

Comparison of Alternatives

CHAPTER SUMMARY

This chapter describes the project alternatives as compared to the proposed Project under CEQA and as compared to the NEPA baseline under NEPA. Chapter 6, Comparison of Alternatives, provides the following:

- a summary of the alternatives;
- identification of the significant but mitigable and significant and unavoidable impacts for which one of the potentially feasible alternatives may avoid or substantially lessen the impact, for project-level impacts; and
- identification of the environmentally preferred and environmentally superior alternatives.

Key Points of Chapter 6:

As discussed in Chapter 3 and summarized in this chapter, the proposed Project and all alternatives would have significant unavoidable impacts in the areas of air quality and meteorology, biological resources, and GHG emissions under CEQA. The proposed Project and Alternatives 1, 3, and 5 would have significant unavoidable impacts in the area of cultural resources under CEQA. Under NEPA, the proposed Project and Alternatives 3 through 5 would have significant unavoidable impacts in the areas of air quality and meteorology and ground transportation. Because Alternatives 1 and 2 would involve little or no construction and do not increase the operational throughput capacity of the terminal, impacts under these alternatives would be less severe than those for the proposed Project.

Alternative 2, the No Project Alternative, would have the fewest impacts because no proposed Project-related actions or impacts would occur, and would thus be environmentally superior. However, Alternative 2 would not deepen the berths, raise and add new larger cranes, or improve backlands, which are necessary to increase container loading and unloading efficiency and accommodate larger vessels. In addition, Alternative 2 would not accommodate the long-term development and growth of the Port. Alternative 2 would therefore not meet the project objectives. CEQA requires that if the environmentally superior alternative is the No Project Alternative, another alternative be identified as environmentally superior. Alternative 1 would result in similar operational impacts as Alternative 1 without improving container loading and unloading efficiency, but due to backland expansion, would result in a significant impact to cultural resources. Besides Alternative 2, Alternative 4 has the least significant environmental impact compared to the proposed Project because it would avoid impacts to cultural resources. Therefore, Alternative 4 is deemed to be the environmentally superior alternative under CEQA. Alternative 4 would include berth deepening, crane raising, and new cranes, which would increase the berth capacity by increasing container loading and unloading efficiency and allowing it to accommodate larger vessels. However, this alternative would not include backlands expansion that is needed to balance the added capacity of the waterside improvements. Because of this, the terminal under Alternative 4 would be

1 backland-constrained, which would limit the terminal's overall capacity. This is reflected in the low
2 throughput compared to the other alternatives that include both berth deepening and backlands expansion
3 (the proposed Project and Alternatives 3 and 5). Thus, Alternative 4 would not meet the project
4 objectives as well as the proposed Project, Alternative 5, and Alternative 3.

5 Alternative 1 would include development of the 22-acre backlands expansion area, and even though the
6 capacity of the terminal would not increase, it would still result in significant construction and operational
7 impacts. However, because Alternative 1 would not involve deepening the berths or raising/adding
8 cranes, it would not meet the underlying fundamental purpose and objective of the Project - to optimize
9 the container-handling efficiency and capacity of the Port to accommodate the projected fleet mix of
10 larger container vessels (up to 16,000 TEUs) that are anticipated to call at the Everport Container
11 Terminal through 2038. Alternative 3 would involve slightly less construction than the proposed Project
12 but would result in a slightly reduced operational throughput capacity compared to the proposed Project.
13 As a result, Alternative 3 would not fully meet the underlying fundamental purpose and objective of the
14 Project - to optimize the container-handling efficiency and capacity of the Port to accommodate the
15 projected fleet mix of larger container vessels (up to 16,000 TEUs) that are anticipated to call at the
16 Everport Container Terminal through 2038. Alternative 5 would result in slightly more construction than
17 the proposed Project and would increase the capacity of the Everport Container Terminal's portion of the
18 on-dock railyard (TCTF), but would result in the same operational throughput capacity as the proposed
19 Project. Alternative 5 would meet the basic project objectives as well as the fundamental purpose of the
20 Project, but because it would also increase the capacity of the TICTF, it would allow for increased
21 transport of containers via on-dock rail, which would reduce the number of truck trips, relative to the
22 proposed Project.

23 Regarding NEPA, Alternative 1 is environmentally preferable because this alternative would have no
24 impacts compared to the NEPA baseline.

