MARIN WATER

MEMORANDUM

Date: August 03, 2026

To: Bennett Horenstein, Marin Water, General Manager

From: Carly Blanchard, Marin Water, Environmental Planner

Subject: North Marin Line Stabilization Project – Addendum to review Project construction schedule modifications

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In 2016, the Marin Municipal Water (District or Marin Water) Board of Directors adopted an Initial Study/Mitigated Negative Declaration (2016 IS/MND) pursuant to the California Environmental Quality Act (CEQA) and approved the North Marin Line Stabilization Project (Project). The Project was revised in 2025, and the Board of Directors adopted a Supplemental IS/MND (Supplemental IS/MND), which reviews the proposed revisions pursuant to CEQA, and approved the Project as revised on December 16, 2025 (resolution No. 8825). District staff has identified minor modifications to the Project, specifically the construction schedule will be extended from one construction season to two, and this addendum was prepared to review the proposed modifications to determine whether further CEQA review is required. Staff has determined that the modifications to the Project are within the scope of the 2016 and Supplemental IS/MND and no further environmental review is required.

INTRODUCTION

The 2016 and Supplemental IS/MNDs evaluated the potential environmental impacts anticipated to result from construction and operation of the Project and through the adoption of a mitigation monitoring and reporting program (MMRP) mitigation was identified to reduce potentially significant environmental impacts to less than significant. The Project would replace the existing portions of the North Marin pipeline with a new pipeline above the existing creek crossing at Site 2, install a new pipeline segment within Sir Francisc Drake Boulevard, and then remove portions of the existing pipeline and its pile supports at Sites 1 and 2. The Project also includes replacement of Marin Water's Shafter Valve, which is currently located near the Shafter Bridge in Lagunitas. Once completed, the Project would (1) improve pipeline stabilization, preventing future failure that could impact federally protected waters; (2) ensure secure water deliveries to Marin Water customers; and (3), improve existing habitat in San Geronimo Creek by removing existing fill.

This Addendum is prepared pursuant to CEQA Guidelines Section 15164(b) which states: "An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for preparation of a subsequent EIR or negative declaration have occurred" Section 15162 specifies that "no subsequent EIR [or MND] shall be prepared for that project unless the lead agency determines one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR [or MND] due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR [or MND] due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR [or MND] was certified as complete was adopted, shows any of the following:

    a. The project will have one or more significant effects not discussed in the previous EIR [or MND];

    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR [or MND];

    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR [or MND] would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

Pursuant to CEQA Guidelines Section 15164(e), this Addendum summarizes the modifications to the Project as evaluated in the 2016 and Supplemental IS/MND and provides the analysis in support of staff's conclusion that the modifications to the Project do not require further environmental review pursuant to CEQA Guidelines Section 15162.

PROJECT MODIFICATIONS

Since adoption of the 2016 and Supplemental IS/MND and approval of the revised Project on December 16, 2025, staff has refined the construction approach for the North Marin Line Stabilization Project by dividing construction into two phases and extending the overall construction schedule.

These modifications are limited to project implementation, construction sequencing, and timing and do not alter the Project footprint, design, or operational characteristics. The modifications to the Project description contained in the Supplemental IS/MND (pages 2-1 through 3-63 and Appendix C) are presented below. Except as specifically identified here, all text, analyses, figures, tables, findings, and mitigation measures contained in the Supplemental IS/MND remain unchanged and are incorporated herein by reference. Added text is shown in <u>underline</u> and deleted text is shown in ~~strikethrough~~. The proposed project, as modified, constitutes the "Revised Project."

