CHAPTER 4.0

ENVIRONMENTAL CONSEQUENCES

CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES

This chapter discusses the environmental effects of the proposed project and alternatives and provides the foundation for comparison of the alternatives presented in **Chapter 2.0**. The potential for adverse environmental effects is assessed with regard to the baseline conditions established in **Chapter 3.0**. The analysis presented in this chapter has been prepared in accordance with Council of Environmental Quality (CEQ) NEPA Regulations (40 CFR §1502.16).

4.1 LAND RESOURCES

This section identifies the direct effects to land resources that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.1**. Cumulative effects are identified in **Section 4.13**. Indirect effects associated with off-site construction and growth-inducement are identified in **Section 4.14**. Measures to avoid and, if necessary, mitigate for adverse effects identified in these sections are presented in **Section 5.2**.

Assessment Criteria

Adverse geologic effects would result if structures were to fail or create hazards to adjacent property due to slope instability, effects of earthquakes, or adverse soil conditions (i.e. compressible, expansive or corrosive soils), or if mineral resources were compromised.

4.1.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Topography and Landslides

Construction of Alternative A would require alterations to the topographical characteristics of the Barstow site. The Barstow site is relatively flat (1.5 percent mean slope), and the result of on-site grading would have a minor impact on the site. As discussed in **Subsection 3.1.2**, there is no sloping ground that would be subject to instability or landslides on or adjacent to the Barstow site; therefore, landslides would not occur. Development of Alternative A would have no adverse effects on topographic characteristics.

Soils

Soil Erosion

Construction activities associated with Alternative A could result in temporary soil erosion, which can drastically alter the drainage pattern of an area and result in the sedimentation of surface waters if not properly addressed through standard construction specifications. A discussion of surface water impacts is provided in **Section 4.2**, Water Resources. The measures listed in **Section 5.0** would reduce these potential effects. Due to the relatively flat topography, grading activities would not create unstable slopes on or near the project site.

Stormwater runoff during construction and during operation could potentially be another source of soil erosion. However, in order to comply with the U.S. Environmental Protection Agency's (USEPA) National Pollution Discharge Elimination System (NPDES) program under the Clean Water Act, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared to address water quality impacts associated with construction and operation of the casino. The SWPPP would identify best management practices (BMP's) and the location of construction and operational erosion control features, thereby ensuring that adverse effects resulting from erosion are reduced to insignificant levels. A detailed list of erosion control construction and measures that would be used as mitigation is provided in **Section 5.0**.

Expansive Soils

Expansive soils are not present on the surface of the Barstow site. The expansion rating for near-surface soils on site is low. Development of Alternative A would have no adverse effects related to expansive soils.

Soil Corrosivity

Corrosion is an electrochemical process affecting degradation of metals or metal-containing materials in contact with water. This process is discussed in detail in **Section 3.1**. Sandy soils found on the Barstow site rate high on the resistivity scale, and therefore, are considered the least corrosive. Development of Alternative A would have no adverse effects related to soil corrosivity.

Seismic Hazards

The project site is located within a seismically active region. **Section 3.1** identifies the probability for a seismic event to cause destructive ground acceleration at the Barstow site. According to **Table 3.1-2**, the Barstow site is within a region having a 10 percent chance of exceeding 0.25g acceleration in a seismic event, with a corresponding MMI Intensity Value of VIII. At this level of acceleration, damage would be slight in specially designed structures.

The casino and related facilities would be constructed in accordance with ~~Uniform~~ International Building Code (~~UBC~~IBC) guidelines, particularly those pertaining to earthquake design, in order to safeguard against major structural failures and loss of life. As identified in **Section 5.1**, the Tribe has agreed to enact laws applicable to the trust lands and shall require that all tribal development projects on the trust lands shall be used and developed in a manner that is consistent with the Barstow Municipal Code and to adopt building standards and codes no less stringent than those adopted by the City. Further, the Tribe has agreed to ensure compliance with the City's adopted codes including those pertaining to building standards and to contract with the City to provide planning, building and safety, fire prevention, and public works personnel to review any and all construction plans and inspect construction of all improvements on or off the trust lands. The Barstow site does not fall within an Alquist-Priolo Zone and is therefore not subject to any building restrictions applicable to properties designated as such. Development of Alternative A would have no adverse effects related to seismic hazards.

Liquefaction

Based on the liquefaction analyses in **Section 3.1**, there is no substantial risk of liquefaction in the project area. Development of Alternative A would have no adverse effects related to liquefaction.

Lateral Spreading

Lateral spreading is commonly associated with liquefaction. There is no substantial risk of liquefaction in the project area, lateral spreading is unlikely to occur on the Barstow site. Development of Alternative A would have no adverse effects related to lateral spreading.

Seismically Induced Flooding

The Barstow site is not located downstream from any major dams or reservoirs that could inundate the project site in the event of seismically induced breakage. Development of Alternative A would have no adverse effects related to seismically induced flooding.

Mineral Resources

As there are no known or mapped mineral resources within the Barstow site, construction and operation of Alternative A is not anticipated to impact or be impacted by mineral resources. The alterations in land use on the Barstow site would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. Development of Alternative A would have no adverse effects related to mineral resources.

4.1.2 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

Topography and Landslides

Construction of Alternative B would require alterations to the topographical characteristics of the Barstow site similar to those described for Alternative A. As discussed under Alternative A, there is no sloping ground that would be subject to instability or landslides on or adjacent to the Barstow site; therefore, landslides cannot occur. Development of Alternative B would not have an adverse effect on topographic characteristics.

Soils

Soil Erosion

As with Alternative A, construction activities associated with Alternative B could result in temporary soil erosion, which can drastically alter the drainage pattern of an area and result in the sedimentation of surface waters if not properly addressed through standard construction specifications. A detailed list of erosion control measures that would be used as mitigation is provided in **Section 5.0**.

Expansive Soils

As discussed under Alternative A, expansive soils are not present on the surface of the Barstow site. The expansion rating for near-surface soils on-site is low. Development of Alternative B would have no adverse effects related to expansive soils.

Soil Corrosivity

As discussed under Alternative A, the potential for corrosivity is low. Development of Alternative B would have no adverse effects related to soil corrosivity.

Seismicity

As stated under Alternative A, the Barstow site is located within a seismically active region. The casino and related facilities would be constructed in accordance with ~~UBC~~ IBC guidelines and adopted City Codes, particularly those pertaining to earthquake design, in order to safeguard against major structural failures and loss of life. Construction methods and design would be similar to Alternative A. Development of Alternative B would have no adverse effects related to seismicity.

Liquefaction

As discussed under Alternative A, there is no substantial risk of liquefaction in the project area; therefore, development of Alternative B would have no adverse effects related to liquefaction.

Lateral Spreading

As discussed under Alternative A, lateral spreading is unlikely to occur on the Barstow site; therefore, development of Alternative B would have no adverse effects related to lateral spreading.

Seismically Induced Flooding

As discussed under Alternative A, the Barstow site is not subject to any type of seismically induced flooding; therefore, no adverse effects would occur under Alternative B.

Mineral Resources

Similarly to Alternative A, construction and operation of Alternative B is not anticipated to impact or be impacted by mineral resources. Development of Alternative B would have no adverse effects related to mineral resources.

4.1.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Topography and Landslides

Construction of Alternative C would require alterations to the topographical characteristics of the Los Coyotes site. In general, the Los Coyotes site is flat, but sloped slightly from the northeastern corner to the southwestern corner. Some of the surrounding hills exceed 500 feet amsl; however, the perpendicular orientation of the hills to the project site reduces the likelihood of landslides. Landslides are therefore not

likely to occur. Development of Alternative C would have no adverse effects on topographic characteristics.

Soils

Soil Erosion

As with Alternative A, construction activities associated with Alternative C could result in temporary soil erosion, which can drastically alter the drainage pattern of an area and result in the sedimentation of surface waters if not properly addressed through standard construction specifications. A detailed list of erosion control measures that would be used as mitigation is provided in **Section 5.0**.

Expansive Soils

Expansive soils are not present on the surface of the Los Coyotes site. The expansion rating for near-surface soils on-site is low. Development of Alternative C would have no adverse effects related to expansive soils.

Soil Corrosivity

Due to the soil composition at the Los Coyotes site and its inherently high sand content, the potential for corrosivity is low. Development of Alternative C would have no adverse effects related to soil corrosivity.

Seismicity

The Los Coyotes site is located near three faults, including one that runs through the Los Coyotes Reservation. **Section 3.1** identifies the probability for a seismic event to cause destructive ground acceleration at the Los Coyotes site. According to **Table 3.1-2**, the Los Coyotes site is within a region having a 10 percent chance of exceeding 0.60g acceleration in a seismic event, with a corresponding MMI Intensity Value of X. The casino and related facilities would be constructed in accordance with ~~UBC~~ IBC guidelines, particularly those pertaining to earthquake design, in order to safeguard against major structural failures and loss of life. The Los Coyotes site does not fall within an Alquist-Priolo Zone, and is therefore not subject to any building restrictions applicable to properties designated as such. Development of Alternative C would have minimal adverse effects related to seismic activity and associated hazards.

Liquefaction

Based on the liquefaction analyses in **Section 3.1**, there is no substantial risk of liquefaction in the vicinity of the Los Coyotes site. Development of Alternative C would have no adverse effects related to liquefaction.

Lateral Spreading

Lateral spreading is commonly associated with liquefaction. It is unlikely to occur on the Los Coyotes site. Development of Alternative C would have no adverse effects related to lateral spreading.

Seismically Induced Flooding

The site is not located downstream from any major dams or reservoirs that could inundate the site in the event of seismically induced breakage. Development of Alternative C would have no adverse effects related to seismically induced flooding.

Mineral Resources

The alterations in land use under Alternative C would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. Development of Alternative C would have no adverse effects related to mineral resources.

4.1.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Topography and Landslides

As discussed under Alternative C, the Los Coyotes site is generally flat, but sloped slightly from the northeastern corner to the southwestern corner. Adjacent hills perpendicular to the project site can exceed 500 feet amsl. As stated under Alternative C, due to the Los Coyotes site flat topography and orientation to the surrounding hills, landslides are not likely to occur. Development of Alternative D would have no adverse effects on topography and landslides.

Soils

Soil Erosion

As with Alternative A, construction activities associated with Alternative D could result in temporary soil erosion, which can drastically alter the drainage pattern of an area and result in the sedimentation of surface waters if not properly addressed through standard construction specifications. A detailed list of erosion control measures that would be used as mitigation is provided in **Section 5.0**.

Expansive Soils

As discussed under Alternative C, expansive soils are not present on the surface of the Los Coyotes site. The expansion rating for near-surface soils on-site is low. Development of Alternative D would have no adverse effects related to expansive soils.

Soil Corrosivity

As discussed under Alternative C, the potential for corrosivity at the Los Coyotes site is low and no adverse effects would occur from development of Alternative D.

Seismicity

As stated under Alternative C, the Los Coyotes site is located near three faults, including one that runs through the Los Coyotes Reservation. The campground facilities would be constructed in accordance

with ~~UBC~~ IBC guidelines, particularly those pertaining to earthquake design, in order to safeguard against major structural failures and loss of life. As there would be no habitable structures developed under Alternative D, no adverse effects related to seismic activity would occur.

Liquefaction

As discussed under Alternative C, there is no substantial risk of liquefaction in the vicinity of the Los Coyotes site and no adverse effects would occur from development of Alternative D.

Lateral Spreading

As discussed under Alternative C, lateral spreading is unlikely to occur on the Los Coyotes site and no adverse effects would occur from development of Alternative D.

Seismically Induced Flooding

As discussed under Alternative C, the site is not located downstream from any major dams or reservoirs that could inundate the site in the event of seismically induced breakage. Development of Alternative D would have no adverse effects related to seismically induced flooding.

Mineral Resources

As discussed under Alternative C, the alterations in land use on the Los Coyotes site would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. Development of Alternative D would have no adverse effects related to mineral resources.

4.1.5 ALTERNATIVE E– NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.2 WATER RESOURCES

This section identifies the direct effects to water resources anticipated to result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.2**. Cumulative effects are identified in **Section 4.13**. Indirect effects associated with off-site construction and growth-inducement are identified in **Section 4.14**. Measures to avoid and, if necessary, mitigate for adverse effects are presented in **Section 5.2**.

Assessment Criteria

Adverse effects to surface water resources would result if either construction or operation would substantially alter, impede, or degrade drainage patterns, floodplain management, and/or water quality. Adverse effects to groundwater resources would result if either construction or operation would substantially decrease groundwater levels, reduce or impede groundwater recharge, and/or degrade groundwater quality.

4.2.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Surface Water

Drainage

Although annual precipitation rates are quite low for the project site, short duration peak rainfall intensity in the area may be considerable during summer thunderstorms. Implementation of Alternative A would alter the existing drainage pattern of the site and increase stormwater runoff as a result of increased impervious surfaces. Alternative A would convert approximately 23.1-acres of the vacant parcel into a hotel and casino complex, surface roads, and parking areas, which would result in an increase in stormwater runoff over pre-development rates during 10 and 100-year storm events (Questa, 2007). **Table 4.2-1** summarizes the estimated rainfall and runoff for the development of Alternative A (without detention measures). As discussed in **Subsection 2.2.1**, drainage facilities have been incorporated into the project design to detain the increase in runoff on-site, maintaining the pre-development runoff rate to the Lenwood wash. The Drainage and Water Quality Analyses (Questa, 2007), included as **Appendix E** of the Draft EIS/TEIR, describe the drainage plan for the project site under Alternative ~~2~~A. Inclusion of these drainage facilities into the project design would avoid potential adverse effects associated with stormwater runoff.

TABLE 4.2-1
ESTIMATED RAINFALL AND RUNOFF FOR ALTERNATIVE A

Storm Frequency	1-hour Precipitation Rates	Pre-Development Runoff Rate	Alternative A Runoff Rate
10-year	0.75 inches	12.5 cfs	81.78 cfs
100-year	1.2 inches	56.25 cfs	133.76 cfs
Source: Questa, 2007.			

Flooding

Federal Executive Order 11988 addresses floodplain management. The order requires the evaluation of federal actions taken in a floodplain. Specifically, the order states that agencies shall first determine whether a proposed action would occur in a floodplain. If an agency proposes to allow an action to be located in a floodplain, the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplain. If the only practicable alternative action requires siting facilities in a floodplain, the agency shall minimize potential adverse impacts to the floodplain.

As noted in **Subsection 3.2.1**, the western 10.5 acres of the project site are within the 100-year floodplain. This area encompasses the parking areas, access roads, and stormwater retention facilities. Flooding in these areas would reduce access to the site. However, development of Alternative A would not impede the floodway and would result in a no flood risk to proposed structures. Furthermore, fill would not be imported to the site and thus floodplain elevations would not increase. The remainder of the project related development is outside the 100-year floodplain.

Water Quality

Construction Impacts

Construction of Alternative A would result in ground disturbance, which could lead to erosion. Erosion increases sediment discharge to surface waters during storm events, reducing water quality. Construction also has the potential to generate waste materials (e.g., concrete, drywall, metal, and wood from building rubble; and diesel, oil, and grease from heavy equipment and temporary on-site fuel storage) that can become entrained in surface flow and washed into nearby surface waters during storm events. Potential discharges of pollutants to surface waters from construction wastes and fuel spills and leaks would adversely impact off-site drainages.

Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) (33 USC § 1342). NPDES is a national program for regulating and administering permits for discharges, including stormwater, to receiving waters, including man-made drainages. Construction sites disturbing more than five acres must apply for a Phase I NPDES General Construction Permit. The United States Environmental Protection Agency (USEPA) is ultimately charged with regulating discharges to surface waters. In nearly all states, including California, the USEPA has delegated permitting authority to the state water quality management programs; however, the USEPA continues to regulate discharges to waters in Indian country.

During construction, erosion control measures shall be employed in compliance with the Phase I NPDES General Construction Permit for construction activities as noted in **Section 1.4**. A Stormwater Pollution Prevention Plan (SWPPP) will be developed prior to any ground disturbance at the project site and shall include practices to reduce potential surface water contamination during storm events. Implementation of the Best Management Practices (BMPs) incorporated into the SWPPP, as discussed in **Chapter 2.0**, would assure no adverse impacts to surface water resources occur from construction of Alternative A.

Operational Impacts

Operation of Alternative A could result in off-site discharge of stormwater runoff contaminated with automobile contaminants, debris from patrons, and dissolved solids from landscaping. Therefore, the drainage plan incorporated into the project description includes infiltration and oil/water separators to improve stormwater quality prior to retention. As noted above, the drainage plan incorporates basins, landscaping, infiltration areas, and a retention basin. Stormwater would traverse through a series of infiltration areas and basins before entering a detention basin located along the western border of the project site. Stormwater would then be discharged to the Lenwood Wash at pre-existing rates. The drainage plan is designed to treat the first flush of the storm, which would contain the highest concentration of entrained contaminants. Once stormwater flow has reached levels surpassing the retention volume of the project site, water would be considered "clean," similar to roof runoff, as contaminants that were present throughout the site have already been flushed. Alternative A would not result in significant adverse effects to water quality. Overall project design and recommended best management practices (BMPs) presented in **Section 5.2** would further reduce the potential for adverse effects to water quality.

Groundwater

Groundwater Supply

Potable water would be supplied by the available capacity of the Golden State Water Company. Therefore, development of Alternative A would not require the use of on-site groundwater resources. As noted above, a drainage plan has been incorporated into project design and includes stormwater detention areas that would allow percolation into the soil. In order to ensure that the off-site discharge rate would be equal to pre-development rates, the additional stormwater generated from the introduction of impervious surfaces would be detained on-site so that groundwater recharge rates are not affected. No adverse effects would occur to groundwater supply.

Groundwater Quality

Site runoff could impact groundwater quality if contaminants entrained in the stormwater percolate to the groundwater table. With a depth to groundwater of over 230 feet, the stormwater that would have already been filtered through filter strips, landscaped areas, and infiltration areas would be adequately filtered through the process of soil absorption and infiltration prior to reaching groundwater. Through soil absorption, contaminants in the stormwater adhere to the surface of soil particles as the water passes through. Infiltration involves contaminants settling in the tiny spaces created by the shapes of soil components. By the time stormwater reaches the groundwater table, it would be of similar quality to pre-existing conditions. Alternative A would not result in significant adverse effects to groundwater quality. Overall project design and recommended BMPs presented in **Section 5.2** would ensure adverse effects to groundwater quality would not occur.

4.2.2 ALTERNATIVE B – BARSTOW REDUCED CASINO -HOTEL COMPLEX

Surface Water

Drainage

Implementation of Alternative B would alter existing drainage patterns and increase stormwater runoff compared to existing conditions. Alternative B would convert approximately 23.1-acres of vacant land into impervious surfaces such as parking lots and the building footprint. This would result in an increase in stormwater runoff during 10 and 100-year storm events (Questa, 2007). **Table 4.2-2** summarizes the estimated rainfall and runoff rate for Alternative B (without detention measures). As discussed in **Subsection 2.2.2**, drainage provisions have been incorporated into the project description to detain the increase in runoff on-site, maintaining the pre-development runoff rate to the Lenwood wash. With the inclusion of the drainage plan into the project design, no impacts associated with stormwater runoff would occur.

TABLE 4.2-2
ESTIMATED RAINFALL AND RUNOFF FOR ALTERNATIVE B

Storm Frequency	1-hour Precipitation	Pre-Development Runoff Rate	Alternative B Runoff Rate
10-years	0.75 inches	12.5 cfs	83.5 cfs
100-years	1.2 inches	56.25 cfs	136.8 cfs
Source: Questa, 2007.			

Flooding

Impacts for Alternative B would be similar to those discussed for Alternative A. Implementation of Alternative B would not place structures in an area that would be prone to flooding nor alter or impede the floodway. As such, no adverse effects associated with flooding would occur.

Water Quality

Construction Impacts

Similar to Alternative A, during construction of Alternative B, potential discharges of pollutants to surface waters from construction wastes and fuel spills and leaks could adversely impact off-site drainages. Due to the reduced excavation and construction schedule required for Alternative B compared to Alternative A, potential for impact from erosion ~~are~~ is significantly reduced. Erosion control measures shall be employed in compliance with the Phase I NPDES General Construction Permit for construction activities as noted in **Section 1.4**. A SWPPP will be developed prior to any ground disturbance at the project site and shall include practices to reduce potential surface water contamination during storm events. Implementation of the Best Management Practices (BMPs) incorporated into the SWPPP, as discussed in **Chapter 2.0** and presented in **Section 5.2**, would ensure adverse effects to surface water resources would not occur from construction of Alternative B.

Operational Impacts

Operation of Alternative B has the potential to discharge stormwater entrained with contaminants from various sources including on-site parking lots. The drainage plan incorporated into the project design of

Alternative B includes BMPs to improve stormwater quality prior to discharge or retention. Alternative B would not result in significant adverse effects to surface water quality. Project design and recommended measures presented in **Section 5.2** would further minimize the potential for adverse effects.

