

**EMI Taro Stream Diversions**

DIVERSION AND DITCH	EMI Map # REG	Parcel	Owner	Approximate Location and Elevation of Diversion			On Ditch	Diversion Structure Type	General Description of Work
				Latitude (N)	Longitude (W)	Elevation (feet)			
Honopou Honopou at Wailoa Ditch	W-22 152.6	2-8-008:007 2-9-014:001	EMI State of HI (FR)	20° 53' 08.50"	156° 15' 08.90"	1,217	NO	Concrete masonry	Concrete over diversion intake grate.
Honopou Lupi Long intake at Wailoa Ditch	W-22a minor	2-9-014:001	State of HI (FR)	20° 53' 07.60"	156° 14' 57.79"	1,274	YES	Concrete masonry	COMPLETED 2/19/2019 Concrete over diversion intake grate.
Honopou Wailole at Wailoa Ditch	W-22b minor	2-8-008:007	EMI	20° 53' 09.03"	156° 15' 24.54"	1,239	NO	Concrete masonry	Concrete over diversion intake grate.
Honopou Honopou at New Hamakua Ditch	NH-22 247.6	2-9-014:001	EMI State of HI (FR)	20° 53' 11.00"	156° 15' 08.50"	1,194	YES	Concrete masonry	COMPLETED 6/22/2019 Concrete over diversion intake grate.
Honopou Wailole at New Hamakua Ditch	NH-23 245.6	2-8-008:007	EMI	20° 53' 12.91"	156° 15' 26.59"	1,190	YES	Concrete masonry	COMPLETED 6/18/2019 Seal intake opening with rocks and concrete.
Honopou Honopou long strainer at Lowrie Ditch	L-15 266.6	2-9-004:039	EMI	20° 54' 32.71"	156° 14' 47.26"	615	YES	Unlined channel	Construct stream overpass over ditch.
Honopou Honopou siphon at Lowrie Ditch	L-16 257.6	2-9-004:038	State of HI	20° 54' 33.97"	156° 14' 55.28"	638	YES	Unlined channel	Construct stream overpass over ditch.
Honopou Honopou at Lowrie Ditch (side ditch)	L-17 210.6	2-9-014:017	State of HI (FR)	20° 54' 31.79"	156° 15' 01.66"	605	NO	Concrete masonry	Close existing control gate.
Honopou Honopou at Haiku Ditch	H-8 189.6	2-9-003:042	EMI	20° 54' 53.41"	156° 14' 47.53"	399	YES	Concrete masonry	Concrete over diversion intake grate and seal opening below grate with rock and concrete; extend wingwall
Hanehoi (Puolua) Hanehoi at Wailoa Ditch (Huelo intake)	W-18 191.6	2-9-014:001	State of HI (FR)	20° 53' 00.90"	156° 13' 54.40"	1,242	YES	Concrete masonry	Concrete over diversion intake grate.
Hanehoi (Puolua) Hanehoi at New Hamakua Ditch (Huelo intake)	NH-17 264.6	2-9-014:001	State of HI (FR)	20° 53' 04.20"	156° 13' 52.50"	1,204	YES	Concrete masonry	COMPLETED 8/16/2019 Concrete over diversion intake grate.
Hanehoi (Puolua) West Hanehoi intake (Puolua)	NH-17a minor	2-9-014:001	State of HI	20° 53' 11.50"	156° 13' 57.15"	1,187	YES	Unlined channel	Construct stream overpass over ditch.