Chapter 2, Project Description

Section 2.1: Summary of Previously Approved Project

The Project analyzed in the adopted 2016 IS/MND proposed to replace the existing 34-inch ACCP trestle-supported pipeline crossings with 36-inch welded steel pipes installed within single span (without the need for mid-span trestle support) steel trusses. The replacement pipes were proposed to emerge from the ground approximately 20-feet back of the creek's top-of-bank and rise approximately 2-3-feet above the adjacent ground surface before crossing the creek. Construction was anticipated to take ~~three~~ 26 months to complete the following phases:

Section 2.3: Construction

Construction Schedule, Hours, and Work Force

Project construction is expected to occur over approximately ~~three and a half months~~ 26 months with work occurring between August and November of each year during construction ~~2026~~. Pursuant to adopted Mitigation Measure 4-3 in the 2016 IS/MND (which has been revised as noted in Appendix D and Appendix E), all work would be conducted during the period of August 1 through January 31, which is outside of the northern spotted owl nesting season.

TABLE 2-2

ESTIMATED CONSTRUCTION SCHEDULE AND EQUIPMENT

Project Component/ Construction Phase	Approximate Duration	Estimated Schedule	Potential Construction Equipment
Mobilize Phase 1	1 week	~~August~~ September 2026	
Install new pipeline in Sir Francis Drake Boulevard	8 weeks	~~August~~ October - November 2026	Excavator, backhoe, dump trucks, compactor, pneumatic tools
Relocate Shafter Valve	4 weeks	~~August~~October – November 2026	Excavator, dumptruck, compactor, pneumatic and hand tools
Demobilize Phase 1	1 week	January 2027	
Mobilize Phase 2	1 week	August 2027	
Install piers, streel truss, and new pipeline crossing at Site 2	~~3 weeks~~12 weeks	September - November ~~2026~~ 2027	Drill-rig, excavator, crane, haul trucks, pneumatic tools, temporary construction scaffolding
Connect new pipeline segments to existing North Marin Line	~~2 weeks~~8 weeks	~~September~~ November – ~~October~~ December ~~2026~~ 2027	Welding equipment, pneumatic tools, excavator, telehandler, boomtruck, temporary construction scaffolding
Repave Sir Francis Drake Boulevard	2 weeks	~~October – November~~ December ~~2026~~ 2027	Dump Trucks, asphalt paver, compactor
Demobilization	2 weeks	January 2028	

Re-mobilization	1 week	August 2028	Re-mobilization
Remove existing pipeline segments	3 weeks	~~September~~ August – September ~~2026~~ 2028	Pneumatic tools, excavator, telehandler, boom truck, temporary construction scaffolding, haul trucks
Cut existing in-channel piles	9 weeks	~~September – October~~ August – October ~~2026~~ 2028	Pneumatic tools, excavator, telehandler, boom truck, temporary construction scaffolding, haul trucks
General Site Clean-up	12 weeks	~~November 2026~~ October 2028	

Note: Construction activities occurring within San Geronimo Creek would be limited to the 'dry-construction' season, April 1 to October 15, unless an extension is approved by the regulatory agencies.

Chapter 3, Initial Study and Environmental Checklist

Section 3.1 Aesthetics

Discussion C)

Temporary visual impacts would result from the presence of construction equipment, materials, and associated activities during the Project's approximately ~~3.5~~ 26-month construction period. These activities would include excavation, equipment staging, and the use of trucks and machinery, all of which could introduce visually unappealing elements into the existing landscape. These disruptions may temporarily diminish the rural and natural visual character of the area, particularly within and immediately adjacent to the Project area. However, these impacts would be short-term and would cease upon the completion of construction.

Section 3.3 Air Quality

Discussion B)

TABLE 3-2
AVERAGE DAILY CRITERIA POLLUTANT EMISSIONS FROM PROJECT CONSTRUCTION

Construction Year	Average Daily Emissions (pounds per day)			
	ROG	NOx	Exhaust PM_{10}	Exhaust $PM_{2.5}$
2026	~~0.75~~ 0.25	~~6.65~~ 1.99	~~0.23~~ 0.07	~~0.21~~ 0.07
2027	1.47	13.52	0.45	0.42
2028	0.76	6.79	0.25	0.23
Project Total	2.48	22.29	0.78	0.72
BAAQMD Threshold	*54*	*54*	*82*	*54*
Exceed Threshold?	No	No	No	No

NOTES: Annual emissions are divided over the number of construction workdays in the year to determine the average daily emissions. SOURCE: Table compiled by ESA in 2025 based on Appendix C

Section 3.6 Energy

Discussion a)

Project construction would involve both direct and indirect use of energy, primarily in the form of fossil fuels and electricity. Diesel fuel would be used in the construction equipment; the use of

electricity in construction equipment, if any, would be very minimal in comparison to the quantities of diesel used.

