Chapter 26
Mineral Resources

26.1 Summary Comparison of Proposed Project

A summary comparison of quantifiable impacts on mineral resource is provided in Figure 26-0. This figure provides information on the magnitude of the most pertinent and quantifiable impact on mineral resources that is expected to result from the proposed project compared with the approved project. The incremental differences in impact between the approved project and the proposed project indicate the change in acreage or other impact metric attributable to the proposed project. These incremental values, together with consideration of the severity of the underlying impacts as set forth in the Final EIR/EIS, are the bases for making both NEPA and CEQA impact significance findings. The incremental analysis addresses whether the proposed project, compared with the approved project, will lead to any new significant environmental effects or to any substantial increase in the severity of previously identified significant effects. The incremental difference between the original impacts and the newly anticipated impacts is then considered against the backdrop of the original significance determinations for the original underlying impacts as described in the Final EIR/EIS.

Figure 26-0. Comparison of Impacts on Mineral Resources

Chapter 26 – Mineral Resources	Approved Project	Proposed Project (Total)	Proposed Project (Increment)
Impact MIN-2: Loss of Availability of Extraction Potential from Natural Gas Fields as a Result of Constructing the Water Conveyance Facilities (number of acres of non-abandoned natural gas field affected)	352 acres	230 acres	-122 acres
	Less than significant/ not adverse	Remains less than significant/ not adverse. No change from the approved project.	

As depicted in Figure 26-0, the proposed project would not result in new significant impacts or a substantial increase in the severity of previously identified significant mineral resource impacts. This chapter contains the information necessary to make the Final EIR/EIS[1] adequate for the approved project as revised.

[1] The July 2017 document titled *Developments after Publication of the Proposed Final Environmental Impact Report* included modifications and additions to the proposed Final EIR/EIS. In this chapter, references to "the Final EIR/EIS" should be understood to include changes made to the December 2016 document as set forth in the July 2017 document.

26.2 Environmental Setting/Affected Environment

26.2.1 Affected Environment

The Existing Conditions of mineral resources (natural gas and aggregate resources) that would be affected by construction and operation of the proposed project are similar to those described in Final EIR/EIS Chapter 26, *Mineral Resources*, Section 26.1 *Environmental Setting/Affected Environment*. The Final EIR/EIS provides a discussion of existing mineral resources, including aggregate resources, as well as oil and gas resources within the study area. Because the modifications to the approved project would be located entirely within the previously analyzed project area, the Existing Conditions have not changed.

26.3 Environmental Consequences

This section describes the potential mineral-related effects that would result from project-related construction, operation, and restoration activities. The evaluated effects include the loss of access to mineral resources related to proposed project activities. The focus of this assessment is on determining the incremental effect on mineral resources that is attributable to project modifications. With the exception of focusing on the incremental effects, the methods of analysis and determination of effects is the same as indicated in the Final EIR/EIS. These methods are also described below.

Effects are evaluated for severity and, where appropriate, mitigation measures are identified. Where mitigation measures identified in the Final EIR/EIS remain sufficient, such sufficiency is noted. Some impact topics addressed in the Final EIR/EIS are not addressed herein because the change in the footprint of the water conveyance facilities would not result in a changed impact. This chapter does not address impacts from operating the proposed project because operations and maintenance of the proposed project would not create any new impacts. The impacts resulting from implementation of Environmental Commitments 3, 4, 6–12, 15, and 16, whether they occur under the proposed project or approved project, are fully disclosed in the Final EIR/EIS and would not change if the footprint changes described for the proposed project are constructed.

The methods applied to the analysis of impacts on mineral-related effects of the proposed project within the study area are the same as indicated in the Final EIR/EIS. These effects would be associated with construction and operation of the conveyance facilities under the proposed project.

26.3.1 Effects and Mitigation Approaches

26.3.1.1 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 mineral resources would result along the proposed project alignment from what was previously described for the No Action Alternative Early Long-Term in the Final EIR/EIS if the No Action Alternative were to occur.

26.3.1.2 Proposed Project

Impact MIN-1: Loss of Availability of Locally Important Natural Gas Wells as a Result of Constructing the Water Conveyance Facilities

RTM Storage

Changes related to moving RTM storage under the proposed project would not interfere with any producing natural gas wells.

Byron Tract Forebay and Conveyance

Construction of the Byron Tract Forebay and the tunnel and canal segments extending from the new forebay would not interfere with any producing natural gas wells.

