

4.9 UTILITIES AND SERVICE SYSTEMS

This section describes existing utilities and service systems serving the Airport and identifies and addresses potential impacts related to the following utilities, with the service provider indicated in parentheses:

- Wastewater conveyance and treatment (Orange County Sanitation District ["OCSD"]) and
- Water supplies (Mesa Water District).

As discussed in Section 1.6, EIR Focus and Effects Found Not to be Significant, and in the Notice of Preparation ("NOP")/Initial Study in Appendix A, the Project would not require or result in the construction or expansion of storm drainage facilities, would be served by a landfill(s) with sufficient permitted capacity to serve the Project, and would comply with federal, State, and local solid waste regulations. Therefore, these topics are not discussed in this section.

4.9.1 REGULATORY SETTING

STATE/REGIONAL

Urban Water Management Planning Act

The California Urban Water Management Planning Act (*California Water Code*, Sections 10610–10656) requires urban water suppliers to develop urban water management plans. While generally aimed at encouraging water suppliers to implement water conservation measures, it also creates long-term planning obligations. The Urban Water Management Planning Act requires urban water suppliers that either provide over 3,000 acre-feet ("af") of water annually or serve more than 3,000 or more connections to assess the reliability of its water sources over a 20-year planning horizon and to update the data in the urban water plans every 5 years. In preparing their 20-year management plans, water suppliers must directly address the subject of future population growth. The suppliers must also identify sources of supply to meet demand during normal, dry, and multiple dry years.

Mesa Water District ("Mesa Water"; formerly Mesa Consolidated Water District) provides potable (domestic) water service to an 18-square-mile service area that includes most of the city of Costa Mesa, portions of the city of Newport Beach, and a small portion of unincorporated County of Orange. John Wayne Airport ("JWA") is located within the northeastern portion of Mesa Water's service area. Mesa Water adopted its *2010 Urban Water Management Plan* ("UWMP") in May 2011.

Senate Bill 610 and Senate Bill 221

Senate Bill ("SB") 610 amended State law to improve the link between information on water supply availability and certain land use decisions made by Cities and Counties.¹ Specifically, it requires land use planning entities (in this case, the County of Orange), when evaluating certain large development projects, to request an assessment of water supply availability from the water supply entity that would provide water to a project. A water supply assessment ("WSA") must

¹ SB 610 amended Section 21151.9 of the *California Public Resources Code*, and amended sections 10631, 10656, 10910, 10911, 10912, and 10915 of, repealed section 10913 of, and added and amended section 10657 of, the *California Water Code*.

be prepared in conjunction with the land use approval process associated with a project and must include an evaluation of the sufficiency of the water supplies available to the water supplier to meet existing and anticipated future demands, including the demand associated with the project in question, over a 20-year horizon that includes normal, single-dry, and multiple dry-years. An SB 610 WSA is required for any “project” that is subject to CEQA and that proposes, among other things,) a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Due to the size and nature of the Project, the State of California, through SB 610, does not require that a WSA be completed to evaluate the potential effect of the proposed development on current and future water supplies.

4.9.2 METHODOLOGY

Information presented in this section was derived from the JWA Environmental Impact Report (“EIR”) 582, the *John Wayne Airport Settlement Agreement Amendment Greenhouse Gas Technical Report* (“GHG Report”) prepared by Environ for the Project (Environ 2014; provided in Appendix E of this Draft EIR), and publicly available publications of Mesa Water and the OCSD as referenced herein. In addition, Mesa Water and the OCSD were provided with the NOP and were consulted regarding whether the agency could serve the increased water demand and wastewater generation, respectively, associated with the increase in annual passengers for Proposed Project and each alternative.

4.9.3 EXISTING CONDITIONS

WASTEWATER

Wastewater treatment requirements have been issued by the California Regional Water Quality Control Board (“RWQCB”) for OCSD treatment plants to ensure that adequate levels of treatment would be provided for the wastewater flows emanating from all land uses within its service area.

