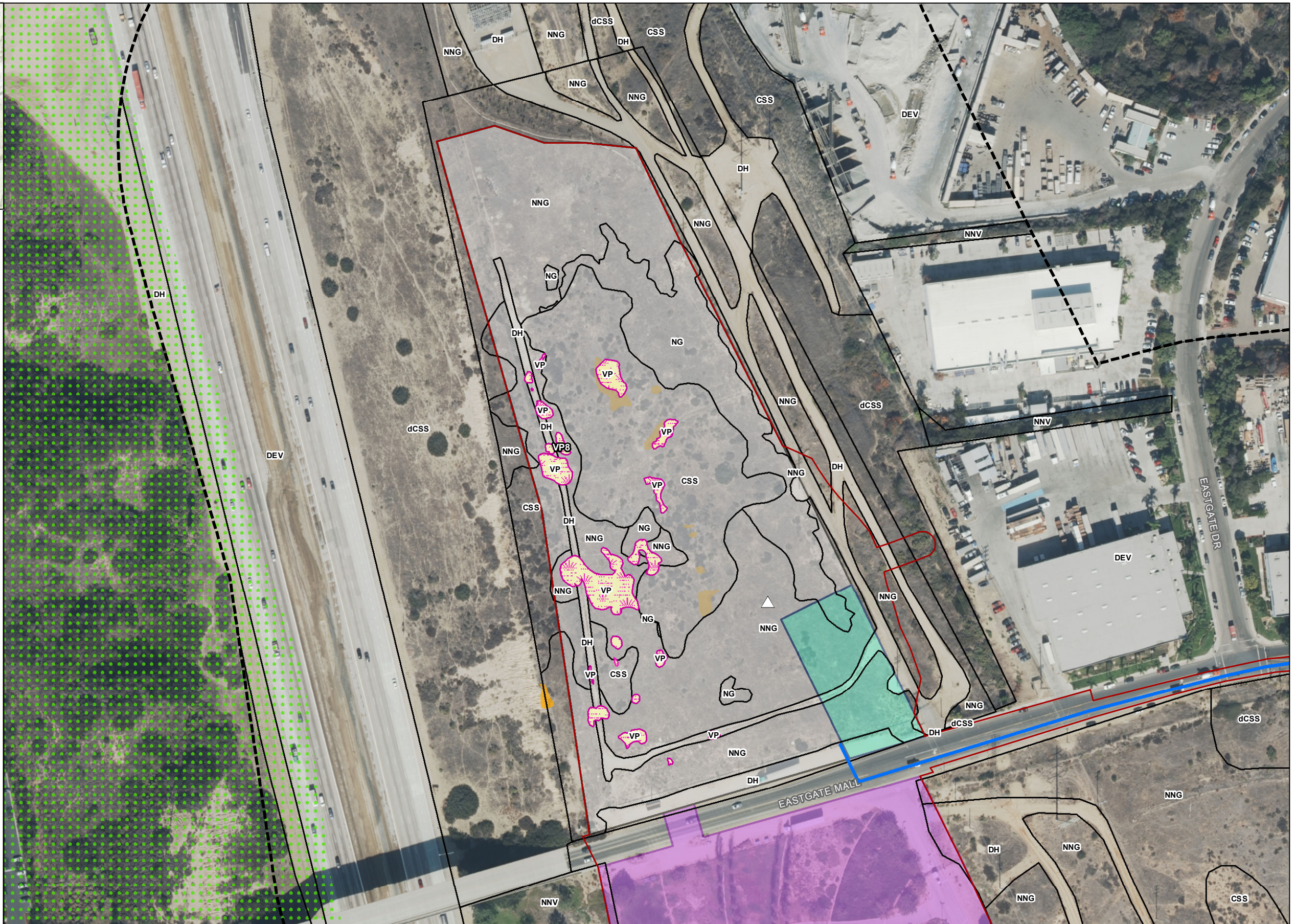
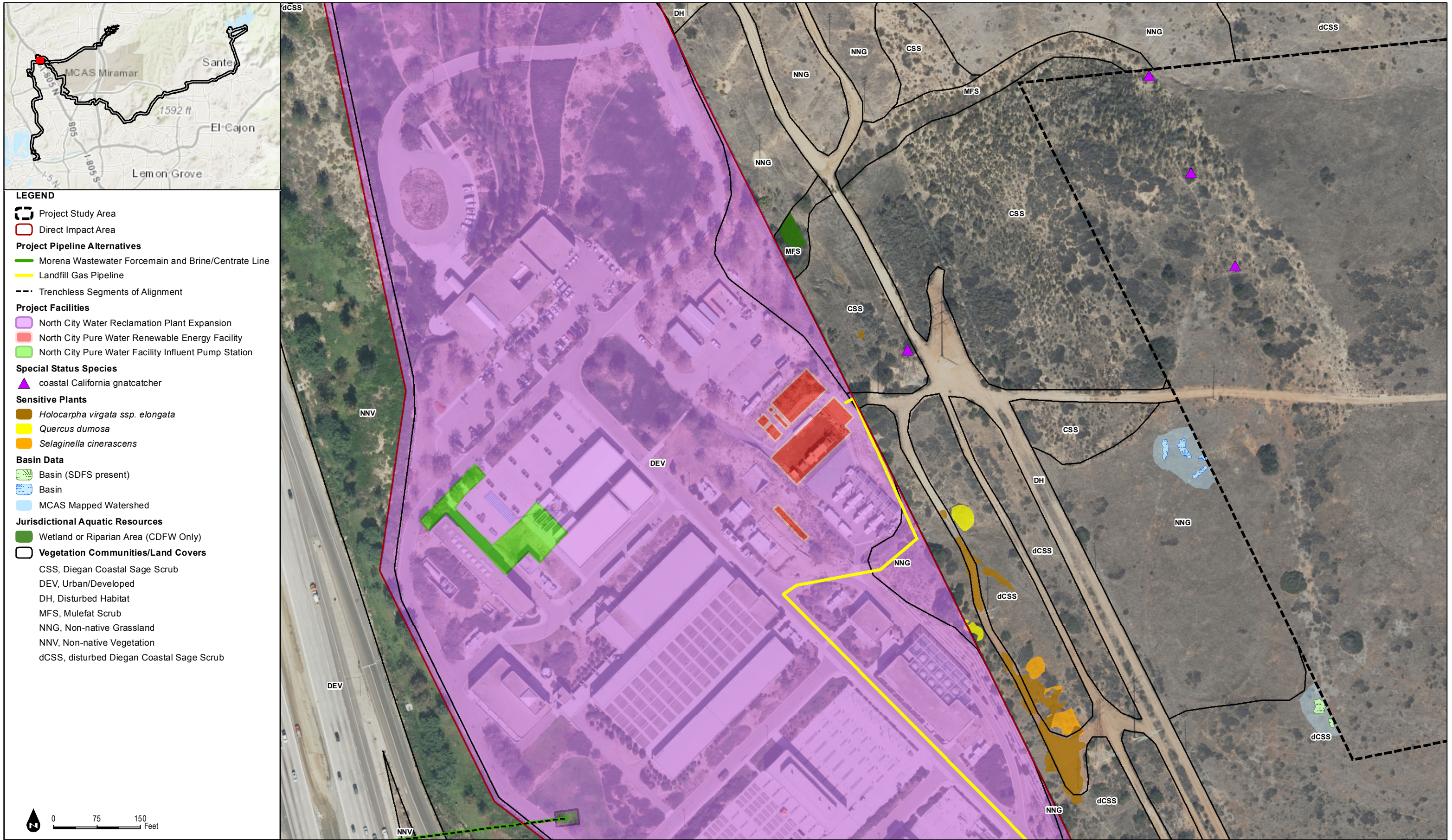