NEPA Effects: The locations of producing natural gas wells within the proposed project construction footprint would be the same as indicated for the approved project (see Figure 24-3 in Chapter 24, *Hazards and Hazardous Materials* of this Supplemental EIR/EIS). There are no producing wells within the construction footprint, the temporary construction work areas or the east-west transmission line alignment option.

Because no producing wells within the construction footprint would be permanently abandoned, construction of the proposed project would not result in reduced natural gas production in the study area. The proposed project would not affect any locally important natural gas wells or result in the loss of any portion of the area's natural gas production and therefore, it would result in an identical impact on natural gas production as described for the approved project in Final EIR/EIS Section 26.3.4.2. The effects would not be adverse.

CEQA Conclusion: Because no natural gas wells would occur in the construction footprint there would not be any loss in active natural gas wells or change in the availability of natural gas production.

> ***Incremental Impact:*** There would be no incremental impact as a result of constructing the proposed project. As with the approved project, the construction of the proposed project would not affect natural gas wells or gas production and there would be no adverse effect (NEPA) or significant impact (CEQA). No mitigation is required.

Impact MIN-2: Loss of Availability of Extraction Potential from Natural Gas Fields as a Result of Constructing the Water Conveyance Facilities

RTM Storage

Changes related to moving RTM storage under the proposed project would not result in loss of extraction potential for natural gas fields because there are no gas fields underlying designated RTM storage areas.

Byron Tract Forebay and Conveyance

Construction of the Byron Tract Forebay and the tunnel and canal segments extending from the new forebay would not result in loss of extraction potential for natural gas fields because there are no gas fields underlying the new Byron Tract Forebay or the tunnel and canal segments.

NEPA Effects: The extent of construction and permanent footprint and resulting loss of extraction potential for natural gas fields would be almost identical to what is described under the approved project. The proposed project water conveyance facilities would permanently reduce the land surface available for vertical extraction of natural gas from directly underlying gas fields. The proportion of natural gas field area underlying the proposed project permanent construction footprint is small (approximately 3% of the areal extent of natural gas field areas intersected; see Alternative 4A in Table 26-5 in the Final EIR/EIS and Figure 26-2). However, most of the affected gas fields could be accessed from other overlying areas. Similarly, effects on potential gas extraction resulting from construction work areas would be small and temporary and would not prevent recovery of natural gas. Therefore, there would be no short or long-term adverse effect on natural gas extraction potential from construction of the proposed project.

CEQA Conclusion: The changes under the proposed project would not create any additional impacts on the extraction potential for natural gas fields. Therefore, the impact would be identical to that of the approved project. Although the proposed project conveyance facilities would reduce the land surface available for vertical extraction of natural gas from underlying gas fields, the proportion of these gas fields affected would be small (approximately 3% of the areal extent of natural gas field areas intersected). Additionally, there would be no substantial loss of existing production or permanent loss of access to the resource because the gas fields would continue to be accessible using conventional or directional drilling techniques. There would be no short- or long-term significant effect on natural gas extraction potential from construction of the proposed project.

Incremental Impact: There would be no incremental impact from the proposed project on the extraction potential for natural gas fields. This impact would remain not adverse (NEPA) and less than significant (CEQA). No mitigation is required.

Impact MIN-7: Loss of Availability of Locally Important Aggregate Resource Sites (Mines and MRZs) as a Result of Constructing the Water Conveyance Facilities

NEPA Effects: Because there are no permitted resource extraction mines (including aggregate mines) and no identified mineral resource zones (MRZs) in the proposed project footprint, including within the footprint for the east-west transmission line alignment option, there would be no effect on the availability of aggregate resources.

CEQA Conclusion: Because there are no permitted mines or MRZs in the construction footprint for the proposed project, including within the footprint for the east-west transmission line alignment option, there would be no impact.

Incremental Impact: There would be no incremental impact from the proposed project. The impact would be identical to the impact under the approved project because there are no permitted mines or MRZs in the construction footprint of either the proposed project or the approved project. The impact remains not adverse (NEPA) and less than significant (CEQA). No mitigation is required.

Impact MIN-8: Loss of Availability of Known Aggregate Resources as a Result of Constructing the Water Conveyance Facilities

RTM Storage

Changes related to moving RTM storage under the proposed project would not affect the availability of known aggregate resources.

Byron Tract Forebay and Conveyance

While the demand for construction materials, including aggregates and borrow materials for the proposed project would be similar to that of the approved project, construction of the Byron Tract Forebay and the canal leading to the California Aqueduct and the Delta-Mendota Canal would require additional aggregate beyond what was required for the approved project.

