

Chapter 23
Noise

23.1 Summary Comparison of Proposed Project

A summary of noise and vibration impacts of the approved and proposed projects is shown in Figure 23-0. This figure summarizes information on the number of residential parcels affected by daytime and nighttime noise from construction and operations of each option.

Figure 23-0. Comparison of Noise Impacts

Chapter 23 - Noise		Approved Project	Proposed Project (Total)	Proposed Project (Increment)
Impact NOI-1: Exposure of Noise-Sensitive Land Uses to Noise from Construction of Conveyance Facilities (number of residential parcels affected daytime/nighttime)	Intakes, pumping plants, and barge unloading facilities	254	235	-19
	Conveyance and Associated Facilities	430	527	+97
	Truck trips and worker commutes	401 ^a	401 ^a	No change
		Significant and unavoidable/ adverse	Remains significant and unavoidable/ adverse. No change to the findings from the approved project	
Impact NOI-2: Exposure of Sensitive Receptors to Vibration or Groundborne Noise from Construction of Water Conveyance Facilities (number of residential parcels affected)		7	7	No change
		Significant and unavoidable/ adverse	Remains significant and unavoidable/ adverse. No change to the findings from the approved project	
Impact NOI-3: Exposure of Noise-Sensitive Land Uses to Noise from Operation of Water Conveyance Facilities (number of residential parcels affected daytime/nighttime)		1	0	-1
		Less than significant/ not adverse	Remains less than significant/ not adverse. No change to the findings from the approved project	
^a Based on actual residential parcel counts for jurisdictions where parcel land use assignments were included in the dataset. An estimate of residential composition of parcels was added to the total for jurisdictions where land use type of parcels was not identified.				

1 As depicted in Figure 23-0, the proposed project would not result in new impacts or a substantial
2 increase in the severity of previously identified significant impacts related to noise. This chapter
3 contains the information necessary to make the Final EIR/EIS adequate for the approved project as
4 revised.

5 **23.2 Environmental Setting/Affected Environment**

6 **23.2.1 Affected Environment**

7 The existing noise-sensitive receptors and land uses that would be affected by noise and vibration
8 during construction and operation of the proposed project are described in Final EIR/EIS Chapter
9 23, *Noise*, Section 23.1, *Environmental Setting/Affected Environment*. The Final EIR/EIS provides a
10 discussion of existing sources of noise and associated noise levels in the seven counties included in
11 the Plan Area. The proposed project would be located entirely within the previously analyzed
12 project area; therefore, the Existing Conditions would be the same as described in the Final EIR/EIS.

13 **23.3 Environmental Consequences**

14 This section describes the potential effects of the modifications to the approved project to noise
15 levels at noise-sensitive uses within the study area. Noise effects due to construction of the proposed
16 project are evaluated for severity and, where appropriate, mitigation measures are identified.
17 Potential noise effects of changes in the new Byron Tract Forebay pumping plant is evaluated in this
18 analysis but other operational effects are not because the operation of the approved and proposed
19 north Delta intake facilities would be identical. Similarly, potential noise effects of Environmental
20 Commitments are not addressed because Environmental Commitments for the approved and
21 proposed project would be approximately the same and noise effects would be similar.

22 **23.3.1 Methods for Analysis**

23 The methods applied to the analysis of noise and vibration effects on sensitive land uses and
24 receptors are the same as indicated in the Final EIR/EIS. This section considers impacts due to
25 project modifications, which are analyzed in terms of types and numbers of sensitive uses that
26 would be affected. Thresholds used in the analysis are discussed in Section 23.3.2 of the Final
27 EIR/EIS. Noise contours for construction and operation of the project were developed in the Final
28 EIR/EIS to illustrate the locations in the Plan Area where noise levels from the project are
29 anticipated to equal or exceed noise impact thresholds for construction and operation. Figures
30 depicting noise contours for construction have been updated to account for changes in noise levels
31 from project modifications. These figures are located in Appendix 23A.

32 **23.3.2 Determination of Effects**

33 The impact thresholds used to determine if impacts under CEQA are significant and effects under
34 NEPA are adverse are the same as indicated in the Final EIR/EIS.