FIGURE 4-2-11

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



Biological Resources Report for the North City Project

FIGURE 4-2-12
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK

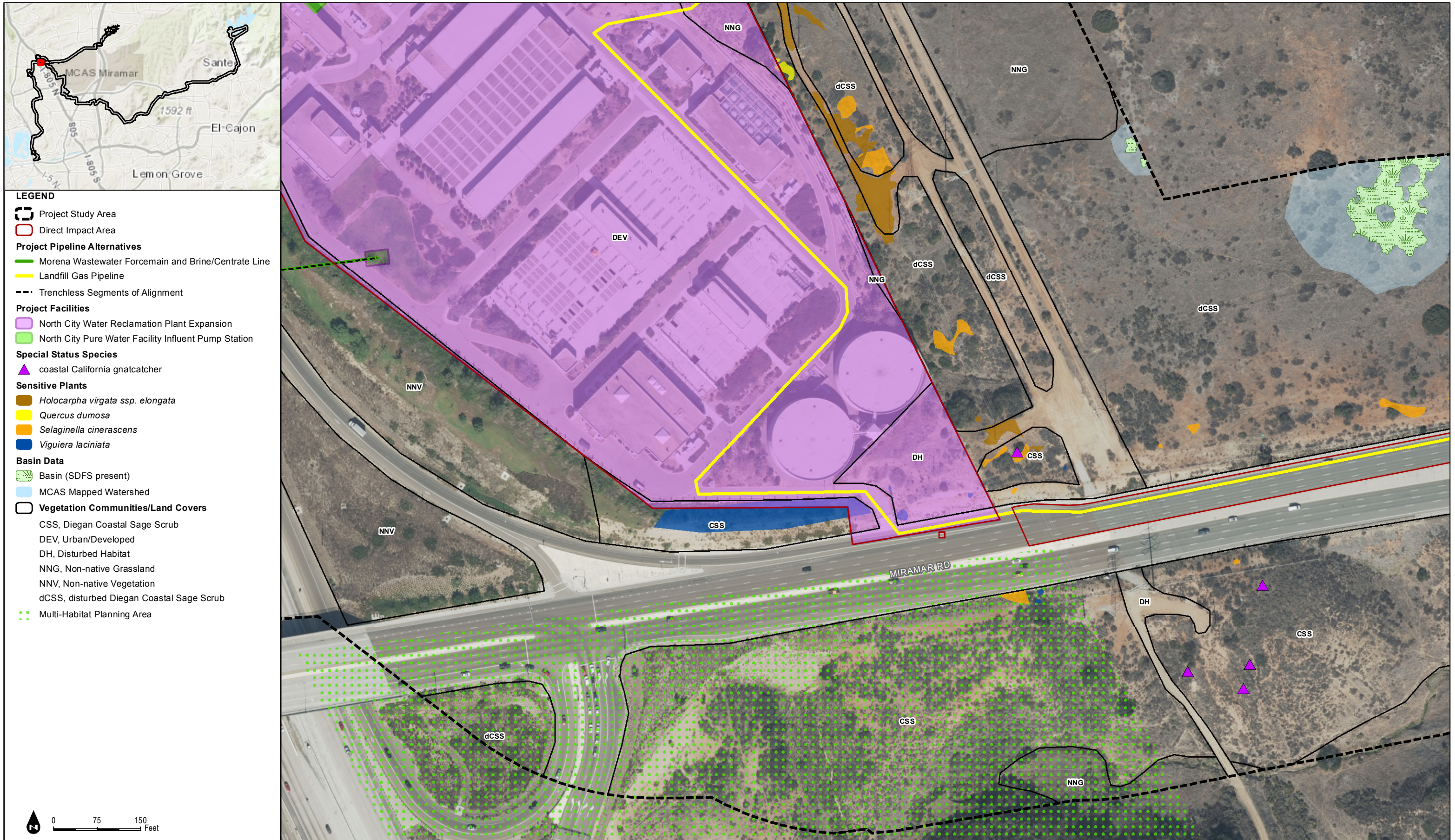


FIGURE 4-2-13

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK

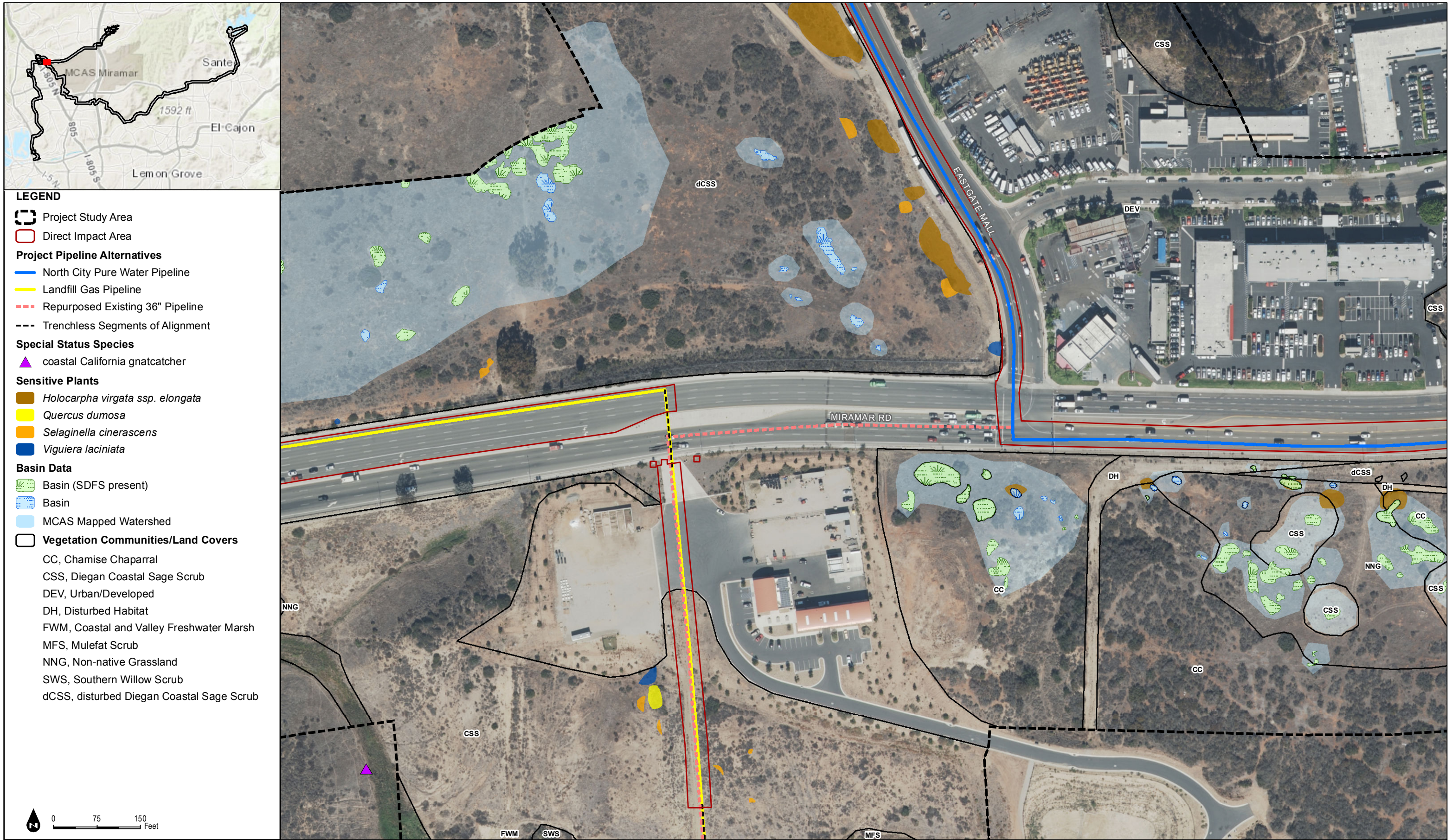


FIGURE 4-2-14

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



INTENTIONALLY LEFT BLANK

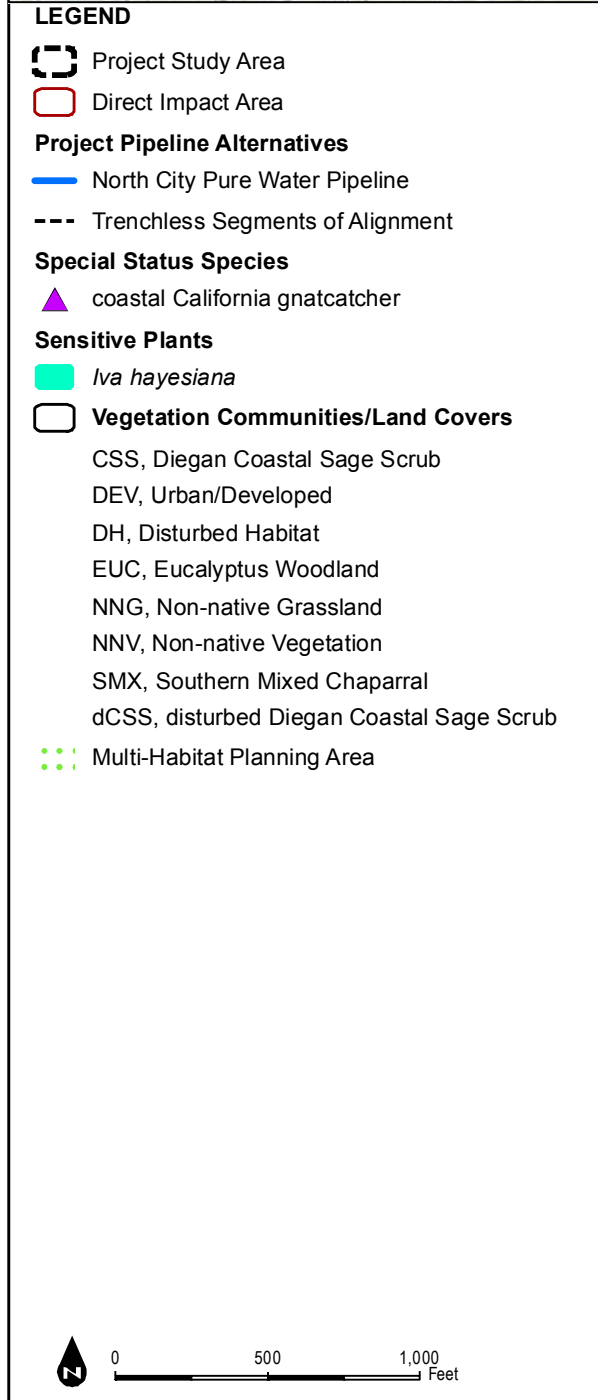
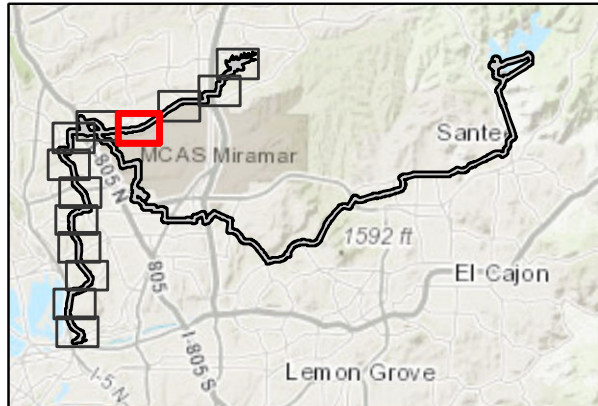
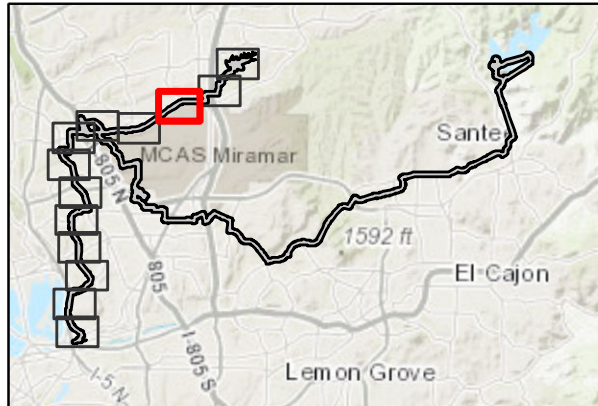


FIGURE 4-2J

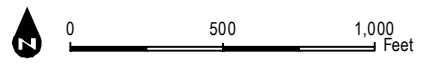
Biological Resources Impacts - Miramar Reservoir Alternative

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - North City Pure Water Pipeline
 - Vegetation Communities/Land Covers
 - CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - EUC, Eucalyptus Woodland
 - NNG, Non-native Grassland
 - SWS, Southern Willow Scrub



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

DUDEK

Biological Resources Report for the North City Project

FIGURE 4-2K
Biological Resources Impacts - Miramar Reservoir Alternative

INTENTIONALLY LEFT BLANK

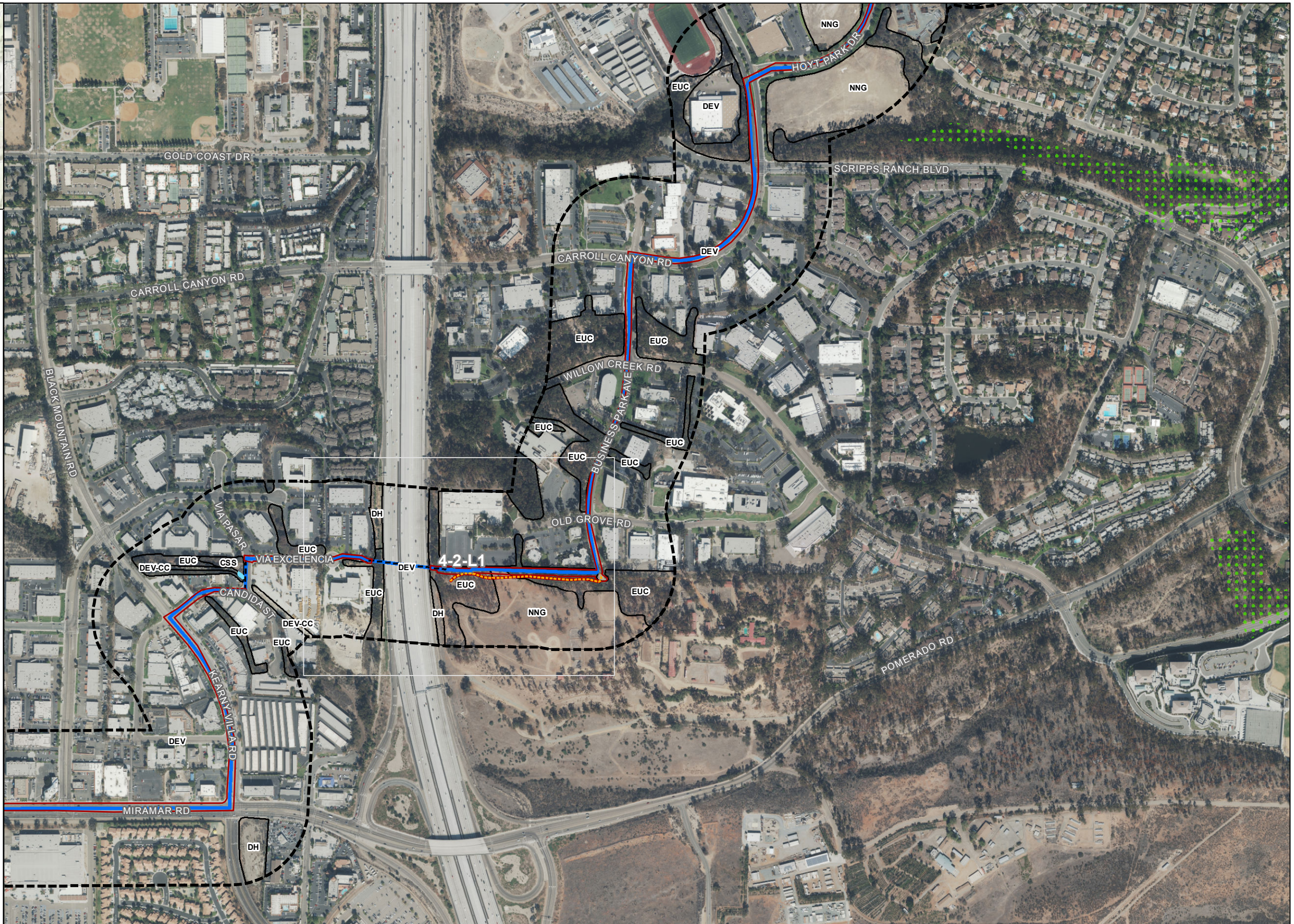
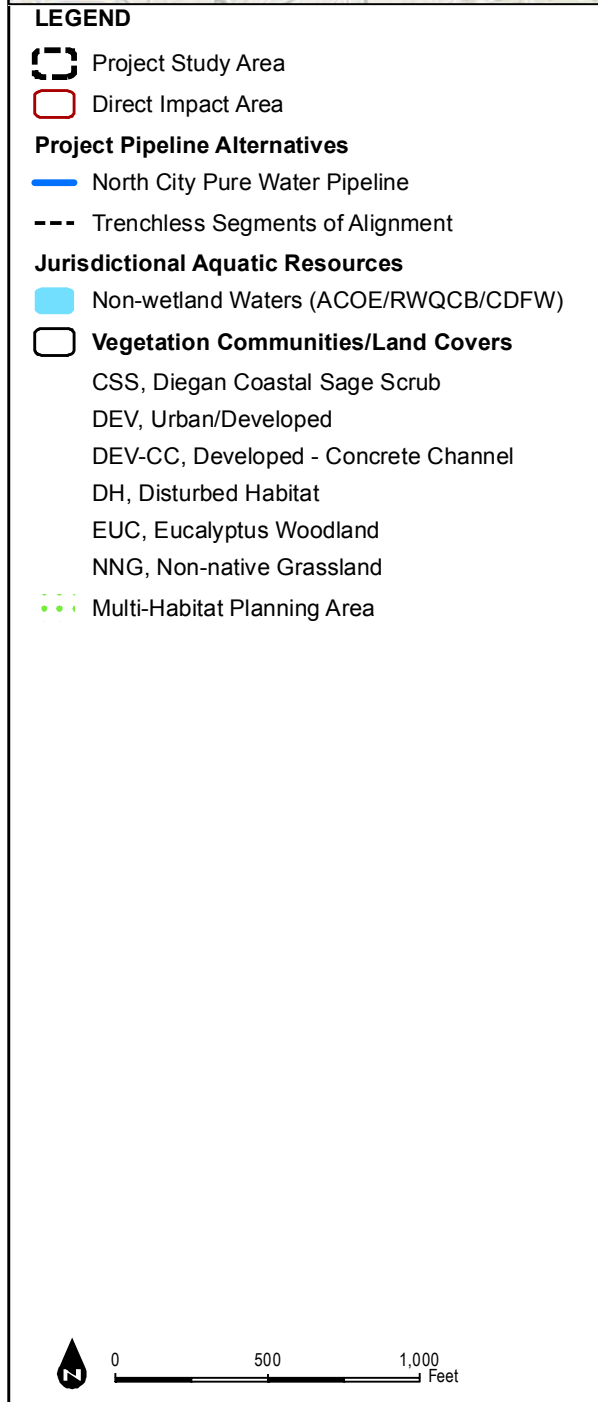
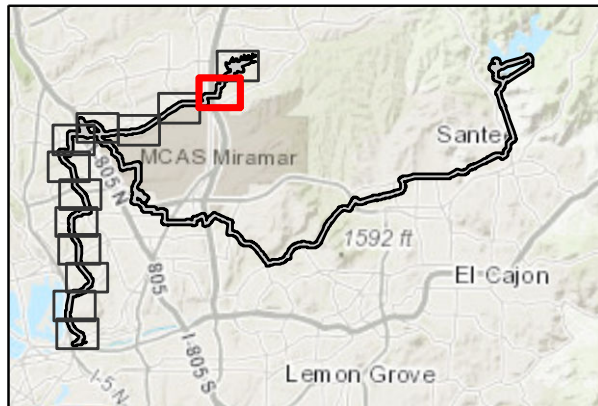
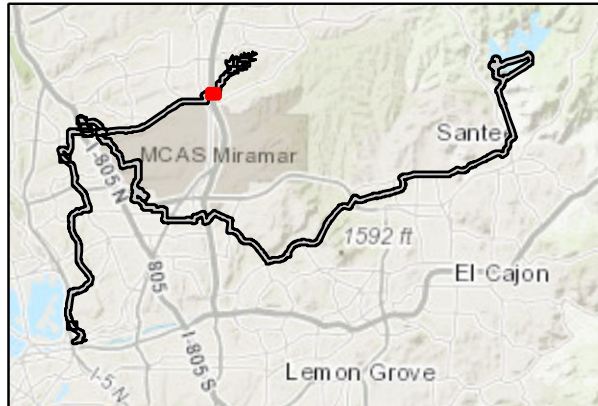


FIGURE 4-2L

Biological Resources Impacts - Miramar Reservoir Alternative

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- North City Pure Water Pipeline
- Access Roads
- Trenchless Segments of Alignment
- Vegetation Communities/Land Covers**
- DEV, Urban/Developed
- DEV-CC, Developed - Concrete Channel
- DH, Disturbed Habitat
- EUC, Eucalyptus Woodland
- NNG, Non-native Grassland