The OCSD is responsible for collection, treatment and disposal of the wastewater generated by 2.5 million people living in a 479-square-mile area of central and northwest Orange County, including JWA. OCSD currently operates two wastewater treatment plants: Plant No. 1 in Fountain Valley and Plant No. 2 in Huntington Beach, which treat wastewater to secondary standards. In addition, OCSD in partnership with Orange County Water District operates Orange County Groundwater Replenishment System and Green Acres Project (OCSD 2013). The area is tributary to two Sanitation District sewers: the 18-inch diameter, North Airport Diversion Sewer located in Business Center Drive, and the 12-inch diameter, South Airport Diversion Sewer, located in Campus Drive. The two sewer lines cross Mac Arthur Boulevard on the eastside of JWA in the area referred to as the Irvine Business Complex. (DEIR 582).

In conjunction with the development of the terminal facilities provided for in the 1985 Master Plan (Terminals A and B), JWA and OCSD developed a Sewer Service Agreement to accommodate all future discharges and ensure adequate capacity to serve 10.24 MAP². This agreement assumed wastewater discharge for 10.24 MAP having a rated flow of 2.5 gallons per flush. In 2005, in conjunction with the issuance of a “will serve” letter for the Terminal C improvements

² As originally approved, the 1985 Master Plan provided for 10.24 MAP to be served at JWA. As a result of the Settlement Agreement, this number was reduced to 8.4 MAP through 2005.

and 10.8 MAP, this agreement was modified. The “will serve” letter indicates that by installing water-efficient facilities (not more than one gallon per flush), that the resulting discharge for 10.8 MAP would be over 20 percent less than the earlier anticipated volume for the 10.24 MAP (OCSO 2005). The required water-efficient facilities have been installed throughout the Terminal Buildings (Terminals A through C). The expected flows have not been realized because JWA has not reached the allowed 10.8 MAP.

WATER SUPPLY

Mesa Water provides water service to JWA. As of the preparation of the 2010 UWMP, Mesa Water received its water from two main sources: (1) the Lower Santa Ana River Groundwater Basin (“Basin”), which is managed by the Orange County Water District (“OCWD”) and (2) imported water from the Municipal Water District of Orange County (“MWDOC”). Groundwater was pumped from six wells that pump clear water from the Basin and two wells that pump colored water (amber-colored from historic redwood forests). The colored water is treated at the Mesa Water Reliability Facility (“MWRF”; formerly the Colored Water Treatment Facility) and imported water is treated at the Diemer Filtration Plant and is delivered to Mesa Water through the imported water connections (Mesa Water 2011).

In late 2012, Mesa Water completed improvements to the MWRF that increased the capacity from 5.8 million gallons per day (“mgd”) to 8.6 mgd, a 50 percent increase in water production, and eliminates the need for Mesa Water to use imported water. With implementation of the upgraded MWRF, 100 percent of Mesa Water’s supply is local groundwater from the Basin (Mesa Water 2012).

According to the *Greenhouse Gas Technical Report* (Table 4.4-1), provided in Appendix E, JWA currently has an annual water usage of 4.46 acre-feet per year (“afy”). Based on the Irvine Ranch Water District (“IRWD”) *2010 Urban Water Management Plan*, an average house in Irvine uses approximately 0.32 acre-foot per year (IRWD 2010). Therefore, the current usage at the Airport is roughly the equivalent water usage of 14 single-family residential units per year.

It is noted that JWA incorporates water conservation features into its daily operations, such as installation of ultra-low flow fixtures; efficient landscape watering; increasing ground water percolation; and runoff diversion.

4.9.4 THRESHOLDS OF SIGNIFICANCE

In accordance with the County’s Environmental Analysis Checklist, the Project would result in a significant impact related to public services and utilities if it:

- Threshold 4.9-1** Would exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board (“RWQCB”).
- Threshold 4.9-2** Would require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental impacts.
- Threshold 4.9-3** Would not have sufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements would be needed.