Hanehoi (Puolua) Hanehoi #1 at Lowrie Ditch (Hanehoi Huelo #1)	L-5 240.6	2-9-014:009 2-9-009:019	EMI EMI	20° 53' 43.44"	156° 13' 27.40"	708	YES	Concrete masonry	COMPLETED 8/7/2019 Concrete over diversion intake grate.
Hanehoi (Puolua) Hanehoi #2 at Lowrie Ditch (Hanehoi Huelo #2)	L-6 242.6	2-9-014:009 2-9-009:019	EMI EMI	20° 53' 49.05"	156° 13' 37.98"	676	YES	Concrete masonry	COMPLETED 6/28/2019 Concrete over diversion intake grate.
Hanehoi (Puolua) Hanehoi #3 at Lowrie Ditch (Hanehoi Huelo #3)	L-7 155.6	2-9-014:009 2-9-009:019	EMI EMI	20° 53' 52.46"	156° 13' 40.00"	653	YES	Concrete masonry	COMPLETED 7/25/2019 Concrete over diversion intake grate.
Hanehoi (Puolua) East Hanehoi at Lowrie Ditch	L-5a minor	2-9-014:009 2-9-009:019	EMI EMI	20° 53' 42.40"	156° 13' 27.19"	704	YES	Unlined channel	Construct stream overpass over ditch.
Hanehoi (Puolua) Hanehoi West #1 at Lowrie Ditch	L-5b minor	2-9-014:009 2-9-009:019	EMI EMI	20° 53' 47.43"	156° 13' 28.52"	629	YES	Unlined channel	Construct stream overpass over ditch.
Hanehoi (Puolua) Hanehoi small at Lowrie Ditch	L-5c minor	2-9-014:009 2-9-009:019	EMI EMI	20° 53' 49.56"	156° 13' 32.28"	653	YES	Unlined channel	Construct stream overpass over ditch.
Hanehoi (Puolua) Puolua (Huelo) at Lowrie Ditch (Hanehoi Roseapple)	L-7a minor	2-9-006:033	EMI	20° 53' 58.40"	156° 13' 45.60"	638	YES	Unlined channel	Original: Install pipe or box culvert with wing walls through which ditch can pass beneath stream or construct stream overpass over ditch. Current plan is to lay pipe into ditch with headwalls at tunnel upstream and downstream, backfill ditch over pipe to make level with stream bed.
Hanehoi (Puolua) Hanehoi West #2 at Lowrie Ditch (West Hanehoi)	L-7b minor	2-9-006:033 2-9-006:028	EMI State of HI	20° 53' 59.83"	156° 13' 47.01"	638	YES	Unlined channel	Construct stream overpass over ditch.
Hanehoi (Puolua) Hanehoi at Haiku Ditch (East Hanehoi/Pancho)	H-3 217.6	2-9-006:002 2-9-008:012 2-9-009:033	EMI EMI State of HI	20° 54' 5.34"	156° 13' 26.57"	459	YES	Concrete masonry	COMPLETED 2/5/2019 Concrete over diversion intake grate.
Hanehoi (Puolua) Puolua (Huelo) at Haiku Ditch (West Hanehoi/School)	H-4 225.6	2-9-006:004	EMI	20° 54' 11.76"	156° 13' 32.38"	484	YES	Concrete masonry	COMPLETED 2/8/2019 Seal intake opening with rock and concrete.
Pi'ina'au Piinaau at Koolau Ditch	K-31 330.6	1-1-002:002	State of HI	20° 49' 42.53"	156° 10' 27.82"	1,316	YES	Concrete masonry	COMPLETED 6/12/2019 Seal intake opening with rocks and concrete.