Groundwater

Groundwater Supply

Similar to Alternative A, implementation of Alternative B would meet water demands through connection to Golden State Water Company water supply distribution system. Alternative B would increase ground water recharge by channeling and storing stormwater into on-site detention ponds to increase stormwater infiltration. There would be no adverse impact to the groundwater supply.

Groundwater Quality

The drainage plan for Alternative B includes the same water quality features described for Alternative A. As discussed above, soil absorption and infiltration would further improve stormwater quality prior to convergence with groundwater resources. Therefore, implementation of Alternative B would not result in significant adverse effects to groundwater quality. Project design and recommended BMPs presented in **Section 5.2** would further minimize all identified adverse effects.

4.2.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Surface Water

Drainage

Implementation of Alternative C would alter the existing drainage pattern and increase impervious surfaces on the Los Coyotes site. Annual precipitation rates for the desert area that includes the Los Coyotes Reservation are quite low. However, short duration peak rainfall intensity in the area may be considerable during summer thunderstorms. Construction of Alternative C would convert 11.5 acres (90 percent) of undeveloped land into impervious surfaces for the development of the building footprint, sidewalks and parking areas, and the WWTP and storage tanks. This would result in an increase in stormwater runoff compared to existing conditions (50-year storm) (Questa, 2007). **Table 4.2-3** summarizes the estimated increase in stormwater runoff with implementation of Alternative C. As discussed is **Subsection 2.2.3**, drainage features have been incorporated into the project design to detain the increase in runoff on-site, maintaining the pre-development runoff rate. With the inclusion of the drainage provisions into the project description, Alternative C would not result in significant adverse effects associated with stormwater runoff.

TABLE 4.2-3
ESTIMATED RAINFALL AND RUNOFF FOR ALTERNATIVE C

Storm Frequency	24-hour Precipitation	Pre-Development Runoff Rate	Alternative C Runoff Rate
50-years	10.0 inches	31 cfs	128 cfs
100-years	11.0 inches	34 cfs	142 cfs
Source: Questa, 2007.			

Flooding

The Los Coyotes site is not located within a floodplain as depicted by Federal Emergency Management Agency (FEMA) flood insurance rate maps. The area is designated Zone D, an undetermined zone. The drainage plan would ensure localized and downstream flooding would not occur as a result of the development of Alternative C. Alternative C would not result in adverse effects associated with flooding.

Water Quality

Under Alternative C, off-site water quality impacts would be similar to Alternative A. The introduction of impervious surfaces increases the potential for entrained contaminants in stormwater runoff. As discussed under Alternative A the implementation of the BMPs incorporated into the SWPPP, as discussed in **Chapter 2.0**, would assure no adverse impacts to surface water resources would occur from construction or operation of Alternative C.

Groundwater

Groundwater Supply

As identified in **Section 2.2.3**, Alternative C would have an average daily water demand of 10,110 gpd. To meet this demand, a new groundwater well would be constructed. The groundwater within the region is typically associated with fractured igneous rocks, which are typically hydrologically linked less often than other groundwater deposits. Because of the distance between the project site and the ~~Rancheria~~ Reservation boundary (2.5 miles south of the project site), development of Alternative C would not impact the groundwater supply of off-site wells. There would be no adverse impact to the groundwater supply.

Groundwater Quality

Alternative C would incorporate filter strips, stormwater interceptors, and soil infiltration into its drainage plan. These design principles would ensure that infiltration of stormwater would not adversely impact groundwater quality. Groundwater quality could also be impacted through subsurface wastewater disposal, as recommended for Alternative C. As discussed in **Chapter 2.0**, wastewater would be treated to a tertiary level and disinfected for recycling in accordance with California Department of Health Title 22 standards (Title 22). Subsurface disposal would consist of drip irrigation at a depth of 12 inches below ground surface. This type of disposal is appropriate for disinfected tertiary treated wastewater as it allows more vegetative uptake of the water and associated nutrients and maintains a greater separation from the groundwater table than standard subsurface disposal techniques. Because treated wastewater would be of high quality and would have the maximum separation from the groundwater table allowing for more soil contact, wastewater disposal for Alternative C would not adversely impact groundwater quality. Significant adverse effects to groundwater quality would not occur. Project design and recommended measures presented in **Section 5.2** would further minimize all identified adverse effects.

4.2.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Surface Water

Drainage

The potential adverse effects associated with construction and operation of a campground at the Los Coyotes site would be similar to those identified under Alternative C, although to a much lesser degree. The potential adverse effects would include changes to the existing drainage pattern, increased stormwater runoff as depicted in **Table 4.2-4**, and increased potential for entrainment of stormwater contaminants. Based on the estimated runoff rates identified in **Table 4.2-4**, detention of 0.17 and 0.19 acre-feet for the 10-year and 100-year storms, respectively, would be required to ensure runoff rates do not exceed pre-existing conditions. The total combined storage volumes of the filter strips, landscape areas, and detention basins would provide the necessary detention, reducing impacts from the construction of impervious surfaces. Significant adverse effects to off-site and on-site drainages would not occur.

TABLE 4.2-4
ESTIMATE RAINFALL AND RUNOFF FOR ALTERNATIVE D

Storm Frequency	24-hour Precipitation	Pre-Development Runoff Rate	Alternative D Runoff Rate
50-years	10.0 inches	31 cfs	73 cfs
100-years	11.0 inches	34 cfs	81 cfs
Source: Questa, 2007			

Flooding

Impacts for Alternative D would be similar to those discussed for the Alternative C. Located outside the floodplain as depicted by FEMA flood insurance rate maps, the area is designated as an undetermined zone. The drainage plan ensures flooding would not occur as a result of the implementation of Alternative D. Significant adverse effects associated with flooding would not occur.

Water Quality

Potential impacts of Alternative D to off-site water quality would be similar to those of the other project alternatives. The introduction of impervious surfaces increases the potential for entrained contaminants in stormwater runoff. As discussed under Alternative C the implementation of the BMPs incorporated into the SWPPP, as discussed in **Chapter 2.0**, would assure no adverse impacts to surface water resources to occur from construction or operation of Alternative D.

Groundwater

Groundwater Supply

As identified in **Section 2.2.4**, Alternative D would have an average daily water demand of 7,210 gpd. As discussed for Alternative C, the water demand would be met without adversely affecting adjacent groundwater supplies and wells. There would be no adverse impact to the groundwater supply.

Groundwater Quality

Groundwater quality would not be adversely affected because of the water quality measures incorporated into project design as discussed in **Chapter 2.0**. Furthermore, the shallow drip-irrigation method of wastewater disposal would increase soil contact time prior to reaching the groundwater table. There would be no adverse impact to the groundwater quality.

4.2.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur under Alternative E.

4.3 AIR QUALITY

Introduction

This section identifies the direct effects to air quality that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.3**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.3**.

Global Assessment Criteria

Adverse effects to ambient air quality could result if either construction or operation would result in violations of the Federal Clean Air Act (CAA) provisions, or if emissions would impede a state's ability to comply with the California Clean Air Act (CCAA) and to meet national ambient air quality standards (NAAQS).

4.3.1 METHODOLOGY

Emissions resulting from the alternatives are analyzed in two distinct phases, construction and operational. Construction emissions are intermittent and temporary in nature and do not overlap with the operational phase. Pollutants of concern during construction are those that are designated as non-attainment in the respective Air Basin for each of the alternatives. For Alternatives A and B in the Mojave Desert Air Basin, this includes ozone (the largest sources of which are NO_X and~~,~~ ROG emissions), and particulate matter less than 10 microns in diameter (PM_{10}), and for Alternatives C and D in the San Diego Air Basin, includes ozone only (NO_X and ROG emissions) NO_X and ROG are produced during combustion of diesel and gasoline fuels in heavy equipment and emitted by employee vehicles. The bulk of PM_{10} emissions are from fugitive dust, which is produced during grading activities.

Operational emissions consist of area and vehicle emissions. Pollutants of concern from vehicle emissions are NOx, ROG, and carbon monoxide (CO). CO is a localized pollutant and dissipates readily; therefore, CO is analyzed under "CO Hot Spot Analysis."

Construction

URBEMIS is an Environmental Protection Agency (EPA) and California Air Resource Board (CARB) air quality computer model that estimates construction, area source, and operational emissions of CAPs and carbon dioxide (CO_2) from land uses. URBEMIS 2007, which is the most recent version of the software, uses the most relevant EPA, CARB, and/or district-specific emission factors, meteorological data, and estimates emissions reductions. URBEMIS was used to estimate emissions from all construction-related sources of the project alternatives. URBEMIS modeling was performed with the assumption that construction would begin in January 1, 2012 and continue at an average of 22 days per month for 15 months. For Alternative A, exported soil will be trucked off-site from excavation activities related to the below ground parking structure. A conservative quantity of exported soil was used in the URBEMIS model to determine emissions from the export of soil. No export of material would be required for

Alternatives B, C, and D. Emissions results from URBEMIS are presented below and URBEMIS output files are included within **Appendix L** of the Draft EIS/TEIR.

Operation

URBEMIS was used to estimate emissions associated with operation of the project alternatives. Input values for the model included URBEMIS defaults and site specific data. The operational effects to air quality were analyzed for both near-term 2013 conditions and cumulative long-term 2030 conditions. Emissions associated with operation are compared to the general conformity *de minimus* levels to evaluate the effects of operational activities on air quality.

Trip Generation Rates

The trip generation rates used in the URBEMIS air quality model are from the Institute of Transportation Engineers, Trip Generation Manual, 7th Edition (ITE) and the transportation/circulation reports from similar Indian casino projects. The Manual includes trip generation rates for Las Vegas style casinos; however, it does not include trip generation rates for Indian gaming facilities Indian gaming facilities are generally different than Las Vegas style casinos in location, gaming, and size; therefore, using the Manual's Las Vegas casino trip generation rates would not accurately depict the proposed casino project. The trip generation rates used to determine air quality impacts is based on six northern California Indian casinos traffic surveys conducted by Fehr and Peers and David Evans and Associates, and presented in the Shingle Springs Rancheria Interchange 2001, *Traffic Operation Analysis* (SSRI, 2001). The trip generation rate was determined to be 39.43 trips per thousand square feet of casino floor space. The casino floor space was determined by subtracting the square footage of the pool area from the projects total square footage provided in **Table 2-1**. A hotel trip generation rate of 8.24 and 127.15 was used to determine project emissions from the hotel and high turn-over restaurant, respectively. The trip generation rate was provided by the ITE, land use category 310 and 932.

Trip Distribution

The average vehicle trip length associated with Alternatives A and B is expected to vary from the default trip length values included in URBEMIS. Therefore, project-specific trip length values were used in the air quality analysis. **Table 4.3-1** shows the trip distance from the three major market areas. The average trip length was estimated by identifying geographic patron market areas, estimating the average distance to each market area, and estimating the percent of total patrons traveling from each market area.

Trip Reduction

Trip reductions were estimated to provide a more accurate measure of the total new trips produced by Alternatives A and B. Trip reductions were estimated for ~~pass-by~~diverted-link and internal capture between the hotel and casino. ~~Pass-by~~Diverted-link trips are trips that are on the road going to a different destination and stop at the proposed facilities. ~~Pass-by~~Diverted-link trips would consist of vehicles traveling on Interstate 15 (I-15) between Los Angeles and Las Vegas that stop at the proposed gaming facility. The traffic volume on I-15 in the City of Barstow is 60,000 vehicles per day (Caltrans, 2009). A large number of these trips are traveling to Las Vegas and would have a tendency to stop at the proposed gaming facility. A 40 percent reduction in casino related trip generation is estimated from ~~pass-~~

~~by~~diverted-link trips, which equates to a 4.7 percent capture rate from I-15. A capture rate of between three and five percent is consistent with the capture rates of the casinos used to determine the trip generation rate applied to the gaming alternatives. Internal interaction between the casino and hotel would account for a 75 percent reduction in hotel trips. A 75 percent reduction in hotel trips due to internal capture is consistent with the *Mississippi Gulf Coast Transportation Management Plan for Waterfront Development*, 1993 (Plan). The Plan studied various small-rural casinos and found that there was an internal capture rate of 75 percent.

TABLE 4.3-1
ALTERNATIVES A AND B TRIP DISTRIBUTION

Major Market Routes	Major Cities within Market Area	Trip Distance[1] (miles)	Percentage (%)
Site Vicinity	Barstow	2	10
South 15	Los Angeles	26	60
West 58	Bakersfield	48	30
Weighted Average Trip Length		**30**	

Notes: [1] Mileage derived from Google Earth mapping program.
Source: AES, 2009

General Conformity

The United States Environmental Protection Agency (USEPA) promulgated the General Conformity Rule on November 30, 1993, to implement the conformity provision of Title I, § 176 (c)(1) of the CAA, which requires that the federal government not engage, support, or provide financial assistance for licensing, permitting, or approving any activity not conforming to an approved state implementation plan (SIP). General Conformity is an issue addressed during the National Environmental Policy Act (NEPA) process.

General Conformity Process

The conformity process involves two phases. The first phase is the conformity review process, which evaluates whether the conformity regulations would apply to the federal action (i.e. whether a determination is warranted). The second phase is the conformity determination process, which demonstrates how a federal action conforms to the applicable SIP.

Conformity Review

The purpose of a conformity review is to evaluate whether the conformity determination requirements would apply to a federal action under 40 CFR 93.153. There are four steps in the review process, of which the first three can be performed in any order. The four steps are identified below:

- Determine whether the proposed action causes emissions of criteria air pollutants (CAPs).
- Determine whether the emissions of a criteria pollutant or its precursor (i.e. nitrogen oxides [NOx] and reactive organic gases [ROG] for ozone [O_3]) would occur in a non-attainment or maintenance area for that CAP.

- Determine whether the federal action is exempt from the conformity requirement as per 40 CFR 93.153 (c)(2)-(e).
- Estimate the total emissions of the pollutants of concern from the proposed action and compare the estimates to the *de minimus* threshold of 40 CFR 93.153 (b)(1) and (2) and to the non-attainment or maintenance area's emissions inventory for each CAP.

If the proposed project and/or alternatives do not emit pollutants or are exempt under 40 CFR 93.153 (c)(2)-(e), or if the affected air basin is in attainment for all criteria pollutants, no further action is necessary. Otherwise, the proposed project's estimated emissions must be compared to the *de minimus* thresholds set forth in 40 CFR 93.153 (b)(1) and (2). If the emissions are greater than or equal to the *de minimus* threshold, a conformity determination must be performed.

General conformity thresholds would apply to Alternatives A and B because they are located in the Mohave Desert Air Basin (MDAB), which has been designated by the EPA as nonattainment for O_3 and PM_{10}. Alternatives C and D would also be subject to general conformity thresholds for ROG and NOx because they are located in the San Diego County Air Basin (SDCAB), which has been designated by the EPA as nonattainment for O_3. Urban Emission 9.2.4, 2007 (URBEMIS) air quality model does not contain meteorological data or San Diego County Air Pollution Control District (SDCAPCD) approved emission factors; therefore, Riverside County meteorological data and emission factors were used due to the proximity of the Los Coyotes site for Alternatives C and D to Riverside County.

Carbon Monoxide Hot Spot Analysis

Implementation of the project alternatives would result in emissions of CO. Because CO disperses rapidly with increased distance from the source, emissions of CO are considered localized pollutants of concern rather than regional pollutants, and can be evaluated by Hot Spot Analysis. In accordance with the *Transportation Project-Level Carbon Monoxide Protocol*, Hot Spot Analysis is conducted on intersections that after mitigation would have a level of service (LOS) of E or F (UC Davis, 1996). No intersections within the vicinity of the Barstow or Los Coyotes sites would have an LOS after the implementation of recommended mitigation that would warrant a Hot Spot Analysis (refer to the TIA provided as **Appendix H** of the Draft EIS/TEIR). No further analysis is needed.

Greenhouse Gas Emissions

Climate change is a global phenomenon attributable to the sum of all human activities and natural processes. A recent federal guidance on climate change is the CEQ's Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, released on February 18, 2010. The Draft Guidance provides that a NEPA climate change analysis shall provide quantification and mitigation to reduce GHG emissions. The guidance also provides that 25,000 metric tons of GHG emissions per year may be a helpful guideline to assist lead agencies in making informed decisions on climate change impacts resulting from a project subject to NEPA. The guidance notes that the 25,000 metric tons is not a threshold for evaluating climate change on the project level. CARB recommended in its Climate Change Scoping Plan (CARB, 2008) that climate change analysis for environmental

documents include quantification of GHG emissions, assessment of the significance of any impact on climate change (provided in **Section 4.13**), and, identification of mitigation or alternatives that would reduce the GHG emissions. The analysis presented in this EIS/TEIR is consistent with the guidance provided by CARB's 2008 Climate Change Scoping Plan. As recommended by the Proposal, this analysis considers whether project emissions are individually or cumulatively significant. Based on the Proposed Project's GHG emissions (see **Section 4.13**), it was determined that specific climate change impacts could not be attributed to the proposed development. As such, project impacts are most appropriately addressed in terms of the incremental contribution to a global cumulative impact. For a discussion and analysis of cumulative impacts related to climate change, refer to **Section 4.13**.

4.3.2 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Construction ~~Impacts~~ Emissions

Construction of Alternative A would result in the generation of ROG, NO_X, and PM_{10} emissions from construction work trips; construction equipment, fugitive dust, and export haul trucks. Construction emissions were estimated using URBEMIS air quality model. URBEMIS output files are provided in **Appendix L** of the Draft EIS/TEIR. **Table 4.3-2** presents an estimate of construction-related emissions for Alternative A.

TABLE 4.3-2
ALTERNATIVE A UNMITIGATED CONSTRUCTION EMISSIONS

Construction Year	ROG	NOX	PM10
	tons per year		
2012	3.44	9.09	5.78
2013	1.22	1.02	0.08
Max Emissions	**3.44**	**9.09**	**5.78**
De Minimus Levels	25	25	100
Exceedance	*No*	*No*	*No*

Notes: Emissions shown are for the highest year in the multi-year construction period.
Source: URBEMIS, 2007: (**Appendix L** of the Draft EIS/TEIR)

Operational ~~Impacts~~Emissions

Emissions of ROG, NOx, and PM_{10}, from area sources and vehicles traveling to and from Alternative A were estimated. **Table 4.3-3** presents area and mobile source emissions for Alternative A.

Air Quality Effects - General Conformity Review

Since Alternative A emits pollutants, is not exempt from conformity, and is located within a nonattainment area for ozone and PM_{10}, the estimated emissions must be compared to the *de minimus* thresholds pursuant to the CAA General Conformity Rule (40 CFR § 93.153 [b][1] and [2]). **Tables 4.3-2** and **4.3-3** compare construction and operational emissions, respectively to the applicable conformity

thresholds. Construction emissions do not exceed *de minimus* levels; however, operational emissions exceed *de minimus* levels for ROG and NOx; therefore, a conformity determination is needed to demonstrate that the Proposed Project conforms to the approved state implementation plan (SIP). There are several options for Alternative A to demonstrate conformance with the approved SIP: 1) offset emission credits may be purchased for the total direct and indirect emissions, which fully offsets within the same non-attainment or maintenance area so that there is no net increase in emissions, 40 CFR 93.158 (a)(2); 2) emissions from the project coupled with the current emissions in the non-attainment area would not exceed the emissions budget in the SIP, 40 CFR 93.158 (a)(5)(i)(A); or 3) the Proposed Project can request that the SIP be changed by the State Governor or the State Governor's designee to include the emissions budget of the Federal action, 40 CFR 93.158 (a)(5)(i)(B). A conformity determination for Alternative A is ongoing (refer to **Appendix P** of the Final EIS/TEIR). It is anticipated that conformity will be shown through the purchase of offset emission credits; therefore, ~~a~~ mitigation has been required in **Section 5.3** that would reduce operational emissions and require the purchase of off-set emission credits so that there is no net increase in NOx or ROG emissions, meeting federal general conformity requirements. Therefore, after mitigation, Alternative A would not result in significant adverse effects to local or regional air quality.

TABLE 4.3-3
ALTERNATIVE A UNMITIGATED OPERATIONAL EMISSIONS

Source	ROG	NOx	PM_{10}
	tons per year		
Area	0.45	0.53	0.00
Mobile	26.77	42.45	60.47
Total Emissions	**27.22**	**42.98**	**60.47**
De Minimus Levels	25	25	100
Exceedance	*Yes*	*Yes*	*No*

Source: URBEMIS 2007: (**Appendix L** of the Draft EIS/TEIR)

4.3.3 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

Construction ~~Impacts~~ Emissions

Construction of Alternative B would result in the generation of ROG, NO_X, and PM_{10} emissions from construction work trips; construction equipment, and fugitive dust from grading and earth moving activities. **Table 4.3-4** presents an estimate of construction-related emissions for Alternative B.