23.3.3 Effects and Mitigation Approaches

The Noise Abatement Plan (see Appendix 3B, *Environmental Commitments, AMMs, and CMs*) would be in place during construction to avoid or minimize adverse effects. *Supplementary Information for the EIR/EIS: Bay Delta Conservation Plan* (California Department of Water Resources 2010) includes approaches to designing mitigation which are taken into account in the discussion of mitigation measures in this chapter and are incorporated into the Noise Abatement Plan as appropriate.

23.3.3.1 No Action Alternative

Under the No Action Alternative, the new Byron Tract Forebay, reusable tunnel material (RTM) storage and other footprint changes described for the proposed project would not occur. For the purposes of this Supplemental EIR/EIS, the No Action Alternative, against which this proposed project is compared, is consistent with the No Action Alternative Early Long-Term in the Final EIR/EIS. No differing effects on noise conditions would occur along the proposed project alignment from what was previously described in the No Action Alternative Early Long-Term in the Final EIR/EIS if the No Action Alternative were to occur.

23.3.3.2 Proposed Project

The proposed project would result in temporary noise effects in the study area associated with construction of the conveyance facilities including the proposed Byron Tract Forebay and conveyance and relocation of RTM storage areas. Construction and storage sites would be altered which would require the use of construction equipment and heavy trucks. Heavy trucks and worker trips on local roads adjacent to the study area may result in increased levels of traffic noise that would be similar to the approved project. Access roads, and other incidental facilities would also be needed for operation of the project, and construction of these structures would result in temporary noise effects at nearby noise-sensitive uses such as residences and recreation areas. Implementation of the proposed project would also result in permanent noise effects due to operation of pumping plants, which would be similar to the approved project.

Impact NOI-1: Exposure of Noise-Sensitive Land Uses to Noise from Construction of Water Conveyance Facilities

RTM Storage

Changes related to moving RTM storage on and near Zacharias Island, on Bouldin Island, and adjacent to Byron Tract Forebay under the proposed project would result in noise effects in different locations than under the approved project. Consolidation of RTM east of the intermediate forebay under the proposed project would result in noise effects similar to those of the approved project. Modification of the RTM storage areas on Bouldin Island under the proposed project would result in noise levels exceeding the daytime and nighttime noise thresholds at additional sensitive land uses in the densely-populated community of Terminous, including the Tower Park Marina and a nearby mobile home park located east of Bouldin Island. Noise related to relocation of the RTM storage area north of the Byron Tract Forebay would increase the potential for noise effects at residences east of the community of Byron. The RTM storage at this location would be approximately 4,200 feet from Discovery Bay located to the north, which would not result in daytime or nighttime noise effects in this area. The revised location of barge facilities under the proposed project is expected to result in a reduced construction noise effect on residences

1 compared with the effect of the approved project. Noise contours for the proposed project are
2 shown in Figures 23A-04 (North and South).

3 ***Byron Tract Forebay and Conveyance***

4 Construction of the new Byron Tract Forebay and conveyance under the proposed project on the
5 northwest and west side of Clifton Court Forebay would result in noise effects similar to effects of
6 the approved project; however, these effects would occur in different locations. Noise contours for
7 60 A-weighted decibels (dBA) daytime and 50 dBA nighttime thresholds indicate that although the
8 new Byron Tract Forebay would be closer to residential developments in Byron and in Discovery
9 Bay compared with the approved project, these areas would not fall within the daytime or nighttime
10 noise contours shown in Figure 23A-04 South. Additionally, noise effects would be below daytime
11 and nighttime thresholds at residences within and nearby the River's End Marina south of Clifton
12 Court Forebay.

13 ***Truck Trips and Worker Commutes***

14 Project-generated heavy truck trips and worker commutes are predicted to result in increased
15 traffic noise levels at noise-sensitive land uses adjacent to local roadways. Future noise levels due to
16 truck trips and worker commutes under the proposed project would be similar to those of the
17 approved project. The increase in noise levels under the proposed project would exceed the project
18 threshold for traffic noise on local roadways in a manner similar to that described for the approved
19 project in the Final EIR/EIS.