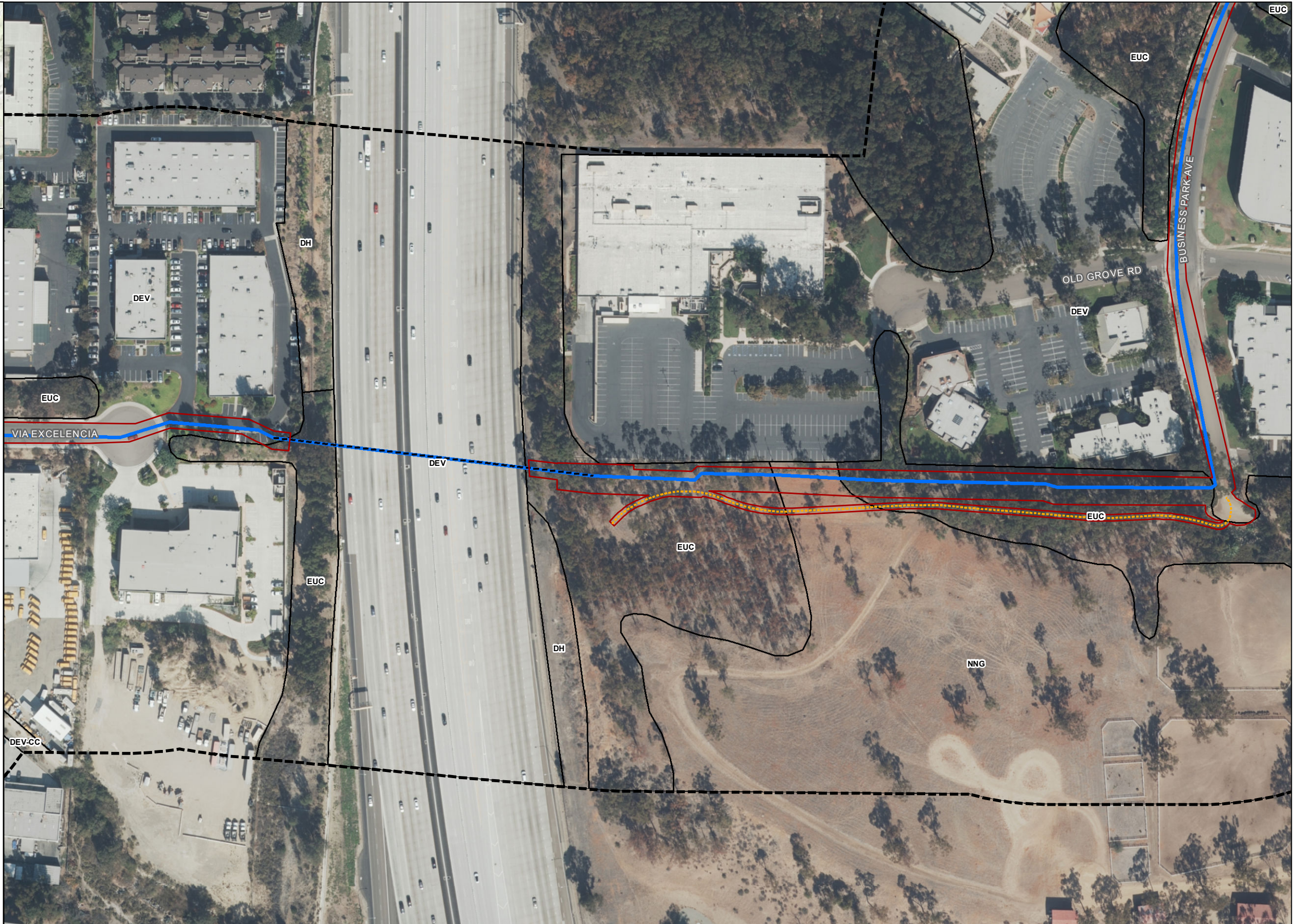


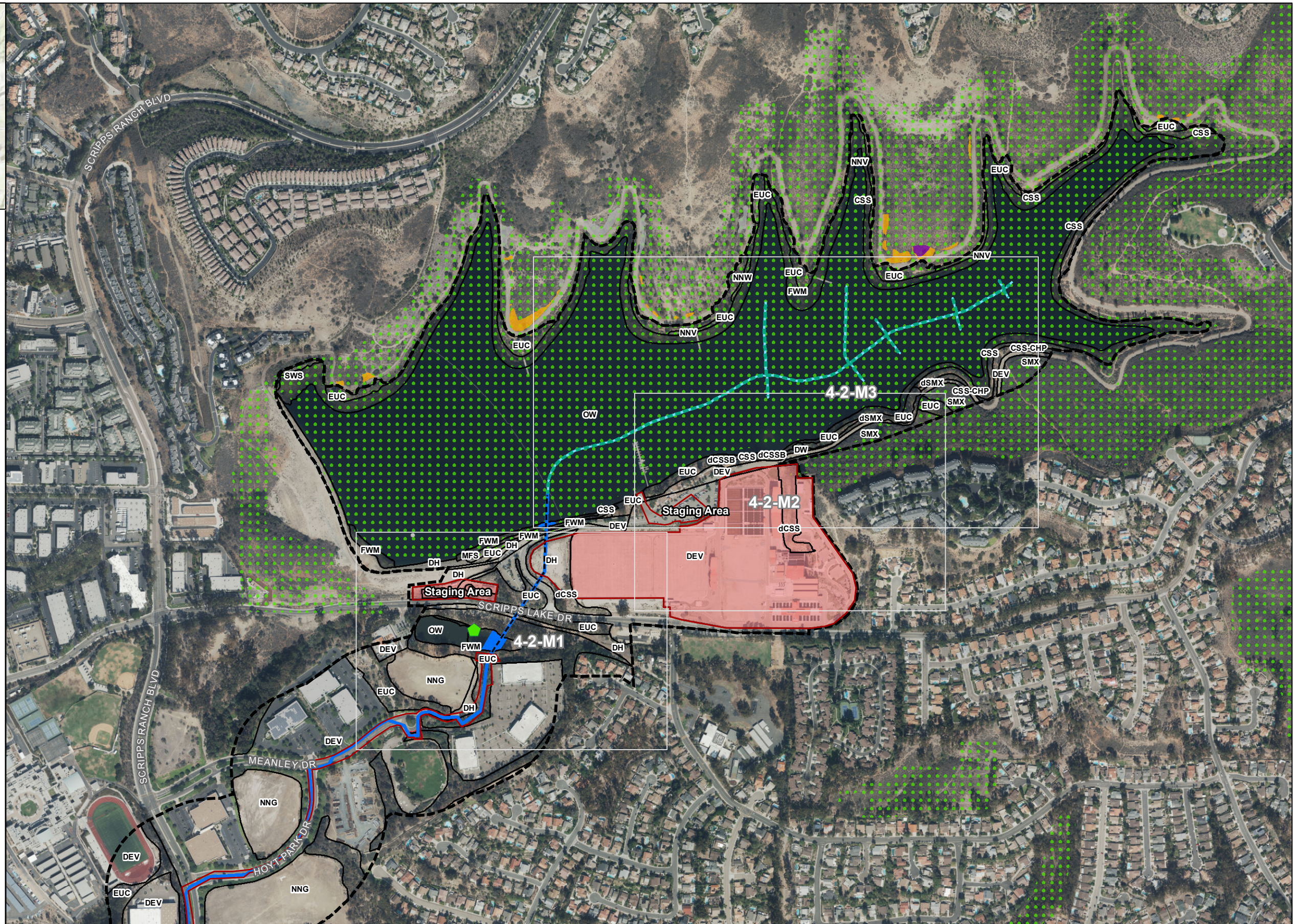
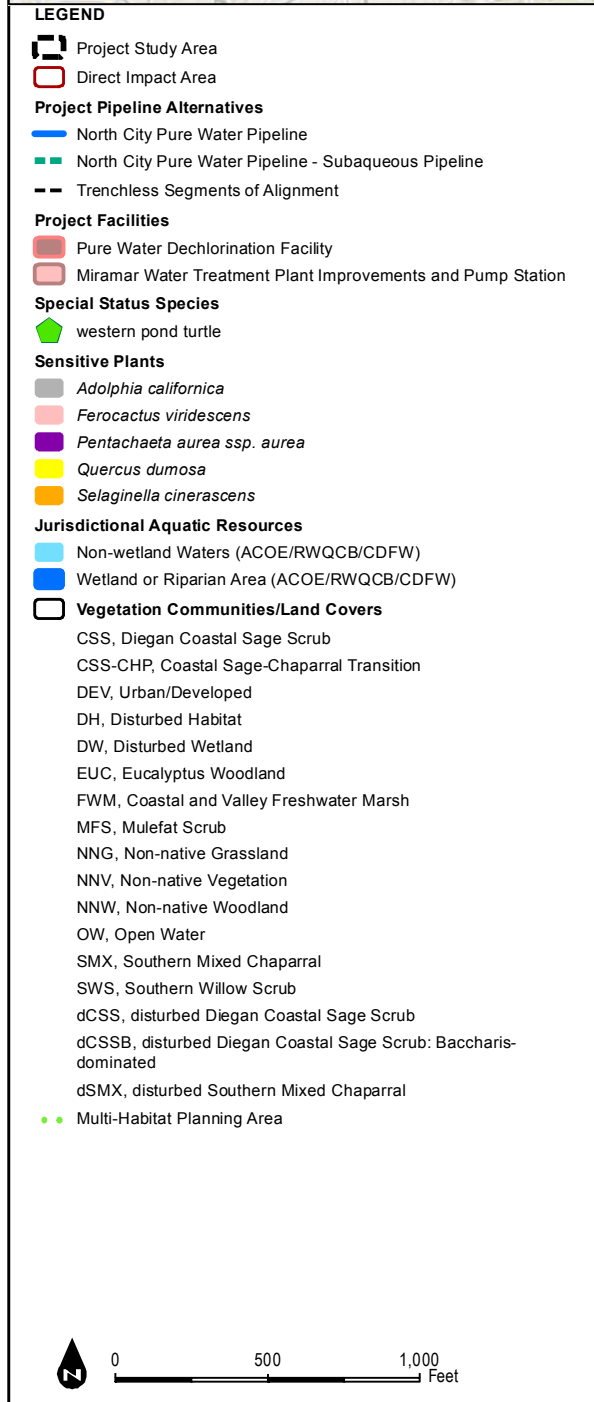
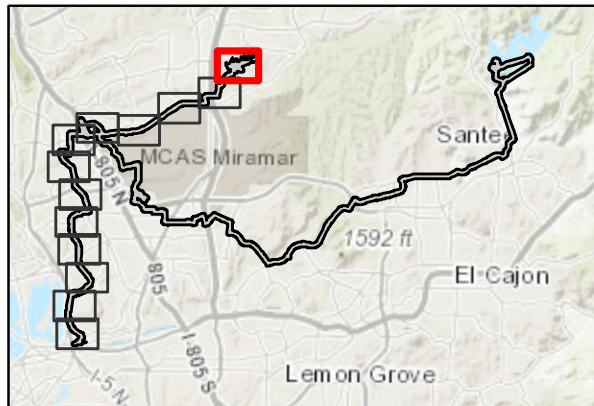
FIGURE 4-2-L1

Biological Resources Impacts - Miramar Reservoir Alternative

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

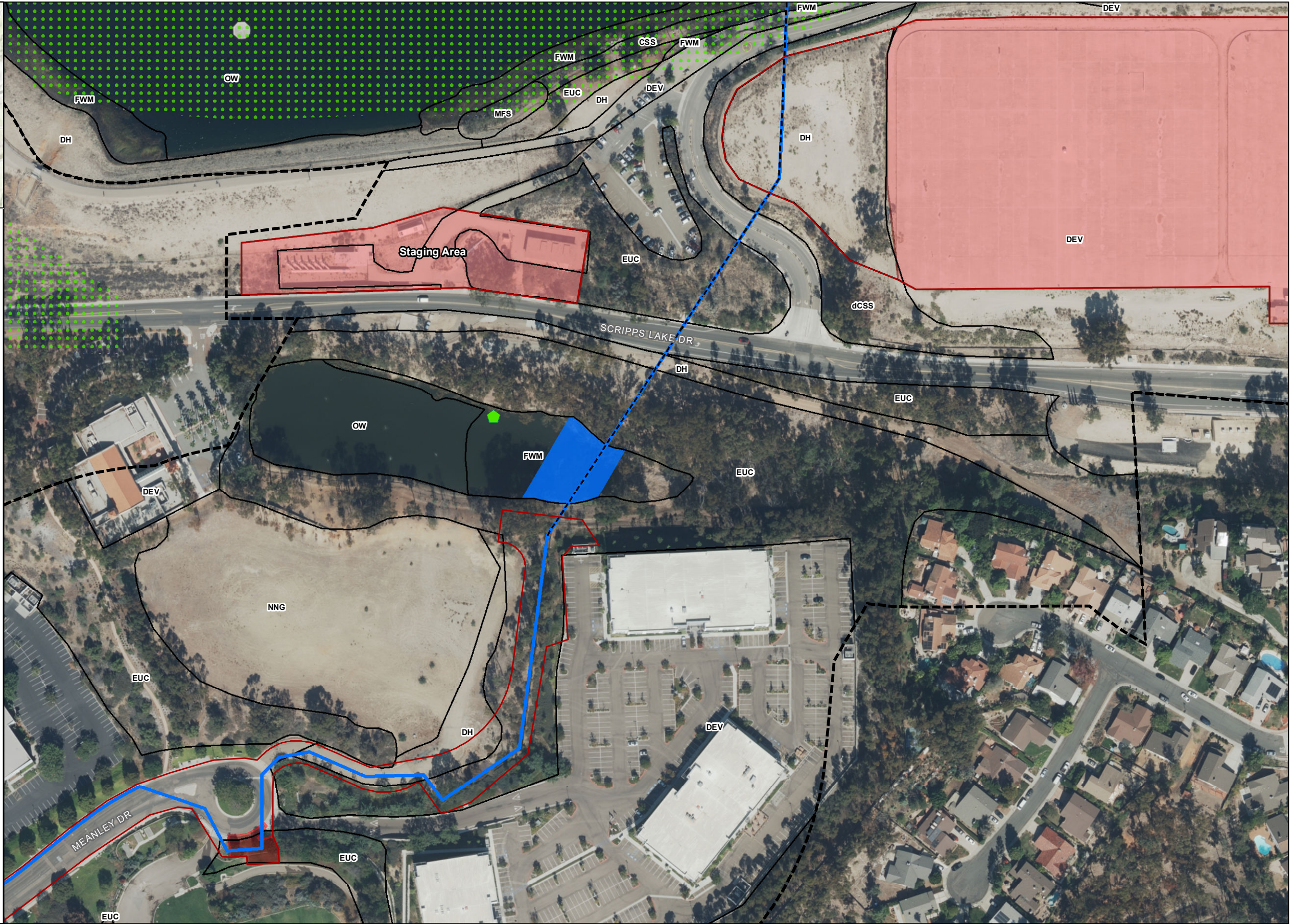
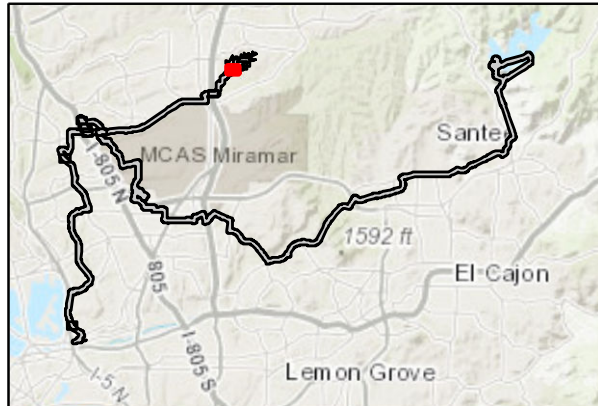