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6.1 Introduction

This chapter presents a comparison of alternatives to the proposed Project. Various alternatives were considered during the preparation of this Draft EIS/EIR. NEPA and CEQA require that an EIS and EIR present a reasonable range of feasible alternatives to the proposed Project. Under NEPA, an EIS must devote “substantial treatment” to each alternative considered in detail, including the proposed Project, so that reviewers are able to evaluate comparative merits (40 CFR 1502.14(b)). Section 15126.6 of the CEQA Guidelines (Consideration and Discussion of Alternatives to the Proposed Project) states, “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” This comparison of alternatives identifies the resource areas where a potentially significant impact could occur unless mitigation is incorporated or significant and unavoidable impacts determined through the 11 environmental resource analysis in Chapter 3 of this Draft EIS/EIR. The Draft EIS/EIR Chapter 3 analysis has determined that implementation of the proposed Project (construction and/or operation) would result in a less than significant impact on the following resource areas:

- Aesthetics and Visual Resources
- Hazards and Hazardous Materials
- Marine Transportation
- Water Quality, Sediments, and Oceanography

As the alternatives to the proposed Project are intended to avoid or substantially lessen one or more of the significant adverse effects of the Project, this chapter focuses on the comparative merits of the alternatives associated with the environmental resource areas with potentially significant unless mitigation incorporated or significant and unavoidable impacts.

Accordingly, the proposed Project and five alternatives (summarized below in Table 6-1) have been analyzed co-equally in this Draft EIS/EIR to provide sufficient information and meaningful detail about the environmental effects of each alternative so that informed decision-making can occur. The five alternatives that were carried through the impact analysis in Chapter 3 are as follows:

- Alternative 1 – No Federal Action
- Alternative 2 – No Project
- Alternative 3 – Reduced Project: Reduced Wharf Improvements
- Alternative 4 – Reduced Project: No Backland Improvements
- Alternative 5 – Expanded On-Dock Railyard: Wharf and Backland Improvements with an Expanded TICTF

Table 6-1: Summary of Proposed Project and Alternatives

	Proposed Project (2038)	Alt. 1: No Federal Action (2038)	Alt. 2: No Project (2038)	Alt. 3: Reduced Wharf (2038)	Alt 4: No Backland Improvements (2038)	Alt 5: Expanded On-Dock Railyard (2013)
Annual TEUs	2,379,525	1,818,000	1,818,000	2,250,000	2,115,133	2,379,525
Annual Peel-Off Yard Throughput ¹	129,525	None	None	None	115,133	129,525
Terminal Acreage	229	229	205	229	205	229
Annual Ship Calls ²	208	208	208	208	208	208
24-hour Peak Day Ship Calls	2	2	2	2	2	2
Average Daily Truck Trips (peak month)	7,028	4,815	4,815	6,516	5,985	6,818
Average Daily Train Trips (peak month)	5.5 ³	4.2	4.2	5.2	4.9	5.5 ³
Operating Cranes	13	8	8	13	13	13
Total Dredging (cy)	38,000	0	0	30,000	38,000	38,000
Maximum Vessel Size						
Berths 226-229	16,000	8,000	8,000	16,000	16,000	16,000
Berths 230-232	10,000	8,000	8,000	8,000	10,000	10,000

Note: ¹ Peel-off yards serve as off-site backlands to the terminal. Peel-off yard throughput is included in the total annual throughput for the proposed Project and alternatives that are not berth-constrained.

² Although various alternatives handle different throughout, the vessel calls are the same because of vessel strings, which is described in Chapter 1, Section 1.2.2.3.

³ Although the proposed Project and Alternative 5 have the same average daily train trips (during the peak month), there is a difference between the number of on-dock and off-dock trains.

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2 6.2 CEQA Evaluation of Alternatives

3 6.2.1 CEQA Requirements

4 CEQA requirements for an EIR to evaluate alternatives are described fully in Chapter 1,
5 Introduction Section 1.6.6. Briefly, Section 15126.6 of the CEQA Guidelines requires
6 that an EIR present a range of reasonable alternatives to a proposed project, or to the
7 location of a project, that could feasibly attain most of the basic project objectives, but
8 would avoid or substantially lessen any significant effects of the project. Section 15126.6
9 also requires an evaluation of the comparative merits of the alternatives. An EIR is not
10 required to consider alternatives that are infeasible, as described in Section 2.9.2 (Chapter
11 2, Project Description).

6.2.2 CEQA Alternatives Comparison

Table 6-2 presents the proposed Project and the alternatives and identifies the resource areas where the proposed Project or alternative(s) would result in an unavoidable significant impact under CEQA, as analyzed in Chapter 3. Table 6-2 also includes the resource areas that would have significant impacts that can be mitigated to less-than-significant levels.