20 ***NEPA Effects:*** Construction of the proposed project would result in increased noise levels at
21 residences, recreational uses and schools in the Delta, due to construction equipment in work areas.
22 Traffic noise due to project-related truck trips would result in an increase in noise levels at receiver
23 locations near truck routes similar to the approved project. The effect of increased noise levels due
24 to construction is considered to be adverse. Noise analysis results for the proposed project are
25 similar to results for the approved project, except for changes associated with RTM storage, the
26 Byron Tract Forebay and conveyance, and barge unloading facilities. The proposed project
27 construction noise could result in noise levels exceeding daytime and nighttime thresholds at up to
28 527 residential receptors. This would be an increase of 97 residences compared with the approved
29 project. Mitigation Measures NOI-1a and NOI-1b have been adopted to reduce this effect. These
30 measures are discussed in detail in the Final EIR/EIS.

31 ***CEQA Conclusion:*** The proposed conveyance facility modifications would result in an increased
32 number of noise impacts at residences compared with the approved project. The impact of exposing
33 noise-sensitive land uses during construction to noise levels above daytime and nighttime
34 thresholds for the proposed project would be considered significant for the same reasons identified
35 for the approved project in the Final EIR/EIS. Compared with the approved project, the proposed
36 project conveyance facility modifications would result in a greater number of residences affected
37 near RTM storage areas because facility changes under the proposed project would locate project
38 facilities toward a net higher number of residences. Effects related to roadway noise associated with
39 the proposed project modifications would be similar to those of the approved project because the
40 magnitude of construction would be similar in both cases.

41 As part of the proposed project, DWR would implement the noise abatement plan as outlined in
42 Appendix 3B, *Environmental Commitments, AMMs, and CMs*. Mitigation Measures NOI-1a and NOI-1b
43 would further reduce noise impacts on sensitive land uses. Although implementation of these

1 measures would reduce the impact, it is not anticipated that feasible measures would be available in
2 all situations to reduce construction noise to levels below the applicable thresholds. This conclusion
3 would be the same as identified for the approved project; the impact would be significant and
4 unavoidable.

5 **Incremental Impact:** A total of 97 more residences would be affected by daytime and nighttime
6 noise during construction in RTM areas and of the conveyance and associated facilities. A total of
7 19 fewer residences would be affected by daytime and nighttime noise during construction of
8 other conveyance facilities, barge unloading facilities, and pumping plants. This impact is
9 considered to be significant, as it was for the approved project and Mitigation Measures NOI-1a
10 and b as well as noise abatement environmental commitments would partially reduce this effect
11 but not to a less-than-significant level; therefore this impact would be significant and
12 unavoidable, the same as for the approved project.

13 **Mitigation Measure NOI-1a: Employ Noise-Reducing Construction Practices during**
14 **Construction**

15 Please see Mitigation Measure NOI-1a in Chapter 23 of the Final EIR/EIS.

16 **Mitigation Measure NOI-1b: Prior to Construction, Initiate a Complaint/Response**
17 **Tracking Program**

18 Please see Mitigation Measure NOI-1b in Chapter 23 of the Final EIR/EIS.

19 **Impact NOI-2: Exposure of Sensitive Receptors to Vibration or Groundborne Noise from**
20 **Construction of Water Conveyance Facilities**

21 ***RTM Storage***

22 RTM storage changes under the proposed project would not result in vibration or groundborne
23 noise, similar to the approved project, because RTM storage would not require pile driving and noise
24 associated with tunnel boring machines (TBMs) and tunnel locomotives is not associated with RTM
25 storage areas.

26 ***Byron Tract Forebay and Conveyance***

27 Construction at the proposed Byron Tract Forebay would not involve use of impact pile driving or
28 drilled piles. Groundborne noise associated with TBMs at this location would not affect sensitive
29 receptors because tunnel-boring activities would be underground and sensitive land uses are not
30 located near the new consolidated pumping plant location. There would be no vibration effects due
31 to modifications of the forebay and conveyance under the proposed project.

32 ***NEPA Effects:*** Construction of the proposed project would result in perceptible vibration similar to
33 that of the approved project during periods of impact pile driving at barge unloading facilities. No
34 incremental effects would result from proposed project RTM storage and Byron Tract Forebay
35 construction because no pile driving or TBM and tunnel locomotives would be associated with these
36 modifications. The same number of residential parcels would be affected under the proposed project
37 and the approved project. The overall effect of increased vibration and groundborne noise levels due
38 to construction of the proposed project would be adverse. Mitigation Measure NOI-2 have been
39 adopted to reduce this effect. This measure is discussed in detail in the Final EIR/EIS.