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	DIVERSION AND DITCH	EMI Map # REG	Parcel	Owner	Approximate Location and Elevation of Diversion			On Ditch	Diversion Structure Type	General Description of Work
					Latitude (N)	Longitude (W)	Elevation (feet)			
Pi'ina'au	Haulowahine runoff pad at Koolau Ditch	K-30d minor	1-1-002:002	State of HI (FR)	20° 49' 41.60"	156° 10' 15.60"	1,213	YES	Concrete masonry	Construct overpass over ditch.
Pi'ina'au	Piinaau 6-inch steel (and pvc) pipe at Koolau Ditch	K-31a minor	1-1-002:002	State of HI (FR)	20° 49' 37.77"	156° 10' 30.19"	1,359	NO	Pipe	Remove steel and pvc pipes.
Palauhulu	Palauhulu at Koolau Ditch (Kano)	K-26 318.6	1-1-002:002	State of HI (FR)	20° 48' 56.10"	156° 09' 44.41"	1,708	NO	Unlined channel (with tunnel)	Most flow will be restored by removal of sluice gate. Scope of work for full restoration is to be determined. All work is anticipated to be restricted to tunnel.
Palauhulu	Lalahai # 3 intake at Hauolo Ditch	K-27 319.6	1-1-002:002	State of HI (FR)	20° 48' 53.85"	156° 09' 54.45"	1,970	NO	Concrete masonry (with grate and tunnel)	Scope of work for full restoration is to be determined. All work is anticipated to be restricted to tunnel.
Palauhulu	Lalapipi # 2 intake at Hauolo Ditch	K-28 312.6	1-1-002:002	State of HI (FR)	20° 48' 55.12"	156° 09' 58.73"	2,024	NO	Concrete masonry (with tunnel)	Scope of work for full restoration is to be determined. All work is anticipated to be restricted to tunnel.
Palauhulu	Kaauau # 1 intake at Hauolo Ditch	K-29 311.6	1-1-002:002	State of HI (FR)	20° 48' 56.82"	156° 10' 04.71"	2,037	NO	Concrete masonry (with tunnel)	Scope of work for full restoration is to be determined. All work is anticipated to be restricted to tunnel. Anticipate sealing grate into tunnel with concrete.
Palauhulu	Haulowahine at Hauolo Ditch	K-30 309.6	1-1-002:002	State of HI (FR)	20° 48' 59.61"	156° 10' 13.63"	1,964	NO	Concrete masonry (with grate)	Concrete over diversion intake grate.
Palauhulu	Hauolo small diversions at Hauolo Ditch (Kaauau diversion tunnel to # 1 intake)	K-29a minor	1-1-002:002	State of HI (FR)	20° 48' 59.58"	156° 10' 13.85"	1,964	NO	Unlined channel (with tunnel)	Seal diversion tunnel with rock and concrete.
Palauhulu	Hauolo small diversions at Hauolo Ditch (Haulowahine small intake)	K-30a minor	1-1-002:002	State of HI (FR)	20° 48' 59.58"	156° 10' 13.85"	1,964	NO	Concrete masonry with pipe	Remove pipe.
Palauhulu	Hauolo small diversions at Hauolo Ditch (Haulowahine small intake)	K-30b minor	1-1-002:002	State of HI (FR)	20° 48' 59.58"	156° 10' 13.85"	1,964	NO	Stone and concrete dam	Remove dam. Also plan to block small ditch downstream of dam.
Palauhulu	Hauolo small diversions at Hauolo Ditch (Haulowahine small intake)	K-30c minor	1-1-002:002	State of HI (FR)	20° 48' 59.58"	156° 10' 13.85"	1,964	NO	Concrete masonry with pipe	Remove pipe.
Waiokamilo	East Waiokamilo (Kualani) at Koolau Ditch	K-22 326.6	1-1-002:002	State of HI (FR)	20° 49' 28.49"	156° 09' 00.00"	1,472	NO	Concrete masonry	COMPLETED 2007. Concreted over diversion intake.
Waiokamilo	Waiokamilo # 11 intake at Koolau Ditch	K-23 329.6	1-1-002:002	State of HI (FR)	20° 49' 30.29"	156° 09' 09.86"	1,292	YES	Concrete masonry	COMPLETED 2007. Blocked water from entering ditch with boards located in tunnel.
Waiokamilo	Waiokamilo #12 intake at Koolau Ditch	K-24 328.6	1-1-002:002	State of HI (FR)	20° 49' 29.69"	156° 09' 20.52"	1,269	YES	Concrete masonry	COMPLETED 2007. Concreted over diversion intake.
Waiokamilo	Waiokamilo Kikokiko intake at Koolau Ditch	K-25 320.6	1-1-002:002	State of HI (FR)	20° 49' 16.40"	156° 09' 27.59"	1,543	NO	Concrete masonry	COMPLETED 2007. Concreted over diversion intake.
Waiokamilo	6-inch Kulani (East Waiokamilo) aluminum pipe at Koolau Ditch	K-22a minor	1-1-002:002	State of HI (FR)	Approximate 20° 49' 28.49"	Approximate 156° 09' 00.00"	1,472	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#10 crosscut intake at Koolau Ditch (#1)	K-22b minor	1-1-002:002	State of HI (FR)	20° 49' 32.33"	156° 09' 04.23"	1,368	NO	Concrete catchment with pipe	COMPLETED 2007. Removed (capped?) pipe.