Threshold 4.9-4 Would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

4.9.5 IMPACT ANALYSIS

Because the demand for potable water supplies and generation of wastewater increases with increasing intensity of Airport operations, the following analysis is focused on potential impacts from the addition of the ultimate flight operations (Phase 3) to the existing conditions for the Proposed Project and all alternatives.

Threshold 4.9-1 Would the project exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Threshold 4.9-2 Would the project require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental impacts?³

Threshold 4.9-4 Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

WASTEWATER

Proposed Project

As previously indicated, wastewater generated the Proposed Project is currently and would continue to be treated by facilities owned and operated by OCSD. The Proposed Project would continue to comply with the wastewater requirements of OCSD, which is consistent with the requirements of the RWQCB. Therefore, the Project would not exceed wastewater treatment requirements of the RWQCB.

Throughout the years, JWA has coordinated with OCSD to ensure there is sufficient capacity to serve the Airport facilities. As previously indicated, in 2005 and confirmed with OCSD staff in 2014, OCSD has assumed the higher wastewater discharge provided for in the 1990 service agreement with the Airport (10.24 MAP and a rated flow of 2.5 gallons per flush) (personal communication, Daisy Covarrubias, 2014). Using the estimate in the 2005 "will serve" letter, the resulting discharge for 10.8 MAP would be over 20 percent less than the earlier anticipated volumes; therefore, it has been estimated that by using water efficient facilities, there is capacity to serve approximately 12.96 MAP (10.8 MAP plus 20 percent). Since the Proposed Project would only provide for up to 12.5 MAP in Phase 3, it has been determined that implementation of the Proposed Project would not result in a significant impact related to the wastewater conveyance facilities that serve JWA because there is excess capacity in the conveyance facilities. Thus, the Proposed Project does not have the potential to require or result in the construction of new

³ The following analysis addresses wastewater only. The analysis of potable water facilities under this threshold is addressed below in this section.

wastewater treatment facilities or expansion of existing facilities. Less than significant impacts are expected.

Impact Conclusion: *The Proposed Project would not exceed the wastewater treatment requirements of the Santa Ana RWQCB or result in discharges that would require the construction of new wastewater treatment facilities or the expansion of existing facilities.*

Alternative A

The analysis provided for the Proposed Project for these thresholds would also be applicable to Alternative A with respect to consistency with wastewater treatment requirements and ability to serve the demand generated by Alternative A, Phase 3. As indicated above, based on the use of the water efficient facilities, it is anticipated that the OCSD would have the capacity to serve up to 12.96 MAP within its current allocation for the Airport. Thus, Alternative A does not have the potential to require or result in the construction of new wastewater treatment facilities or expansion of existing facilities. Less than significant impacts are expected.

Impact Conclusion: *Alternative A would not exceed the wastewater treatment requirements of the Santa Ana RWQCB or result in discharges that would require the construction of new wastewater treatment facilities or the expansion of existing facilities.*

Alternative B

Based on the analysis provided above under the Proposed Project, OCSD would have the capacity to serve up to 12.96 MAP within its current allocation for the Airport. However, since Alternative B, Phases 2 and 3 assumes 13.0 MAP and 15.0 MAP, respectively, Alternative B would exceed the current allocation assumed for the Airport. Based on discussion with OCSD, other factors regarding the capacity of the lines and expected flows from other uses in the area would need to be evaluated before it can be determined if additional improvements would be required to serve the Alternative B, Phases 2 and 3 MAP levels. Additionally, since the 13.0 MAP and 15.0 MAP would not occur prior to 2021 and 2026, respectively, the analysis would need to consider other improvements that OCSD have programmed as part of their long-term planning. However, without assurances that Alternative B does not exceed capacity, it has been determined that exceeding the allocation already in place for JWA would be a potentially significant impact. However, if Alternative B is selected, JWA would coordinate with OCSD to determine, what if any improvements are required to meet all the RWQCB's wastewater treatment requirements (see Mitigation Measure U-1). It is anticipated that this may require increasing the size of the wastewater conveyance lines and would require separate CEQA documentation.