INTENTIONALLY LEFT BLANK

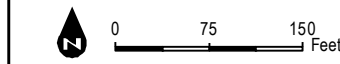


SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



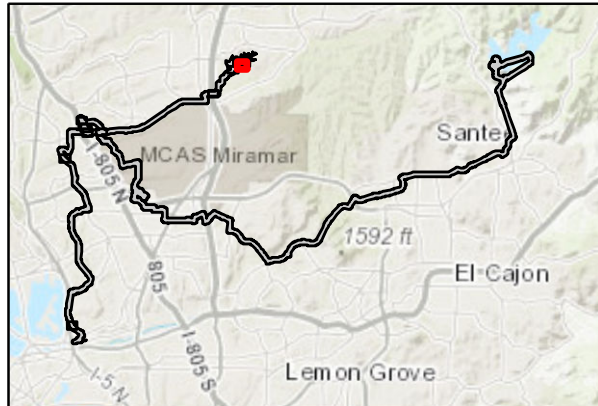
- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - North City Pure Water Pipeline
 - Trenchless Segments of Alignment
 - Project Facilities**
 - Pure Water Dechlorination Facility
 - Miramar Water Treatment Plant Improvements and Pump Station
 - Special Status Species**
 - western pond turtle
 - Jurisdictional Aquatic Resources**
 - Wetland or Riparian Area (ACOE/RWQCB/CDFW)
 - Vegetation Communities/Land Covers**
 - CSS, Diegan Coastal Sage Scrub
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - EUC, Eucalyptus Woodland
 - FWM, Coastal and Valley Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNG, Non-native Grassland
 - OW, Open Water
 - dCSS, disturbed Diegan Coastal Sage Scrub
 - Multi-Habitat Planning Area



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

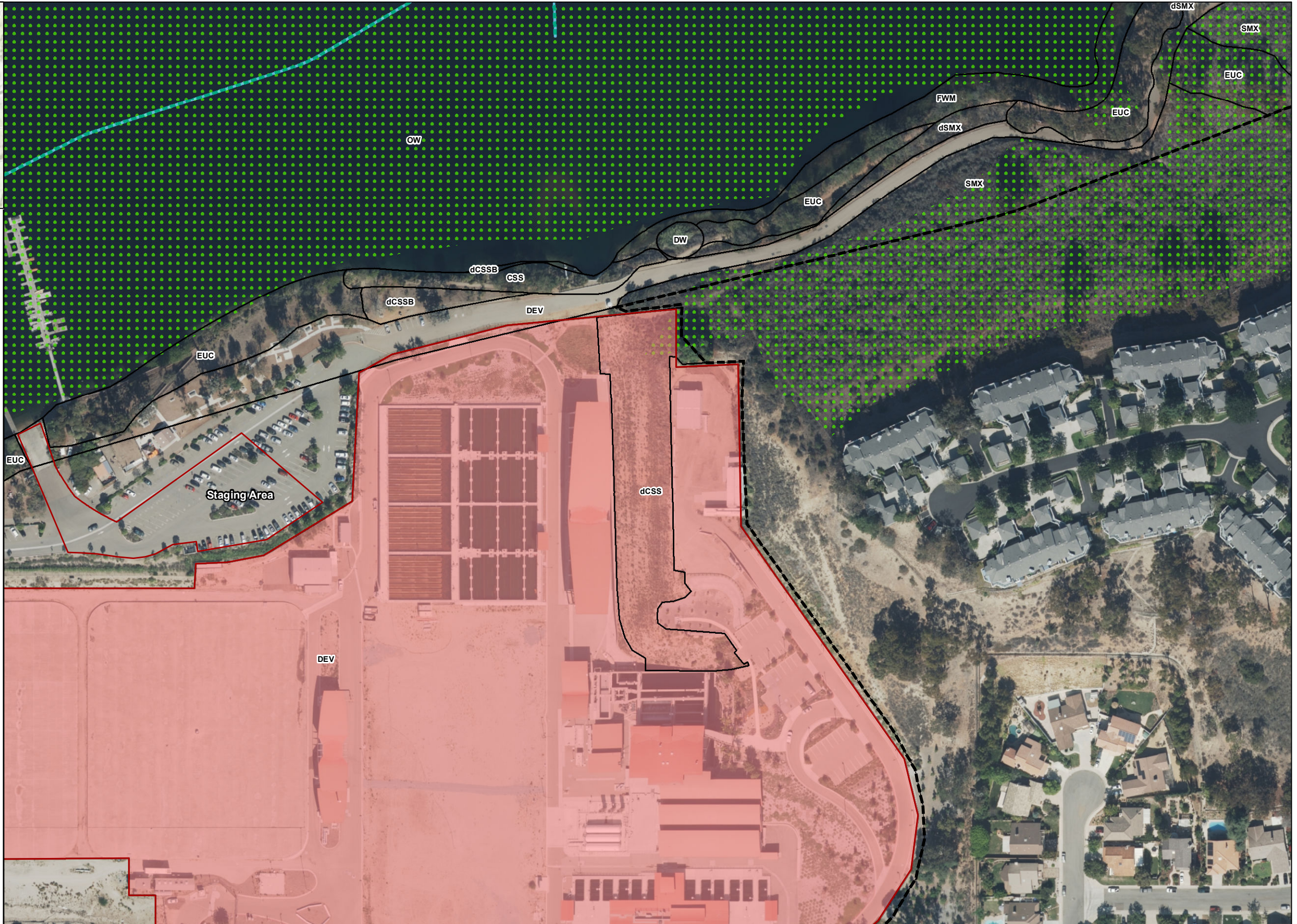
FIGURE 4-2-M1
Biological Resources Impacts - Miramar Reservoir Alternative

INTENTIONALLY LEFT BLANK



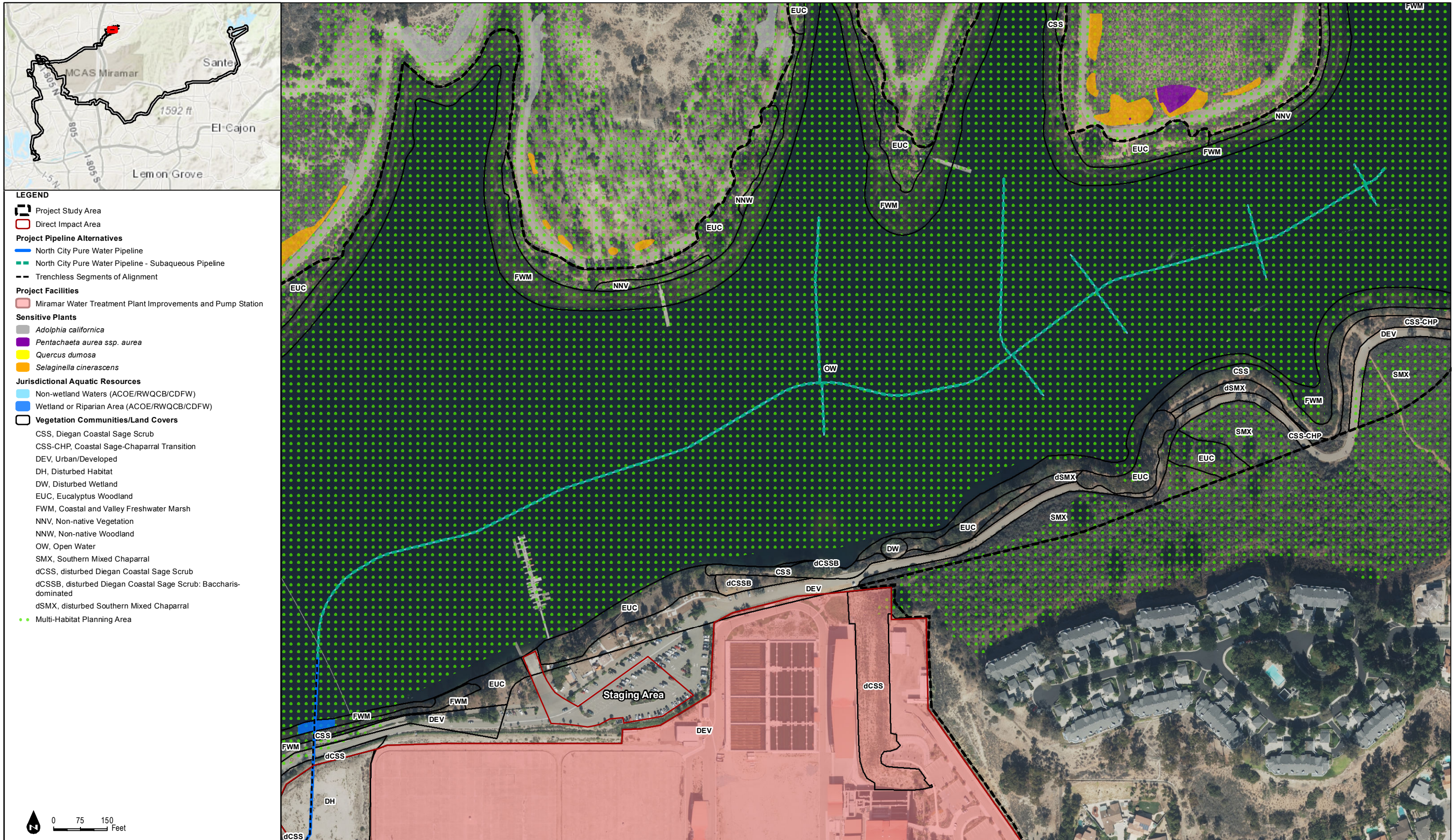
LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- North City Pure Water Pipeline - Subaqueous Pipeline
- Project Facilities**
- Miramar Water Treatment Plant Improvements and Pump Station
- Jurisdictional Aquatic Resources**
- Non-wetland Waters (ACOE/RWQCB/CDFW)
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DW, Disturbed Wetland
- EUC, Eucalyptus Woodland
- FWM, Coastal and Valley Freshwater Marsh
- OW, Open Water
- SMX, Southern Mixed Chaparral
- dCSS, disturbed Diegan Coastal Sage Scrub
- dCSSB, disturbed Diegan Coastal Sage Scrub: Baccharis-dominated
- dSMX, disturbed Southern Mixed Chaparral
- Multi-Habitat Planning Area



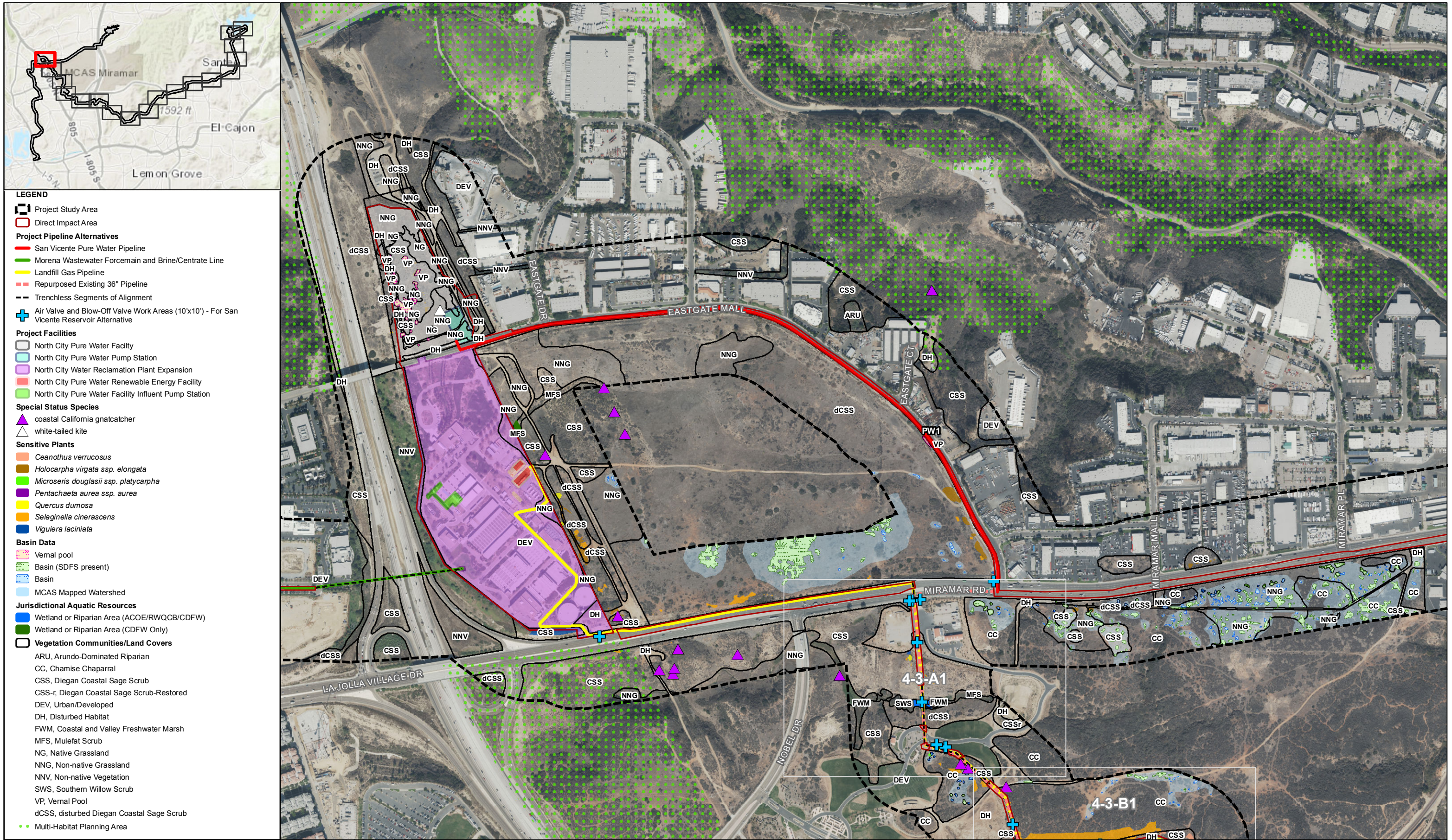
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - San Vicente Pure Water Pipeline
 - Morena Wastewater Forcemain and Brine/Centrate Line
 - Landfill Gas Pipeline
 - Repurposed Existing 36" Pipeline
 - Trenchless Segments of Alignment
 - + Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
 - Project Facilities**
 - North City Pure Water Facility
 - North City Pure Water Pump Station
 - North City Water Reclamation Plant Expansion
 - North City Pure Water Renewable Energy Facility
 - North City Pure Water Facility Influent Pump Station
 - Special Status Species**
 - ▲ coastal California gnatcatcher
 - ▲ white-tailed kite
 - Sensitive Plants**
 - *Ceanothus verrucosus*
 - *Holocarpha virgata ssp. elongata*
 - *Microseris douglasii ssp. platycarpa*
 - *Pentachaeta aurea ssp. aurea*
 - *Quercus dumosa*
 - *Selaginella cinerascens*
 - *Viguiera laciniata*
 - Basin Data**
 - Vernal pool
 - Basin (SDFS present)
 - Basin
 - MCAS Mapped Watershed
 - Jurisdictional Aquatic Resources**
 - Wetland or Riparian Area (ACOE/RWQCB/CDFW)
 - Wetland or Riparian Area (CDFW Only)
 - Vegetation Communities/Land Covers**
 - ARU, Arundo-Dominated Riparian
 - CC, Chamise Chaparral
 - CSS, Diegan Coastal Sage Scrub
 - CSS-r, Diegan Coastal Sage Scrub-Restored
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - FWM, Coastal and Valley Freshwater Marsh
 - MFS, Mulefat Scrub
 - NG, Native Grassland
 - NNG, Non-native Grassland
 - NNV, Non-native Vegetation
 - SWS, Southern Willow Scrub
 - VP, Vernal Pool
 - dCSS, disturbed Diegan Coastal Sage Scrub
 - Multi-Habitat Planning Area

