APPENDIX I-1: U.S. ARMY CORPS OF ENGINEERS-STATE WATER RESOURCES CONTROL BOARD WATERS OF THE U.S. AND STATE EFFECTS

APPENDIX I-1. PERMANENT AND TEMPORARY EFFECTS ON U.S. ARMY CORPS OF ENGINEERS/STATE WATER RESOURCES CONTROL BOARD WETLANDS AND NONWETLAND WATERS OF THE U.S. AND STATE [1]

Feature	Impact Type	Permanent Effect		Temporary Effect		Total Effect		Map Page Number[2]
		Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet	Acreage	
Basin – Nonwetland Waters of the U.S.								
Feature 7 (Rio Hondo Basin #1)	N/A	--	--	--	--	--	--	9
Feature 8 (Rio Hondo Basin #2)	N/A	--	--	--	--	--	--	9
Feature 9 (Rio Hondo Basin #3)	N/A	--	--	--	--	--	--	9
Feature 10 (Rio Hondo Basin #4)	N/A	--	--	--	--	--	--	9
Feature 23 (Lakeside Residential Community Pond)	N/A	--	--	--	--	--	--	15
Feature 37 (Raymond NW Basin)	N/A	--	--	--	--	--	--	19
Feature 39 (Raymond SE Basin)	N/A	--	--	--	--	--	--	19
Feature 56 (Rio Hondo Basin #6)	N/A	--	--	--	--	--	--	8
Feature 57 (Rio Hondo Basin #7)	N/A	--	--	--	--	--	--	8
Feature 58 (Rio Hondo Basin #8)	N/A	--	--	--	--	--	--	8
Basin Total	***N/A***	***0***	***0***	***0***	***0***	***0***	***0***	***N/A***
Built Watercourse – Nonwetland Waters of the U.S.								
Feature 29 (unnamed)	Culvert modifications and temporary access	--	--	80	0.02	80	0.02	16
Feature 31 (unnamed)	N/A	--	--	--	--	--	--	17
Built Watercourse Total	***N/A***	***0***	***0***	***80***	***0.02***	***80***	***0.02***	***N/A***
Riverine – Nonwetland Waters of the U.S.								
Feature 1 (Los Angeles River, LAUS to 1st Street)	N/A	--	--	--	--	--	--	2

Feature	Impact Type	Permanent Effect		Temporary Effect		Total Effect		Map Page Number[2]
		Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet	Acreage	
Feature 1 (Los Angeles River, 1st Street to Hobart Yard)	N/A	--	--	--	--	--	--	2–7
Feature 5 (Rio Hondo)	Bridge pier modification, in-kind access road and bike path improvements, and temporary access/staging	59	0.03	93	0.24	152	0.27	8-9
Feature 12 (San Gabriel River)	Bridge pier and pier wall modifications, new pier wall, new storm drain outlet, and temporary access/staging	106	0.02	256	0.64	362	0.66	10
Feature 14 (North Fork Coyote Creek)	Bridge pier modification, and temporary access/staging	77	0.01	116	0.17	193	0.18	11
Feature 15 (Milan Creek)	N/A	--	--	--	--	--	--	11
Feature 18 (La Mirada Creek)	N/A	--	--	--	--	--	--	12
Feature 19 (La Mirada Creek)	Bridge pier, headwall, and culvert modifications, and temporary access/staging	54	<0.01	18	0.03	72	0.03	12
Feature 20 (Coyote Creek)	Culvert and pier wall modifications, and temporary access/staging	28	<0.01	69	0.06	97	0.06	13
Feature 41 (Brea Creek)	Bridge pier modifications, and temporary access/staging	82	0.02	84	0.07	166	0.09	14-15
Feature 28 (Fullerton Creek)	N/A	--	--	--	--	--	--	16
Feature 30 (Fullerton Creek)	N/A	--	--	--	--	--	--	17
Feature 38 (Carbon Creek)	N/A	--	--	--	--	--	--	18
Feature 40 (Santa Ana River)	N/A	--	--	--	--	--	--	20