The volume of diesel fuel that would be consumed during construction was calculated based on the estimated carbon dioxide (CO2) emissions for Project construction and the diesel CO2 emission factors from The Climate Registry (TCR, 2023). Project construction is estimated to consume a total of approximately ~~5,866~~ 9,356 gallons of diesel fuel over the construction period. Fuel use during construction would represent approximately 0.1 percent of diesel sold in Marin County in 2023 (CEC, 2023a). Overall, the fuel use during construction would be minimal in comparison to the overall fuel use within Marin County. See Appendix C for the diesel fuel use calculations and diesel fuel sales in Marin County.

3.8 Greenhouse Gas Emissions

Discussion a)

The changes to the Project since the 2016 IS/MND would generate greenhouse gas (GHG) emissions from temporary construction activities, including from mobile equipment, site preparation, excavation, and backfilling. BAAQMD has not adopted a GHG emissions threshold with respect to construction-related GHGs. In lieu of specific guidance from BAAQMD regarding significance thresholds for construction-related GHG emissions, significance is assessed by a consideration of the scope and duration of construction-related emissions. Given that the Project construction activities would be temporary in nature and would occur intermittently over the construction timeframe described earlier, the Project is not expected to result in an ongoing burden to regional or global GHG inventories.

Projected carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) emissions from off-road construction equipment were also derived from the criteria pollutant emissions calculations presented in Table 3-2 (refer to Section 3.3, Air Quality). N2O and CH4 emissions were multiplied by their respective Global Warming Potentials (GWPs)3 (25 and 298) and added to the CO2 emissions to obtain carbon dioxide equivalent emissions. This results in carbon dioxide equivalent emissions in the amount of ~~51.1~~ 95.9 metric tons. As there are no numeric thresholds for construction GHG emissions, this data is for informational purposes. Since some amount of GHG emissions would result from Project construction, the impact related to generating greenhouse gas emissions would be **less than significant.**

3.17 Transportation

Discussion a)

The Project is in unincorporated Marin County and within the sphere of influence of the Marin Countywide Plan. The Transportation Section of the Marin Countywide Plan contains goals, policies, and programs to support adequate traffic circulation, as well as maintain and promote alternative modes of transportation such as public transit, bicycle routes, and pedestrian trails (Marin County Community Development Agency, 2023). Access to the Project sites would be off Sir Francis Drake Boulevard which is categorized as a “Principal Arterial” roadway in the Marin Countywide Plan (Marin County Community Development Agency, 2005). The Transportation Authority of Marin and Caltrans designate Sir Francis Drake Boulevard as an existing Class III bikeway/bike route5 (TAM, 2025).

Project construction would occur over an approximately ~~3.5-~~26-month period, with an estimated four to eight workers on-site at any given time. In addition to worker trips and deliveries of materials and equipment (about eight truck trips per day), traffic impacts would result from temporary lane closures during periods of active construction along Sir Francis Drake Boulevard, a principal arterial. One lane would be closed for approximately 10 weeks total to install the new pipeline and repave the road, resulting in a portion of the Class III bikeway along Sir Francis Drake Boulevard to also be closed, requiring cyclists to merge with vehicle traffic. These temporary traffic changes could cause localized delays but would be minor in the context of overall traffic volumes. Additionally, to reduce potentially significant impacts, Mitigation Measures TRA-1 would require that Marin Water prepare and implement a Traffic Control Plan, coordinate with local emergency services, and distribute public notifications regarding construction activities. Because the construction period is relatively short, and any interference with the flow of traffic on a principal arterial and existing bicycle route would be temporary, and because Marin Water would implement Mitigation Measures TRA-1, the impact related to conflicting with a program plan, ordinance, or policy addressing the circulation system would be reduced to **less than significant.**