FIGURE 4-3A

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



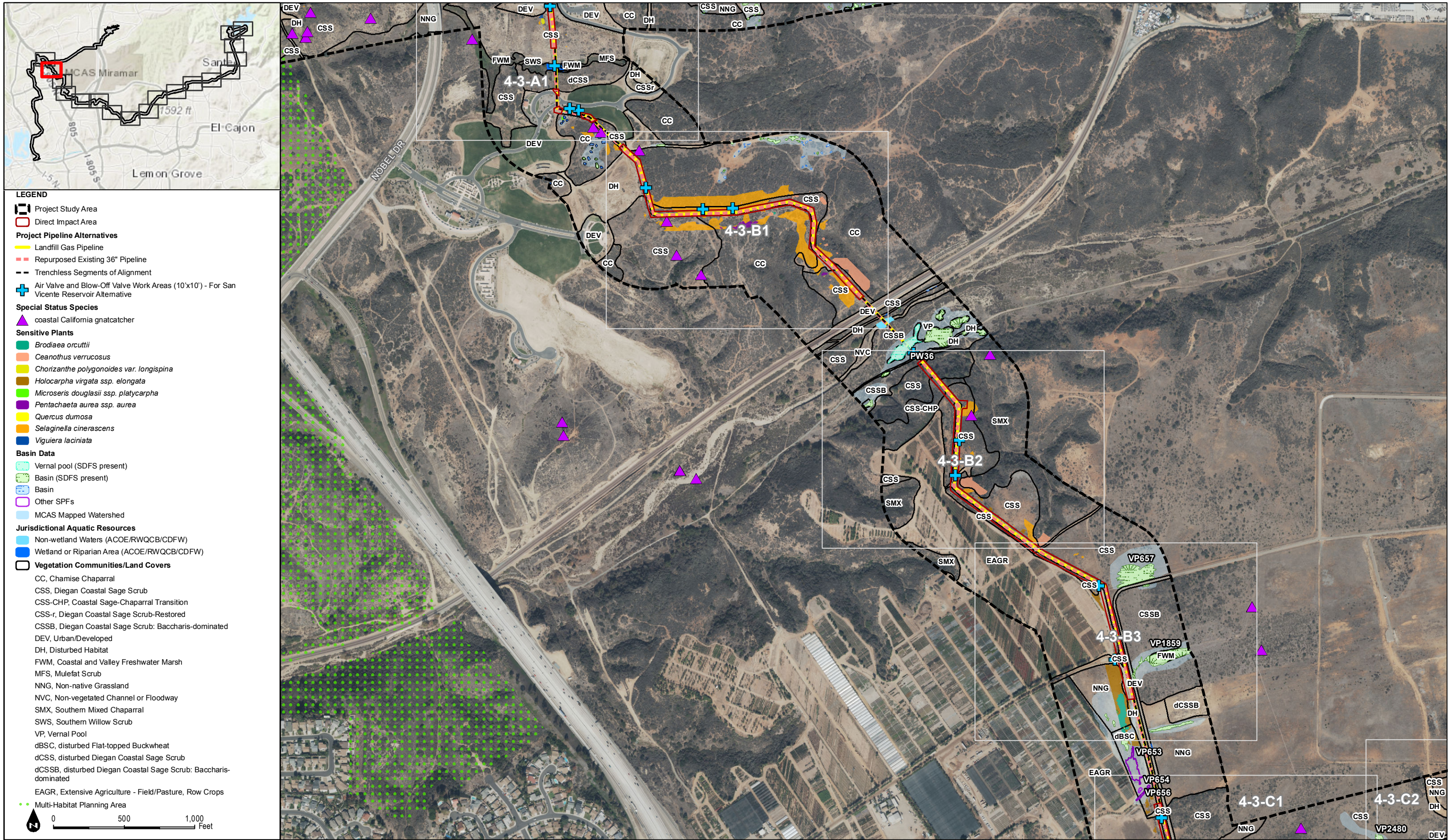
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



Biological Resources Report for the North City Project

FIGURE 4-3-A1
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
 - Landfill Gas Pipeline
 - Repurposed Existing 36" Pipeline
 - Trenchless Segments of Alignment
 - Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Special Status Species**
 - coastal California gnatcatcher
- Sensitive Plants**
 - Brodiaea orcuttii*
 - Ceanothus verrucosus*
 - Chorizanthe polygonoides* var. *longispina*
 - Holocarpha virgata* ssp. *elongata*
 - Microseris douglasii* ssp. *platycarpa*
 - Pentachaeta aurea* ssp. *aurea*
 - Quercus dumosa*
 - Selaginella cinerascens*
 - Viguiera laciniata*
- Basin Data**
 - Vernal pool (SDFS present)
 - Basin (SDFS present)
 - Basin
 - Other SPFs
 - MCAS Mapped Watershed
- Jurisdictional Aquatic Resources**
 - Non-wetland Waters (ACOE/RWQCB/CDFW)
 - Wetland or Riparian Area (ACOE/RWQCB/CDFW)
- Vegetation Communities/Land Covers**
 - CC, Chamise Chaparral
 - CSS, Diegan Coastal Sage Scrub
 - CSS-CHP, Coastal Sage-Chaparral Transition
 - CSS-r, Diegan Coastal Sage Scrub-Restored
 - CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - FWM, Coastal and Valley Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNG, Non-native Grassland
 - NVC, Non-vegetated Channel or Floodway
 - SMX, Southern Mixed Chaparral
 - SWS, Southern Willow Scrub
 - VP, Vernal Pool
 - dBSC, disturbed Flat-topped Buckwheat
 - dCSS, disturbed Diegan Coastal Sage Scrub
 - dCSSB, disturbed Diegan Coastal Sage Scrub: Baccharis-dominated
 - EAGR, Extensive Agriculture - Field/Pasture, Row Crops
 - Multi-Habitat Planning Area

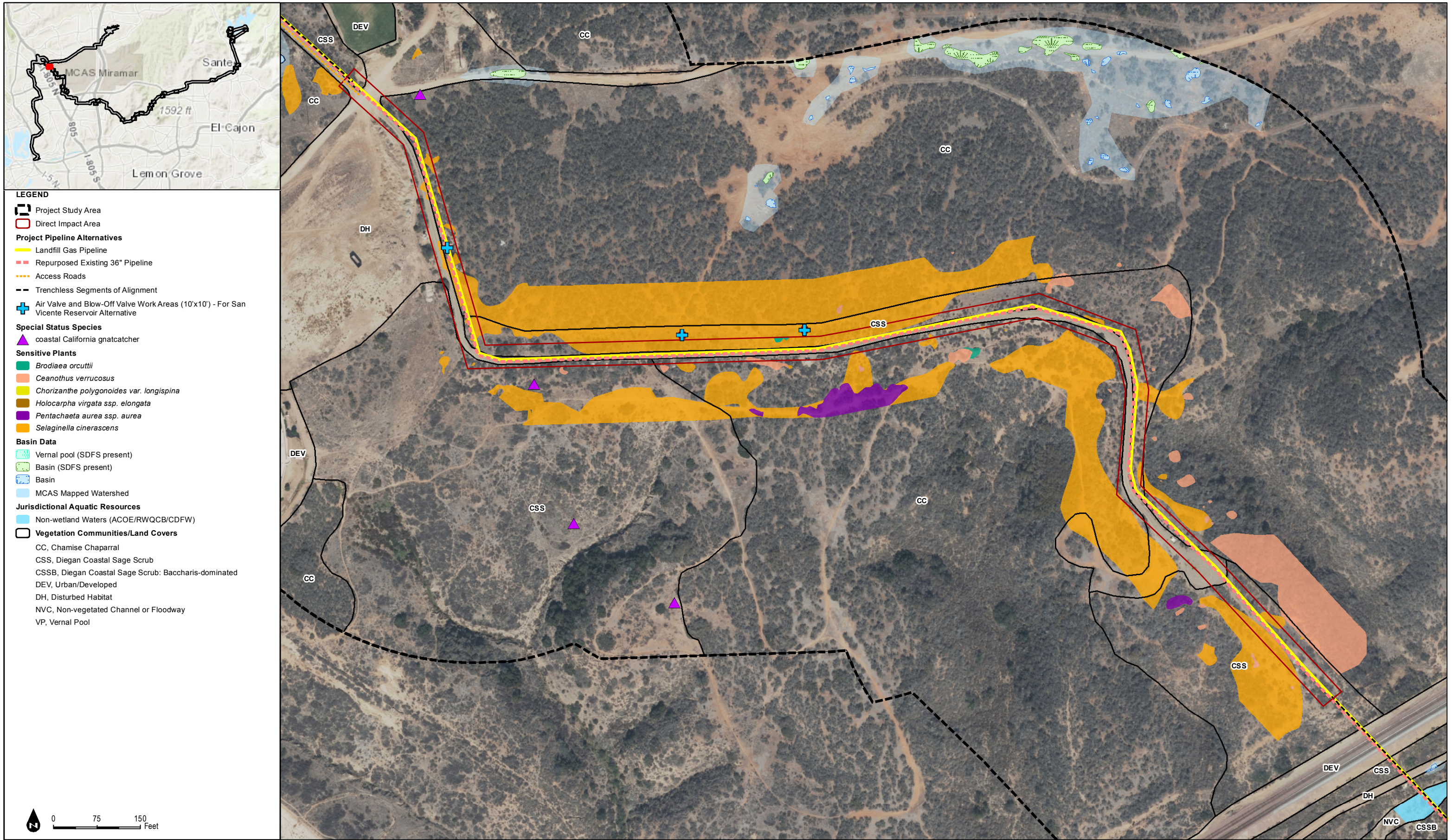
0 500 1,000 Feet

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



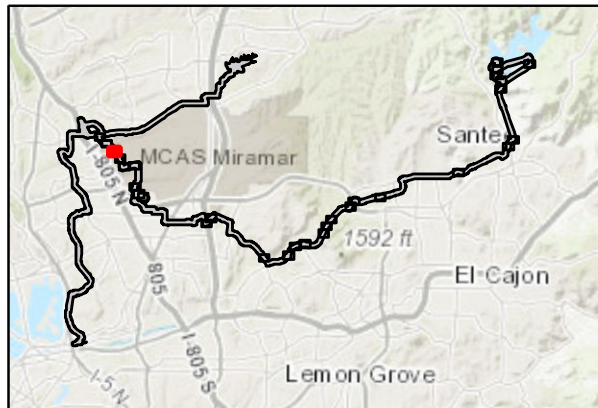
FIGURE 4-3B
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- Trenchless Segments of Alignment
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Special Status Species**
- coastal California gnatcatcher
- Sensitive Plants**
- Ceanothus verrucosus*
- Holocarpa virgata ssp. elongata*
- Selaginella cinerascens*
- Basin Data**
- Vernal pool (SDFS present)
- Basin (SDFS present)
- MCAS Mapped Watershed
- Vegetation Communities/Land Covers**
- CC, Chamise Chaparral
- CSS, Diegan Coastal Sage Scrub
- CSS-CHP, Coastal Sage-Chaparral Transition
- CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NVC, Non-vegetated Channel or Floodway
- SMX, Southern Mixed Chaparral
- VP, Vernal Pool
- EAGR, Extensive Agriculture - Field/Pasture, Row Crops