Impact Conclusion: *Alternative B would exceed the wastewater flow allocations assumed by OCSD for the Airport. Coordination with OCSD would be required and potential improvements may be needed to ensure treatment requirements of the Santa Ana RWQCB are achieved. This is a potentially significant impact prior to mitigation.*

Alternative C

The analysis provided for the Alternative B for these thresholds would also be applicable to Alternative C. Alternative C (all phases) assumes 16.9 MAP, which would exceed the current allocation assumed for the Airport. As with Alternative B, other factors regarding the capacity of the lines and expected flows from other uses in the area would need to be evaluated before it can be determined if additional improvements would be required to serve the Alternative C MAP levels. However, with Alternative C, the ability to increase to 16.9 MAP would occur in 2016. Without assurances that Alternative C does not exceed capacity, it has been determined that exceeding the discharge allocation already in place for JWA would be a potentially significant impact. However, if Alternative C is selected, JWA would coordinate with OCSD to determine, what if any improvements are required to meet all the RWQCB's wastewater treatment requirements (see Mitigation Measure U-1). It is anticipated that this may require increasing the size of the wastewater conveyance lines and would require separate CEQA documentation.

Impact Conclusion: *Alternative C would exceed the wastewater flow allocations assumed by OCSD for the Airport. Coordination with OCSD would be required and potential improvements may be needed to ensure treatment requirements of the Santa Ana RWQCB are achieved. This is a potentially significant impact prior to mitigation.*

No Project Alternative

The No Project Alternative would not increase the MAP level beyond the 10.8 MAP provided for in the 2005 "will serve" letter. As previously indicated, the OCSD estimated by using water efficient facilities at the Airport, the 10.8 MAP results in water discharges approximately 20 percent less than what was assumed to support the 1985 Master Plan. Therefore, no impacts are anticipated.

Impact Conclusion: *The No Project Alternative would not exceed the wastewater treatment requirements of the Santa Ana RWQCB or result in discharges that would require the construction of new wastewater treatment facilities or the expansion of existing facilities. No impacts are anticipated.*

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| Threshold 4.9-2 | Would the project require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental impacts?⁴ |
| Threshold 4.9-3 | Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? |

⁴ The following analysis addresses potable water supply only. The analysis of wastewater treatment facilities under this threshold is addressed above in this section.

WATER SUPPLY

Proposed Project and All Alternatives

As discussed above, Mesa Water supplies potable water to JWA, and the current annual water usage at the Airport is 4.46 afy, or 0.48 afy per million annual passengers. Based on this usage, the current and projected water usage under the Proposed Project, Alternatives A, B, and C, and the No Project Alternative, for each phase, are shown in Table 4.9-1. As shown, through implementation of Phase 3 of the Proposed Project and each alternative, there would be an estimated incremental increase in water demand varying from 0.79 afy for the No Project Alternative to 3.75 afy for Alternative C.

As discussed above, a WSA is required when a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project. Based on the factor used by IRWD in the *2010 Urban Water Management Plan*, this would be the equivalent of approximately 160 afy. As shown in Table 4.9-1, the Proposed Project and all the alternatives are substantially below this threshold.

**TABLE 4.9-1
EXISTING AND PROJECTED WATER DEMAND FOR THE PROPOSED
PROJECT AND ALL ALTERNATIVES**

	Estimated Water Demand (afy)				Total Estimated Increase (af)
	Baseline	Phase 1	Phase 2	Phase 3	
Proposed Project	4.46	5.25	5.73	6.07	1.61
Alternative A	4.46	5.25	5.54	6.22	1.76
Alternative B	4.46	5.25	6.32	7.29	2.83
Alternative C	4.46	8.21	8.21	8.21	3.75
No Project Alternative	4.46	5.25	5.25	5.25	0.79
MAP: Million Annual Passengers; afy: acre-feet per year					
Source: <i>Greenhouse Gas Technical Report</i> , Table 4.6-17a, (converted to acre feet) Environ 2014.					