Discussion b)

Project construction is anticipated ~~to occur between August and November 2026~~ to take 26 months with work occurring between August and November and would involve a maximum of four to eight workers on the Project site at any one time. The standards set forth in the Technical Advisory on Evaluating Transportation Impacts in CEQA address a project's additional permanent automobile trips or vehicle miles traveled in lieu of an existing model or method (OPR, 2018).

Analysis

While the longer Project construction schedule, covering three construction seasons rather than one, will increase average daily criteria pollutant emissions, emissions would remain below Bay Area Air District thresholds. Therefore, impacts would not be substantially more severe than those identified in the 2016 and Supplemental IS/MNDs, and no new mitigation would be required.

The extended construction period would also increase the total amount of diesel fuel used during construction; however, the increase would not substantially increase the Project's relatively small percentage of diesel fuel consumption compared to overall diesel fuel sales in Marin County.

Further, total metric tons of carbon dioxide equivalent emissions would increase as a result of the extended construction schedule but would remain limited to construction activities. Therefore, greenhouse gas emissions would remain less than significant.

Conclusion

Based on staff review and analysis as set forth herein, the environmental effects of the Project modifications will not result in any substantially more severe effects previously reviewed in the 2016 and Supplemental IS/MND. Further, there are no new significant effects that were not previously discussed. Nor are there any identified changes to the mitigations measures adopted in the MMRP for the Project. Therefore, pursuant to CEQA Guideline section 15162,no further CEQA review is required.

Appendices

Appendix C
Air Quality Supporting Information (C-1 to C-3)

The document titled *Appendix C Air Quality Supporting Information* (pages C-1 to C-3) is replaced in its entirety with the revised version included as **Appendix A** to this Addendum.

Appendix A
Air Quality Supporting Information

North Marin Line CONSTRUCTION OFFROAD EMISSIONS - UNMITIGATED

Offroad Emissions Summary by Construction Year - For Comparision with BAAQMD Thresholds

Construction Year	CAP Emissions (tons/yr)				GHG Emissions (MT/yr)				No. of Workdays	CAP Emissions (pounds/day)			
	ROG	NOx	Ex PM_{10}	Ex $PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e		ROG	NOx	Ex PM_{10}	Ex $PM_{2.5}$
2026	0.02	0.13	0.00	0.00	24.2	0.0	0.0	24.3	132	0.25	1.99	0.07	0.07
2027	0.03	0.26	0.01	0.01	47.7	0.0	0.0	47.8	38	1.47	13.52	0.45	0.42
2028	0.015	0.13	0.00	0.00	26.2	0.0	0.0	26.3	39	0.76	6.79	0.25	0.23
PROJECT TOTAL	0.04	0.39	0.01	0.01	71.8	0.003	0.0006	72.1	170	**2.48**	**22.29**	**0.78**	**0.72**