Operational ~~Impacts~~ Emissions

Trip Generation Rates and Trip Distribution

The trip generation rate used to estimate mobile emissions for the casino component of Alternative B is the same as Alternative A (39.43 trips per thousand square feet of casino floor space). The trip distribution for Alternative B is also the same as Alternative A.

Operational Emissions

Emissions of ROG, NOx, and PM_{10}, from area sources and vehicles traveling to and from Alternative B were estimated. **Table 4.3-5** presents area and mobile source emissions for Alternative B.

TABLE 4.3-4
ALTERNATIVE B UNMITIGATED CONSTRUCTION EMISSIONS

Construction Year	ROG	NO_X	PM_{10}
	tons per year		
2012	2.65	8.44	2.94
2013	0.90	0.96	0.07
Max Emissions	**2.65**	**8.44**	**2.94**
De Minimus Levels	~~100~~25	~~100~~25	100
Exceedance	*No*	*No*	*No*

Notes: Emissions shown are for the highest year in the multi-year construction period.
Source: URBEMIS, 2007: (**Appendix L** of the Draft EIS/TEIR).

TABLE 4.3-5
ALTERNATIVE B UNMITIGATED OPERATIONAL EMISSIONS

Source	ROG	NOx	PM10
	tons per year		
Area	0.34	0.37	0.00
Mobile	19.74	31.41	44.75
Total Emissions	**20.08**	**31.78**	**44.75**
De Minimus Levels	25	25	100
Exceedance	*No*	*Yes*	*No*
Source: URBEMIS 2007: (**Appendix L** of the Draft EIS/TEIR)			

Air Quality Effects - General Conformity Review

Since Alternative B emits pollutants, is not exempt from conformity, and is located within a nonattainment area for ozone and PM_{10}, the estimated emissions must be compared to the *de minimus* thresholds pursuant to the CAA General Conformity Rule (40 CFR § 93.153 [b][1] and [2]). **Tables 4.3-4** and **4.3-5** compare construction and operational emissions, respectively to the applicable conformity thresholds. Construction emissions do not exceed *de minimus* levels; however, operational emissions exceed *de minimus* levels for NOx; therefore, Alternative B would have a potentially adverse effect on local and regional air quality and a conformity determination is required (refer to **Appendix P** of the Final EIS/TEIR). It is anticipated that conformity will be shown through the purchase of offset emission credits; therefore, mitigation has been required in **Section 5.3** that would reduce operational emissions and require the purchase of off-set emission credits so that there is no net increase in NOx emissions, meeting federal general conformity requirements. Therefore, after mitigation, Alternative B would not result in significant adverse effects to local and regional air quality.

4.3.4 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Construction ~~Impacts~~ Emissions

Construction of Alternative C would result in the generation of ROG and NO_X emissions. **Table 4.3-6** presents an estimate of construction-related emissions for Alternative C. As detailed in the URBEMIS output files provided as **Appendix L** of the Draft EIS/TEIR, emissions have been estimated for all phases of construction, including mass grading, fine grading, building, painting, and paving.

TABLE 4.3-6
ALTERNATIVE C UNMITIGATED CONSTRUCTION EMISSIONS

Year	ROG	NO_X
	tons per year	
2012	0.15	0.98
2013	0.31	0.86
Max Emissions	**0.31**	**0.98**
De Minimus Levels	100	100
Exceedance	*No*	*No*

Notes: Emissions shown are for the highest year in the multi-year construction period.
Source: URBEMIS, 2007: (**Appendix L** of the Draft EIS/TEIR)

Operational ~~Impacts~~ Emissions

Trip Generation Rate

The trip generation rate applied to Alternative C is the same as Alternative A (39.43 trips per thousand square feet of casino floor space). Under Alternative C, no ~~pass-by~~diverted-link reduction was used. URBEMIS output files are provided in **Appendix L** of the Draft EIS/TEIR.

Trip Distribution

The average length of vehicle trips associated with Alternative C is expected to vary from the default trip length values provided in the URBEMIS air quality model. Therefore, a project-specific trip length was used in the air quality analysis. The project would attract patrons from San Diego County and the surrounding counties; therefore a conservative 70 mile trip length was used to determine air quality impacts.

Operational Emissions

Emissions of ROG and NOx, from area sources and vehicles traveling to and from Alternative C were estimated. **Table 4.3-7** presents area and mobile source emissions for Alternative C. URBEMIS output files are provided in **Appendix L** of the Draft EIS/TEIR.

Air Quality Effects - General Conformity Analysis

Since Alternative C emits pollutants, is not exempt from conformity, and is located within a nonattainment area for ozone, the estimated project emissions must be compared to *de minimus* thresholds pursuant to the CAA General Conformity Rule (40 CFR § 93.153 [b][1] and [2]). **Tables 4.3-6** and **4.3-7** compare construction and operational emissions, respectively to the applicable conformity thresholds. Construction emissions and operational emissions do not exceed *de minimus* levels; therefore, Alternative C conforms to the applicable state implementation plan and would not result in significant adverse effects to local and regional air quality. Construction best management practices provided in **Section 5.3** would further reduce construction related emissions.

TABLE 4.3-7
ALTERNATIVE C UNMITIGATED OPERATIONAL EMISSIONS

Source	ROG	NOx
	tons per year	
Area	0.05	0.03
Mobile	8.67	16.61
Total Emissions	**8.72**	**16.64**
De Minimus Levels	100	100
Exceedance	*No*	*No*

Source: URBEMIS 2007: (**Appendix L** of the Draft EIS/TEIR)

Odor

Alternative C would result in the development of a wastewater treatment plant (WWTP). As discussed in **Section 2.2.4** of the EIS/TEIR, the WWTP would consist of a tertiary treatment facility utilizing a membrane bioreactor (MBR). Treated wastewater would be disposed of through a subsurface disposal system. The MBR system would minimize the potential for odors emitted by the small WWTP (approximately 9,000 gallons per day of effluent). The subsurface disposal of treated wastewater would further reduce odors. Given the size of the WWTP, the proposed process by which the wastewater is treated, the distance of the nearest sensitive receptor (approximately two miles), and the mountainous topography, odors emitted by the WWTP would not be detectable at the nearest sensitive land use. No further analysis is needed.

4.3.5 ALTERNATIVE D – LOS COYOTES CAMPGROUND

Construction ~~Impacts~~ Emissions

Construction of Alternative D would result in the generation of ROG and NO_X emissions. **Table 4.3-8** presents an estimate of these construction-related emissions for Alternative D. As detailed in the URBEMIS output files provided as **Appendix L** of the Draft EIS/TEIR, emissions have been estimated for all phases of construction, including mass grading, fine grading, building, painting, and paving.

TABLE 4.3-8
ALTERNATIVE D UNMITIGATED CONSTRUCTION EMISSIONS

Year	ROG	NO_X
	tons per year	
2012	0.18	0.95
2013	0.21	1.14
Max Emissions	**0.21**	**1.14**
De Minimus Levels	100	100
Exceedance	*No*	*No*

Notes: Emissions shown are for the highest year in the multi-year construction period.
Source: URBEMIS, 2007: (**Appendix L** of the Draft EIS/TEIR)

Operational ~~Impacts~~ Emissions

Trip Generation Rate

The trip generation rate used in the URBEMIS model was provided by the Institute of Traffic Engineers Manual, 7th Edition, 2004, land use code 416. URBEMIS output files are provided in **Appendix L** of the Draft EIS/TEIR.

Trip Distribution

The trip distribution for Alternative D is the same as Alternative C.

Operational Emissions

Emissions of ROG and NOx, from area sources and vehicles traveling to and from Alternative D were estimated. **Table 4.3-9** presents area and mobile source emissions for Alternative D**.**

TABLE 4.3-9
ALTERNATIVE D UNMITIGATED OPERATIONAL EMISSIONS

Source	ROG	NOx
	tons per year	
Area	0.02	0.00
Mobile	13.65	25.85
Total Emissions	**13.67**	**25.85**
De Minimus Levels	100	100
Exceedance	*No*	*No*

Source: URBEMIS 2007: (**Appendix L** of the Draft EIS/TEIR)

Air Quality Effects - General Conformity Analysis

Since Alternative D emits pollutants, is not exempt from conformity, and is located within a nonattainment area for ozone, the estimated project emissions must be compared to *de minimus* thresholds pursuant to the CAA General Conformity Rule (40 CFR § 93.153 [b][1] and [2]). **Tables 4.3-8** and **4.3-9** compare construction and operational emissions, respectively to the applicable conformity thresholds. Construction emissions and operational emissions do not exceed *de minimus* levels; therefore, Alternative D conforms to the applicable state implementation plan and would not result in significant adverse effects to local and regional air quality.

Odor

Alternative D would result in the development of a wastewater treatment plant (WWTP). As discussed in **Section 2.2.4** of the EIS/TEIR, the WWTP would consist of a tertiary treatment facility utilizing a membrane bioreactor (MBR). Treated wastewater would be disposed of through a subsurface disposal system. The MBR system would minimize the potential for odors emitted by the small WWTP (less than 6,400 gallons per day of effluent). The subsurface disposal of treated wastewater would further reduce odors. Given the size of the WWTP, the proposed process by which the wastewater is treated, the distance of the nearest sensitive receptor (approximately two miles), and the mountainous topography, odors emitted by the WWTP would not be detectable at the nearest sensitive land use. No further analysis is needed.

4.3.6 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potential adverse effects to air quality identified for Alternatives A through D are anticipated to occur.

4.4 BIOLOGICAL RESOURCES

This section identifies the effects to biological resources that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.4**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.4**.

Assessment Criteria

Adverse effects to biological resources would occur if either construction or operation would result in the destruction of critical habitat, the filling of waters of the United States (U.S.) (including wetlands), or the take of special status species. The analysis of potential effects was based on the biological setting as determined by field surveys conducted by Analytical Environmental Services (AES) in 2006; informal consultation with the United States Fish and Wildlife Service (USFWS); and a review of pertinent scientific literature and data, including the California National Diversity Database (CNDDB) and California Native Plant Society (CNPS) lists. A Biological Assessment (BA) has been prepared for Alternatives A and B and is included as ~~**Appendix M**~~ **Appendix T** of the Final EIS/TEIR. Potential effects to biological resources associated with the development of each project alternative are discussed below.

4.4.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Habitats

Alternative A would disturb a majority of the Barstow site and would impact most of the Mojave creosote bush scrub habitat. As discussed in **Subsection 3.4.1**, Mojave creosote bush scrub provides generally suitable habitat for the desert tortoise, a federally listed species, and several migratory bird species. However, Mojave creosote bush scrub habitat is relatively abundant on a local and regional scale. The Bureau of Land Management (BLM) protects a large portion of existing Mojave creosote bush scrub in the vicinity of the project site, including property adjacent to the Barstow site, through public ownership. No USFWS designated critical habitat is located within the Barstow site. As no destruction of critical habitat would occur, no adverse effects to habitats would result from the development of Alternative A.

Waters of the U.S.

No potentially jurisdictional drainages or wetlands are located within the Barstow site. Development of Alternative A would have no impacts to wetlands or waters of the U.S.

State Listed Species

Impacts to western burrowing owl (*Athene cunicularia*), Le Conte's thrasher (*Toxostoma lecontei*), and Mojave ground squirrel (*Spermophilus mohavensis*) were assessed, as these state listed species have the potential to occur on or in the immediate vicinity of the Barstow site.

The burrowing owl has a high tolerance for non-threatening human activity and may occur on the edge of developed areas. As the project site is located adjacent to existing development to the north and west and open space to the south and east, development of Alternative A would not result in significant adverse impacts to western burrowing owl. While habitat for the Le Conte's thrasher exists on and in the immediate vicinity of the Barstow site, it is unlikely that this species occurs due to the high level of human activity already occurring in the area. Should Le Conte's thrasher occur on or in the immediate vicinity of the Barstow site, then light and noise associated with construction and operation of Alternative A may cause the bird to relocate to less disturbed habitats. Therefore, Alternative A would not result in significant adverse effects to Le Conte's thrasher. Recommended mitigation measures presented in **Section 5.4** for nesting birds would further reduce or eliminate all potential adverse effects to western burrowing owl and Le Conte's thrasher.

Mojave ground squirrel has the potential to occur on or in the vicinity of the Barstow site. While this species has been known to occur on the edge of human development near Barstow, this species typically occurs within habitats that have minimal human activity. Development of Alternative A would reduce the amount of undisturbed habitat available to this species. However abundant undisturbed habitat exists to the south and to the east of the Barstow site. As such, development of Alternative A would not result in significant adverse effects on the Mojave ground squirrel.

Federally Listed Species

Pursuant to the requirements of the Federal Endangered Species Act (FESA) of 1973, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the study area and determine whether the proposed project would have a potentially "significant" impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species that is proposed for listing under FESA or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]). The USFWS and the National Marine Fisheries Service (NMFS) enforce the provisions as stipulated within the FESA (16 USC Section 1531 *et seq*.). Threatened and endangered species on the federal list (50 CFR Subsection 17.11, 17.12) are protected from "take" (direct or indirect harm), unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered to a lead federal agency.

As discussed in **Subsection 3.5.4**, one federally listed species has the potential to occur on the Barstow site: the Mojave desert tortoise (*Gopherus agassizii*). In addition to the desert tortoise, there are 15 other federally listed species known to occur in San Bernardino County. None of these other federal special-status species are likely to occur within the Barstow site because it is either outside of the species' range or because it does not provide suitable habitat. The desert tortoise is known to utilize Mojave creosote bush scrub habitats that are similar to those present within the Barstow site and immediate vicinity~~. Due to the transitional nature and the high level of human activity in the vicinity of the Barstow site, the habitat is less than optimal for this species.~~ Although Mojave creosote bush scrub provides habitat for the Mojave desert tortoise, the habitat is of low quality on-site because of several dirt roads crisscrossing the site and the urban land uses and barriers to overland movement surrounding the project site including

Lenwood Road, an outlet mall, developed areas within the City of Barstow to the west and north, and the Stoddard Valley OHV area, which is heavily used by off-road vehicle traffic, to the south and east. The highways located to the north and west of the project site are likely barriers to Mojave desert tortoise movement. No Mojave desert tortoises or their signs were observed during the March 30, 2012 protocol survey conducted within the project site (**Appendix T** of the Final EIS/TEIR). Given that the site is highly disturbed and the land uses surrounding the project site consist of OHV use, paved roads, and commercial development, and that no Mojave desert tortoise or their sign was observed during the biological surveys, this species is unlikely to occur within the project site. However, ~~S~~should this species occur within the Barstow site, construction activities in and around the Mojave creosote bush scrub habitat ~~could~~ have the potential to adversely affect this species. Mortality or injury to this species could result from construction vehicle movement, ground disturbance, or other project-related activities. In addition, this species may use construction vehicles and/or equipment as nighttime shelter, which may result in mortality or injury to the species.

Construction of Alternative A would likely result in increased human activity in the vicinity of the Barstow site. Such an increase in human activity could result in an increase of trash and food waste, which has been known to attract the common raven (*Corvus corax*). Increased raven populations could ~~have an additional~~ adversely ~~e~~affect ~~on~~ the desert tortoise because ravens prey on juvenile desert tortoises. Recommended mitigation measures presented in **Section 5.4** would avoid or minimize any potential adverse effects to desert tortoise. With the incorporation the recommended mitigation measures, Alternative A may affect, but is **not likely to adversely affect** the desert tortoise~~.~~. In accordance with Section 7 of the FESA, the BIA initiated consultation with USFWS regarding potential effects to the desert tortoise. In a letter dated July 6, 2012, the USFWS concurred that the Proposed Action is not likely to adversely affect the desert tortoise with the implementation of mitigation measures in Section 5.4. Consultation letters are provided in **Appendix T** of this Final EIS/TEIR.

Migratory Birds

Under the Migratory Bird Treaty Act of 1918 (16 USC Section 703-712), migratory bird species and their nests and eggs, which are on the federal list (50 CFR Section 10.13) are protected from injury or death. Accordingly, project-related disturbances must be reduced or eliminated during the nesting cycle.

Several migratory birds, such as Le Conte's thrasher (*Toxostoma lecontei*), lesser nighthawk (*Chordeiles acutipennis*), killdeer (*Charadrius vociferous*), and western burrowing owl (*Athene cunicularia*), have the potential to nest in low-growing vegetation or on the sand within the Barstow site. If construction activities (e.g., vegetation removal, grading, etc.) associated with project development occur during the nesting season, migratory and/or nesting bird species such as those mentioned above could be adversely impacted. Disturbance that occurs within 500 feet of an active nest could cause nest abandonment or premature fledging of the young. Recommended mitigation measures presented in **Section 5.4** would minimize the potential for adverse effects to occur. After mitigation, Alternative A would not result in significant adverse effects to nesting migratory birds.

4.4.2 ALTERNATIVE B – BARSTOW REDUCED CASINO- HOTEL COMPLEX

Habitats

Alternative B would disturb a majority of the Barstow site and would impact most of the Mojave creosote bush scrub habitat within the site boundaries. No USFWS designated critical habitat occurs on the Barstow site. Similar to Alternative A, no adverse or significant effects to habitats would occur as a result of Alternative B.

Waters of the U.S.

As with Alternative A, development of Alternative B would have no adverse effects on waters of the U.S. or wetlands.

Federal and State Listed Species

Effects on federally and state listed species associated with development of Alternative B are similar to those identified for Alternative A. Similar to Alternative A, development of Alternative B has the potential to result in adverse effects to desert tortoise. Recommended mitigation measures presented in **Section 5.4** would avoid or minimize all identified adverse effects to desert tortoise. With the incorporation the recommended mitigation measures, Alternative B may affect, but is **not likely to adversely affect** the desert tortoise. In accordance with Section 7 of the FESA, the BIA initiated consultation with USFWS regarding potential effects to the desert tortoise. In a letter dated July 6, 2012, the USFWS concurred that the Proposed Action is not likely to adversely affect the desert tortoise with the implementation of mitigation measures in Section 5.4. Consultation letters are provided in **Appendix T** of this Final EIS/TEIR.

Migratory Birds

Potential impacts of Alternative B to migratory bird species are similar to the potential impacts identified under Alternative A. Recommended mitigation measures in **Section 5.4** would minimize the potential adverse effects to nesting migratory bird species. After mitigation, Alternative B would not result in significant adverse effects to nesting migratory birds.

4.4.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Habitats

No USFWS designated critical habitat is located within the Los Coyotes site. As such, no adverse effects to habitats would occur because there is no destruction of critical habitat. Alternative C would affect approximately 9.93 acres of non-native grassland habitat and 4.88 acres of Coast live oak woodland habitat. Potential impacts to the Coast live oak woodland habitat would be minimal due to the relatively common and abundant nature of this habitat type in the region. The non-native grassland habitat on-site provides potentially suitable habitat for Stephen's kangaroo rat, a federally listed species. Potential project-related effects on Stephen's kangaroo rat are discussed below.

Waters of the U.S.

A seasonal wetland occurs in the southern portion of the Los Coyotes site and San Ysidro Creek, an intermittent channel, flows immediately to the west of the Los Coyotes site. For the purposes of this analysis, San Ysidro Creek is considered to be potentially jurisdictional waters of the U.S. Since this area is outside the area of development, significant adverse effects to waters of the U.S. would not occur. Regulatory requirements and best management practices (BMPs) related to water resources presented in **Section 5.2** would further reduce any adverse effects.

A formal wetland delineation and verification by the U.S. Army Corps of Engineers (USACE) would be required to determine the jurisdictional status of the seasonal wetland at the southern edge of the Los Coyotes site. If this feature is determined to be jurisdictional, Alternative C could have an adverse effect on waters of the U.S. because of project-related impacts to this seasonal wetland feature. Implementation of the recommended mitigation measures in **Section 5.4** would minimize all adverse effects to wetlands and waters of the U.S.

State Listed Species

Due to the location of the Los Coyotes site within the Los Coyotes Reservation, off-reservation impacts to state listed species would likely not occur.

Federally listed Species

Special Status Amphibian Species

Breeding habitat for the arroyo toad (*Bufo californicus*) does not occur west of the Los Coyotes site, within San Ysidro Creek, as the channel does not have persistent water flows or pools in this area. However, potential breeding habitat does occur within small pools in the San Ysidro Creek south of the Los Coyotes site, and in wetland areas in the southern portion of the Los Coyotes site, and immediately south of the Los Coyotes site. This species was not observed on-site during the field assessments conducted by AES in May 2006. Alternative C has the potential to impact this species if the arroyo toad occurs within these two potential habitat areas, as arroyo toads can travel up to a kilometer from their breeding sites during the nonbreeding season. Regulatory requirements and BMPs related to water resources presented in **Section 5.2** and implementation of the recommended mitigation measures presented in **Section 5.4** would minimize adverse effects to waters of the U.S. as well as to the arroyo toad. With the incorporation the recommended mitigation measures, Alternative C may affect, but is not likely to adversely affect the arroyo toad.