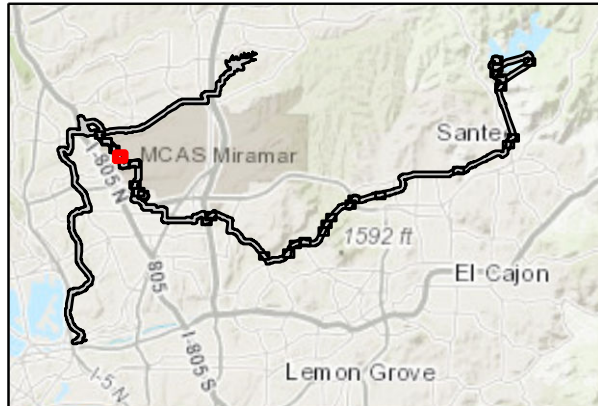
0 75 150 Feet



FIGURE 4-3-B2

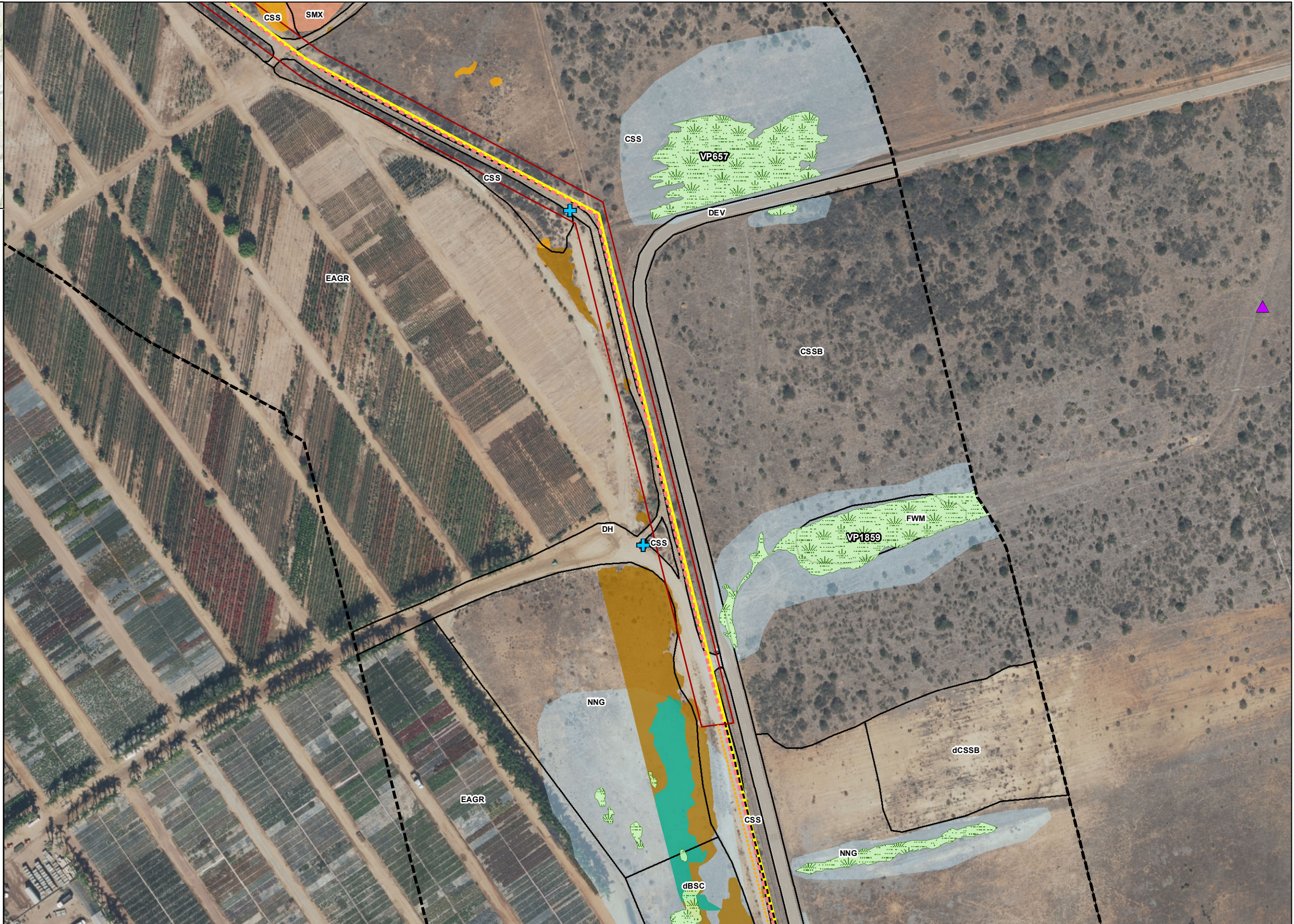
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



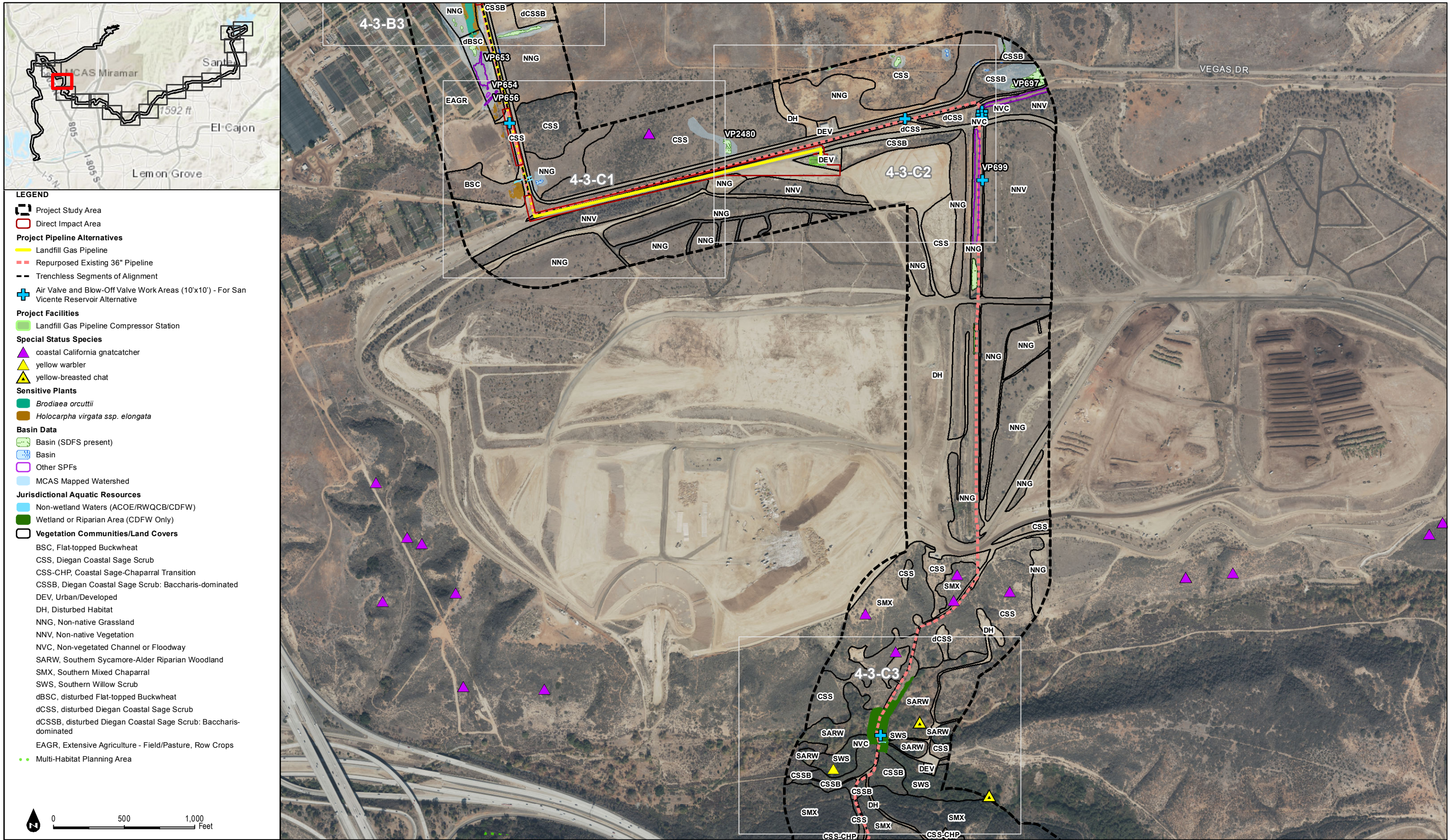
LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- Access Roads
- Trenchless Segments of Alignment
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Special Status Species**
- coastal California gnatcatcher
- Sensitive Plants**
- Brodiaea orcuttii*
- Ceanothus verrucosus*
- Holocarpha virgata ssp. elongata*
- Selaginella cinerascens*
- Basin Data**
- Basin (SDFS present)
- Basin
- MCAS Mapped Watershed
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
- DEV, Urban/Developed
- DH, Disturbed Habitat
- FWM, Coastal and Valley Freshwater Marsh
- NNG, Non-native Grassland
- SMX, Southern Mixed Chaparral
- dBSC, disturbed Flat-topped Buckwheat
- dCSSB, disturbed Diegan Coastal Sage Scrub: Baccharis-dominated
- EAGR, Extensive Agriculture - Field/Pasture, Row Crops



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



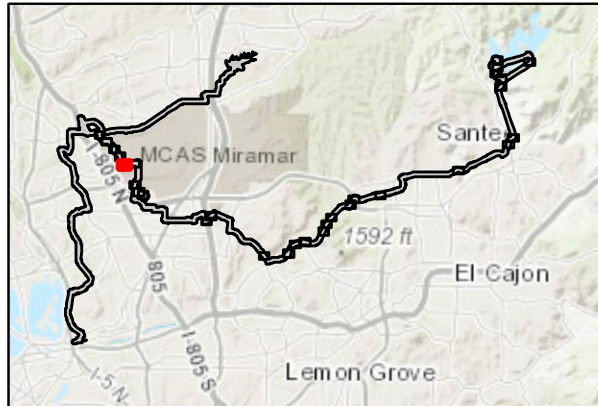
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

DUDEK

Biological Resources Report for the North City Project

FIGURE 4-3C
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- Access Roads
- Trenchless Segments of Alignment
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Special Status Species**
- coastal California gnatcatcher
- Sensitive Plants**
- Holocarpha virgata* ssp. *elongata*
- Basin Data**
- Basin (SDFS present)
- Basin
- Other SPFs
- MCAS Mapped Watershed
- Jurisdictional Aquatic Resources**
- Non-wetland Waters (ACOE/RWQCB/CDFW)
- Vegetation Communities/Land Covers**
- BSC, Flat-topped Buckwheat
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NNG, Non-native Grassland
- NNV, Non-native Vegetation
- dBSC, disturbed Flat-topped Buckwheat
- dCSS, disturbed Diegan Coastal Sage Scrub
- EAGR, Extensive Agriculture - Field/Pasture, Row Crops

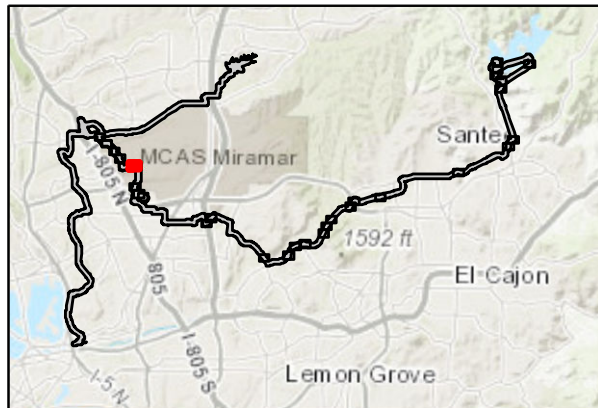
0 75 150 Feet



FIGURE 4-3-C1

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Landfill Gas Pipeline
- Repurposed Existing 36" Pipeline
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Project Facilities**
- Landfill Gas Pipeline Compressor Station
- Basin Data**
- Basin (SDFS present)
- Basin
- Other SPFs
- MCAS Mapped Watershed
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NNG, Non-native Grassland
- NNV, Non-native Vegetation
- NVC, Non-vegetated Channel or Floodway
- dCSS, disturbed Diegan Coastal Sage Scrub

VP2480

VP697

VP699

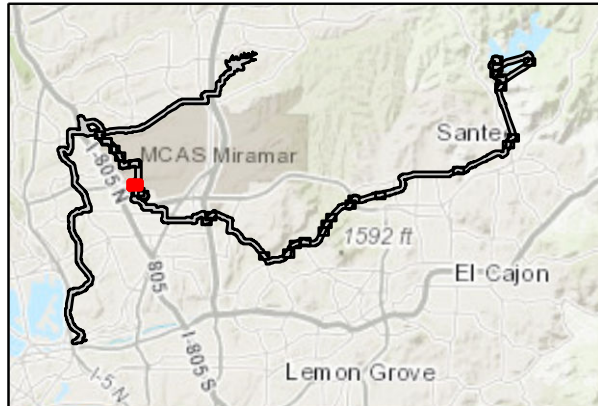
0 75 150 Feet



FIGURE 4-3-C2

Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

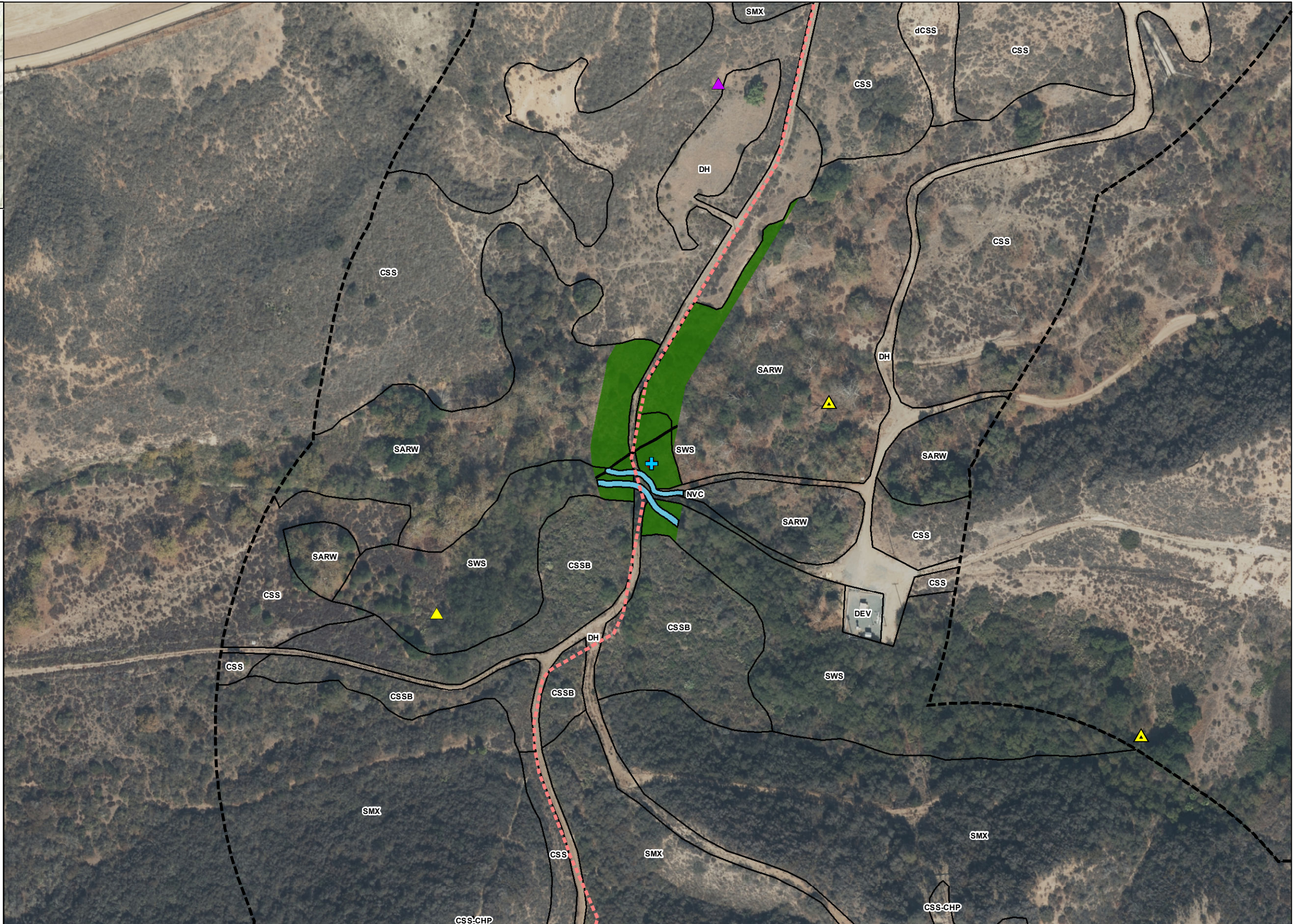
INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Repurposed Existing 36" Pipeline
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Special Status Species**
- coastal California gnatcatcher
- yellow warbler
- yellow-breasted chat
- Jurisdictional Aquatic Resources**
- Non-wetland Waters (ACOE/RWQCB/CDFW)
- Wetland or Riparian Area (CDFW Only)
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- CSS-CHP, Coastal Sage-Chaparral Transition
- CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NVC, Non-vegetated Channel or Floodway
- SARW, Southern Sycamore-Alder Riparian Woodland
- SMX, Southern Mixed Chaparral
- SWS, Southern Willow Scrub
- dCSS, disturbed Diegan Coastal Sage Scrub