Construction Phase	Equipment	Fuel	Number	No. of Days used	Hrs/day used	Total hrs used/year	Construction Year	Hp	LF	OFFROAD Emission Factors (g/hp-hr)							CAP Emissions (tons/yr)				GHG Emissions (MT/yr)			
										ROG	NOx	Ex PM_{10}	Ex $PM_{2.5}$	CO_2	CH_4	N_2O	ROG	NOx	Ex PM_{10}	Ex $PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
160ft of new 24" and 36" WSP	Excavators	Diesel	2	34	6.5	442	2026	36	0.38	0.39	3.41	0.10	0.09	587.03	0.024	0.005	0.003	0.023	0.001	0.001	3.55	0.000	0.000	3.56
160ft of new 24" and 36" WSP	Rubber Tired Loaders	Diesel	1	34	6.5	221	2026	150	0.36	0.21	1.40	0.07	0.07	526.42	0.021	0.004	0.003	0.018	0.001	0.001	6.28	0.000	0.000	6.30
160ft of new 24" and 36" WSP	Dumpers/Tenders	Diesel	1	34	6.5	221	2026	16	0.38	0.57	4.36	0.16	0.15	571.61	0.023	0.005	0.001	0.006	0.000	0.000	0.77	0.000	0.000	0.77
160ft of new 24" and 36" WSP	Welders	Diesel	2	34	6.5	442	2026	46	0.45	0.47	3.57	0.10	0.09	568.29	0.023	0.005	0.005	0.036	0.001	0.001	5.20	0.000	0.000	5.22
160ft of new 24" and 36" WSP	Generator Sets	Diesel	1	34	6.5	221	2026	14	0.74	0.54	4.32	0.17	0.16	568.33	0.023	0.005	0.001	0.011	0.000	0.000	1.30	0.000	0.000	1.31
160ft of new 24" and 36" WSP	Signal Boards	Electric	1	34	6.5	221	2026	6	0.82	0.00	0.00	0.00	0.00	0.00	0	0	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.00
160ft of new 24" and 36" WSP	Rollers	Diesel	1	34	6.5	221	2026	36	0.38	0.54	3.61	0.15	0.14	586.91	0.024	0.005	0.002	0.012	0.001	0.000	1.77	0.000	0.000	1.78
160ft of new 24" and 36" WSP	Paving Equipment	Diesel	1	34	6.5	221	2026	89	0.36	0.19	2.07	0.08	0.07	527.71	0.021	0.004	0.001	0.016	0.001	0.001	3.74	0.000	0.000	3.75
Repave SFD Blvd	Dumpers/Tenders	Diesel	1	4	6.5	26	2026	16	0.38	0.57	4.36	0.16	0.15	571.61	0.023	0.005	0.000	0.001	0.000	0.000	0.09	0.000	0.000	0.09
Repave SFD Blvd	Paving Equipment	Diesel	1	4	6.5	26	2026	89	0.36	0.19	2.07	0.08	0.07	527.71	0.021	0.004	0.000	0.002	0.000	0.000	0.44	0.000	0.000	0.44
Repave SFD Blvd	Rollers	Diesel	1	4	6.5	26	2026	36	0.38	0.54	3.61	0.15	0.14	586.91	0.024	0.005	0.000	0.001	0.000	0.000	0.21	0.000	0.000	0.21
1800ft of new 36" WSP in SFD	Excavators	Diesel	2	33	6.5	429	2027	36	0.38	0.38	3.37	0.09	0.08	587.39	0.024	0.005	0.002	0.022	0.001	0.001	3.45	0.000	0.000	3.46
1800ft of new 36" WSP in SFD	Rubber Tired Loaders	Diesel	1	33	6.5	215	2027	150	0.36	0.20	1.24	0.06	0.06	526.61	0.021	0.004	0.003	0.016	0.001	0.001	6.10	0.000	0.000	6.12