Special Status Mammal Species

While Stephen's kangaroo rat (*Dipodomys stephensi*) was not observed on-site during the field assessment, this species is typically nocturnal and the Los Coyotes site was surveyed during the day. Development of Alternative C could impact this species by removal of habitat and take of the species during construction, if it occurs on-site. Development of Alternative C may have adverse effects on Stephen's kangaroo rat. The aspects of overall project design and implementation of the recommended mitigation measures presented in **Section 5.4** would minimize adverse effects to Stephen's kangaroo rat.

Migratory Birds

Development of Alternative C could affect vegetative communities that may potentially support active nests of migratory birds, such as western bluebird (*Sialia mexicana*), lesser nighthawk (*Chordeiles acutipennis*), Anna's hummingbird (*Calypte anna*), and lark sparrow (*Chondestes grammacus*). Development of Alternative C may have adverse effects on nesting migratory birds, should vegetation removal activities associated with project development occur during the nesting season. The aspects of overall project design and implementation of the recommended mitigation measures in **Section 5.4** would minimize adverse effects to nesting migratory bird species.

4.4.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Habitats

No USFWS designated critical habitat is located within the Los Coyotes site. As such, no adverse effects to habitats would occur because there would be no destruction of critical habitat. Development of Alternative D would impact non-native grassland habitat and Coast live oak woodland habitat. These habitat impacts are similar to, but reduced, to those described for Alternative C.

Waters of the U.S.

Potential effects of Alternative D to waters of the U.S. and wetland features are similar to those previously discussed for Alternative C. Regulatory requirements and BMPs related to water resources, as presented in **Section 5.2** above, would minimize adverse effects to San Ysidro Creek. Mitigation in **Section 5.4** would minimize adverse effects to identified wetland features.

Federal and State Listed Species

Development of Alternative D would have similar effects on federally and state listed species to those previously discussed for development of Alternative C. The aspects of overall project design and implementation of the recommended mitigation measures in **Section 5.4** would minimize all identified adverse effects to state and federally listed special-status species.

Migratory Birds

Potential impacts to nesting migratory bird species resulting from development of Alternative D are similar to potential impacts discussed for Alternative C. The aspects of overall project design and implementation of the recommended mitigation measures in **Section 5.4** would minimize all identified adverse effects to nesting migratory birds.

4.4.5 ALTERNATIVE E – NO ACTION

Under Alternative E, no changes in land use on the Barstow and Los Coyotes sites are reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.5 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section identifies the direct effects to cultural resources that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.5**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.5**.

Assessment Criteria

For cultural resources, adverse effects would result if either construction or operation would result in one of the following impacts to cultural resources that are listed, or eligible for listing, in the National Register of Historic Places (NRHP): physical destruction of or damage to all or part of the resource; alteration of a resource; removal of the resource from its historic location; change of the character of the resource's use or of physical features within the resource's setting that contribute to its historic significance; introduction of visual, atmospheric, or audible elements that diminish the integrity of the resource's significant historic features; and neglect of a resource that causes its deterioration. A Cultural Resources Report (**Appendix N** of the Draft EIS/TEIR) has been prepared and ~~will~~was ~~be~~ submitted to the State Historic Preservation Officer (SHPO) to initiate consultation in accordance with Section 106 of the National Historic Preservation Act (NHPA). In a letter dated June 5 2012, the SHPO concurred with the BIA's finding of *No Historic Property Affected* for the Barstow site. A copy of the consultation letters is provided in **Appendix R** of the Final EIS/TEIR. The findings of the report are summarized below.

4.5.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Cultural Resources

No previously known archaeological or historical resources were identified as a result of the archival research, consultation, or field survey. Therefore, development proposed under Alternative A would not affect known historic properties.

There is a possibility that previously unknown archaeological resources would be encountered during construction activities. Therefore, development of Alternative A has the potential to cause adverse effects to unidentified subsurface archaeological resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to previously unknown archaeological resources from Alternative A.

Paleontological Resources

No paleontological resources have been reported or observed on or in the vicinity of the Barstow site. Therefore, no known paleontological resources would be affected under Alternative A.

There is a possibility that previously unknown paleontological resources would be encountered during construction activities. Therefore, development of Alternative A has the potential to cause adverse effects to unidentified subsurface fossil resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to unidentified subsurface fossil resources from Alternative A.

4.5.2 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

Cultural Resources

No previously known archaeological or historical resources were identified as a result of archival research, field survey, or consultation. Therefore, development proposed under Alternative B would not affect known historic properties.

There is a possibility that previously unknown archaeological resources would be encountered during construction activities. Therefore, development of Alternative B has the potential to cause adverse effects to unidentified subsurface archaeological resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to previously unknown archaeological resources from Alternative B.

Paleontological Resources

As stated under Alternative A, no paleontological resources have been reported or observed on or in the vicinity of the Barstow site. Therefore, no known paleontological resources would be affected under Alternative B.

There is a possibility that previously unknown paleontological resources would be encountered during construction activities. Therefore, development of Alternative B has the potential to cause adverse effects to unidentified subsurface fossil resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to unidentified subsurface fossil resources from Alternative B.

4.5.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Cultural Resources

No archaeological or historical resources were identified as a result of the archival research, consultation, or field survey. Therefore, development proposed under Alternative C would not affect known historic properties.

There is a possibility that previously unknown archaeological resources would be encountered during construction activities. Therefore, development of Alternative C has the potential to cause adverse effects to unidentified subsurface archaeological resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to previously unknown archaeological resources from Alternative C.

Paleontological Resources

No paleontological resources have been reported or observed on or in the vicinity of the Los Coyotes site. Therefore, no known paleontological resources would be affected under Alternative C.

There is a possibility that previously unknown paleontological resources would be encountered during construction activities. Therefore, development of Alternative C has the potential to cause adverse effects to unidentified subsurface fossil resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to unidentified subsurface fossil resources from Alternative C.

4.5.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Cultural Resources

No archaeological or historical resources were identified as a result of the archival research, consultation, or field survey. Therefore, development proposed under Alternative D would not affect known historic properties.

There is a possibility that previously unknown archaeological resources would be encountered during construction activities. Therefore, development of Alternative D has the potential to cause adverse effects to unidentified subsurface archaeological resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to previously unknown archaeological resources from Alternative D.

Paleontological Resources

As stated under Alternative C, no paleontological resources have been reported or observed on or in the vicinity of the Los Coyotes site. Therefore, no known paleontological resources would be affected under Alternative D.

There is a possibility that previously unknown paleontological resources would be encountered during construction activities. Therefore, development of Alternative D has the potential to cause adverse effects to unidentified subsurface fossil resources. Recommended measures presented in **Section 5.5** would minimize the potential for adverse impacts to unidentified subsurface fossil resources from Alternative D.

4.5.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potential adverse effects identified for Alternatives A though D are anticipated to occur.

4.6 SOCIOECONOMIC CONDITIONS AND ENVIRONMENTAL JUSTICE

This section identifies the effects to socioeconomics anticipated to result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.6**. Cumulative and specific indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to avoid, minimize, and mitigate for adverse effects identified in this section are presented in **Section 5.6**.

Assessment Criteria

Socioeconomic Impacts

To determine the potential effects of the alternatives associated with socioeconomic conditions, the economic effects of temporary construction and ongoing operational activities of each alternative were measured. Because socioeconomic effects would be most pronounced in the vicinity of the Project sites, the scope of analysis focuses on impacts to the Barstow site and surrounding San Bernardino County for Alternatives A and B, and the Los Coyotes Reservation and surrounding San Diego County for Alternatives C and D. Impacts from construction would be a one-time occurrence, while those from operation would be generated continuously after opening. An adverse economic, fiscal, or social impact would occur if the effect of the project were to negatively alter the ability of businesses and governments to perform at existing levels, or alter the ability of people to obtain public health and safety services. Much of the analysis presented herein relies on data presented in the *Los Coyotes Band of Cahuilla and Cupeño Indians Fee-to-Trust and Barstow Casino Project – Economic Impact and Growth Inducing Study* (Economic Impact Study) included as **Appendix O** of the Draft EIS/TEIR (AES, 2010). Economic effects in this analysis are quantified for San Bernardino County and San Diego County using the Impact Analysis for Planning (IMPLAN) model.

Environmental Justice Impacts

To determine the impacts of the alternatives on environmental justice, the location and status of minority and low-income communities of concern, as identified in **Section 3.6**, are compared to the effect and nature of an alternative's impacts. An adverse environmental justice impact would result if any impact within the scope of this document disproportionately affected an identified minority or low-income community or Native American tribe. *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* provides the following direction on how to analyze the impacts of actions on low-income and minority populations:

> Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population (EPA, 1998).

4.6.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Economic Effects

Expenditures on goods and services for construction and operational activities would generate substantial direct economic output, as well as indirect and induced economic output. Direct output would result from money spent on activities for construction and operational activities of the project. Indirect output would result from expenditures on goods and services by businesses that receive funds directly from the construction and operation of Alternative A. Induced output would result from expenditures on goods and services by employees directly generated from construction and operation of Alternative A.

Construction

Expenditures on goods and services from the construction of Alternative A were calculated from estimated costs for construction, investment in furniture, fixture and equipment (FF&E), various business and consulting fees, and pre-opening expenses. It is assumed that the construction of Alternative A would start in January 2012 and finish in March 2013. Under Alternative A, construction activities are estimated to cost approximately $251.4 million, which is expected to generate a one-time total output of approximately $220.5 million within the County (**Table 4.6-1**). Direct output is estimated to total approximately $161.5 million, of which approximately $157.9 million (98 percent) is attributed to the construction industry. Indirect and induced outputs were estimated to total $22 million and $36.9 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Construction of Alternative A would generate substantial output to a variety of businesses in San Bernardino County. Given the location of Alternative A in Barstow, the local economy of Barstow, as discussed in **Subsection 3.6.1**, would be expected to capture a large portion of this output. Output received by San Bernardino County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be considered a beneficial impact.

Operation

Expenditures on goods and services from the operation of Alternative A were calculated from revenue projections for the first complete year of operation, currently estimated to be 2014. Under Alternative A, the projected revenue for 2014 was estimated to be $158.2 million and the estimated annual number of patrons would be 2,285,364 (Michigan Consultants, 2010). New spending from the proposed project is expected to generate a net annual total output of approximately $183.5 million within the County (**Table 4.6-2**). Direct output is estimated to total approximately $141.7 million, of which approximately $119.9 million (85 percent) would be attributed to the gaming and entertainment industry. Indirect and induced outputs were estimated to total $23.2 million and $18.6 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

TABLE 4.6-1
ONE-TIME CONSTRUCTION ECONOMIC IMPACT (MILLIONS)

Construction	Alternative			
	A	B	C	D
Development Budget	*$251.4*	*$182.9*	*$9.0*	*$2.4*
Direct Output (Industry)				
Construction	$157.9	$114.7	$3.0	$1.60
Manufacturing	-	-	$0.27*	$0.04
Wholesale Trade	$2.3	$1.7	$0.59	-
Real Estate and Rental	$1.17	$1.17	-	-
Professional: Scientific and Technical Services	-	-	$0.16	-
Direct Total	$161.5	$117.6	$4.38	$1.64
Other Output				
Indirect	$22.0	$16.0	$1.48	$0.54
Induced	$36.9	$26.9	$1.78	$0.67
Total Output	*$220.5*	*$160.5*	*$7.64*	*$2.86*

Source: AES, 2010.
Projections are presented in 2010 dollars
* Includes Mining sector for road construction materials.
Note: Though numbers appear to be estimated to the nearest dollar, accuracy is not indicated to that level due to rounding. Due to rounding, numbers may not add up to equal the number given in the Total.

TABLE 4.6-2
ANNUAL OPERATIONAL ECONOMIC IMPACT (MILLIONS)

Operation	Alternative			
	A	B	C	D
Revenue (Projected 2014)	*$158.2*	*$126.4*	*$9.3*	*$0.68*
Direct Output (Industry)				
Entertainment & Recreation	$119.9	$97.5	$7.0	-
Accommodation & Food Services	$21.7	$7.6	$1.2	$0.60
Direct Total	$141.7	$105.0	$8.2	$0.60
Other Output				
Indirect	$23.2	$17.5	$3.6	$0.23
Induced	$18.6	$13.3	$2.4	$0.21
Total Output	*$183.5*	*$135.8*	$14.2	*$1.1*

Source: Michigan Consultants, 2010; AES, 2010
Projections are presented in 2010 dollars
Note: Though numbers appear to be estimated to the nearest dollar, accuracy is not indicated to that level due to rounding. Due to rounding, numbers may not add up to equal the number given in the Total.

Operation of Alternative A would generate substantial output to a variety of businesses in San Bernardino County. Given the location of Alternative A in Barstow, the local economy of Barstow, as discussed in

Subsection 3.6.1, would be expected to capture a large portion of this output. Output received by San Bernardino County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be considered a beneficial impact.

Substitution Effects

Potential substitution effects (the loss of customers at existing commercial businesses to the new business) of Tribal casinos on existing restaurant, recreation, and retail establishments must be considered when attempting to determine the true magnitude of the casino's impact on the economy. These effects were evaluated in the Economic Impact and Growth Inducing Study (**Appendix O** of the Draft EIS/TEIR). As noted in **Section 3.6**, the potential market for the Barstow casino can be divided into two major sources: close-radius residents and long-distance travelers. The close-radius market consists of individuals who reside in areas where Barstow will either be the closest casino or one of the closer casinos. The long-distance market consists of vehicles on Interstate 15 traveling to Las Vegas, as well as travelers that fork onto Interstate 40 east of Barstow going towards Arizona. The primary market opportunity for the Barstow site is the large number of travelers that currently pass through Barstow on I-15 each year.

The magnitude of the substitution effect can generally be expected to vary greatly by specific location and according to a number of variables. That is, how much of the casino's revenue comes at the expense of other business establishments in the area depends on how many and what type of other establishments are within the same market area as the casino, disposable income levels of local residents and their spending habits, as well as other economic and psychological factors affecting the consumption decisions of local residents. As estimated by Michigan Consultants, the anticipated gaming revenue substitution effect under Alternative A would be approximately 15.4 percent of total projected gaming revenue for the project ($20,864,893). However, this effect would not result in the closure of any of the competing gaming facilities. In fact, it is likely that existing regional casinos would continue to generate significantly positive cash flows. Moreover, any anticipated substitution effects are likely to diminish after the first year of the project's operation and once local residents experience the casino and return to more typical spending patterns. It is important to note that the addition of a casino in San Bernardino County would be likely to expand the gaming market for the region as a whole.

According to a 2000 Harvard University study, worst-case non-gaming substitution effects, occurring in rural environments, have shown on average a nine percent decrease in earnings at local restaurants and bars and an increase in earnings in other commercial sectors (Taylor et al., 2000). According to official U.S. Census Bureau definitions, rural areas comprise open country and settlements with fewer than 2,500 residents (USDA, 2007). In January 2010, the City of Barstow had a population of 24,281 people, which is significantly higher than the U.S. Census Bureau's definition of a rural community (DOF, 2010). Thus, worst case effects as described in the Harvard study would not apply to the Barstow site. Therefore, it may be inferred that if substitution occurs it would be at some percentage lower than nine percent. Given that it is not possible to reliably quantify the substitution effects, this analysis does not reduce the economic impacts from the proposed casino and other alternatives to account for substitution effects. Some of the substitution effects would be counteracted by the behavior of casino guests other than local residents. Specifically, as the casino would draw non-residents to the area, the associated increase in new

visitor demand for off-site entertainment venues, restaurants, and bars would make up for some area residents choosing to visit Alternative A rather than other local establishments. Thus, it is not anticipated that significant substitution effects would occur.

Taxes

Alternative A would result in a variety of fiscal impacts. Since tribes are sovereign nations, they do not pay corporate income taxes on revenue or property taxes on tribal land. Alternative A would increase demand for public services, resulting in increased costs for local governments to provide these services. Tax revenues would be generated for federal, state and local governments from activities including secondary economic activity generated by tribal gaming (i.e., the indirect and induced effects of the economic impact analysis). The taxes on secondary economic activity include: corporate profits tax, income tax, sales tax, excise tax, property tax, and personal non-taxes, such as motor vehicle licensing fees, fishing/hunting license fees, other fees, and fines. Additionally, the gaming compact will provide for revenue sharing between the Tribe and the State, as well as local governments.

Property values assessed by San Bernardino County for parcels within the Barstow site are discussed in **Subsection 3.6.1**. Alternative A would result in the entire area of each of these parcels being transferred to trust status for the Tribe. Therefore, approximately $6,634 in property taxes would be lost by local governments including San Bernardino County and the city of Barstow. The MSA (**Appendix D** of the Draft EIS/TEIR) provides for compensation by the Tribe to Barstow. The Tribe would pay Barstow amounts equal to the service, development, and impact fees that, if the Barstow site were not in trust status, would be charged by Barstow and other local agencies.

As shown in **Table 4.6-3**, substantial tax revenues would be generated for federal, state and local governments from economic activity associated with construction and operation of Alternative A. Local governments include San Bernardino County, Barstow, and other cities within San Bernardino County that would experience economic activity as a result of Alternative A. Construction of Alternative A would generate one-time $13.3 million in federal tax revenues, and $7.5 million in state/county/local tax revenues. Operation of Alternative A would generate annually $3.4 million in federal tax revenues, and $2.7 million in state/county/local tax revenues from indirect and induced taxes. Actual annual tax revenues generated by the project may be greater than those indicated above as direct personal income tax is not accounted for in the operational tax revenue estimate.

Additionally, Alternative A would generate substantial annual revenues to state and local governments from revenue sharing. The MSA provides for compensation by the Tribe to Barstow in the amount of 4.3 percent of the "Net Win" on Class II and Class III electronic games of chance. As detailed in **Appendix O** of the Draft EIS/TEIR, Alternative A would have an estimated annual gaming machine revenue of $121.9 million, resulting in Barstow revenue sharing of $5.3 million per year. Additional payments to Barstow for problem gambling services would total $40,000, and are discussed in the MSA (**Appendix D** of the Draft EIS/TEIR) as well as below in the pathological and problem gambling section.

TABLE 4.6-3
TAX REVENUES (MILLIONS)

Jurisdiction	Alternative			
	A	B	C	D
Construction (One-Time)				
Federal	$13.3	$9.7	$0.61	$0.22
State/County/Local	$7.5	$5.5	$0.42	$0.13
Operation (Annually)				
Federal	$3.4	$2.1	$0.48	$0.04
State/County/Local	$2.7	$2.0	$0.40	$0.03

Source: AES, 2010
Projections are presented in 2010 dollars.
Note: Though numbers appear to be estimated to the nearest dollar, accuracy is not indicated to that level due to rounding. Due to rounding, numbers may not add up to equal the number given in the Total. The operational tax revenues indicated in the table include indirect and induced taxes only. Due to the project's unique circumstances, including the proposed location on trust land, direct tax revenues generated during the project's operation phase were not quantifiable. As such, actual tax revenues generated by the project may be greater than those indicated above as direct personal income tax has not been included in the totals.

Effects due to the loss of state and federal tax revenues resulting from the operation as a sovereign nation on trust land would be offset by increased local, state and federal tax revenues resulting from construction and operation of Alternative A, and from revenue sharing programs per the tribal compact and the MSA. To ensure revenue sharing between the Tribe and Barstow, provisions of the MSA are included in **Section 5.6**. The net generation of revenues to governments is considered a beneficial impact.

Summary of Economic Effects

Construction and operation of Alternative A would generate substantial economic output to a variety of businesses in San Bernardino County. Given the location of Alternative A in Barstow, the local economy of Barstow, as discussed in **Subsection 3.6.1**, would be expected to capture a large portion of this output. Additionally, Alternative A would generate substantial fiscal impacts to state, County, and local governments. Potential effects due to the loss of state and federal tax revenues resulting from the operation as a sovereign nation on trust land would be offset by increased local, state and federal tax revenues resulting from construction and operation of Alternative A, and from revenue sharing programs per the tribal compact and the MSA. Overall, Alternative A would result in a beneficial impact to the San Bernardino County economy.

Employment

Investment in construction and operational activities would generate substantial direct employment opportunities and wages, as well as indirect and induced employment opportunities and wages. The source of direct, indirect, and induced employment opportunities and wages would be similar to those for economic output, as discussed above. The IMPLAN model was used to estimate employment opportunities generated by Alternative A.

Construction

Under Alternative A, investment in construction activities would generate a one-time total of approximately 1,467 employment opportunities within the County (**Table 4.6-4**). The number of employees would be equivalent to the number of person-years available from wages. A person-year is defined as the amount of labor one full-time employee can complete in a calendar year. For example, two half-time employees working for a year would constitute one person-year. Direct output was estimated to total approximately 990 employment opportunities, of which approximately 968 (97 percent) would be attributed to the construction industry. Indirect and induced employment opportunities were estimated to result in 165 and 331 employment opportunities, respectively.