As shown in Table 6-2, the proposed Project and all alternatives would have significant unavoidable impacts in the areas of air quality and meteorology, biological resources, and GHG emissions; the proposed Project and Alternatives 1, 3, and 5 would have significant unavoidable impacts in the area of cultural resources; the proposed Project and Alternatives 1, 3, and 5 would have significant but mitigable impacts under groundwater and soils related to the potential to encounter hazardous materials during construction; and the proposed Project and Alternatives 3, 4, and 5 would have significant but mitigable impacts related to pile driving noise.

Table 6-2: Summary of CEQA Significance Analysis by Alternative

Environmental Resource Area	Proposed Project	Alternative				
		1	2	3	4	5
Air Quality and Meteorology	S	S	S	S	S	S
Biological Resources	S	S	S	S	S	S
Cultural Resources	S	S	N	S	L	S
Greenhouse Gas Emissions	S	S	S	S	S	S
Groundwater and Soils	M	M	N	M	L	M
Noise	M	L	L	M	M	M

Notes:

The analysis includes project-level impacts, not cumulative effects.

S = Unavoidable significant impacts

M = Significant but mitigable impact

L = Less than significant impact (not significant)

N = No impact

For air quality and meteorology, impacts were determined to be significant and unavoidable under the proposed Project and all five alternatives. The significant unavoidable impacts would be related to emissions during construction and operations for all alternatives except for Alternative 2, which has no construction. Although all of the alternatives exceed the air quality significance thresholds, some alternative produce more criteria pollutant emissions than others due to different mixes of construction and different terminal activity levels. Alternative 5 generates the most peak day criteria pollutant emissions from construction, followed by the proposed Project, Alternative 3, Alternative 4, Alternative 1, and Alternative 2. Alternative 2 is environmentally superior from a construction emission standpoint because it does not involve any construction or associated emissions. Operational emissions are generally proportional to throughput activity levels, and the proposed Project generates the most peak day criteria pollutant

1 emissions from operation, followed by the Alternative 5, Alternative 3, Alternative 4 and
2 Alternatives 1 and 2. Although Alternative 5 and the proposed Project have the same
3 throughput, Alternative 5 generates slightly less operational emissions than the propose
4 Project due to greater on-dock rail use. Alternatives 1 and 2 are superior to the other
5 alternatives from an operational emissions standpoint.

6 For biological resources, the significant unavoidable impacts would be related to the
7 potential introduction of invasive species via vessel hulls and ballast water that could
8 have a substantial adverse effect on local biological communities. Although vessel sizes
9 would vary, the proposed Project and each alternative would have the same number of
10 annual ship calls (208) by 2038, thus each alternative would generally have the same
11 potential for introduction of invasive species during operations as the proposed Project.
12 Additionally, construction associated with pile driving for the proposed Project and
13 Alternatives 3, 4, and 5 would have potentially significant but mitigable impacts on
14 marine mammals from pile driving, while Alternatives 1 and 2 would have no pile
15 driving impacts to biological resources. The proposed Project and Alternatives 4 and 5,
16 which have the same amount of pile driving, would have the greatest impact on
17 biological resources during construction, followed by Alternative 3, which would have
18 some pile driving but less than the proposed Project. Alternatives 1 and 2 would not have
19 any pile driving activities, and both are considered to have substantially less impact
20 related to biological resources. Although construction impacts to marine mammals are
21 mitigated, Alternatives 1 and 2 are deemed to be superior to the proposed Project and
22 Alternatives 3-4, due to the lack of pile driving. Of the alternatives that require pile
23 driving, Alternative 3 is superior to the others because it involves less pile driving.

24 For cultural resources, significant unavoidable impacts would be associated with the 22-
25 acre backlands expansion area under the proposed Project and Alternatives 1, 3, and 5.
26 The 22-acre backlands expansion would result in demolition of the former Canner's
27 Steam Company Plant, which has been found to be eligible for listing in the California
28 Register of Historical Resources and local designation as a Historic Cultural Monument.
29 Additionally, the 22-acre backlands expansion would have the potential to disturb or
30 damage archaeological resources related to the potential to encounter subsurface artifacts
31 associated with the former Japanese Fishing Village on Terminal Island. This would
32 result in a significant unavoidable impact under the proposed Project and Alternatives 1,
33 3, and 5. Because no backland improvements would occur under Alternatives 2 and 4,
34 Alternatives 2 and 4 would have substantially less of an impact on cultural resources and
35 are deemed to be superior to the proposed Project and other alternatives. Backland
36 improvements would occur under Alternatives 1, 3 and 5, similar to the proposed Project;
37 and as such, the potential for impacts on cultural resources under Alternatives 1, 3 and 5
38 would be equal to those for the proposed Project.