Mesa Water was consulted regarding the sufficiency of potable water supplies to serve these estimated increases in water demand. Mesa Water concluded there are sufficient water supplies (which inherently included water treatment) to meet the estimated water demand for the Proposed Project and any of the alternatives through Phase 3, as provided in Table 4.9-1. Further, Mesa Water is currently in the process of updating their Water Master Plan and intends to incorporate the anticipated future water demand from JWA based on increased annual passenger throughput, depending on the scenario approved (Lauri 2014). Therefore, there would be sufficient water supplies to serve the Airport in addition to Mesa Water's existing and anticipating future entitlements. The Proposed Project and all alternatives would result in less than significant impacts related to sufficient water supplies or the need for new or expanded water treatment facilities, and no mitigation is required.

Impact Conclusion: *The Proposed Project and all alternatives would result in less than significant impacts related to sufficient water supplies or the need for new or expanded water treatment facilities, and no mitigation is required.*

4.9.6 MITIGATION PROGRAM

No mitigation measures would be required for the Proposed Project, Alternative A, or the No Project Alternative. The following mitigation measure would apply if Alternative B or Alternative C is selected.

- U-1 Prior to allocation of flights that would allow greater than 12.96 MAP for either Alternative B or Alternative C, the County of Orange/JWA shall coordinate with the OCSD to clearly delineate any improvements that would be required to ensure that wastewater discharges can be accommodated and treated in compliance with the Santa Ana RWQCB standards. If physical improvements are required, separate environmental documentation pursuant to CEQA shall be required, which will be funded by the County of Orange/JWA. JWA shall not allocate flights that would result in wastewater discharge in excess of the allocated discharge for JWA, which is estimated to correspond to 12.96 MAP, until such time as the improvements are completed or OCSD confirms that capacity is available.

Implementation: Alternative B, Phase 3 and Alternative C exceed the wastewater capacity assumed in the Sewer Service Agreement issued by the OCSD for JWA in 2005. Upgrading conveyance facilities may be necessary if there is not sufficient capacity in the existing lines. This would involve physical improvements. Sewer lines are generally located in the street right-of-way. As such, if the facilities need to be upsized, the impacts are expected to be construction related impacts, such as short-term air quality emissions and noise associated with construction equipment and traffic delays if a roadway lane needs to be closed during construction. Generally, these impacts are less than significant; however, this determination would be made when improvements are prepared. Additionally, because full implementation of the subject improvement is outside the jurisdiction and control of the County of Orange/JWA and, therefore, implementation cannot be assured, in the event the improvement is not fully operational prior to JWA serving 12.96 MAP, the Project's impacts would remain significant.

4.9.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts on utilities associated with the Proposed Project and Alternative A are less than significant and no mitigation is required. There would be no impacts on utilities with the No Project Alternative. Impacts on utilities for Alternative B or Alternative C would be less than significant with mitigation.

**TABLE 4.9-2
SUMMARY OF UTILITIES AND SERVICE SYSTEMS IMPACTS**

Threshold	Proposed Project	Alternative A	Alternative B	Alternative C	No Project Alternative
Threshold 4.9-1	Less than significant impact	Less than significant impact	Less than significant impact	Less than significant impact	No impact
Threshold 4.9-2	Less than significant impact	Less than significant impact	Less than significant impact	Less than significant impact	No impact
Threshold 4.9-3	Less than significant impact	Less than significant impact	Less than significant impact	Less than significant impact	No impact
Threshold 4.9-4	Less than significant impact	Less than significant impact	Significant unavoidable impact	Significant unavoidable impact	No impact

4.9.8 REFERENCES

- Environ International Corporation. 2014 (April). *John Wayne Airport Settlement Agreement Amendment Greenhouse Gas Technical Report*. Irvine, CA: Environ (Appendix E).
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