TABLE 4.6-4
ONE-TIME CONSTRUCTION EMPLOYMENT AND WAGE IMPACTS

Construction Impact	Alternative			
	A	B	C	D
Employment (Person-Years)				
Direct (Industry)				
Construction	968	703	20	10
Manufacturing	-	-	1*	0
Wholesale Trade	15	11	3	-
Real Estate and Rental	7	7	-	-
Professional: Scientific and Technical Services	-	-	1	-
Direct Total	990	721	26	10
Other				
Indirect	165	120	9	3
Induced	331	226	13	5
Total Jobs	*1,467*	*1,068*	*47*	*18*
Wages (Millions)				
Direct (Industry)				
Construction	$43.7	$31.7	$0.94	$0.472
Manufacturing	-	-	$0.05*	$0.005
Wholesale Trade	$0.85	$0.62	$0.208	-
Real Estate and Rental	$0.06	$0.06	-	-
Professional: Scientific and Technical Services	-	-	$0.08	-
Direct Total	$44.6	$32.4	$1.27	$0.477
Other				
Indirect	$7.0	$5.1	$0.46	$0.169
Induced	$10.5	$7.6	$0.49	$0.184
Total Wages	*$62.1*	*$45.1*	*$2.22*	*$0.831*

Source: AES, 2010; Projections are presented in 2010 dollars
* Includes Mining sector for road construction materials.
Note: Though numbers appear to be estimated to the nearest dollar and/or whole number, accuracy is not indicated to that level due to rounding. Due to rounding, numbers may not add up to equal the number given in the Total.

Employment opportunities generated from construction and operation of Alternative A would result in wage generation. Wage totals include hourly and salary payments as well as benefits including health and life insurance and retirement payments. Under Alternative A, investment in construction activities would generate one-time total wages of approximately $62.1 million within the County (**Table 4.6-4**). Direct wages were estimated to total approximately $44.6 million, of which approximately $43.7 million (98 percent) would be attributed to the construction industry. The generation of employment and wages during the construction phase is considered a beneficial effect of Alternative A.

Operation

Employment opportunities generated from the operation of Alternative A would include entry-level, mid-level, and management positions. Examples of employment opportunities typically offered by tribal casino and resort facilities are listed in **Table 4.6-5**. Average salaries offered are expected to be consistent with, or greater than, those of other tribal gaming facilities, and competitive in the local labor market.

TABLE 4.6-5
TYPICAL TRIBAL CASINO EMPLOYMENT OPPORTUNITIES

Casino slot operations	Hotel management	Food & beverage operations	Financial services
Table games	Hotel facilities	Restaurant services	Support services
Entertainment operations	Hotel marketing	Culinary services	Security services
Casino credit	Housekeeping services	Human resources	Surveillance
Casino administration	Hotel administration	Casino services	Hotel services
Source: AES, 2010.			

As calculated through IMPLAN, operation activities associated with Alternative A would generate an annual total of approximately 1,562 employment opportunities to be captured within San Bernardino County (**Table 4.6-6**). Direct employment impacts were estimated to total approximately 1,207 job opportunities (**Appendix O** of the Draft EIS/TEIR). Indirect and induced employment opportunities were estimated to total 198 and 157, respectively, and would be dispersed and distributed among a variety of different industries and businesses throughout San Bernardino County.

Under Alternative A, operation activities associated with Alternative A would generate annual total wages of approximately $39.7 million within San Bernardino County (**Table 4.6-6**). Direct wages were estimated to total approximately $26.7 million, of which approximately $19.9 million (75 percent) would be attributed to the gaming and entertainment industry. Indirect and induced wages were estimated to total $7.7 and $5.3 million, respectively, and would be dispersed and distributed among a variety of different industries and businesses throughout San Bernardino County. The generation of employment and wages during the operation phase is considered a beneficial effect of Alternative A.

For the purposes of this analysis, it is assumed that the unemployment rate for San Bernardino County will follow a similar trend to what has been projected for the U.S. as described in **Section 3.6**, and that the County will experience an unemployment rate of 10.2 percent in 2014 and a labor force of 931,086 people (**Appendix O** of the Draft EIS/TEIR; **Table 4.6-7**).

TABLE 4.6-6
ANNUAL OPERATIONAL EMPLOYMENT AND WAGE IMPACTS

Operational Impact	Alternative			
	A	B	C	D
Employment (Person-Years)				
Direct (Industry)				
Entertainment and Recreation	870	707	48	6
Accommodation and Food Services	337	116	20	-
Direct Total	1,207	823	68	6
Other				
Indirect	198	150	23	2
Induced	157	112	17	2
Total Jobs	*1,562*	*1,085*	*108*	*9*
Wages (Millions)				
Direct (Industry)				
Entertainment and Recreation	$19.9	$16.2	$1.34	$0.185
Accommodation and Food Services	$6.8	$2.4	$0.39	-
Direct Total	$26.7	$18.5	$1.74	$0.185
Other				
Indirect	$7.7	$5.9	$0.02	$0.07
Induced	$5.3	$5.8	$0.02	$0.06
Total Wages	*$39.7*	*$28.2*	*$0.1*	*$0.314*

Source: AES, 2010
Projections are presented in 2010 dollars.
Note: Though numbers appear to be estimated to the nearest dollar and/or whole number, accuracy is not indicated to that level due to rounding. Due to rounding, numbers may not add up to equal the number given in the Total.

TABLE 4.6-7
PROJECTED SAN BERNARDINO COUNTY LABOR MARKET

2014	
Labor Force	931,086
Unemployment (Rate)	94,971 (10.2%)

Source: AES, 2010.
Note: 2014 Labor market considers direct, indirect, and induced employment.

A portion of new employment opportunities would be filled by people in the County that are currently employed, thereby freeing up existing employment opportunities for other workers. For reasons described above under *Economic Effects,* Alternative A is not expected to result in significant permanent job loss elsewhere due to substitution effects.

Summary of Employment Effects

Construction and operation of Alternative A would generate substantial temporary and ongoing employment opportunities and wages that would be primarily filled by the available labor force in Barstow and San Bernardino County. Given the projected unemployment rate, and the dynamics of the local labor market, San Bernardino County is anticipated to be able to easily accommodate the increased demand for labor during the operation of Alternative A. This would result in employment and wages for persons previously unemployed, increasing the ability of the population to provide themselves with health and safety services and contributing to the alleviation of poverty among lower income households. Additionally, in accordance with Section 10 of the MSA, the Tribe shall work in good faith with the City to employ qualified City residents at the Tribe's resort facilities, as well as offer training programs to assist City residents in becoming qualified for positions at the Resort (**Section 5.6**). This is considered a beneficial effect.

Housing

Based on the information presented in **Section 3.6.1**, in 2014, the San Bernardino County housing market is projected to have 734,831 total units and 84,212 vacant units; the Barstow housing market is projected to have 10,656 total units and 1,852 vacant units (**Table 4.6-8**).

TABLE 4.6-8
PROJECTED 2014 HOUSING MARKET

San Bernardino County	Housing Units
Total Units	734,831
Occupied Units	650,619
Vacant Units	84,212
% Vacant	11.46%
City of Barstow	**Housing Units**
Units	10,656
Occupied Units	8,804
Vacant Units	1,852
% Vacant	17.38%
Source: California Department of Finance, 2010; AES, 2010.	

Indirect and induced employment opportunities would be dispersed among a variety of different businesses in San Bernardino County. Since these opportunities would be located at a variety of locations throughout San Bernardino County, it is expected that employees would be located in the vicinity of these locations, and would not require relocation.

Based on regional housing stock projections, and current trends in San Bernardino County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Alternative A. Therefore, Alternative A is not expected to

stimulate regional housing development. A significant adverse impact to the housing market would not occur. Potential indirect effects resulting from growth inducement are discussed further in **Section 4.14**.

Social Impacts

Pathological and Problem Gambling

Gambling, in one form or another, is now legal in every state except Hawaii and Utah. According to an NGISC study, approximately 86 percent of Americans report having gambled at least once during their lifetimes and 63 percent of Americans report having gambled at least once during the previous year (NGISC, 1999). This estimate is based on participation in all forms of gambling, including: lotteries, poker, Internet gambling, betting, and casino gambling.

As described in **Table 4.6-9** there are behaviors of casino customers that can be broken down into five categories. Gaming customers are motivated to visit a casino for a variety of reasons, and some of those reasons may be viewed as criteria that define one as a problem gambler.

TABLE 4.6-9
FIVE BEHAVIORS OF CASINO CUSTOMERS

Behavior Type	Characteristics
Recognition Seekers	Small share of total players. Have high expectation of recognition from the property they patronize. The reward to the casino is an intensely loyal and frequent visitor.
Escapists	Seeks a getaway that does not resemble their everyday routine. Prefer to remain anonymous. Require minimal maintenance in the form of personal attention and complimentary services from the casino.
Reward Seekers	Driven by casino's play rewards program or promotions that compensate them for their play. Gamer will play at the casino with the best deal.
Socializers	Visit a casino to be around others. Once they identify with a particular property they become very loyal with high levels of visitation.
Professionals	Pay very close attention to the types of games a casino offers. Generate large coin handle and accumulate voluminous amounts of slot club points. Loyalty goes to the casino where they can make the most money.
Source: AES, 2010.	

The American Psychiatric Association (APA) describes pathological gambling as an impulse control disorder characterized by "persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits. The gambling pattern may be regular or episodic, and the course of the disorder is typically chronic" (NGISC, 1999). The APA has established ten criteria for diagnosis of a pathological and problem gambler, which include: preoccupation, tolerance, withdrawal, escape, chasing, lying, loss of control, illegal acts, risked significant relationship, and financial bailout. At-risk gaming behaviors typically meet one or two of these criteria; problem gamblers typically meet three to four of these criteria; and pathological gamblers typically meet at least five of these criteria. Collectively, both pathological and problem gambling are referred to as "problem gambling."

An NGISC study reported on three studies, two completed in 1997 and one completed in 1998 that estimate the percentage of American adults classified as pathological gamblers ranged from 1.2 to 1.6

percent (NGISC, 1999). The NGISC noted that pathological gambling often occurs in conjunction with other behavioral problems, including substance abuse, mood disorders, and personality disorders. Even if it were possible to isolate the effects of problem gambling on people who suffer from co-morbidity, it is difficult to then isolate the effects of casino gambling from other forms of gambling. As discussed, casino gambling is only one form of gambling. In fact, the most prevalent forms of gambling are those found in most neighborhoods: scratch lottery cards, lotto, and video lottery terminals.

Residents of San Bernardino County have been exposed to many forms of gambling, including destination casinos, for many years. Further, as discussed in the competition section below, the primary market for Alternative A is vehicle traffic passing through to Nevada and Arizona. An additional casino in San Bernardino County under Alternative A is not expected to substantially increase the prevalence of problem gamblers. Nonetheless, upon the City's approval of the Tribe's development plans, the Tribe has agreed in the MSA to make a one-time $40,000 contribution for the establishment of a problem gambling fund; and every year thereafter the Tribe shall make a $40,000 annual contribution to help fund local problem gambling diversion, assistance, and counseling programs (**Appendix D** of the Draft EIS/TEIR). With implementation of the Tribe's contributions as agreed upon in the MSA, no potential adverse impacts to regional problem gambling would occur.

Crime

There is a general belief that the introduction of legalized gambling into a community increases crime. However, this argument is based more on anecdotal evidence rather than empirical evidence. Casinos, by their nature, increase the volume of people entering a given area. Whenever large volumes of people are introduced into an area, the volume of crime would also be expected to increase. This is true of any large-scale development. Taken as a whole, literature on the relationship between casino gambling and crime rates suggests that communities with casinos are as safe as communities without casinos. The National Opinion Research Center (NORC, 1999) found that insufficient data exists to quantify or determine the relationship between casino gambling within a community and crime rates.

Alternative A would introduce a large number of patrons and employees into the community on a daily basis. As a result, under Alternative A, criminal incidents would be expected to increase in the project area, particularly at the Project Site, as with any other development of this size. However, increased tax revenues resulting from Alternative A would fund expansion of law enforcement services required to accommodate planned growth. Thus, Alternative A would not result in significant adverse effects associated with crime.

Community Impacts

Public Schools

Employees that relocate to Barstow under Alternative A would increase the number of kindergarten through 12th grade students enrolled in the Barstow Unified School District (BUSD). As discussed in **Subsection 3.6.1**, enrollment in the BUSD has increased by 0.8 percent over the past decade from 6,720 students in 2000/2001 to 6,774 students in 2008/2009. The average class size in the BUSD has decreased over the past decade from 27.5 in 2000/2001 to 26.0 in 2008/2009, a 5.4 percent decrease. Based on

historical trends in BUSD enrollment and teacher employment, BUSD would have a 2013/2014 enrollment of 6,799 and a 2014/2015 enrollment of 6,804. If teacher employment rates remains consistent with past trends, the average class size in the BUSD would be 25.3 in the 2013/2014 school year, and 25.1 in the 2014/2015 school year. The portion of the Barstow population enrolled in BUSD is determined by taking the 2008/2009 BUSD enrollment and dividing by the population of Barstow as of January 1, 2009 (24,174 people), which results in a rate of 28 percent. The BUSD boundaries encompass a large expanse of unincorporated San Bernardino County, in addition to Barstow. Enrollment in the BUSD is characterized by a large population residing in neighboring unincorporated areas of San Bernardino County. As discussed in the Employment section above, given the projected unemployment rate, and the dynamics of the local labor market, San Bernardino County is anticipated to be able to easily accommodate the increased demand for labor during the operation of Alternative A. As such, it is not anticipated that a significant number of employees would relocate to the area to accept a position at the Project Site. ~~Assuming that all projected new employees would relocate to an area within BUSD boundaries, yields a conservative analysis of the potential impacts to the BUSD. As discussed under the direct employment impact analysis, in 2014 Alternative A is estimated to result in the relocation of approximately 167 employees to the San Bernardino County region. Applying the enrollment rate, Alternative A is projected to result in a maximum of 47 new students requiring enrollment in BUSD in 2014.~~ Given that any anticipated new students would be distributed across all grade levels ~~between~~ from kindergarten through the continuation school, ~~47 new~~the limited number of potential new students would be considered a nominal impact on the BUSD. The BUSD would likely collect additional tax revenue from the families of new students and would use these taxes to hire additional teachers to meet additional demand, if necessary. Therefore, potential increased enrollment would have a nominal effect on the ability of BUSD to provide education services at existing levels. Additionally, in accordance with Section 5(A) of the MSA, the Tribe shall make payments to the BUSD equal to the service, development, and impact fees which the District would receive if the parcels were not taken into trust. With implementation of the MSA, Alternative A would not result in adverse impacts to San Bernardino County public schools.

Other Public Facilities

Effects to services provided by libraries, parks, and other public amenities could result if frequented by employees or patrons from Alternative A. San Bernardino County contains approximately 30 library branches, several parks, and several other public amenities in a number of cities. Barstow contains one branch of the San Bernardino County Library system, eight parks, one public fitness center, and a community center. Due to the entertainment nature of Alternative A, it is not expected that patrons would substantially increase demand on libraries, parks, or other public amenities. As discussed in the competition section below, the primary market for Alternative A is vehicle traffic passing through to Nevada. Employees relocating to San Bernardino County for employment opportunities would demand some new usage of public facilities. As discussed in the Employment impact section, employees would be dispersed throughout the County, and effects to public facilities would be less than significant.

Environmental Justice

An environmental justice impact would result if any impact within the scope of this document disproportionately affected an identified minority or low-income community or Native American tribe. Section 3.6 identifies minority and low-income communities within the affected environment of each potential project site and casinos operated by tribes within the competitive gaming market of each alternative. This section analyzes the location and status of identified communities of concern compared to the effect and nature of project impacts, and effects to competing tribal casinos. *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* provides direction on how to analyze the impacts of actions on low-income and minority populations.

Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population (EPA, 1998).

Minority and Low-Income Communities

Subsection 3.6.3 surveys local populations that could be affected by development of Alternative A at the Barstow site to determine if any minority or low-income populations exist. Three minority communities in Census Tracts 94, 95, and 120 were identified. Census Tracts 94 and 95 are located northeast of the Barstow site and Census Tract 120 is located east of the Barstow site. These Census tracts are characterized predominantly by urban areas. Primary traffic impacts would occur on area highways and intersections/interchanges. Localized impacts on the Barstow site, such as various impacts to land and water resources, would not affect these Census tracts. Regional impacts, such as air quality impacts, would be distributed throughout the region. Alternative A would benefit all communities within proximity of the Barstow site by creating employment opportunities that would be primarily filled by the local labor market. These communities would not be disproportionately adversely impacted. A less than significant effect would result.

Competition

Subsection 3.6.3 identifies the three closest tribal gaming facilities as the San Manuel Indian Bingo Casino located in San Bernardino County approximately 50 miles southwest, the Morongo Casino Resort Spa located in Riverside County approximately 100 miles south, and Havasu Landing Casino located in San Bernardino County approximately 185 miles east. Alternative A would generate $135.5 million in gaming revenue annually, of which 15.4 percent ($20.8 million) would be substituted from the existing gaming market (Michigan Consultants, 2010; **Appendix O** of the Draft EIS/TEIR). Consistent with the market characterization in **Section 3.6**, more than 50 percent of the revenue would be generated from pass-through traffic to and from Nevada and Arizona and additional lodgers. The second largest source of revenue would be generated from the close-radius market. The majority of revenue under Alternative A would be new revenue generated by additional spending by pass-through traffic and residents near the Barstow site. Substitution totaling $20.8 million would be distributed among a variety of existing gaming

facilities from all of the revenue sources, including casino gaming operations and non-gaming operations. This revenue would be diverted from a variety of existing gaming opportunities, including the three existing tribal casinos in the local competitive gaming market, Las Vegas casinos, Primm casinos, and local card rooms. No single gaming facility is expected to be affected disproportionately. Given the substantial levels of gaming wins at these facilities annually, declines from a substitution effect of this magnitude would have a minimal, if any, adverse effect on operation. In fact, the addition of another casino to the regional gaming market could contribute to the overall growth of the market. This would be a beneficial impact.

4.6.2 ALTERNATIVE B – REDUCED CASINO AND HOTEL DEVELOPMENT

Economic Effects

Expenditures on goods and services for construction and operational activities would generate substantial direct economic output, as well as indirect and induced economic output.

Construction

Under Alternative B, construction activities are estimated to cost approximately $182.9 million, which is expected to generate a one-time total output of approximately $160.5 million within the County (**Table 4.6-1**). Direct output was estimated to total approximately $117.6 million, of which approximately $114.7 million (98 percent) would be attributed to the construction industry. Indirect and induced outputs were estimated to total $16 million and $26.8 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Construction of Alternative B would generate substantial output to a variety of businesses in San Bernardino County in the industries discussed above. Given the location of Alternative B in Barstow, the local economy of Barstow, as discussed in **Subsection 3.6.1**, would be expected to capture a large portion of this output. Output received by San Bernardino County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be considered a beneficial impact.

Operation

In 2014, Alternative B is estimated to have 1,847,420 annual patrons (Michigan Consultants, 2010). Under Alternative B, the projected revenue for 2014 was estimated to be $126.4 million, which is expected to generate an annual total output of approximately $135.8 million within the County (**Table 4.6-2**). Direct output was estimated to total approximately $105 million, of which approximately $97.5 million (93 percent) would be attributed to the gaming and entertainment industry. Indirect and induced outputs were estimated to total $17.5 million and $13.3, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Operation of Alternative B would generate substantial output to a variety of businesses in San Bernardino County. Given the location of Alternative B in Barstow, the local economy of Barstow, as discussed in

Subsection 3.6.1, would be expected to capture a large portion of this output. Output received by San Bernardino County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be considered a beneficial impact.

Substitution Effects

Under Alternative B a portion of revenue may be transferred from other local businesses through substitution. As noted in **Section 3.6**, the portion of the gaming market used for the purposes of this analysis was selected based upon proximity to the site as well as potential to capture regional drive-by patrons. As estimated by Michigan Consultants, the anticipated gaming revenue substitution effect under Alternative B would be approximately $18,717,480 (17.0 percent of total projected gaming revenue for the project). Any anticipated substitution effects are likely to diminish after the first year of the project's operation and once local residents experience the casino and return to more typical spending patterns. Similar to Alternative A, this amount, should it occur, represents a negligible portion of total economic activity that would be generated by Alternative B. This impact would be comparable to Alternative A, but to a lesser extent, and would be less than significant.

Taxes

Alternative B would result in a variety of fiscal impacts. Similar to Alternative A, under Alternative B the Tribe would not pay corporate income taxes on revenue or property taxes on tribal land. In addition, Alternative B would increase demand for public services, resulting in increased costs for local governments to provide these services. Tax revenues would be generated for federal, state and local governments from the same activities discussed in Alternative A.