39 For GHG emissions, impacts were determined to be significant and unavoidable under
40 the proposed Project and all five alternatives. The proposed Project would have the
41 second highest amount of GHG emissions during construction (slightly less than
42 Alternative 5), followed by Alternatives 3, 4, and 1. Alternative 2 would have no
43 construction and thus no construction-related GHG emissions. The proposed Project
44 would have the highest amount of GHG emissions during operations (slightly more than
45 Alternative 5), followed by Alternative 3, 4, 1, and Alternative 2. Alternative 2 is
46 deemed to be superior to the other alternatives due to the lowest level of GHG emissions.

1 For groundwater and soils, the proposed Project and Alternatives 1, 3 and 5 were
2 determined to result in less-than-significant impacts with the incorporation of mitigation
3 measures. The impact is associated with the potential to expose construction personnel,
4 and potentially existing operations personnel, to previously unknown or undocumented
5 soil and/or groundwater contamination as a result of grading, excavation, and other
6 construction-related activities occurring at the 22-acre backlands expansion area. Because
7 no backland improvements would occur under Alternatives 2 and 4, these alternatives
8 would have substantially less of an impact. Backland improvements would occur under
9 Alternatives 1, 3 and 5, similar to the proposed Project. As such, the potential for
10 groundwater and soils impacts under Alternatives 1, 3 and 5 would be equal to those for
11 the proposed Project. Alternatives 2 and 4 do not involve excavation in the 22-acre
12 expansion area, and are deemed to be superior to the others.

13 For noise, the proposed Project and Alternatives 3, 4, and 5 were determined to result in
14 less-than-significant impacts with the incorporation of mitigation measures related to
15 temporary noise impacts associated with pile driving. The proposed Project and
16 Alternatives 4 and 5, which have the same amount of pile driving, would have the
17 greatest noise impact, followed by Alternative 3, which would have some pile driving but
18 less than the proposed Project. Alternatives 1 and 2 would not have any pile driving
19 activities, and both are considered to have substantially less impact related to
20 construction noise.

21 Based on the above, Alternative 2 would have the fewest impacts, to air quality,
22 biological resources, and greenhouse gas emissions, and the fewest significant resource
23 area impacts, as described above.

24 Alternatives 2 and 4 avoid the impact to historic and archaeological resources present in
25 the 22-acre backlands expansion area.

26 Alternatives 3 and 5 have the same impact determinations as the proposed Project.
27 However, Alternative 3 would results in slightly less criteria pollutant and GHG
28 emissions than Alternative 5, which in turn would result in a slightly less impacts to air
29 quality than the proposed Project. In addition, Alternative 3 would result in less pile
30 driving noise impacts than Alternatives 4 and 5 (and the proposed Project).

31 Because of these factors, Alternative 2 is deemed to be environmentally superior.
32 However, under CEQA, the No Project Alternative cannot be the environmentally
33 superior alternative. Therefore, Alternative 4 is deemed to be the environmentally
34 superior alternative under CEQA.

35 However, it should be noted that although Alternative 4 would be environmentally
36 superior under CEQA, it would be backland-constrained, which would limit the
37 terminal's overall capacity, and it would not fully utilize the berth improvements.
38 Alternative 4 would have the lowest throughput capacity (2,115,133 TEUs) compared to
39 the other alternatives that include berth deepening, crane raising, new cranes, and
40 backland expansion (2,379,525 TEUs for the proposed Project and Alternative 5, and
41 2,250,000 TEUs for Alternative 3). Because it would have lower throughput and not
42 fully utilize the berth improvements, Alternative 4 would not optimize the terminal and
43 thus, would not meet the project objectives as well as the proposed Project, Alternative 5,
44 and Alternatives 3.

6.2.3 NEPA Requirements

NEPA requirements for an EIR to evaluate alternatives are described fully in Chapter 1, Section 1.6.6. In brief, NEPA (40 CFR section 1502.14(a)) requires an EIS to describe a reasonable range of feasible alternatives to a project or to the locations for a project that could feasibly attain most of the basic project objectives but would avoid or substantially lessen any significant environmental impacts.

In addition, and in accordance with USACE general policies for evaluating permit applications, USACE's decision to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest (33 CFR 320.4(a)). Evaluation of the probable impact that the proposed activity may have on the public interest requires weighing all those factors that become relevant in each particular case. The benefits that reasonably may be expected must be balanced against the reasonably foreseeable detriments. The following criteria are considered by USACE in the evaluation of every permit application:

- The relative extent of the public and private need for the proposed structure or work;
- Where there are unsolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
- The extent and permanence of the beneficial and/or detrimental effects that the proposed structure or work is likely to have on the public and private uses to which the area is suited.