1 **CEQA Conclusion:** The proposed conveyance facility modifications would not result in new vibration
2 impacts. The impact of exposing residential structures to groundborne noise and vibration during
3 proposed project construction would be significant for the same reasons identified for the approved
4 project. Although Mitigation Measure NOI-2 would reduce the impact, it is not anticipated that
5 feasible measures will be available in all situations to reduce vibration to levels below the applicable
6 thresholds. This impact would therefore remain significant and unavoidable, as described for the
7 approved project.

8 **Incremental Impact:** No change associated with vibration or groundborne noise would occur
9 compared with the approved project. This impacts is considered significant. Mitigation Measure
10 NOI-2 would partially reduce this impact but not to a less-than-significant level; therefore this
11 impact is significant and unavoidable, the same as for the approved project.

12 **Mitigation Measure NOI-2: Employ Vibration-Reducing Construction Practices during**
13 **Construction of Water Conveyance Facilities**

14 Please see Mitigation Measure NOI-2 in Chapter 23 of the Final EIR/EIS.

15 **Impact NOI-3: Exposure of Noise-Sensitive Land Uses to Noise from Operation of Water**
16 **Conveyance Facilities**

17 The proposed project modifications include locating the pumping plant at the proposed Byron Tract
18 Forebay instead of Clifton Court Forebay. The proposed location of the pumping plant is not
19 expected to result in noise levels that exceed daytime or nighttime noise thresholds. Operation noise
20 contours are shown in Figure 23B-04 in Appendix 23B. The nearest residences are in the community
21 of Kings Island, located about 1 mile east of the proposed Byron Tract Forebay location of the
22 pumping plant, greater than the 2,800-foot distance indicated for nighttime impacts from operation
23 of pumping plants under the proposed project.

24 **NEPA Effects:** The proposed project's noise levels associated with the operation of consolidated
25 pumping plants at Byron Tract Forebay would not exceed daytime or nighttime thresholds.
26 Therefore, this impact would not be adverse. This would be a change from the approved project,
27 which indicated adverse effects that could be mitigated through Mitigation Measure NOI-3.

28 **CEQA Conclusion:** The impact of exposing noise-sensitive land uses during pumping plant
29 operations to noise levels above the daytime (50 dBA equivalent sound level) or nighttime (45 dBA
30 equivalent sound level) noise thresholds would be less than significant. No mitigation is required.

31 **Incremental Impact:** There would be one less residence impacted by pump station operational
32 noise compared with the approved project. This impact is less than significant. No mitigation is
33 required.

1 **23.3.4 Cumulative Analysis**

2 **Impact NOI-5: Cumulative Effects of Increased Noise and Vibration from Construction** 3 **Activities and Operation of Conveyance Facilities Occurring within the Delta**

4 The cumulative discussion in Chapter 23 of the Final EIR/EIS concluded that the project's
5 incremental contribution to adverse noise and vibration effects would be cumulatively considerable.
6 As stated in the impact discussion above, construction activities would generate noise and vibration.
7 Operation of pumping facilities related to the extraction and transport of water would also generate
8 noise. The analysis of cumulative effects for noise remains the same as described in the Final
9 EIR/EIS with consideration of the proposed project modifications.

10 Implementation of best management practices, environmental commitments, and Mitigation
11 Measures NOI-1a, NOI-1b, and NOI-2 for project-specific effects would reduce noise and vibration
12 impacts from construction. However, there may be situations where construction noise and
13 vibration effects would remain adverse under NEPA, and significant and unavoidable under CEQA. If
14 these situations occur concurrently or in proximity to other noise- and vibration-generating
15 projects, the proposed project's incremental contribution to adverse noise and vibration effects
16 would be cumulatively considerable.

17 **23.4 References Cited**

18 California Department of Water Resources. 2010. *Supplementary Information for EIR/EIS: Bay Delta*
19 *Conservation Plan*. Sacramento, CA.