Alternative B would result in the entire area of each of the Barstow site parcels being transferred to trust status for the Tribe. Therefore, approximately $6,634 in property taxes would be lost by local governments including San Bernardino County and the city of Barstow. The MSA would provide for appropriate compensation by the Tribe to Barstow comparable but to a lesser extent than Alternative A, since Alternative B is reduced in size and scope.

For Alternative B, construction activities would generate one-time tax revenues, while operational activities would generate annual revenues to the federal, state, San Bernardino County, and local governments. Construction would result in an estimated $9.6 million in federal tax revenues, and $5.5 million in state/County/local government tax revenues. Operation of Alternative B would result in an estimated $2.1 million in federal tax revenues, and $2.0 million in state/County/local government tax revenues (**Table 4.6-3**) from indirect and induced taxes. Actual annual tax revenues generated by the project may be greater than those indicated above as direct personal income tax is not accounted for in the operational tax revenue estimate.

Similar to Alternative A, Alternative B would generate annual revenues to State and local governments from revenue sharing. As detailed in **Appendix O** of the Draft EIS/TEIR, Alternative B would have an estimated gaming machine revenue of $100.2 million, resulting in Barstow revenue sharing of $4.4 million. Additional payments to Barstow for problem gambling services would total $40,000, similar to

Alternative A. The net generation of revenues to governments would be comparable but to a lesser extent than Alternative A, and is considered a beneficial effect.

Summary of Economic Effects

Construction and operation of the Alternative B would generate substantial economic output to a variety of businesses in San Bernardino County. Given the location of the Proposed Project in Barstow, the local economy of Barstow, as discussed in **Subsection 3.6.1**, would be expected to capture a large portion of this output. Additionally, Alternative B would generate substantial fiscal impacts to state, County, and local governments. Potential effects due to the loss of state and federal tax revenues resulting from the operation as a sovereign nation on trust land would be offset by increased local, state and federal tax revenues resulting from construction and operation of the Proposed Project, and from revenue sharing programs per the tribal compact and the MSA. Overall, Alternative B would result in a beneficial impact to the San Bernardino County economy.

Employment

Investment in construction and operational activities would generate substantial direct employment opportunities and wages, as well as indirect and induced employment opportunities and wages. The IMPLAN model was used to estimate employment opportunities generated by Alternative B.

Construction

Under Alternative B, investment in construction activities would generate a one-time total of approximately 1,068 employment opportunities within the County during the construction phase (**Table 4.6-4**). Direct output was estimated to total approximately 721 employment opportunities, of which approximately 703 (98 percent) would be attributed to the construction industry. Indirect and induced employment opportunities were estimated to result in 120 and 226 employment opportunities, respectively.

Under Alternative B, investment in construction activities would generate one-time total wages of approximately $45.1 million within the County (**Table 4.6-4**). Direct wages were estimated to total approximately $32.4 million, of which approximately $31.7 million (98 percent) would be attributed to the construction industry. Indirect and induced wages were estimated to total $5.1 million and $7.6 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County. The generation of employment and wages during the construction phase is considered a beneficial effect of Alternative B.

Operation

As calculated through IMPLAN, operation activities associated with Alternative B would generate an annual total of approximately 1,085 employment opportunities captured within San Bernardino County (**Table 4.6-6**). Direct employment impacts were estimated to total approximately 823 job opportunities. Based on employment projections for the Barstow Casino supplied by Michigan Consultants (2010), the anticipated number of job opportunities to be offered at the Casino itself would be 1,038 positions under

Alternative B. Since the direct employment impact anticipated to be captured by San Bernardino County is estimated at 823 new positions, approximately 215 employees are anticipated to be residents of outside regions (1,038 - 823) (**Appendix O** of the Draft EIS/TEIR). Indirect and induced employment opportunities were estimated to total 150 and 112, respectively. Indirect and induced employment opportunities would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Under Alternative B, investment in operational activities would generate annual total wages of approximately $28.2 million within the County (**Table 4.6-6**). Direct wages were estimated to total approximately $18.5 million, of which approximately $16.2 million (88 percent) would be attributed to the gaming and entertainment industry. Indirect and induced wages were estimated to total $5.9 million and $3.8 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County. The generation of employment and wages during the operation phase is considered a beneficial effect of Alternative B.

Summary of Employment Effects

Construction and operation of Alternative B would generate substantial temporary and ongoing employment opportunities and wages that would be primarily filled by the available labor force in Barstow and San Bernardino County. Given the projected unemployment rate, and the dynamics of the local labor market, San Bernardino County is anticipated to be able to easily accommodate the increased demand for labor during the operation of Alternative B. This would result in employment and wages for persons previously unemployed, increasing the ability of the population to provide themselves with health and safety services and contributing to the alleviation of poverty among lower income households. Additionally, in accordance with Section 10 of the MSA, the Tribe shall work in good faith with the City to employ qualified City residents at the Tribe's resort facilities, as well as offer training programs to assist City residents in becoming qualified for positions at the Resort (**Section 5.6**). This is considered a beneficial effect.

Housing

The 2014 County housing market would fulfill the demands for housing under Alternative B. Indirect impacts resulting from growth inducement are discussed further in **Section 4.15** and **Appendix O** of the Draft EIS/TEIR. This impact would be comparable, but to a slightly lesser extent than Alternative A. A significant adverse impact to the housing market would not occur. Potential indirect effects resulting from growth inducement are discussed further in **Section 4.14**.

Social Impacts

Social impacts including pathological and problem gambling and crime from Alternative B would be comparable but to a lesser extent than Alternative A, since Alternative B is reduced in size and scope. With implementation of the conditions of the MSA listed in **Section 5.6**, adverse social impacts would not occur.

Community Impacts

Public Schools

Based on the information presented under Alternative A, the enrollment rate within the BUSD is calculated at approximately 28 percent of the total population of Barstow. The direct employment impact discussion determined that in 2014 Alternative B would result in the relocation of approximately 108 employees to the San Bernardino County region. Applying the enrollment rate and assuming all new employees move within the BUSD service area, Alternative B is projected to increase BUSD enrollment by 30 new students in 2014. Given that any anticipated new students would be distributed across all grade levels between kindergarten through the continuation school, 30 new students would be considered a nominal impact on the BUSD service levels. Additionally, the BUSD would likely collect additional tax revenue from the families of new students and would use these taxes to hire additional teachers to meet additional demand, if necessary. Therefore, potential increased enrollment would have a nominal effect on the ability of BUSD to provide education services at existing levels. Additionally, in accordance with Section 5(A) of the MSA, the Tribe shall make payments to the BUSD equal to the service, development, and impact fees which the District would receive if the parcels were not taken into trust. With implementation of the MSA, Alternative B would not result in adverse impacts to San Bernardino County public schools.

Other Public Facilities

Impacts to libraries, parks and other public amenities from Alternative B would be comparable but to a lesser extent than Alternative A, since Alternative B is reduced in size and scope.

Environmental Justice

Minority and Low-Income Communities

Alternative B could affect Census Tracts 94, 95, and 120 identified as minority communities in Alternative A, since both alternatives would be located at the Barstow site. Similar to Alternative A, Alternative B would not result in disproportionately adverse impacts to surrounding communities. Adverse effects to minority and low-income communities would not result.

Competition

The competitive gaming market for Alternative B would be the same as Alternative A, since both alternatives would be located at the Barstow site.

The discussion of net revenues in **Table 4.6-3** identify that Alternative B would generate a gross total of $110.1 million in casino revenue, of which 17.0 percent ($18.7 million) would be substituted from the existing gaming market. Consistent with the market characterization, the largest portions of revenue would be generated from pass-through traffic to and from Nevada and Arizona and close-radius residents. Compared to Alternative A, a larger portion of revenue would come from close-radius residents and a slightly smaller portion from pass-through traffic to and from Nevada. The effect of substitution would be comparable but to a lesser extent than Alternative A. Given the substantial levels of gaming wins at these facilities annually, declines from a substitution effect of this magnitude would have a minimal, if

any, adverse effect on operation. In fact, the addition of another casino to the regional gaming market could contribute to the overall growth of the market. This would be a beneficial impact.

4.6.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Economic Effects

Expenditures on goods and services for construction and operational activities would generate substantial direct economic output, as well as indirect and induced economic output.

Construction

Under Alternative C, construction activities are estimated to cost approximately $9.0 million, which is expected to generate a one-time total output of approximately $7.6 million within San Diego County (**Table 4.6-1**). Direct output was estimated to total approximately $4.4 million, of which approximately $3.0 million (68 percent) would be attributed to the construction industry. Indirect and induced outputs were estimated to total $1.4 and $1.8 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout San Diego County.

Operation

In 2014, Alternative C is estimated to have 119,763 annual patrons (Michigan Consultants, 2010). Under Alternative C, the projected revenue for 2014 was estimated to be $9.3 million, which is expected to generate an annual total output of approximately $14.2 million within San Diego County (**Table 4.6-2**). Direct output was estimated to total approximately $8.2 million, of which approximately $7.0 million (85 percent) would be attributed to the gaming and entertainment industry. Indirect and induced outputs were estimated to total $3.6 and $2.4 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Substitution Effects

Under Alternative C a portion of revenue may be transferred from other local businesses through substitution. As estimated by Michigan Consultants, the anticipated gaming revenue substitution effect under Alternative C would be approximately 22.0 percent of total projected gaming revenue for the project ($1,743,908). Substitution impacts would be diffused throughout the County because there are already a large number of existing casinos that operate in a competitive environment. It is likely that each of the existing San Diego County casinos would continue to generate positive cash flows. Moreover, anticipated substitution effects are likely to diminish after the first year of the project's operation and once local residents experience the casino and return to more typical spending patterns. Similar to Alternative A, this amount, should it occur, represents a negligible portion of total economic activity that would be generated by Alternative C. The overall amount of the project's revenue derived through substitution is significantly less under Alternative C than it is under Alternative A~~This impact would be comparable, but to a lesser extent than Alternative A~~, and would be considered less than significant.

According to the 2000 Harvard University study described under Alternative A, worst-case non-gaming substitution effects, occurring in rural environments, have shown on average a nine percent decrease in earnings at local restaurants and bars and an increase in earnings in other commercial sectors (Taylor et al., 2000). Although the Los Coyotes Reservation is described as located within a rural area, it is also located within a region characterized by an abundance of existing tribal casino resorts, thus worst case effects as described in the Harvard study would not apply to the Los Coyotes Project Site. Alternative C would provide a gaming facility alternative for gamers to choose from, rather than providing the first casino to the area. As such, Alternative C would have less than significant potential to disrupt the current competitive environment of the region. Thus, the potential for substitution is limited. Nonetheless, it may be inferred that if substitution occurs it would be at some percentage lower than nine percent. Given that it is not possible to reliably quantify the substitution effects, this analysis does not reduce the economic impacts from the proposed casino and other alternatives to account for substitution effects. Some of the substitution effects would be counteracted by the behavior of casino guests other than local residents. Specifically, as the casino would draw non-residents to the area, the associated increase in new visitor demand for off-site entertainment venues, restaurants, and bars would make up for some area residents choosing to visit Alternative C rather than other local establishments. Thus, less than significant substitution effects would occur.

Taxes

Alternative C would result in a variety of fiscal impacts. In addition, Alternative C would increase demand for public services, resulting in increased costs for local governments to provide these services. Tax revenues would be generated for Federal, State and local governments from the same activities discussed in Alternative A.

Alternative C would be constructed at the Los Coyotes site, which is on land that is already held in trust by the federal government for the Tribe. Therefore, no property taxes would be lost. Tax revenues that would be generated for federal, state, and local governments from economic activity associated with construction and operation of Alternative C, but to a lesser extent than Alternative A, since Alternative C is reduced in size and scope (**Table 4.6-3**). Local governments under Alternative C include San Diego County and cities within San Diego County that would experience economic activity as a result of Alternative C. Construction would result in an estimated $611,011 in federal tax revenues, and $420,425 in state/County/local government tax revenues. Operation of Alternative C would result in an estimated $478,979 in federal tax ~~revenues,~~revenues and $396,899 in state/County/local government tax revenues (**Table 4.6-3**) from indirect and induced taxes. Actual annual tax revenues generated by the project may be greater than those indicated above as direct personal income tax is not accounted for in the operational tax revenue estimate. The net generation of revenues to governments would be less than Alternative A, but would still be considered a beneficial effect.

Summary of Economic Effects

Construction and operation of the Alternative C would generate substantial economic output to a variety of businesses in San Diego County. Additionally, the Proposed Project would generate substantial fiscal impacts to state, County, and local governments. Overall, the Alternative C would result in a beneficial impact to the San Diego County economy.

Employment

Investment in construction and operational activities would generate substantial direct employment opportunities and wages, as well as indirect and induced employment opportunities and wages. The source of direct, indirect, and induced employment opportunities and wages would be similar to those for economic output, as discussed above. The IMPLAN model was used to estimate employment opportunities generated by Alternative C.

Construction

Under Alternative C, investment in construction activities would generate a one-time total of approximately 47 employment opportunities within San Diego County (**Table 4.6-4**). Similar to Alternative A, the number of employees would be equivalent to the number of person-years available from wages. A person-year is defined as the amount of labor one full-time employee can complete in a calendar year. For example, two half-time employees working for a year would constitute one person-year. Direct output was estimated to total approximately 26 employment opportunities, of which approximately 20 (77 percent) would be attributed to the construction industry. Indirect and induced employment opportunities were estimated to result in a negligible number of new employment opportunities.

Employment opportunities generated from construction and operation of Alternative C would result in wage generation. Wage totals include hourly and salary payments as well as benefits including health and life insurance and retirement payments. Under Alternative C, investment in construction activities would generate one-time total wages of approximately $2.2 million within the County (**Table 4.6-4**). Direct wages were estimated to total approximately $1.3 million, of which approximately $0.94 million (72 percent) would be attributed to the construction industry.

Operation

Similar to Alternative A, employment opportunities generated from the operation of Alternative C would include entry-level, mid-level, and management positions. **Table 4.6-5** shows examples of employment opportunities typically offered by tribal casino and resort facilities. Average salaries offered are expected to be consistent with or greater than those of other tribal gaming facilities and competitive in the local labor market.

As calculated through IMPLAN, operation activities associated with Alternative C would generate an annual total of approximately 108 employment opportunities captured within San Diego County (**Table 4.6-6**). Direct employment impacts were estimated to total approximately 68 job opportunities. Indirect and induced employment opportunities were estimated to total 23 and 17, respectively. Indirect and induced employment opportunities would be dispersed and distributed among a variety of different industries and businesses throughout San Diego County.

Under Alternative C, operation activities associated with Alternative C would generate annual total wages of approximately $3.5 million within San Diego County (**Table 4.6-6**). Direct wages were estimated to

total approximately $1.7 million, of which approximately $1.3 million (76 percent) would be attributed to the gaming and entertainment industry. Indirect and induced wages were estimated to total $1.1 and $0.7 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

In 2009, San Diego County had a labor force of 1,557,369 people, of which 9.7 percent (151,229 people) of the labor force was unemployed (Bureau of Labor Statistics, 2009). In 2009, the U.S. unemployment rate averaged 9.3 percent; lower than the unemployment rate in San Diego County. Since 2000, the labor force of San Diego County has increased by a rate of 1.1 percent each year. According to the Council of Economic Advisers, it is projected that the U.S. will observe an approximate 6.5 percent unemployment rate in 2014 (Council of Economic Advisers, 2010). For the purposes of this analysis, it is assumed that the unemployment rate for San Diego County will follow a similar trend to what has been projected for the U.S., and that the County will experience an unemployment rate of 6.9 percent in 2014 and a labor force of 1,644,929 people (**Appendix O** of the Draft EIS/TEIR; **Table 4.6-10**).

TABLE 4.6-10
PROJECTED SAN DIEGO COUNTY LABOR MARKET

	2014
Labor Force	1,644,929
Unemployment (Rate)	113,500 (6.9%)

Source: AES, 2010.
Note: 2014 Labor market considers direct, indirect, and induced employment.

A portion of new employment opportunities would be filled by people in the County that are currently employed, thereby freeing up existing employment opportunities for other workers. For reasons described above under *Economic Effects,* Alternative C is not expected to result in significant permanent job loss elsewhere due to substitution effects.

Summary of Employment Effects

Construction and operation of Alternative C would generate substantial temporary and ongoing employment opportunities and wages that would be primarily filled by the available labor force in San Diego County. Given the projected unemployment rate, and the dynamics of the local labor market, San Diego County is anticipated to be able to easily accommodate the increased demand for labor during the operation of Alternative C. This would result in employment and wages for persons previously unemployed, increasing the ability of the population to provide themselves with health and safety services and contributing to the alleviation of poverty among lower income households. This is considered a beneficial effect.

Housing

As discussed in **Subsection 3.6.2**, in 2010 the vacancy rate in San Diego County was slightly lower than the State. In January 2010, there were 1,154,228 housing units in San Diego County, of which 4.4 percent (50,786 units) were vacant. Based on the information presented in **Section 3.6.2**, it was

determined that the total number of housing units increases annually by approximately 1.1 percent, while the percentage of vacant units remains relatively stable and tends to increase annually by approximately 0.004 percent. Accordingly, in 2014, the San Diego County housing market is projected to have 1,205,858 total units and 53,450 vacant units (**Table 4.6-11**).

Based on regional housing stock projections, and current trends in San Diego County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Alternative C. Therefore, Alternative C is not expected to stimulate regional housing development. A significant adverse impact to the housing market would not occur. Potential indirect effects resulting from growth inducement are discussed further in **Section 4.14**.

TABLE 4.6-11
SAN DIEGO COUNTY 2014 HOUSING MARKET

Housing Units	2014
Units	1,205,858
Occupied Units	1,152,438
Vacant Units	53,420
% Vacant	4.43%
Source: California Department of Finance, 2010; AES, 2010.	

Social Impacts

Social impacts including pathological and problem gambling and crime from Alternative C would be comparable but to a lesser extent than Alternative A, since Alternative C is reduced in size and scope. Additionally, a Tribal compact with the State would include provisions for contribution to problem gambling addiction treatment programs under Alternative C. As such, significant adverse impacts to problem gambling and crime would not be anticipated to occur.

Community Impacts

Public Schools

As discussed in **Subsection 3.6.4**, in 2008/2009 the Warner Unified School District (WUSD) had an enrollment of 266 with a student to teacher ratio of 15.3:1. Given the small magnitude of employee opportunities generated from Alternative C, the potential exists for the demand of only a few new students. At existing enrollment levels new students from Alternative C would have a nominal effect on the ability of WUSD to provide services at current levels. This can be demonstrated by the fact that for current student-to-teacher ratios to correspond with State rates, enrollment would have to increase by approximately 90 students. This effect would be comparable but to a lesser extent than Alternative A. An adverse impact to San Diego County public schools would not occur.

Other Public Facilities

Effects to services provided by libraries, parks and other public amenities from Alternative C would be comparable but to a lesser extent than Alternative A, since Alternative C would generate fewer employment opportunities.

Environmental Justice

Minority and Low-Income Communities

The Los Coyotes Tribe has been identified as a minority and low-income community in the Los Coyotes Reservation site area. Due to their close proximity to the site and connection with the project, potential socioeconomic effects would be most pronounced for the Los Coyotes Tribe. As such, the Los Coyotes Tribe would have the greatest potential to be disproportionately affected by any potential increase in crime or problem gambling as these impacts are considered local in nature. However, the Los Coyotes Tribe would also experience the beneficial impacts of Alternative C, including increased economic output, employment, and wages as described under the purpose and need for the Proposed Action in **Section 1.2**. The beneficial impacts of Alternative C are anticipated to outweigh potential adverse impacts of Alternative C for the Los Coyotes Tribe. As such, Alternative C would result in an overall beneficial impact to the Los Coyotes Tribe.

Other than the Los Coyotes Tribe, no minority or low-income communities were identified within proximity of the Los Coyotes site; therefore, Alternative C would not result in any disproportionately adverse impacts to other surrounding communities. A less than significant effect would result.

Competition

~~San Diego County consists of~~There are approximately 26 existing casinos and two proposed casinos within San Diego County. The nearest gaming facilities to the Los Coyotes site are the Santa Ysabel Casino located approximately 11 miles southwest, the Cahuilla Creek Casino located approximately 25 miles to the north, and Harrah's Rincon Casino and Resort and Valley View Casino, which are both located 25 miles to the west.

Alternative C would generate $9.2 million in casino revenue, of which 22 percent ($2.0 million) would be substituted from the existing gaming market. This revenue would be diverted from a variety of existing casino opportunities, including the nine existing tribal casinos in the competitive gaming market and local card rooms. No one gaming facility is expected to be affected disproportionately. Given the substantial casino revenues generated at these facilities annually, declines from a substitution effect of this magnitude would have a minimal adverse effect on operation. In fact the addition of another casino to the regional gaming market could contribute to the overall growth of the market. This would be a beneficial effect.