0 75 150 Feet

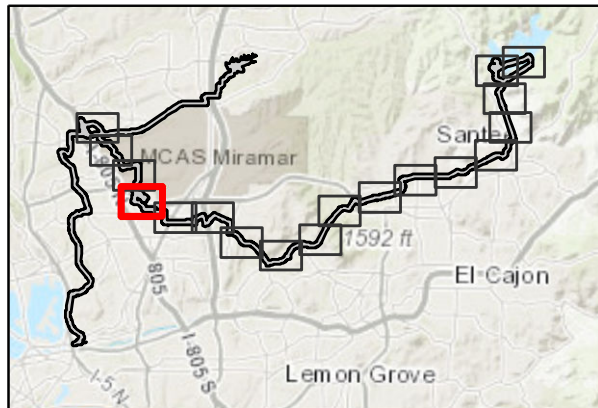


SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



FIGURE 4-3-C3
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

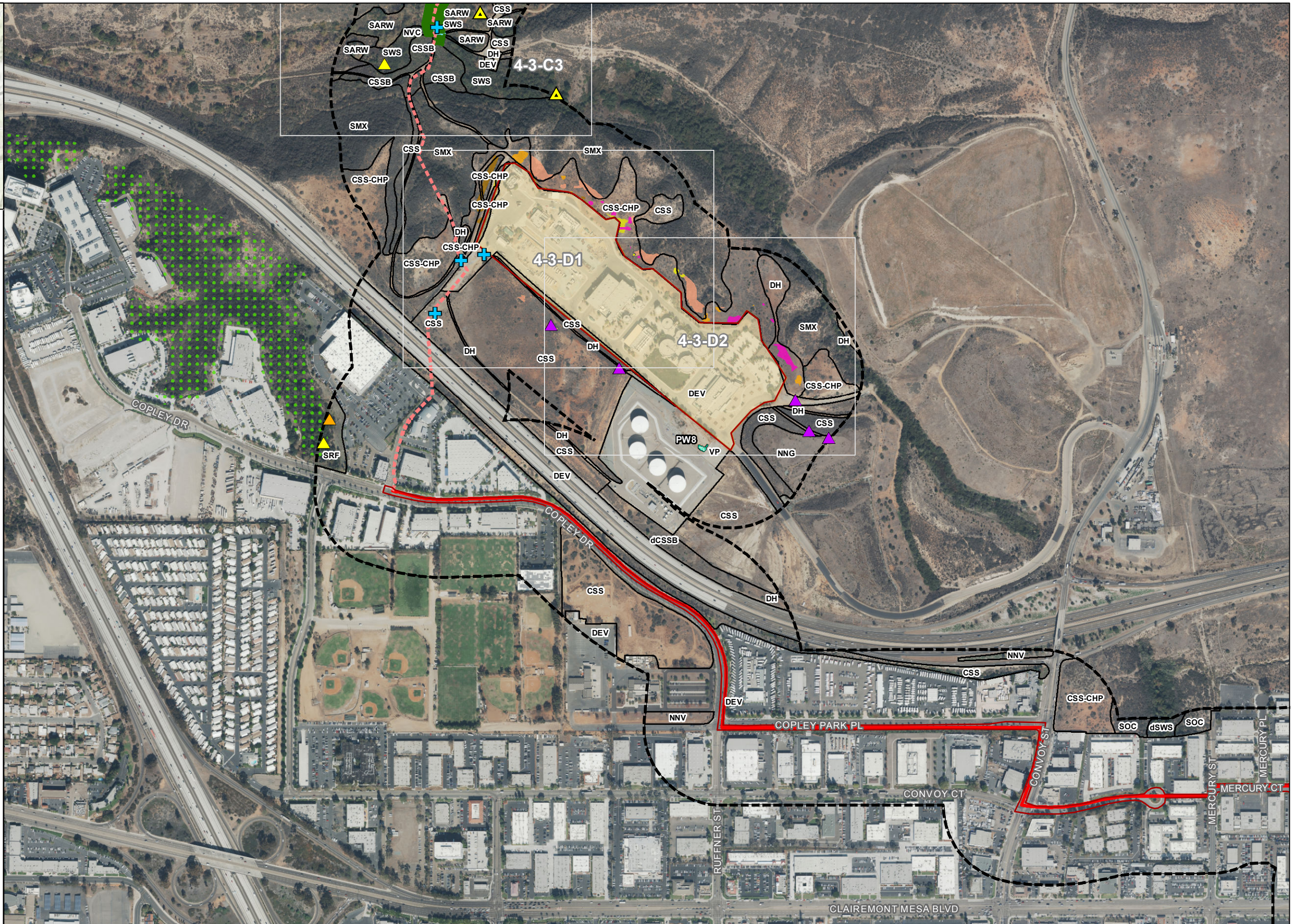
INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
 - San Vicente Pure Water Pipeline
 - Repurposed Existing 36" Pipeline
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Project Facilities**
 - Metro Biosolids Center Improvements
- Special Status Species**
 - coastal California gnatcatcher
 - willow flycatcher
 - yellow warbler
 - yellow-breasted chat
- Sensitive Plants**
 - Ceanothus verrucosus*
 - Chorizanthe polygonoides* var. *longispina*
 - Holocarpha virgata* ssp. *elongata*
 - Isocoma menziesii* var. *decumbens*
 - Quercus dumosa*
 - Selaginella cinerascens*
- Basin Data**
 - Vernal pool (SDFS present)
- Jurisdictional Aquatic Resources**
 - Non-wetland Waters (ACOE/RWQCB/CDFW)
 - Wetland or Riparian Area (CDFW Only)
- Vegetation Communities/Land Covers**
 - CSS, Diegan Coastal Sage Scrub
 - CSS-CHP, Coastal Sage-Chaparral Transition
 - CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
 - DEV, Urban/Developed
 - DH, Disturbed Habitat
 - NNG, Non-native Grassland
 - NNV, Non-native Vegetation
 - NVC, Non-vegetated Channel or Floodway
 - SARW, Southern Sycamore-Alder Riparian Woodland
 - SMX, Southern Mixed Chaparral
 - SOC, Scrub Oak Chaparral
 - SRF, Southern Riparian Forest
 - SWS, Southern Willow Scrub
 - VP, Vernal Pool
 - dCSSB, disturbed Diegan Coastal Sage Scrub: Baccharis-dominated
 - dSWS, disturbed Southern Willow Scrub
 - Multi-Habitat Planning Area

0 500 1,000 Feet



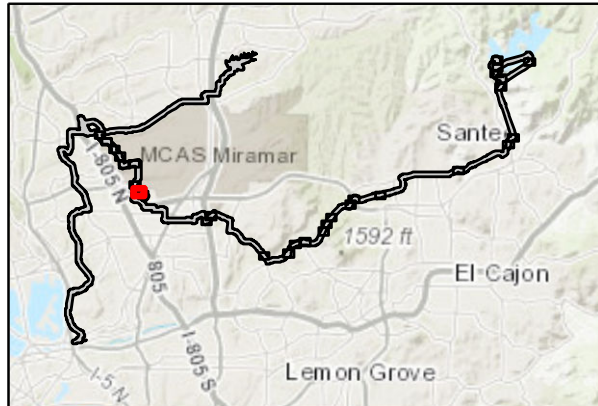
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



Biological Resources Report for the North City Project

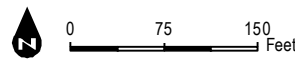
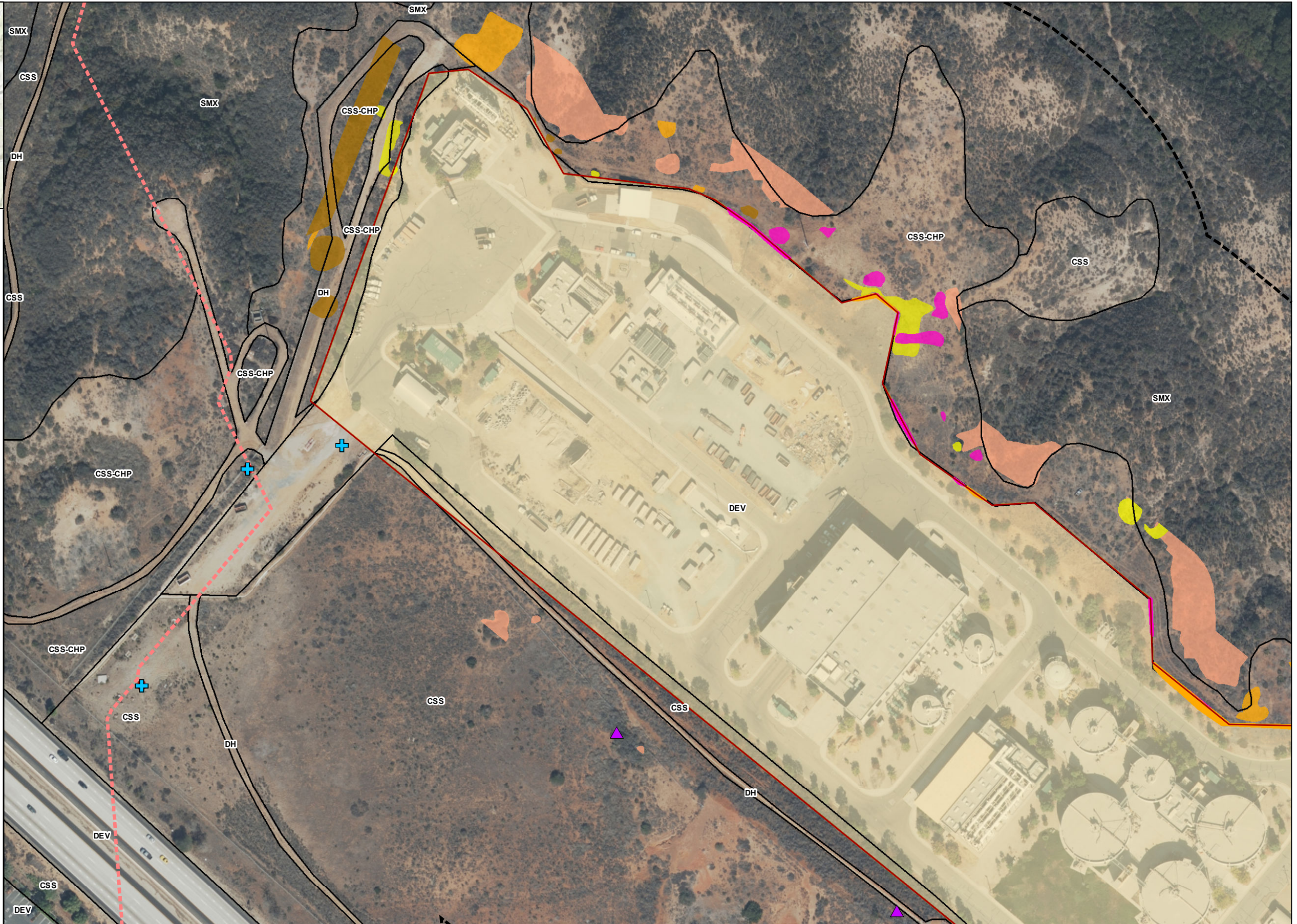
FIGURE 4-3D
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- Repurposed Existing 36" Pipeline
- Air Valve and Blow-Off Valve Work Areas (10'x10') - For San Vicente Reservoir Alternative
- Project Facilities**
- Metro Biosolids Center Improvements
- Special Status Species**
- coastal California gnatcatcher
- Sensitive Plants**
- Ceanothus verrucosus*
- Chorizanthe polygonoides* var. *longispina*
- Holocarpha virgata* ssp. *elongata*
- Isocoma menziesii* var. *decumbens*
- Quercus dumosa*
- Selaginella cinerascens*
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- CSS-CHP, Coastal Sage-Chaparral Transition
- DEV, Urban/Developed
- DH, Disturbed Habitat
- SMX, Southern Mixed Chaparral



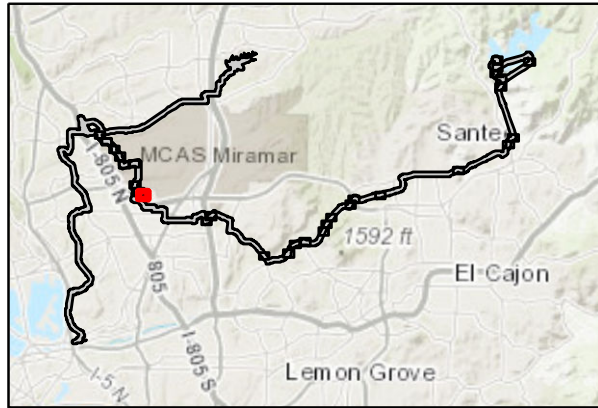
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