The principal demands for construction material would come from the three intakes and associated facilities, the nearly 40 miles of concrete pipeline tunnels, and forebays. The approximately 13,083,815 tons of aggregate required for the proposed project would be less than the amount required for the approved project by almost 500,000 tons, and would be equal to approximately 32% of the permitted aggregate in Sacramento County or 6% of the permitted aggregate in the Stockton-Lodi P-C Region (see Table 26-1 from the Final EIR/EIS). It is equal to about 5% of the combined permitted aggregate in these two areas. As discussed for Alternative 4 in the Final EIR/EIS, Section 26.3.3.9, sourcing this demand is likely to come from multiple sources considering that the alternative extends many miles along a north-to-south alignment and different portions of the project would be closer to individual local resources (see Figure 26-1). Also, as discussed under Alternative 4 in the Final EIR/EIS, there is potential for the development of new aggregate sources in the area as well as recently developed individual quarries whose available volumes could provide more than the required annual tonnage to the project.

NEPA Effects: Consequently, the proposed project aggregate demand would not result in a substantial depletion of construction-grade aggregate within the six regional aggregate production study areas, would not cause remaining supplies to be inadequate for future development, and would not substantially contribute to the need for the development of new aggregate resources. The amount of borrow required for the proposed project is the same as for the approved project. The use of this amount of borrow would not have an adverse effect because borrow is not defined as a mineral resource and it is developed locally and regionally on an as-needed basis. Accordingly, it would not have an adverse effect on the availability of known aggregate resources or borrow materials over the water conveyance facilities construction period.

CEQA Conclusion: The use of large amounts of construction aggregate over the entirety of the construction period would not result in a substantial depletion of construction-grade aggregate from the study area, would not cause remaining supplies to be inadequate for future development, and would not contribute to the need for development of new aggregate sources. The use of borrow would not have a significant impact because borrow is not defined as a mineral resource and it is developed locally and regionally on an as-needed basis.

Incremental Impact: There would be a slight decrease in impact as a result of constructing the proposed project compared with the impact created by the approved project because less construction aggregate would be needed for the proposed project. Although a substantial amount of available aggregate material may still be used under the proposed project, the impact on aggregate resources would remain the same as under the approved project and would be not adverse (NEPA) and less than significant (CEQA). No mitigation is required.

26.3.2 Cumulative Analysis

The Final EIR/EIS found that there was a potential for the approved project to have a cumulative effect on natural gas resources and aggregate. Mitigation Measures MIN-5 and MIN-6 have been adopted and would reduce the project-related impact, but not to a less-than-significant level. Because implementation of Mitigation Measure MIN-5 and MIN-6 cannot assure that all or a substantial portion of a county's existing natural gas wells or fields will remain accessible after implementation of the proposed project, this cumulative impact is significant and unavoidable and the project contribution is cumulatively considerable.

Implementation of the proposed project would also have the potential to result in the loss of availability of locally or regionally important aggregate resource that would cause remaining supplies to be inadequate for future development. This would constitute a significant cumulative impact and the incremental contribution to this impact of the proposed project would be cumulatively considerable. Implementation of Mitigation Measures MIN-11, MIN-13, and MIN-14 would reduce the severity of the project's contribution to this cumulative impact by reducing the need to use local sources of aggregate and by participating in processes to develop additional resources. Because these measures cannot assure the ongoing availability of aggregate resources for future development, this cumulative impact would be significant and unavoidable and the proposed project's contribution to this impact would remain cumulatively considerable.

Mitigation Measure MIN-5: Design Environmental Commitments 4 and 10 to Avoid Displacement of Active Natural Gas Wells to the Extent Feasible

Please refer to Mitigation Measure MIN-5 under Impact MIN-5, in Chapter 26, *Mineral Resources*, of the Final EIR/EIS.

Mitigation Measure MIN-6: Design Environmental Commitments 4 and 10 to Maintain Drilling Access to Natural Gas Fields to the Extent Feasible

Please refer to Mitigation Measure MIN-6 under Impact MIN-6, in Chapter 26, *Mineral Resources*, of the Final EIR/EIS.

Mitigation Measure MIN-11: Purchase Affected Aggregate Materials for Use in Project Construction

Please refer to Mitigation Measure MIN-11 under Impact MIN-11, in Chapter 26, *Mineral Resources*, of the Final EIR/EIS.

26.4 References Cited

None.