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	DIVERSION AND DITCH	EMI Map # REG	Parcel	Owner	Approximate Location and Elevation of Diversion			On Ditch	Diversion Structure Type	General Description of Work
					Latitude (N)	Longitude (W)	Elevation (feet)			
Waiokamilo	#10 crosscut intake at Koolau Ditch (#2)	K-22c minor	1-1-002:002	State of HI (FR)	20° 49' 32.33"	156° 09' 04.23"	1,368	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#10 crosscut intake at Koolau Ditch (#3)	K-22d minor	1-1-002:002	State of HI (FR)	20° 49' 32.33"	156° 09' 04.23"	1,368	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#10 crosscut intake at Koolau Ditch (#4)	K-22e minor	1-1-002:002	State of HI (FR)	20° 49' 32.33"	156° 09' 04.23"	1,368	NO	Concrete catchment with pipe	COMPLETED 2007. Removed (capped?) pipe.
Waiokamilo	#10 crosscut intake at Koolau Ditch (#5)	K-22f minor	1-1-002:002	State of HI (FR)	20° 49' 32.33"	156° 09' 04.23"	1,368	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#10 crosscut intake at Koolau Ditch (#6)	K-22g minor	1-1-002:002	State of HI (FR)	20° 49' 32.33"	156° 09' 04.23"	1,368	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	4-inch pipe east of #11 intake at Koolau Ditch	K-23a minor	1-1-002:002	State of HI (FR)	20° 49' 30.42"	156° 09' 09.15"	1,296	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#12 crosscut intake at Koolau Ditch (#1)	K-24a minor	1-1-002:002	State of HI (FR)	20° 49' 29.65"	156° 09' 15.82"	1,249	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#12 crosscut intake at Koolau Ditch (#2)	K-24b minor	1-1-002:002	State of HI (FR)	20° 49' 29.65"	156° 09' 15.82"	1,249	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#12 crosscut intake at Koolau Ditch (#3)	K-24c minor	1-1-002:002	State of HI (FR)	20° 49' 29.65"	156° 09' 15.82"	1,249	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#12 crosscut intake at Koolau Ditch (#4)	K-24d minor	1-1-002:002	State of HI (FR)	20° 49' 29.65"	156° 09' 15.82"	1,249	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	#12 crosscut intake at Koolau Ditch (#5)	K-24e minor	1-1-002:002	State of HI (FR)	20° 49' 29.65"	156° 09' 15.82"	1,249	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Small intake west of (main) #12 crosscut at Koolau Ditch (#1)	K-24f minor	1-1-002:002	State of HI (FR)	20° 49' 30.21"	156° 09' 22.51"	1,230	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Small intake west of (main) #12 crosscut at Koolau Ditch (#2)	K-24g minor	1-1-002:002	State of HI (FR)	20° 49' 30.21"	156° 09' 22.51"	1,230	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Small intake west of (main) #12 crosscut at Koolau Ditch (#3)	K-24h minor	1-1-002:002	State of HI (FR)	20° 49' 30.21"	156° 09' 22.51"	1,230	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Small intake west of (main) #12 crosscut at Koolau Ditch (#4)	K-24i minor	1-1-002:002	State of HI (FR)	20° 49' 30.21"	156° 09' 22.51"	1,230	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Small intake west of (main) #12 crosscut at Koolau Ditch (#5)	K-24j minor	1-1-002:002	State of HI (FR)	20° 49' 30.21"	156° 09' 22.51"	1,230	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Small intake west of (main) #12 crosscut at Koolau Ditch (#6) (East Kikokiko 2-inch pipe intake)	K-25a minor	1-1-002:002	State of HI (FR)	20° 49' 30.21"	156° 09' 22.51"	1,230	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	Kikokiko small intake at Koolau Ditch	K-25b minor	1-1-002:002	State of HI (FR)	20° 49' 17.25"	156° 09' 27.63"	1,524	NO	Concrete masonry with grate	COMPLETED 2007. Concreted over diversion intake.