1800ft of new 36" WSP in SFD	Dumpers/Tenders	Diesel	1	33	6.5	215	2027	16	0.38	0.57	4.36	0.16	0.15	572.01	0.023	0.005	0.001	0.006	0.000	0.000	0.75	0.000	0.000	0.75
1800ft of new 36" WSP in SFD	Welders	Diesel	2	33	6.5	429	2027	46	0.45	0.44	3.47	0.08	0.07	568.30	0.023	0.005	0.004	0.034	0.001	0.001	5.05	0.000	0.000	5.06
1800ft of new 36" WSP in SFD	Generator Sets	Diesel	1	33	6.5	215	2027	14	0.74	0.54	4.31	0.17	0.16	568.31	0.023	0.005	0.001	0.011	0.000	0.000	1.26	0.000	0.000	1.27
1800ft of new 36" WSP in SFD	Signal Boards	Electric	1	33	6.5	215	2027	6	0.82	0.00	0.00	0.00	0.00	0.00	0	0	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.00
1800ft of new 36" WSP in SFD	Rollers	Diesel	1	33	6.5	215	2027	36	0.38	0.53	3.58	0.15	0.13	587.12	0.024	0.005	0.002	0.012	0.000	0.000	1.72	0.000	0.000	1.73
1800ft of new 36" WSP in SFD	Paving Equipment	Diesel	1	33	6.5	215	2027	89	0.36	0.18	2.02	0.08	0.07	528.07	0.021	0.004	0.001	0.015	0.001	0.001	3.63	0.000	0.000	3.64
New Bridge Crossing at Site 2	Cranes	Diesel	1	22	6.5	143	2027	367	0.29	0.20	1.75	0.07	0.07	527.46	0.021	0.004	0.003	0.029	0.001	0.001	8.03	0.000	0.000	8.05
New Bridge Crossing at Site 2	Dumpers/Tenders	Diesel	1	22	6.5	143	2027	16	0.38	0.57	4.36	0.16	0.15	572.01	0.023	0.005	0.001	0.004	0.000	0.000	0.50	0.000	0.000	0.50
New Bridge Crossing at Site 2	Excavators	Diesel	1	22	6.5	143	2027	36	0.38	0.38	3.37	0.09	0.08	587.39	0.024	0.005	0.001	0.007	0.000	0.000	1.15	0.000	0.000	1.15
New Bridge Crossing at Site 2	Welders	Diesel	2	22	6.5	286	2027	46	0.45	0.44	3.47	0.08	0.07	568.30	0.023	0.005	0.003	0.023	0.001	0.000	3.36	0.000	0.000	3.38
New Bridge Crossing at Site 2	Generator Sets	Diesel	1	22	6.5	143	2027	14	0.74	0.54	4.31	0.17	0.16	568.31	0.023	0.005	0.001	0.007	0.000	0.000	0.84	0.000	0.000	0.84
New Bridge Crossing at Site 2	Signal Boards	Electric	1	22	6.5	143	2027	6	0.82	0.00	0.00	0.00	0.00	0.00	0	0	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.00
Tie-Ins at Site 1 and 2	Welders	Diesel	2	17	6.5	221	2027	46	0.45	0.44	3.47	0.08	0.07	568.30	0.023	0.005	0.002	0.017	0.000	0.000	2.60	0.000	0.000	2.61
Tie-Ins at Site 1 and 2	Generator Sets	Diesel	1	17	6.5	111	2027	14	0.74	0.54	4.31	0.17	0.16	568.31	0.023	0.005	0.001	0.005	0.000	0.000	0.65	0.000	0.000	0.65
Tie-Ins at Site 1 and 2	Excavators	Diesel	2	17	6.5	221	2027	36	0.38	0.38	3.37	0.09	0.08	587.39	0.024	0.005	0.001	0.011	0.000	0.000	1.78	0.000	0.000	1.78