4.6.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Economic Effects

Expenditures on goods and services for construction and operational activities would generate direct economic output, as well as indirect and induced economic output.

Construction

Alternative D consists of the construction of a campground instead of a casino ~~and hotel~~ and would be located at the Los Coyotes Reservation site. One-time direct impacts from construction of Alternative D are shown in **Table 4.6-1**. The total cost of construction, including all land, hard, and soft costs, is estimated to be approximately $2.4 million. Expenditures on goods and services from construction activities are estimated to generate a one-time total output of $2.8 million in San Diego County. Direct output was estimated to total approximately $1.6 million, of which approximately $1.5 million (94 percent) would be attributed to the construction industry. Indirect and induced output, were estimated to total $0.54 and $0.67 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Operation

Under Alternative D, projected revenue for 2014 was estimated to be $0.680 million, which is expected to generate an annual total output of approximately $1.0 million within the County (**Table 4.6-2**). Direct output was estimated to total approximately $0.603 million, of which 100 percent would be attributed to the accommodation and food services industry. Indirect and induced output was estimated to total $0.237 and $0.212 million, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Substitution Effects

As stated in **Appendix O** of the Draft EIS/TEIR, data related to the projected substitution effect of Alternative D was not available at the time of this analysis. The projected substitution effect depends on how many and what type of other establishments are within the same market area as the campground, disposable income levels of local residents and their spending habits, as well as other economic and psychological factors affecting the consumption decisions of local residents. To the extent that the campground acts as a destination location, substitution effects are diffused, as the campground would draw patrons from a widespread area. ~~Quantifying the substitution effects of the campground would require knowledge of how residents spend their recreation speculate the potential substitution effects of Alternative D. However, i~~It should be noted that~~, due to the expansive availability of~~ there are numerous existing campgrounds in the region~~, Alternative D would provide an additional campground alternative for visitors to choose from, rather than providing the first campground to the area~~. As such, any substitution effects resulting from Alternative D would be greatly diffused over the region and would not result in adverse environmental effects. ~~have less than significant potential to disrupt to the current competitive environment of the region and the potential for substitution is limited.~~

Taxes

Under Alternative D, all land is located on land held in trust for the Tribe by the federal government. As such, no further property tax loss would occur with the project. For Alternative D, construction activities would generate one-time tax revenues, while operational activities would generate annual revenues to the federal, state, county, and local governments. Construction would result in an estimated $222.8 thousand in federal tax revenues, and $127.2 thousand in state/county/local government tax revenues. Operation of Alternative D would result in an estimated $36,221 in federal tax revenues~~,~~ and $31,997 in state/County/local government tax revenues from indirect and induced taxes (**Table 4.6-3**). This would be a beneficial impact, although to a significantly lesser extent than Alternative C.

Employment

Investment in construction and operational activities would generate negligible employment opportunities and wages. The IMPLAN model was used to estimate employment opportunities generated by Alternative D.

Construction

Under Alternative D, investment in construction activities would generate an annual total of approximately 18 employment opportunities within the County during the construction phase (**Table 4.6-4**). Direct employment was estimated to total approximately 10 employment opportunities, of which all would be attributed to the utilities industry. Indirect and induced employment opportunities were estimated to total three and five, respectively. Indirect and inducted employment opportunities would be dispersed and distributed among a variety of different industries and businesses throughout San Diego County

Under Alternative D, investment in construction activities would generate annual total wages of approximately $1.5 million within the County (**Table 4.6-4**). Direct wages were estimated to total approximately $953.6 thousand, of which approximately $681.9 thousand (72 percent) would be attributed to the utilities industry. Indirect and induced wages were estimated to total $252.3 and $295.9 thousand, respectively. Indirect and induced output would be dispersed and distributed among a variety of different industries and businesses throughout the County.

Operation

Under Alternative D, investment in operational activities would generate a net annual total of approximately nine employment opportunities within San Diego County (**Table 4.6-64**), including six direct employment opportunities. Investment in operational activities under Alternative D would generate total net annual wages of approximately $185.0 thousand within San Diego County (**Table 4.6-64**). This impact would be similar to Alternative C, although to a lesser extent. This would be considered a less than significant impact.

Housing

As described under Alternative C, the 2014 San Diego County housing market could easily fill any demands for housing under Alternative D. Given the small magnitude of employment opportunities anticipated to be generated by Alternative D, Alternative D would result in a negligible, if any, impact to the housing market, and would be less than significant.

Social Impacts

No pathological or problem gambling impacts would result from Alternative D since a casino component would not be included. Impacts to crime would be similar but much reduced when compared to Alternative C given that Alternative D results in a slight increase in patrons and employees in the same region and Alternative C.

Community Impacts

Public Schools

As discussed in **Subsection 3.6.2**, in 2008/2009 the WUSD had an enrollment of 266 with a student to teacher ratio of 15.3:1. Given the small magnitude of employee opportunities generated from Alternative D, the potential exists for the demand of only a few new students. At existing enrollment levels new students from Alternative D would have a nominal effect on the ability of WUSD to provide services at current levels. This can be demonstrated by the fact that for current student-to-teacher ratios to correspond with State rates, enrollment would have to increase by approximately 90 students. This effect would be less than Alternative C within San Diego County.

Other Public Facilities

Effects to services provided by libraries, parks and other public amenities from Alternative D would be less than Alternative C, since Alternative D would generate fewer employment opportunities.

Environmental Justice

Minority and Low-Income Communities

The Los Coyotes Tribe has been identified as a minority and low-income community in the Los Coyotes Reservation site area. Due to their close proximity to the site and connection with the project, potential socioeconomic effects would be most pronounced for the Los Coyotes Tribe. As such, the Los Coyotes Tribe would have the greatest potential to be adversely affected by any potential increase in crime as this impact is considered local in nature. However, the Los Coyotes Tribe would also experience the beneficial impacts of Alternative D, including increased economic output, employment, and wages. The beneficial impacts of Alternative D would be anticipated to outweigh potential adverse impacts of Alternative D for the Los Coyotes Tribe, but to a lesser degree than Alternative C. As such, Alternative D would result in a less than significant impact to the Los Coyotes Tribe.

Other than the Los Coyotes Tribe, no minority or low-income communities were identified within proximity of the Los Coyotes site; therefore, Alternative D would not result in any disproportionately adverse impacts to other surrounding communities. A less than significant effect would result.

Competition

Since Alternative D would consist of a campground rather than a casino, no competitive impacts would occur to the existing gaming market.

4.6.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of either the Barstow or the Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.7 TRANSPORTATION/CIRCULATION

This section identifies the direct effects to transportation and circulation that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.7**. Cumulative effects are identified in **Section 4.13**. Indirect effects associated with off-site construction and growth-inducement are identified in **Section 4.14**. Measures to avoid and, if necessary, mitigate for adverse effects are presented in **Section 5.2**.

4.7.1 ANALYSIS METHODOLOGY

The project would result in the addition of vehicle traffic to local roadways and intersections. A traffic impact analysis (TIA) was prepared for Alternatives A and B by Linscott, Law & Greenspan Engineers (LL&G) and a TIA was prepared for Alternative C by Kunzman Associates (Kunzman); both TIAs are provided in **Appendix H** of the Draft EIS/TEIR. Additionally, a Supplemental Traffic Information Memorandum was prepared and is included in **Appendix Q** of the Final EIS/TEIR. This section incorporates the results of these studies and describes the number of trips that would be generated by Alternatives A, B, C, and D and any potential adverse effects that would occur to the roadway system within the study area. Traffic effects resulting from Alternative D were analyzed using trip generation rates provided by the International Traffic Engineer's *Trip Generation Manual* 8th Edition, 2009.

Consultation

In order to determine the appropriate study area and analysis methodologies for the project, a series of scoping discussions was held with the California Department of Transportation (Caltrans), the City of Barstow (City), San Bernardino Associated Governments (SANBAG), and the Southern California Association of Governments. In addition, San Diego County was contacted concerning the study area and analysis methodologies for Alternatives C and D.

Study Area

To assess changes in traffic conditions, eleven intersections, four roadway segments, and four freeway segments were evaluated for Alternatives A and B; four intersections and one roadway segment were evaluated under Alternative C. Detailed descriptions of study intersections and roadway segments for the Barstow and Los Coyotes sites are included in **Section 3.0** and **Appendix H** of the Draft EIS/TEIR.

Methodologies

Identification of the study areas, including intersections, roadway segments, and freeway segments, was based on an estimate of the two-way traffic volumes near the project sites. Roadway segments have been included within the analysis when the anticipated project-related traffic volume exceeds 50 two-way trips in the peak hours. Freeway segments have been included when the project-related traffic volume exceeds 100 two-way peak hour trips. In accordance with *Caltrans Guide for the Preparation of Traffic Impact Studies*, impacts to freeway facilities are analyzed under cumulative conditions in **Section 4.13**. Based on the methodology recommended in the San Bernardino County Congestion Management Program (CMP),

impacts to transportation facilities further than five miles from the project sites are not analyzed. In accordance with the Municipal Service Agreement (MSA) between the Tribe and the City, the traffic impact study prepared for the proposed alternatives is consistent with the requirements of the CMP.

Peak Hour

Traffic analyses for Alternatives A, B, and C were completed using weekday mid-day (noon to 2 PM.) and evening (4 PM to 6 PM peak hour), and Saturday mid-day (noon to 2 PM) and evening (5 PM to 7 PM) peak hour traffic volumes. Sunday peak hour traffic analyses was completed for study area intersections, ramp diverge operations, and traffic queuing lengths for Alternatives A and B. Sunday analyses showed the LOS and delay at study intersections and traffic queuing lengths were less than weekday and Saturday LOS, delays, and queuing lengths, therefore only weekday and Saturday conditions are presented for operations at these facilities. Ramp diverge operation lengths were shown to be greater during the Sunday PM peak hour than the weekday or Saturday mid-day or PM peak hour, and therefore are presented below. Traffic analyses for the non-gaming alternative (Alternatives D) was completed using weekday morning and evening peak hour traffic volumes.

Trip Generation

Casino

Trip generation rates for the alternatives relate land uses to the number of vehicles entering or exiting the site. Where applicable, trip generation is derived from trip rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual.* However, a more customized approach has been developed to characterize trip generation rates for the proposed casino. The traditional reference from which to determine trip generation, the ITE *Trip Generation Manual*, does include trip generation information for casinos; however, this information is based on only a few facilities, such as those found in Reno, Las Vegas, or Atlantic City. Indian Gaming casinos have unique trip generation characteristics when compared to traditional casinos, due primarily to isolated locations and types of gaming offered. Although trip generation characteristics for traditional casinos were not used directly to establish trip generation for the proposed gaming alternatives, information from these sources was utilized to help verify trip generation assumptions. The approach used to establish trip generation rates for this analysis was to investigate trip generation characteristics at Indian casinos, and utilize information within traffic studies for comparable developments. Methodology used to establish trip generation for the proposed gaming alternatives is described in detail in **Appendix H** of the Draft EIS/TEIR.

Hotel

Trip generation for the hotel components under Alternatives A and B were obtained from the ITE *Trip Generation Manual*. The analysis assumes that the internal interaction between the casino and hotel would account for a 75 percent reduction in hotel trips. A 75 percent reduction in hotel trips due to internal capture is consistent with the *Mississippi Gulf Coast Transportation Management Plan for Waterfront Development*, 1993.

Drive-in Restaurant

The ITE trip generation rate for "high-turnover (sit-down) restaurant" was used to determine the number of potential trips associated with the proposed drive-in restaurant for Alternative A and B.

Trip Distribution and Assignment

To determine the distribution of traffic generated by Alternatives A and B, peak hour traffic counts of the existing directional distribution of traffic for areas in the vicinity of the project site and information on future development and traffic impacts in the area was reviewed. The distribution of new trips generated by Alternatives A and B and is provided in **Figure 4.7-1**.

Assessment Criteria

Determination of adverse effects is based on acceptable LOS, as determined by the *Caltrans Guide for the Preparation of Traffic Impact Studies* and local policies. Applicable LOS thresholds for the Barstow and Los Coyotes sites are described below.

Barstow Site

The City's General Plan states that peak hour intersection operations of LOS D or better are acceptable. Therefore, LOS E or F on City intersections is considered unacceptable. Intersections outside the jurisdiction of the City were held to the City's standard, which is consistent with Caltrans Interstate 15 (I-15) interchange intersections standard.

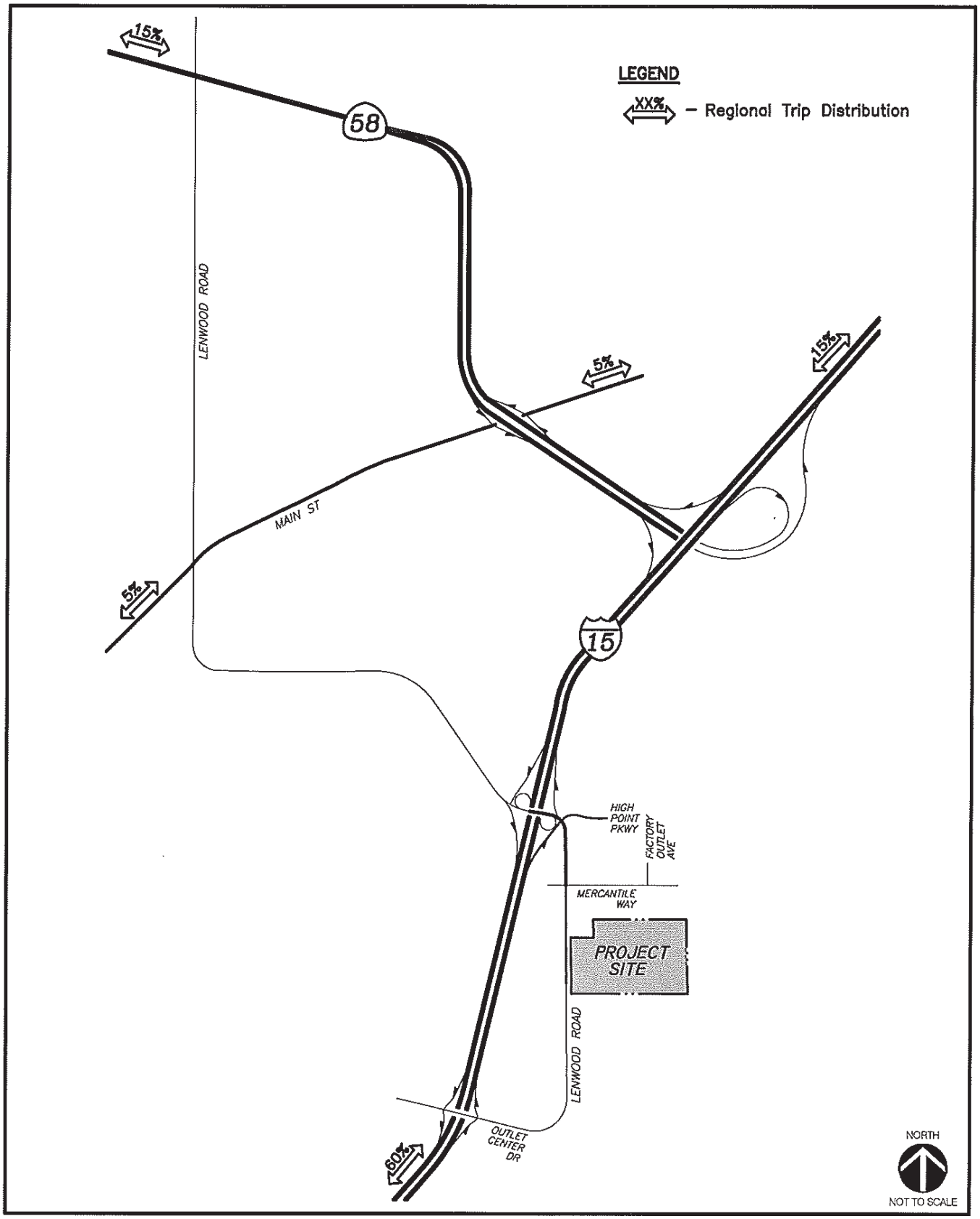
An adverse effect would occur if a roadway exceeds, either individually or cumulatively, an LOS standard established by the San Bernardino County Congestion Management Agency for designated roadways.

The congestion management program (CMP) for San Bernardino County, which was prepared by SANBAG in cooperation with various agencies including the Caltrans, considers LOS E on freeway facilities to be acceptable. Worsening of freeway conditions to LOS F is considered unacceptable within the Barstow Site study area, except where an existing LOS F condition is identified in the CMP document (LL&G, 2010).

Los Coyotes Site

The San Diego County General Plan states that peak hour intersection operations of LOS D or better are generally acceptable. Therefore, LOS E or F on San Diego County roadways is considered unacceptable.

Caltrans typically would not seek transportation mitigation from a project if the LOS of affected facilities is C or better after the addition of project related traffic. Therefore, because specific LOS thresholds have not been developed for state highway facilities in the Los Coyotes Study area, LOS of D or worse shall be considered deficient.



SOURCE: Linscott Law & Greenspan Engineers, 5/4/2010; AES, 2011

Figure 4.7-1

Barstow Casino and Hotel Primary Trip Distribution

Traffic Signal Warrant Analysis

Traffic signal warrants establish minimum conditions under which a traffic signal should be considered as an option to address traffic issues at a particular intersection. Traffic signals may be justified (warranted) when traffic operations fall below acceptable thresholds. Satisfying a traffic signal warrant allows Caltrans or the appropriate jurisdiction make an informed decision on whether to install a traffic signal. Traffic volumes at the unsignalized study intersections were assessed using the peak hour warrant, as specified in the Manual of Uniform Traffic Control Devices 2003 California Supplement (California MUTCD). The peak hour warrant is satisfied when traffic volumes on the major and minor approaches exceed thresholds for one hour of the day. This warrant is generally the first warrant to be satisfied. The warrant applies to traffic conditions during a one-hour peak that are sufficiently high such that minor street traffic experiences excessive delay in entering and crossing the street.

4.7.2 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Site Access

Access to the Casino project site is proposed via one driveway located along Lenwood Road approximately 300 yards south of the existing Hampton Inn Driveway. The project driveway would have full turning access to the project site and would satisfy the City's corner sight distance standards. The intersection of Lenwood Road / Project Access would be signalized when Caltrans warrants are met.

Construction Traffic

Construction of Alternative A would require truck trips for the export of fill, import of materials and equipment, and daily construction workers trips. Traffic impacts resulting from the construction of Alternative A construction activities would be temporary and intermittent in nature and would generally occur during off-peak traffic hours (5 AM to 6 AM and 10 AM to 4 PM). Construction activity impacts would be concentrated on Lenwood Road in the immediate vicinity of the Barstow site. Traffic-related construction impacts may include traffic delays, one-way traffic control, temporary road closures, and traffic detours. Daily construction trips are estimated to be approximately 300, including construction worker trips, material delivery, equipment delivery, and fill exportation. Traffic generated by construction of Alternative A would be less than operational traffic, which, as discussed below, does not lead to a decrease in LOS below established thresholds. In addition, construction traffic is temporary; therefore, significant adverse effects associated with construction traffic would not occur.

Project Traffic

Trip Generation

The projected vehicle trip generation resulting from Alternative A is shown in **Table 4.7-1**. Methodology used to determine trip generation is described in **Subsection 4.7.1**.

~~*Pass-by*~~*Diverted-link Trips*

Not all of the traffic to and from Alternative A would be newly generated trips, some trips will be trips that are on the road going to a different destination and stop at the proposed facilities; these types of trips are referred to as "~~pass-by~~diverted-link" trips. The traffic volume on I-15 in the City of Barstow is 60,000 vehicles per day (Caltrans, 2009). A large number of these trips are traveling to Las Vegas and would have a tendency to stop at the proposed gaming facility. Accordingly, trip generation calculated for Alternative A has been adjusted to consider the number of trips that already exist on the roadway and would visit the proposed facility.