USACE also follows special procedures for implementing Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 (33 CFR 324.4). Applications for permits for the transportation of dredged material for the purpose of dumping it in ocean waters will be evaluated to determine whether the proposed dumping would unreasonably degrade or endanger human health, welfare, amenities, the marine environment, ecological systems, or economic potentialities. USACE will apply the criteria established by the Administrator of EPA pursuant to Section 102 of the MPRSA in making this evaluation (49 CFR 220–229).

6.2.4 NEPA Alternatives Comparison

Table 6-3 presents a summary of the results of the NEPA significance determinations for resource areas and identifies the alternatives that would result in unavoidable significant impacts under NEPA, as discussed in Chapter 3 (the analysis includes project-level impacts, not cumulative effects). Table 6-2 also includes the resource areas that would have significant impacts under NEPA that can be mitigated to less-than-significant.

Alternative 1 is the No Federal Action Alternative, which represents the activities that would occur without federal actions/approvals (i.e., backlands improvements); therefore, it is the same as the NEPA baseline. As such, no impacts would occur under Alternative 1. NEPA does not require analysis of the CEQA No Project Alternative, which would not involve a federal action, and no NEPA analysis is performed for Alternative 2.

Table 6-3: Summary of NEPA Significance Analysis by Alternative

Environmental Resource Area ^a	Proposed Project	Alternative ^b				
		1	2	3	4	5
Air Quality and Meteorology	S	N	N/A	S	S	S
Biological Resources	M	N	N/A	M	M	M
Ground Transportation	S	N	N/A	S	S	S
Noise	M	N	N/A	M	M	M

Notes:

^a Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts but not cumulative effects.

^b Alternatives eliminated from further consideration are not included.

S = Unavoidable significant impacts

M = Significant but mitigable impact

L = Less than significant impact (not significant)

N = No impact

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For air quality and meteorology, significant unavoidable impacts under the proposed Project and Alternatives 3-5 would be related to emissions during construction and operations and to health risks associated with proposed project operations. The significant unavoidable impacts would be related to emissions during construction relate to in-water construction emissions that are not included in the NEPA baseline. Differences in levels of operational emissions results from increased operational throughput. While the proposed Project and Alternative 5 are almost identical (they have the same throughput), Alternative 5 is has slightly lower air quality impacts than the proposed Project lower due to a higher percentage of cargo transported by rail as opposed to truck.

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For biological resources, construction associated with pile driving for the proposed Project and Alternatives 3, 4, and 5 would have significant but mitigable impacts. The proposed Project and Alternatives 4 and 5, which have the same amount of pile driving, would have the greatest impact on biological resources, followed by Alternative 3, which would have some pile driving.

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For ground transportation, the proposed Project and Alternatives 3, 4, and 5 would have significant unavoidable impacts in 2026 and/or 2038 conditions at one intersection. The impacts are related to additional traffic resulting from the expanded container terminal and associated throughput growth. The proposed Project would have the greatest traffic impact followed by Alternative 5 (which has the same amount of throughput but slightly better level of service at the significantly affected intersection due to greater use of on-dock rail rather than drayage trucks, compared to the proposed Project). A lesser traffic impact would occur under Alternative 3, followed by Alternative 4.

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For noise, the proposed Project and Alternatives 3, 4, and 5 were determined to result in less-than-significant impacts with the incorporation of mitigation measures related to temporary noise impacts associated with pile driving. The proposed Project and Alternatives 4 and 5, which have the same amount of pile driving as the proposed Project,

1 would have the greatest noise impact, followed by Alternative 3, which would have some
2 pile driving but less than the proposed Project. Alternative 1, which is the same as the
3 NEPA baseline

4 Based on the above, Alternative 1 is deemed to be environmentally preferable under
5 NEPA because it results in no impacts compared to the NEPA baseline. However,
6 because Alternatives 1 would not involve deepening the berths or raising/adding cranes,
7 Alternative 1 would not address the overall need to improve Port facilities to
8 accommodate larger vessels that are projected to call at the Terminal through 2038.
9 Thus, Alternative 1 would not meet the purpose and need for the project under NEPA.

10 Alternatives 3 and 5 would deepen the terminal's berths and expand the backlands to
11 better balance the backland capacity with the improved berth capacity, which provides a
12 higher capacity than Alternative 4, which also deepens the berths, but does not expand
13 backlands. The level of optimization of the terminal under each alternative is reflected in
14 the throughput capacity, and thus, Alternative 5 would best meet the project purpose and
15 need, followed by Alternative 3, then Alternative 4.

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