Feature	Impact Type	Permanent Effect		Temporary Effect		Total Effect		Map Page Number[2]
		Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet	Acreage	
Riverine Total	***N/A***	***406***	***0.09***	***636***	***1.21***	***1,042***	***1.30***	***N/A***
Wetland Waters of the U.S.								
Freshwater Emergent Wetland 3 (Feature 12, San Gabriel River)	Bridge pier modifications, and temporary access/staging	55	0.01	161	0.29	216	0.30	10
Freshwater Forested/Shrub Wetland 1 (Feature 12, San Gabriel River)	N/A	--	--	--	--	--	--	10
Freshwater Emergent Wetland 2 (Feature 12, San Gabriel River)	Temporary access/staging	--	--	3	<0.01	3	<0.01	10
Wetland Waters of the U.S. Total	***N/A***	***55***	***0.01***	***164***	***0.29***	***219***	***0.30***	***N/A***
Wetland and Nonwetland Waters of the U.S. Grand Total	**N/A**	**461**	**0.10**	**800**	**1.52**	**1,261**	**1.62**	**N/A**

Source: Authority 2025

[1] Permanent and temporary effects are based on footprint/design dated 2023 (Authority 2023). A minimum of two decimal places are used for acreage calculations, with the last number rounded up or down depending on value.

[2] The map page number refers to the mapped delineated feature in Appendix F but does not depict the proposed impacts.

-- = No effect; LAUS = Los Angeles Union Station; N/A = not applicable; NW = northwest; SE = southeast; SWRCB = State Water Resources Control Board; USACE = U.S. Army Corps of Engineers

APPENDIX I-2: CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE LAKES, STREAMBEDS, AND ASSOCIATED RIPARIAN VEGETATION EFFECTS

APPENDIX I-2 PERMANENT AND TEMPORARY EFFECTS ON CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE WATERS OF THE STATE WITHIN THE AQUATIC RESOURCE STUDY AREA[1]

Feature	Impact Type	Permanent Effect		Temporary Effect		Total Effect		Map Page Number[6]
		Linear Feet[5]	Acreage[5]	Linear Feet	Acreage	Linear Feet	Acreage	
Basin – Regulated as "Lakes"								
Feature 7 (Rio Hondo Basin # 1)	N/A	--	--	--	--	--	--	8–9
Feature 8 (Rio Hondo Basin # 2)	N/A	--	--	--	--	--	--	9
Feature 9 (Rio Hondo Basin # 3 – SW Basin)	N/A	--	--	--	--	--	--	9
Feature 9 (Rio Hondo Basin # 3, Riparian 1 [Mulefat thicket])[2]	N/A	--	--	--	--	--	--	9
Feature 10 (Rio Hondo Basin # 4)	N/A	--	--	--	--	--	--	9
Feature 23 (Lakeside Residential Community Pond)	N/A	--	--	--	--	--	--	15
Feature 37 (Raymond Northwest Basin)	N/A	--	--	--	--	--	--	19
Feature 39 (Raymond Southeast Basin)	N/A	--	--	--	--	--	--	19
Feature 55 (Rio Hondo Basin # 5)[3]	N/A	--	--	--	--	--	--	8
Feature 56 (Rio Hondo Basin # 6)	N/A	--	--	--	--	--	--	8
Feature 57 (Rio Hondo Basin # 7)	N/A	--	--	--	--	--	--	8
Feature 58 (Rio Hondo Basin # 8)	N/A	--	--	--	--	--	--	8
Basin Total	***N/A***	**--**	**--**	**--**	**--**	**--**	**--**	***N/A***
Built Watercourse – Regulated as "Streambeds"								
Feature 29 (unnamed)	Culvert modifications and temporary access	--	--	80	0.03	80	0.03	16
Feature 31 (unnamed)	N/A	--	--	--	--	--	--	17

Feature	Impact Type	Permanent Effect		Temporary Effect		Total Effect		Map Page Number[6]
		Linear Feet[5]	Acreage[5]	Linear Feet	Acreage	Linear Feet	Acreage	
Built Watercourse Total	***N/A***	***--***	***--***	***80***	***0.03***	***80***	***0.03***	***N/A***
Riverine – Regulated as "Streambeds"								
Feature 1 (Los Angeles River, LAUS to 1st Street)	N/A	--	--	--	--	--	--	2
Feature 1 (Los Angeles River, 1st Street to Hobart Yard)	N/A	--	--	--	--	--	--	2–7
Feature 5 (Rio Hondo)	Bridge pier and abutment modifications, in-kind access road and bike path improvements, and temporary access/staging	101	0.07	304	0.61	405	0.68	8–9
Feature 12 (San Gabriel River, Riparian 2 [Mulefat thicket])[2]	N/A	--	--	--	--	--	--	10
Feature 12 (San Gabriel River, Riparian 3 [Mulefat thicket])[2]	N/A	--	--	--	--	--	--	10
Feature 12 (San Gabriel River)	Bridge pier, pier wall, and abutment modifications, new pier wall, new storm drain outlet, and temporary access/staging	237	0.09	305	0.88	542	0.97	10
Feature 14 (North Fork Coyote Creek)	Bridge pier modification, and temporary access/staging	127	0.02	204	0.32	331	0.34	11
Feature 15 (Milan Creek)	N/A	--	--	--	--	--	--	11
Feature 18 (La Mirada Creek)	N/A	--	--	--	--	--	--	12
Feature 19 (La Mirada Creek)	Bridge pier, headwall, and culvert modifications, and temporary access/staging	71	<0.01	18	0.04	89	0.04	12