**EMI Taro Stream Diversions**

	DIVERSION AND DITCH	EMI Map # REG	Parcel	Owner	Approximate Location and Elevation of Diversion			On Ditch	Diversion Structure Type	General Description of Work
					Latitude (N)	Longitude (W)	Elevation (feet)			
Waiokamilo	West Kikokiko small intake at Koolau Ditch (Kikokiko 6" pipe intake mauka of bridge)	K-25c minor	1-1-002:002	State of HI (FR)	20° 49' 30.49"	156° 09' 22.92"	1,244	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	West Kikokiko small intake at Koolau Ditch (West Kikokiko 4-inch pipe intake)	K-25d minor	1-1-002:002	State of HI (FR)	20° 49' 30.49"	156° 09' 22.92"	1,244	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	West Kikokiko small intake at Koolau Ditch (West Kikokiko 3-inch pipe intake)	K-25e minor	1-1-002:002	State of HI (FR)	20° 49' 30.49"	156° 09' 22.92"	1,244	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Waiokamilo	West Kikokiko small intake at Koolau Ditch (Kikokiko 3-inch pvc pipe intake under bridge)	K-25f minor	1-1-002:002	State of HI (FR)	20° 49' 30.49"	156° 09' 22.92"	1,244	NO	Concrete catchment with pipe	COMPLETED 2007. Removed pipe.
Wailuanui	Filipino Ditch Diversion (Wailuanui)	K-21b	NA	State of HI (FR)	N/A	N/A	N/A	NA	N/A	NO DIVERSION CAN BE LOCATED; CONSIDERED COMPLETED
Wailuanui (East and West)	East Wailuanui at Koolau Ditch (# 6 intake and sluice basin)	K-18 331.6	1-1-002:002	State of HI (FR)	20° 49' 14.09"	156° 08' 26.75"	1,318	YES	Concrete masonry	Seal intake opening with rocks and concrete.
Wailuanui (East and West)	East Wailuanui #6 control (house) intake at Koolau Ditch	K-19 324.6	1-1-002:002	State of HI (FR)	20° 49' 20.42"	156° 08' 26.61"	1,280	YES	Concrete masonry	Concrete over diversion intake grate.
Wailuanui (East and West)	Wailuanui # 7 intake at Koolau Ditch	K-20 322.6	1-1-002:002	State of HI (FR)	20° 49' 22.70"	156° 08' 28.63"	1,290	YES	Concrete masonry	Seal intake opening with rocks and concrete. Pull board from gate.
Wailuanui (East and West)	West Wailuanui (#9 intake) at Koolau Ditch	K-21 321.6	1-1-002:002	State of HI (FR)	20° 49' 28.71"	156° 08' 41.71"	1,273	YES	Concrete masonry	Seal intake opening with rocks and concrete.
Wailuanui (East and West)	3-inch (aluminum) pipe intake by #6 control house at Koolau Ditch	K-19a minor	1-1-002:002	State of HI (FR)	20° 49' 20.14"	156° 08' 26.80"	1,287	NO	Pipe	Remove pipe.
Wailuanui (East and West)	Wailuanui #8 intake at Koolau Ditch	K-20a minor	1-1-002:002	State of HI (FR)	20° 49' 26.10"	156° 08' 29.54"	1,254	NO	Concrete masonry with pipe	Remove pipe
Wailuanui (East and West)	8-inch (steel) pipe intake east of #9 intake at Koolau Ditch	K-21a minor	1-1-002:002	State of HI (FR)	20° 49' 28.58"	156° 08' 41.45"	1,280	NO	Rock wall with pipe	Remove pipe

Civil No. 19-1-0019-01 (JPC)

**Defendant A&B/EMI's Exhibit AB-36**

FOR IDENTIFICATION \_\_\_\_\_

RECEIVED IN EVIDENCE \_\_\_\_\_

CLERK \_\_\_\_\_