Biological Resources Report for the North City Project

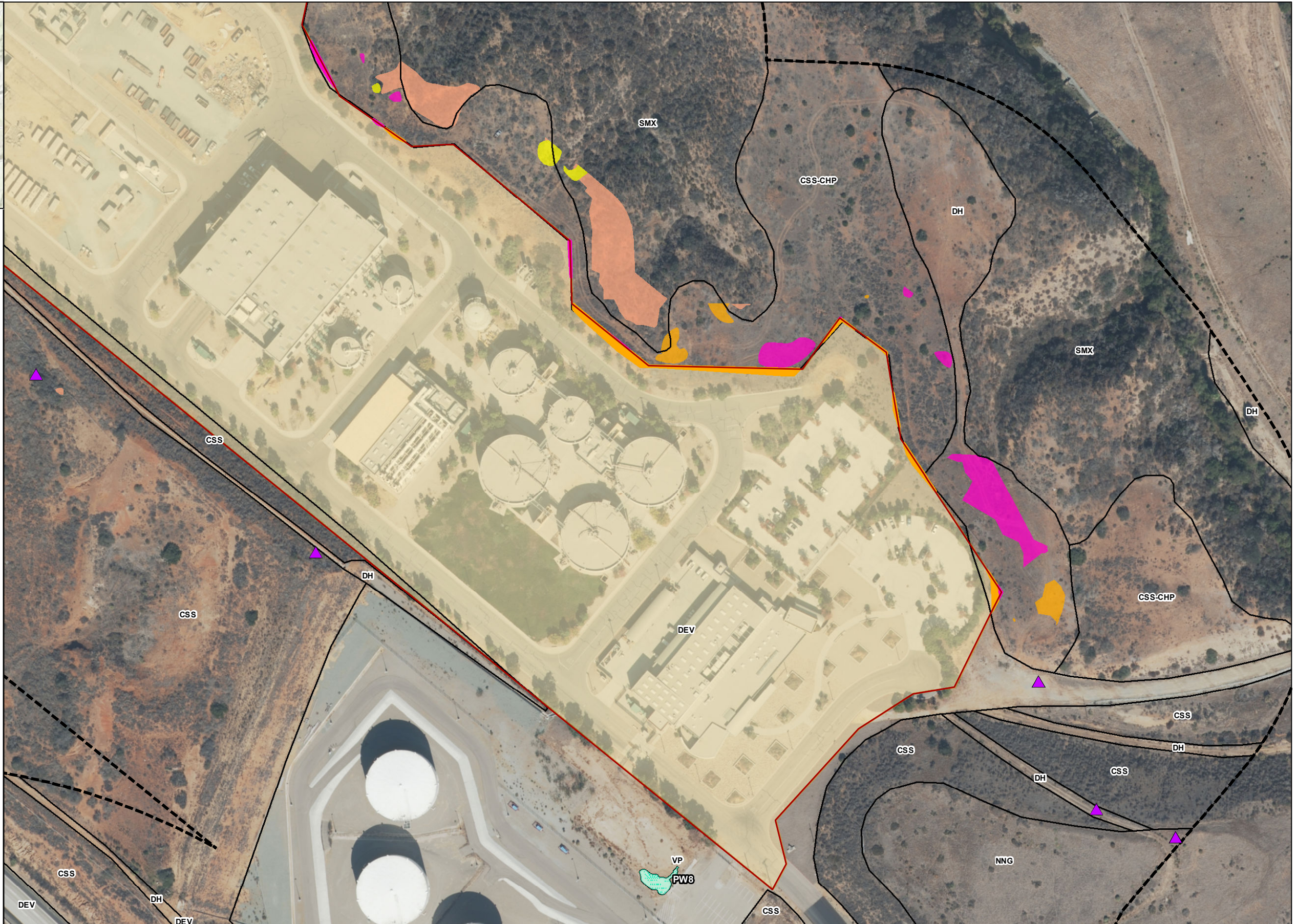
FIGURE 4-3-D1
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Facilities**
- Metro Biosolids Center Improvements
- Special Status Species**
- coastal California gnatcatcher
- Sensitive Plants**
- Ceanothus verrucosus*
- Isocoma menziesii* var. *decumbens*
- Quercus dumosa*
- Selaginella cinerascens*
- Basin Data**
- Vernal pool (SDFS present)
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- CSS-CHP, Coastal Sage-Chaparral Transition
- DEV, Urban/Developed
- DH, Disturbed Habitat
- NNG, Non-native Grassland
- SMX, Southern Mixed Chaparral
- VP, Vernal Pool



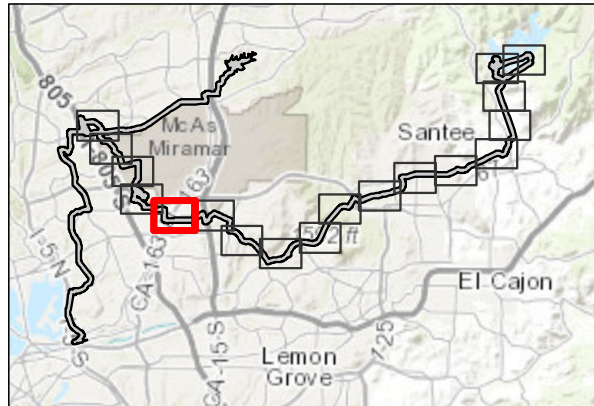
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



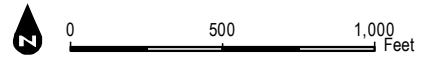
Biological Resources Report for the North City Project

FIGURE 4-3-D2
Biological Resources Impacts - Miramar Reservoir and San Vicente Reservoir Alternatives

INTENTIONALLY LEFT BLANK



- LEGEND**
- Project Study Area
 - Direct Impact Area
 - Project Pipeline Alternatives**
 - San Vicente Pure Water Pipeline
 - Trenchless Segments of Alignment
 - Vegetation Communities/Land Covers**
 - CSS, Diegan Coastal Sage Scrub
 - CSS-CHP, Coastal Sage-Chaparral Transition
 - DEV, Urban/Developed
 - EUC, Eucalyptus Woodland
 - FWM, Coastal and Valley Freshwater Marsh
 - NNV, Non-native Vegetation
 - SOC, Scrub Oak Chaparral
 - dSWS, disturbed Southern Willow Scrub
 - Multi-Habitat Planning Area



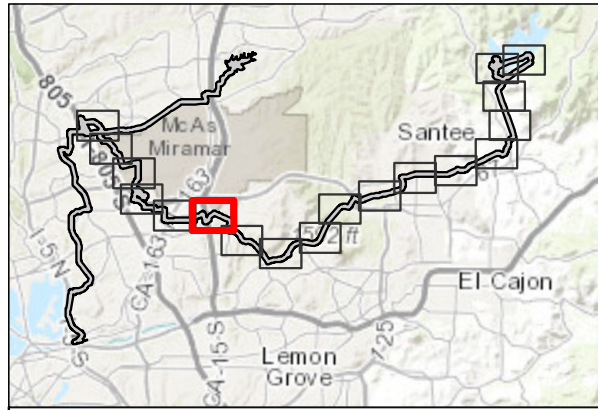
SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



Biological Resources Report for the North City Project

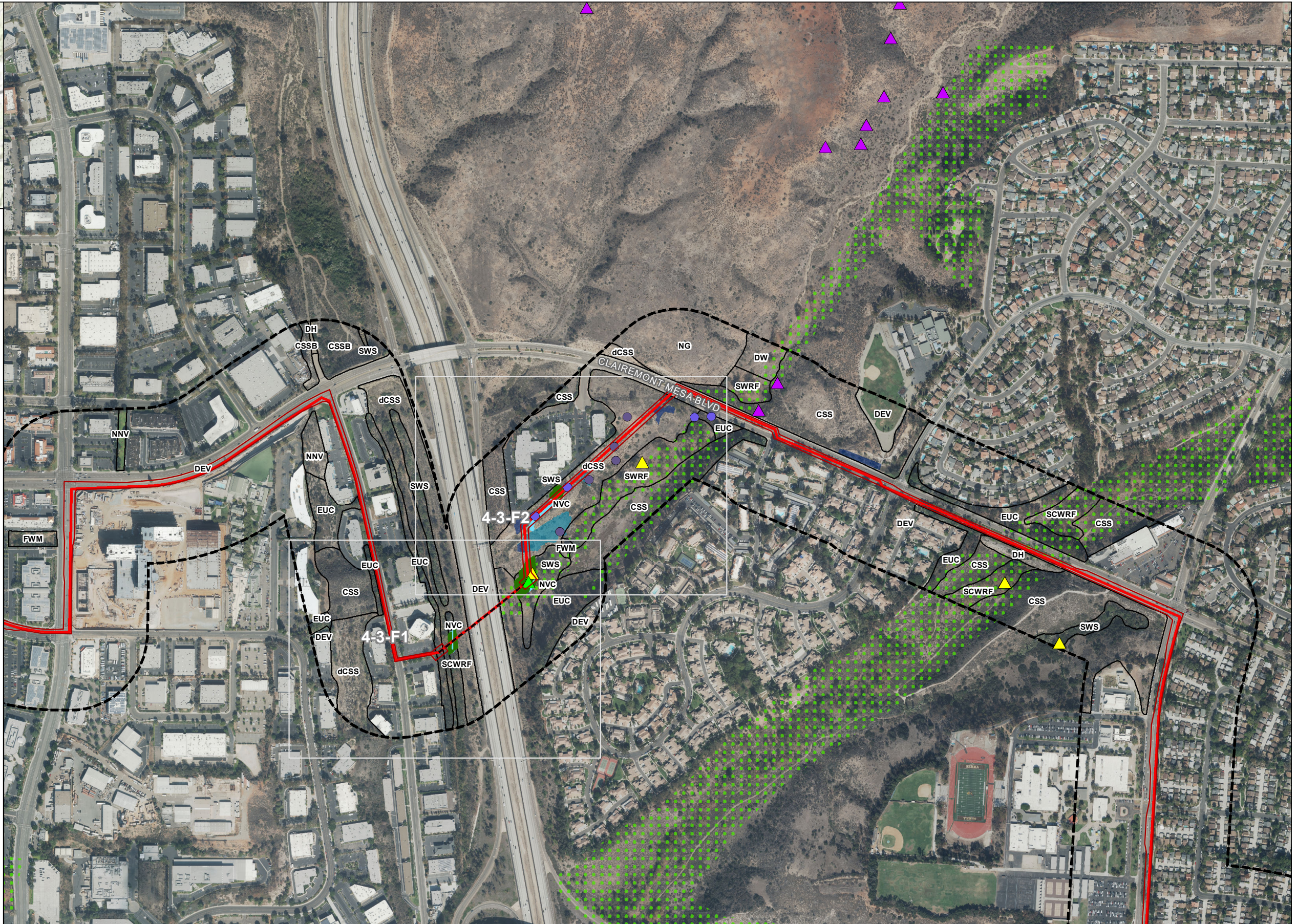
FIGURE 4-3E
Biological Resources Impacts - San Vicente Reservoir Alternative

INTENTIONALLY LEFT BLANK



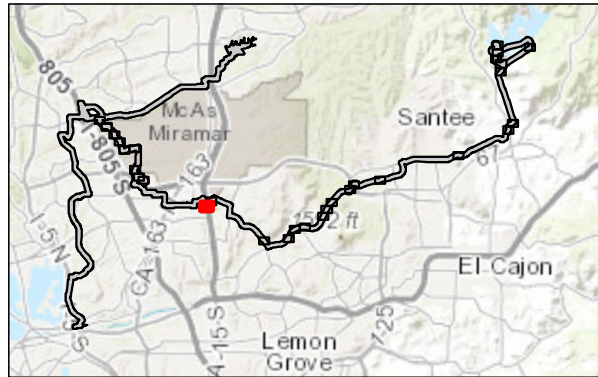
LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- San Vicente Pure Water Pipeline
- Trenchless Segments of Alignment
- Special Status Species**
- coastal California gnatcatcher
- least Bell's vireo
- yellow warbler
- Sensitive Plants**
- Ferocactus viridescens*
- Viguiera laciniata*
- Lepidium virginicum* var. *robinsonii*
- Viguiera laciniata*
- Jurisdictional Aquatic Resources**
- Non-wetland Waters (ACOE/RWQCB/CDFW)
- Wetland or Riparian Area (CDFW Only)
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- CSSB, Diegan Coastal Sage Scrub: Baccharis-dominated
- DEV, Urban/Developed
- DH, Disturbed Habitat
- DW, Disturbed Wetland
- EUC, Eucalyptus Woodland
- FWM, Coastal and Valley Freshwater Marsh
- NG, Native Grassland
- NNV, Non-native Vegetation
- NVC, Non-vegetated Channel or Floodway
- SCWRF, Southern Cottonwood-Willow Riparian Forest
- SWRF, Southern Arroyo Willow Riparian Forest
- SWS, Southern Willow Scrub
- dCSS, disturbed Diegan Coastal Sage Scrub
- Multi-Habitat Planning Area



SOURCE: City of San Diego 2016, 2017; SANDAG, 2016

INTENTIONALLY LEFT BLANK



LEGEND

- Project Study Area
- Direct Impact Area
- Project Pipeline Alternatives**
- San Vicente Pure Water Pipeline
- Trenchless Segments of Alignment
- Special Status Species**
- least Bell's vireo
- yellow warbler
- Lepidium virginicum* var. *robinsonii*
- Viguiera laciniata*
- Jurisdictional Aquatic Resources**
- Non-wetland Waters (ACOE/RWQCB/CDFW)
- Wetland or Riparian Area (CDFW Only)
- Vegetation Communities/Land Covers**
- CSS, Diegan Coastal Sage Scrub
- DEV, Urban/Developed
- EUC, Eucalyptus Woodland
- FWM, Coastal and Valley Freshwater Marsh
- NVC, Non-vegetated Channel or Floodway
- SCWRF, Southern Cottonwood-Willow Riparian Forest
- SWRF, Southern Arroyo Willow Riparian Forest
- SWS, Southern Willow Scrub
- dCSS, disturbed Diegan Coastal Sage Scrub
- Multi-Habitat Planning Area

0 75 150 Feet



FIGURE 4-3-F1

Biological Resources Impacts - San Vicente Reservoir Alternative

SOURCE: City of San Diego 2016, 2017; SANDAG, 2016



INTENTIONALLY LEFT BLANK