Feature	Impact Type	Permanent Effect		Temporary Effect		Total Effect		Map Page Number[6]
		Linear Feet[5]	Acreage[5]	Linear Feet	Acreage	Linear Feet	Acreage	
Feature 20 (Coyote Creek)	Culvert and pier wall modifications, and temporary access/staging	28	<0.01	69	0.06	97	0.06	13
Feature 41 (Brea Creek)	Bridge pier modifications, and temporary access/staging	82	0.02	84	0.08	166	0.10	14–15
Feature 28 (Fullerton Creek)	N/A	--	--	--	--	--	--	16
Feature 30 (Fullerton Creek)	N/A	--	--	--	--	--	--	17
Feature 38 (Carbon Creek)	N/A	--	--	--	--	--	--	18
Feature 40 (Santa Ana River)	N/A	--	--	--	--	--	--	19
Riverine Total	***N/A***	***646***	***0.20***	***984***	***1.99***	***1,630***	***2.19***	***N/A***
Wetlands – Regulated as "Associated Riparian Vegetation"[2]								
Freshwater Emergent Wetland 3 (Feature 12, San Gabriel River)	Bridge pier modifications, and temporary access/staging	55	0.01	161	0.29	216	0.30	10
Freshwater Forested/Shrub Wetland 1 (Feature 12, San Gabriel River)	N/A	--	--	--	--	--	--	10
Freshwater Emergent Wetland 2 (Feature 12, San Gabriel River)	Temporary access/staging	--	--	3	<0.01	3	<0.01	10
Freshwater Emergent Wetland (Feature 19, La Mirada Creek)[4]	N/A	--	--	--	--	--	--	12
Wetland Total	***N/A***	***58***	***0.01***	***161***	***0.29***	***219***	***0.30***	***N/A***
CDFW Waters of the State Grand Total	**N/A**	**704**	**0.21**	**1,145**	**2.31**	**1,849**	**2.52**	**N/A**

Source: Authority 2025

[1] Permanent and temporary effects are based on footprint/design dated 2023 (Authority 2023). A minimum of two decimal places are used for acreage calculations, with the last number rounded up or down depending on value.

[2] Within the Aquatic RSA, associated riparian vegetation occurs within wetlands (freshwater emergent wetland, freshwater forested/shrub wetland) as well as nonwetland (basin, riverine) conditions, depending on the hydrologic, geomorphic, soils, and vegetative conditions. Refer to Section 6.4.1.1, Freshwater Emergent Wetland, Section 6.4.2.2, Riverine, and Section 6.4.2.1, Basins, for additional detail.

[3] Feature 55 (Rio Hondo Basin #5) falls within CDFW Section 1600 jurisdiction, but outside of USACE or SWRCB Clean Water Act Section 404/401 jurisdiction.

[4] The freshwater emergent wetland within Feature 19 (La Mirada Creek) is classified as associated riparian vegetation for purposes of CDFW Section 1600 jurisdiction and "riverine" for purposes of USACE or SWRCB Clean Water Act Section 404/401 jurisdiction, because this feature does not meet the USACE or SWRCB wetland definitions.
[5] Calculations do not currently include potential permanent shading effects at San Gabriel River occurring during operations, estimated at 0.09 acre. Values may be revised following consultation with CDFW.
[6] The map page number refers to the mapped delineated feature in Appendix H but does not depict the proposed impacts.
-- = No effect; CDFW = California Department of Fish and Wildlife; LAUS = Los Angeles Union Station; N/A = not applicable; RSA = resource study area; SW = southwest; SWRCB = State Water Resources Control Board; USACE = U.S. Army Corps of Engineers

REFERENCES

California High-Speed Rail Authority (Authority). 2023. Los Angeles to Anaheim Supplemental Alternatives Analysis alignment geographic information system files.

———. 2025. *Los Angeles to Anaheim Project Section Aquatic Resources Impacts Memorandum*.