Tie-Ins at Site 1 and 2	Plate Compactors	Diesel	1	17	6.5	111	2027	8	0.43	0.55	4.14	0.16	0.15	568.32	0.023	0.005	0.000	0.002	0.000	0.000	0.22	0.000	0.000	0.22
Tie-Ins at Site 1 and 2	Paving Equipment	Diesel	1	17	6.5	111	2027	89	0.36	0.18	2.02	0.08	0.07	528.07	0.021	0.004	0.001	0.008	0.000	0.000	1.87	0.000	0.000	1.88
Remove Existing Bridge Crossing Pipe and Cut Piers	Cranes	Diesel	1	30	6.5	195	2028	367	0.29	0.19	1.60	0.07	0.06	527.75	0.021	0.004	0.004	0.037	0.002	0.001	10.95	0.000	0.000	10.99
Remove Existing Bridge Crossing Pipe and Cut Piers	Dumpers/Tenders	Diesel	1	30	6.5	195	2028	16	0.38	0.57	4.36	0.16	0.15	572.23	0.023	0.005	0.001	0.006	0.000	0.000	0.68	0.000	0.000	0.68
Remove Existing Bridge Crossing Pipe and Cut Piers	Excavators	Diesel	1	30	6.5	195	2028	36	0.38	0.37	3.34	0.08	0.08	587.54	0.024	0.005	0.001	0.010	0.000	0.000	1.57	0.000	0.000	1.57
Remove Existing Bridge Crossing Pipe and Cut Piers	Welders	Diesel	1	30	6.5	195	2028	46	0.45	0.41	3.37	0.06	0.06	568.31	0.023	0.005	0.002	0.015	0.000	0.000	2.29	0.000	0.000	2.30
Remove Existing Bridge Crossing Pipe and Cut Piers	Generator Sets	Diesel	1	30	6.5	195	2028	14	0.74	0.54	4.29	0.17	0.16	568.30	0.023	0.005	0.001	0.010	0.000	0.000	1.15	0.000	0.000	1.15
Remove Existing Bridge Crossing Pipe and Cut Piers	Signal Boards	Diesel	1	30	6.5	195	2028	6	0.82	0.55	4.14	0.16	0.15	568.30	0.023	0.005	0.001	0.004	0.000	0.000	0.55	0.000	0.000	0.55
Remove Existing Bridge Crossing Pipe and Cut Piers	Other Construction Equipment	Diesel	1	30	6.5	195	2028	82	0.42	0.25	2.43	0.12	0.11	526.92	0.021	0.004	0.002	0.018	0.001	0.001	3.54	0.000	0.000	3.55
Old Shafter Valve Vault decommission	Welders	Diesel	1	15	6.5	98	2028	46	0.45	0.41	3.37	0.06	0.06	568.31	0.023	0.005	0.001	0.007	0.000	0.000	1.15	0.000	0.000	1.15
Old Shafter Valve Vault decommission	Generator Sets	Diesel	1	15	6.5	98	2028	14	0.74	0.54	4.29	0.17	0.16	568.30	0.023	0.005	0.001	0.005	0.000	0.000	0.57	0.000	0.000	0.58
Old Shafter Valve Vault decommission	Excavators	Diesel	1	15	6.5	98	2028	36	0.38	0.37	3.34	0.08	0.08	587.54	0.024	0.005	0.001	0.005	0.000	0.000	0.78	0.000	0.000	0.79
Old Shafter Valve Vault decommission	Dumpers/Tenders	Diesel	1	15	6.5	98	2028	16	0.38	0.57	4.36	0.16	0.15	572.23	0.023	0.005	0.000	0.003	0.000	0.000	0.34	0.000	0.000	0.34
Old Shafter Valve Vault decommission	Other Construction Equipment	Diesel	1	15	6.5	98	2028	82	0.42	0.25	2.43	0.12	0.11	526.92	0.021	0.004	0.001	0.009	0.000	0.000	1.77	0.000	0.000	1.78

North Marin Line

Energy Calculations - Construction

Source	Onsite CO2 from diesel use, MT
2026	24.2
2027	47.7
Total	71.8

CO_2 from diesel fuel combustion[a] = 10.2 kg of CO_2/gallon of diesel

[a] Emissions factors per The Climate Registry 2019 Default Emission Factors (Table 2.1 - US Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels)

Conversion 1 MT = 1000 kg

Source	Diesel Use (gallons)
2026	2,368

Retail Diesel Sales by County

(Millions of Gallons)

County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		2018#		2019#		2020#		2021#		2022#		2023#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	56	62	48	55	47	51	50	53	47	57	43	55
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2	3	3	3	2	2	2	3	2	3	2	3
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	12	13	12	15	10	11	11	13	9	11	10	12
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	2	3	3	3	3	3	2	3	2	4	2	3
Colusa	3	3	2	3	4	5	4	5	2	2	3	4	4	4	2	3	4	4	7	7	10	11	8	11	10	12	16	18
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	31	34	24	27	22	23	22	28	24	29	22	27
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	1	2	1	1	1	1	1	1
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	8	9	8	10	8	8	8	11	9	12	8	11
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	46	51	39	49	62	66	52	91	65	85	64	81
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	16	17	18	19	17	18	16	17	18	21	20	22
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	7	8	6	7	6	6	9	10	9	11	9	12
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	20	22	21	25	22	24	27	27	23	30	26	27
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	3	3	3	4	3	4	3	3	3	4	3	3
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	97	108	96	105	108	116	116	137	190	226	216	238
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	8	9	8	9	7	7	6	10	7	9	7	7
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	3	4	3	4	3	4	3	4	3	5	3	4
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	1	1	1	2	1	1	2	2	2	2	2	2
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	301	228	253	246	276	279	299	206	224	240	295	256	290
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	28	31	23	24	30	32	36	37	43	54	50	60
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	3	3	4	4	4	4	4	5	3	5	3	5
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	5	6	5	8	9	9	6	10	7	10	7	9
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	35	39	28	36	28	30	28	33	57	67	55	62
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	24	26	23	26	21	22	20	27	22	27	22	25
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	6	7	6	7	6	6	6	6	6	7	6	6
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	7	8	5	8	7	8	6	8	6	8	7	7
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	49	55	51	56	49	53	43	46	51	66	55	62
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	16	17	16	17	32	35	18	20	16	26	18	28
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	3	2	3
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	119	132	108	122	134	144	138	146	138	173	158	180
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	41	45	37	41	41	44	40	45	40	51	38	50
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	176	195	165	178	148	159	184	198	212	258	245	267
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	92	103	94	110	88	94	93	117	88	115	94	107
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	5	5	5	5	4	4	4	5	5	6	5	6
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	105	117	101	113	86	93	94	97	110	128	132	144
San Luis Obispo	12	14	16	18	11	13	9	12	12	17	19	24	20	23	19	21	20	22	20	22	19	20	17	22	20	24	19	22
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	16	17	18	19	12	13	13	16	13	15	10	14
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	21	24	18	19	16	17	16	17	18	22	17	19
Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	43	48	33	42	32	35	31	50	37	44	35	45
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	6	7	4	6	7	8	6	7	6	8	6	7
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	21	24	14	16	13	14	20	22	18	22	20	22
Siskiyou	5	6	11	11	16	20	15	19	16	20	20	26	19	22	18	21	16	17	16	17	17	18	16	18	16	18	16	18
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	23	25	24	27	25	27	19	30	27	32	23	27
Sonoma	14	16	18	19	13	16	14	18	12	17	15	20	20	23	20	23	20	22	28	32	28	30	26	30	30	35	28	32
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	32	36	33	35	36	39	44	49	42	56	65	72
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	5	6	3	4	4	5	5	6	5	5	4	4	4	5	5	5
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	18	20	17	18	7	8	14	17	22	26	28	31
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	31	34	42	45	47	51	54	66	53	70	65	78
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	3	3	3	4	2	3	3	4
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	30	33	33	35	29	32	31	35	30	40	28	37
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	25	28	24	26	21	22	24	28	30	39	31	35
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	11	12	4	5	4	4	4	12	3	5	4	5
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	2	2	2	3	2	2	2	3	3	3	4	4
Total	**1,285**	**1,414**	**1,346**	**1,447**	**1,327**	**1,589**	**1,261**	**1,587**	**1,226**	**1,691**	**1,592**	**2,033**	**1,742**	**1,971**	**1,717**	**1,937**	**1,602**	**1,777**	**1,559**	**1,756**	**1,624**	**1,744**	**1,611**	**1,883**	**1,846**	**2,290**	**2,016**	**2,316**

2012-2023 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 34.6% of all diesel sales, are not reported in this chart. Starting 2022 reporting year, California Energy Commission incuding all No.2 diesel, biodiesel, and renewable diesel as diesel product.