TABLE 4.7-1
ALTERNATIVE A PEAK HOUR TRIP GENERATION

Proposed Land Use	Trips per unit	Weekday				Saturday			
		Mid-day		PM		Mid-day		PM	
		Trip Rate[1, 2]	Total Trips	Trip Rate[1, 2]	Total Trips	Trip Rate[1, 2]	Total Trips	Trip Rate[1, 2]	Total Trips
Casino	229.02 KSF	3.95	905	4.95	1,134	6.90	1,580	6.90	1,580
Hotel[1]	160 Rooms	0.15	24	0.15	23	0.18	29	0.18	29
Drive-in Restaurant	5.86 KSF	11.52	67	11.15	66	14.07	83	14.07	83
Total Number of Trips		__	*996*	__	*1,223*	__	*1,692*	__	*1,692*
Casino ~~Pass-by~~Diverted-link Trips (40%)[3]		__	361	__	453	__	632	__	632
Restaurant ~~Pass-by~~Diverted-link Trips (20%)[4]			13		13		17		17
Total New Trips			**622**		**757**		**1,043**		**1,043**

Notes:
[1] Casino trip generation rate based on Shingle Springs Rancheria Interchange Transportation Circulation Report dated April 2002.
[2] Hotel trip generation rate based on ITE Trip Generation Manual 8th Edition Rate with 75 percent reduction to account for internal trips between the hotel and casino.
[3] Casino ~~pass-by~~diverted-link percentages are based on Shingle Springs Rancheria Interchange Transportation/ Circulation Report dated April 2002.
[4] Restaurant ~~pass-by~~diverted-link percentages for high-turnover sit-down restaurants are based on SANDAG Not So Brief Guide to Vehicle Trip Generation Rates, April 2002.
KSF = thousand square feet.
Source: LL&G, 2010.

The traffic study prepared for Alternative A conservatively uses a casino ~~pass-by~~diverted-link capture rate of 40 percent and a restaurant ~~pass-by~~diverted-link capture rate of 20 percent based on information validated by data contained in previous traffic studies prepared for comparable casino developments. A 40 percent casino ~~pass-by~~diverted-link capture rate equates to a 4.7 percent capture rate from I-15. A capture rate from I-15 of between three and five percent is consistent with the capture rates of the casinos used to determine the trip generation rate applied to the gaming alternatives. The methodology used to establish ~~pass-by~~diverted-link capture rates for Alternative A is described in **Appendix H** of the Draft EIS/TEIR. **Table 4.7-1** shows the net new trips added to the local roadway network under Alternative A after ~~pass-by~~diverted-link trip reduction.

Trip Distribution and Assignment

To determine the distribution of traffic generated by Alternative A, peak hour traffic counts of the existing directional distribution of traffic for areas in the vicinity of the project site, and information on future development and traffic impacts in the area was reviewed. The distribution of new trips generated by Alternative A is shown in **Figure 4.7-1**.

Background Traffic Conditions

No Project Traffic Volumes

To assess opening year traffic conditions, existing traffic (refer to **Section 3.7**) is combined with area-wide growth and other approved developments in the project area (refer to table 8-1 of the TIA provided in **Appendix H** of the Draft EIS/TEIR). To account for area-wide growth, 2013 opening year traffic volumes have been calculated using a conservative four percent annual growth rate of existing traffic volumes. The analysis of cumulative developments and area-wide growth in the build-out year~~,~~ and the associated increase in existing traffic within the study area is provided in **Appendix H** of the Draft EIS/TEIR.

Background Intersection Operations

Table 4.7-2 shows the weekday and Saturday intersection delay and LOS for both the mid-day and evening peak hours at each of the study intersections under background traffic conditions in the opening year 2013 without the addition of project related traffic. As shown in the table, each of the study intersections would operate at an acceptable LOS of C or better under background traffic conditions. Weekday and Saturday peak hour turning volumes at each of the study intersections are provided in the TIA (**Appendix H** of the Draft EIS/TEIR).

Background Roadway Segments

Volume to capacity ratios and LOS for background conditions in the year 2013 have been calculated for the study area roadway segments and are shown in **Table 4.7-3**. All of the study roadway segments are projected to operate within an acceptable LOS under background traffic conditions without the addition of Alternative A.

TABLE 4.7-2
BACKGROUND INTERSECTION CONDITIONS – 2013 NO PROJECT

Intersections	Traffic Controls	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		PM		Mid-Day		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lenwood Rd./SR-58	TS	12.8	B	11.4	B	12.~~3~~5	B	11.1	B
2. Lenwood Rd./Main St.	TS	30.8~~1.2~~	C	40.~~1~~3	D	35.~~5~~6	D	33.~~6~~7	C
3. Main St./SR-58 EB Ramps	TS	3.~~3~~4	A	3.8	A	3.~~8~~9	A	3.~~3~~4	A
4. Main St./SR-58 WB Ramps	TS	11.~~2~~3	B	~~17.8~~18.0	B	14.8	B	14.7	B
5. Lenwood Rd./I-15 SB Ramps	TS	~~11.9~~12.0	B	12.5~~4~~	B	12.~~4~~5	B	~~11.9~~12.0	B
6. Lenwood Rd./I-15 NB Ramps	TS	16.3~~2~~	B	16.~~7~~8	B	~~18.7~~19.0	B	15.~~7~~8	B
7. Outlet Center Dr./I-15 SB Ramps	OWSC	9.8	A	10.1	B	11.~~5~~6	B	10.~~7~~8	B
8. Outlet Center Dr./I-15 NB Ramps	OWSC	~~8.9~~9.0	A	8.~~6~~7	A	9.3	A	8.9	A
9. Lenwood Rd./Mercantile Way	TS	30.~~7~~8	C	27.~~4~~5	C	~~31.5~~32.0	C	31.~~5~~9	C
10. Factory Outlet Ave/Mercantile Way	OWSC	8.~~9~~7	A	8.9	A	8.8	A	8.8	A

TS = traffic signal, OWSC = One-Way Stop Controlled
Source: LL&G, 2010.

TABLE 4.7-3
BACKGROUND ROADWAY SEGMENT CONDITIONS – 2013 NO PROJECT

Roadway	Segment	Number of Lanes	Maximum Capacity	V/C	LOS
Lenwood	I-15 NB Ramps to Mercantile Way	5D	33,000	0.45	A
Lenwood	Mercantile Way to Project Access	3U	21,000	0.13	A
Lenwood	Holiday Inn Driveway to Outlet Center Drive	2U	14,000	0.12	A
Outlet Center Drive	Lenwood Road to I-15 NB Ramps	2U	14,000	0.10	A

Notes: D = divided roadway, U = undivided roadway
ADT = average daily trips
V/C = volume to capacity ratio
Source: LL&G, 2010.

Background Freeway Segments

Volume to capacity ratios and LOS for background conditions in the year 2013 have been calculated for the study area freeway segments and are shown in **Table 4.7-4**. As shown in the table, all of the study freeway segments are projected to operate within an acceptable LOS under background traffic conditions.

TABLE 4.7-4
BACKGROUND FREEWAY SEGMENT CONDITIONS – 2013 NO PROJECT

Roadway Segments	Number of Lanes	Capacity	V/C		LOS	
			Mid-day	PM	Mid-day	PM
I-15 Northbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~416~~446	0.~~358~~337	B	B
SR-58 to Lenwood Road	4	9,200	0.273	0.206	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.380	0.351	B	B
I-15 Southbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.501~~486~~	0.4~~17~~424	B	B
SR-58 to Lenwood Road	3	6,900	0.405	0.345	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.467	0.387	B	B
Notes: V/C = volume to capacity ratio Source: LL&G, 2011~~0~~.						

Traffic Conditions Plus Alternative A

To assess the impacts of the project on transportation facilities in the study area, the projected number of trips generated by Alternative A was added to background year traffic volumes.

Background Plus Alternative A Intersection Operations

Table 4.7-5 shows the weekday and Saturday intersection delay and LOS for both the mid-day and PM peak hours at each of the study intersections under background plus Alternative A traffic conditions with implementation of Alternative A. Weekday and Saturday peak hour turning volumes at each of the study intersections under background plus Alternative A traffic conditions are provided within the TIA (**Appendix H** of the Draft EIS/TEIR- Fig-7-2). With the addition of project-related traffic, all of the study intersections are projected to operate at an acceptable LOS, except for the following intersection:

- Lenwood Rd./Project Access

Background Plus Alternative A Roadway Segment Operations

Volume to capacity ratios and LOS for the study area roadway segments have been calculated for the opening year of Alternative A opening year have been calculated for the study area roadway segments and are shown in **Table 4.7-6**. With implementation of Alternative A, all of the study roadway segments

are projected to operate within an acceptable LOS under background plus Alternative A traffic conditions in the opening year 2013.

Background Plus Alternative A Freeway Segment Operations

Volume to capacity ratios and LOS for background plus Alternative A traffic conditions have been calculated for the study area freeway segments and are shown in **Table 4.7-7**. With implementation of Alternative A, all of the study freeway segments are projected to operate within an acceptable LOS under background plus Alternative A traffic conditions in the opening year 2013.

TABLE 4.7-5
BACKGROUND PLUS ALTERNATIVE A INTERSECTION CONDITION – OPENING YEAR 2013

Intersections	Traffic Controls	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		PM		Mid-Day		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lenwood Rd./SR-58	TS	12.9	B	11.9	B	13.4	B	12.0	B
2. Lenwood Rd./Main St.	TS	31.1	C	41.8	D	36.7	D	34.1	D
3. Main St./SR-58 EB Ramps	TS	4.0	A	4.4	A	4.7	A	4.5	A
4. Main St./SR-58 WB Ramps	TS	11.3	B	17.9	B	14.8	B	14.7	B
5. Lenwood Rd./I-15 SB Ramps	TS	13.1	B	13.1	B	13.6	B	14.2	B
6. Lenwood Rd./I-15 NB Ramps	TS	15.7	B	16.0	B	22.1	B	21.8	B
7. Outlet Center Dr./I-15 SB Ramps	OWSC	15.4	C	14.8	B	32.8	D	14.1	B
8. Outlet Center Dr./I-15 NB Ramps	OWSC	9.9	A	9.8	A	10.9	B	11.0	B
9. Lenwood Rd./Mercantile Way	TS	29.1	C	29.3	C	33.6	C	40.3	D
10. Lenwood Rd./ Project Access	OWSC	**>100**	**F**	**>100**	**F**	**>100**	**F**	**>100**	**F**
11. Factory Outlet Ave/Mercantile Way	OWSC	8.7	A	8.9	A	8.8	A	9.0	A

Notes: TS = traffic signal, OWSC = One-Way Stop Controlled
Bold indicates unacceptable LOS
Source: LL&G, 2010.

Traffic Signal Warrant Analysis

For background plus Alternative A traffic conditions in the opening year 2013, the study area intersections have been evaluated to determine the need for installation of traffic signals as specified in the California MUTCD (FHWA, 2004). A traffic signal is anticipated to be warranted under background plus Alternative A traffic conditions at the following study area intersection:

- Lenwood Road/Project Access

TABLE 4.7-6
BACKGROUND PLUS ALTERNAITVE A ROADWAY SEGMENT CONDITIONS – OPENING YEAR 2013

Roadway	Segment	Number of Lanes	Maximum Capacity	V/C	LOS
Lenwood	I-15 NB Ramps to Mercantile Way	5D	33,000	0.66	B
Lenwood	Mercantile Way to Project Access	3U	21,000	0.47	A
Lenwood	Project Access to Outlet Center Drive	2U	14,000	0.33	A
Outlet Center Drive	Lenwood Road to I-15 NB Ramps	2U	14,000	0.31	A

Notes: D = divided roadway, U = undivided roadway
ADT = average daily trips
V/C = volume to capacity ratio
Source: LL&G, 2010.

TABLE 4.7-7
BACKGROUND PLUS ALTERNATIVE A FREEWAY SEGMENT CONDITIONS – OPENING YEAR 2013

Roadway Segments	Number of Lanes	Capacity	V/C		LOS	
			Mid-day	PM	Mid-day	PM
I-15 Northbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~428~~489	0.~~375~~373	B	B
SR-58 to Lenwood Road		9,200	0.304	0.302	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.412	0.384	B	B
I-15 Southbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~503~~550	0.~~436~~467	B	B
SR-58 to Lenwood Road		6,900	0.458	0.454	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.488	0.417	B	B

Notes: V/C = volume to capacity ratio
Source: LL&G, 2011~~0~~.

Ramp Diverge Operations

Ramp diverge operations is a measurement of the ability of a vehicle to enter lane one of a multi-lane roadway. Tables 1, 3, and 14 of **Appendix Q** of the Final EIS/TEIR provide a ramp diverge operations analysis at I-15 NB/SB Off-Ramps to Lenwood Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour. The ramp diverge operations were determined to be greatest during the Sunday PM peak-hour. As shown in the Table 14 of **Appendix Q** of the Final EIS/TEIR, ramp diverge operations during the Sunday PM peak-hour would not exceed the County's significance threshold of LOS D; therefore, Alternative A would not have a significant adverse effect on ramp diverge operations at I-15 NB/SB off-ramps to Lenwood Road.

Intersection Queuing Operations

Tables 5, 7 and 16 of **Appendix Q** of the Final EIS/TEIR provide lane queuing length analysis at the I-15 NB/SB Off-Ramps to Lenwood Road and at I-15 NB/SB Off-Ramps to Outlet Center Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour. Based on the project trip distribution, project trips were only added to the I-15 SB Off-Ramp/Lenwood Road southbound left-turn movement and the I-15 NB Off-Ramp/Lenwood Road northbound right-turn movement. As shown in the tables there is sufficient capacity to accommodate the expected 50th and 95th percentile queues at the I-15/Lenwood Road northbound and southbound off-ramps with or without Alternative A during the buildout year 2013 at the movements in which the project adds trips. The 50^{th} and 95^{th} percentile queue is defined to be the queue length (in vehicles) that has only a 50 percent and 5-percent, respectively, probability of being exceeded during the analysis time period.

The I-15/Outlet Center Road interchange is currently un-signalized. The Highway Capacity Software (HCS) is limited in its ability to measure the queuing results for un-signalized intersections. However, the Caltrans Highway Design Manual 2009 (HDM) provides direction for calculating queues at un-signalized intersections using storage length and number of vehicles per two-minute period per lane. An explanation and formula for this calculation is provided in **Appendix Q** of the Final EIS/TEIR. Tables 5, 7, and 16 provide a queuing analysis at the Outlet Center Drive Off-Ramp location. Based on the project trip distribution, project trips are only added to the I-15 NB Off-Ramp/Outlet Center Drive northbound right-turn movement. As shown in these tables, sufficient capacity is available to serve the buildout year 2013 traffic queues with and without Alternative A project traffic.

Alternative A would not have a significant adverse effect on traffic queuing at I-15 NB/SB Off-Ramps to Lenwood Road and at I-15 NB/SB Off-Ramps to Outlet Center Road.

Transit, Bicycle, and Pedestrian Facilities

Implementation of Alternative A may result in increased use of the Barstow Area Transit System. Through the terms of the MSA, the Tribe shall contribute funding to the City that would compensate for increased use of the City's public services. Increased public use of the Barstow Area Transit System is not anticipated to adversely impact existing service levels, and could contribute additional funding for the system.

No bicycle lanes or pedestrian sidewalks exist in the vicinity of the transportation study area for Alternative A. Alternative A is not projected to generate a substantial increase in bicycling activity or pedestrian trips. The City of Barstow Non-Motorized Circulation Plan identifies Lenwood Road east of I-15 and Main Street as potential future locations for Class I bikeways. However, with the addition of project-related traffic, the LOS along these roadways would remain within acceptable levels. Therefore, development of Alternative A would have no adverse effects on existing or planned bicycle or pedestrian facilities.

Summary of Traffic Impacts

The increase in traffic generated by Alternative A would not contribute to unacceptable traffic operations at any of the study intersections other than the Lenwood Road / Project Access intersection. Without mitigation, the Lenwood Road / Project Access intersection would operate at levels as low as LOS F (**Table 4.7-5**). Additionally, during peak hours there is the potential for southbound left-turns entering the project site to spill over into the southbound through lane, which could result in queuing that could affect the ability of northbound vehicles to access existing business' driveways to the west (LL&G, 2010). Implementation of mitigation measures provided in **Section 5.7** would restore the Lenwood Road / Project Access intersection to satisfactory operations based City LOS standards; therefore, development of Alternative A would have minimum adverse effect on traffic and circulation.

4.7.3 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

Site Access

Access to the project site is proposed via one driveway located along Lenwood Road approximately 300 yards south of the existing Hampton Inn Driveway. The project driveway would have full turning access to the project site and would satisfy the City's corner sight distance standards. The intersection of Lenwood Road / Project Access would be signalized when Caltrans warrants are met.

Construction Traffic

The temporary traffic generated during construction of Alternative B would be less than Alternative A because fill would not be exported from the site. Therefore, Alternative B would not result in significant adverse effects to traffic and circulation during construction.

Project Traffic

Trip Generation

The projected vehicle trip generation resulting from Alternative B is shown in **Table 4.7-8**. Methodology used to determine trip generation is described in detail in **Subsection 4.7.1**.

~~*Pass-by*~~*Diverted-link Trips*

Trip generation calculated for Alternative B has been adjusted to consider the number of trips that already exist on the roadway network without the addition of the project. **Table 4.7-8** shows the net new trips added to the local roadway network under Alternative B after the ~~pass-by~~diverted-link trip reduction. Trip methodology for determining ~~pass-by~~diverted-link trips reduction is discussed under Alternative A.

Trip Distribution and Assignment

To determine the distribution of traffic generated by Alternative B, peak hour traffic counts of the existing directional distribution of traffic for areas in the vicinity of the project site and information on future

development and traffic impacts in the area was reviewed. The distribution of new trips generated by Alternative B is identical to Alternative A and is provided in **Figure 4.7-1**.

TABLE 4.7-8
ALTERNATIVE B PEAK HOUR TRIP GENERATION

Proposed Land Use	Trips per unit	Weekday				Saturday			
		Mid-day		PM		Mid-day		PM	
		Trip Rate[1, 2]	Total Trips	Trip Rate[1, 2]	Total Trips	Trip Rate[1, 2]	Total Trips	Trip Rate[1, 2]	Total Trips
Casino	164.4 KSF	3.95	654	4.95	813	6.90	1,134	6.90	1,134
Hotel	100 rooms	0.15	15	0.15	15	0.18	18	0.18	18
Drive-in Restaurant	5.86 KSF	11.52	67	11.15	66	14.07	83	14.07	83
Casino ~~Pass-by~~Diverted-link Trips (40%)[3]		__	*260*	__	*326*	__	*453*	__	*453*
Restaurant ~~Pass-by~~Diverted-link (20%)[4]		__	*14*	__	*13*	__	*17*	__	*17*
Total New Trips		__	**459**	__	**556**	__	**765**	__	**765**

[1]Casino trip generation rate based on Shingle Springs Rancheria Interchange Transportation Circulation Report dated April 2002.
[2] Hotel trip generation rate based on ITE Trip Generation Manual 8th Edition Rate with 75 percent reduction to account for internal trips between the hotel and casino.
[3] Casino ~~pass-by~~diverted-link percentages are based on Shingle Springs Rancheria Interchange Transportation/ Circulation Report dated April 2002.
[4] Restaurant ~~pass-by~~diverted-link percentages for high-turnover sit-down restaurants are based on SANDAG Not So Brief Guide to Vehicle Trip Generation Rates, April 2002.
KSF = thousand square feet.
Source: LL&G, 2010.

Traffic Conditions Plus Alternative B

Refer to **Subsection 4.7.2** for a description of background traffic conditions for the Barstow study area. To assess the impacts of Alternative B on transportation facilities in the study area, the projected number of trips generated by this alternative was added to background traffic volumes.

Background Plus Alternative B Intersection Operations

Table 4.7-9 shows the weekday and Saturday intersection delay and LOS for both the mid-day and evening peak hours at each of the study intersections under background plus Alternative B traffic conditions. Weekday and Saturday peak hour turning volumes at each of the study intersections under

background plus Alternative B traffic conditions are provided within the TIA (**Appendix H** of the Draft EIS/TEIR). With the addition of project-related traffic, each of the study intersections is projected to operate at an acceptable LOS, except for the following intersection:

- Lenwood Rd./Project Access

TABLE 4.7-9
BACKGROUND PLUS ALTERNATIVE B INTERSECTION CONDITION – OPENING YEAR 2013

Intersections	Traffic Controls	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		PM		Mid-Day		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lenwood Rd./SR-58	TS	12.9	B	11.7	B	13.2	B	11.3	B
2. Lenwood Rd./Main St.	TS	31.0	C	41.4	D	36.4	D	34.1	D
3. Main St./SR-58 EB Ramps	TS	3.9	A	4.3	A	4.5	A	4.0	A
4. Main St./SR-58 WB Ramps	TS	11.3	B	17.9	B	14.8	B	14.7	B
5. Lenwood Rd./I-15 SB Ramps	TS	12.7	B	12.9	B	13.2	B	12.5	B
6. Lenwood Rd./I-15 NB Ramps	TS	15.7	B	16.2	B	20.8	C	15.8	B
7. Outlet Center Dr./I-15 SB Ramps	OWSC	13.3	B	13.1	B	22.3	C	12.3	B
8. Outlet Center Dr./I-15 NB Ramps	OWSC	9.6	A	9.4	A	10.3	B	9.7	A
9. Lenwood Rd./Mercantile Way	TS	28.3	C	28.6	C	31.8	C	31.7	C
10. Lenwood Rd./Project Access	OWSC	27.8	D	**96.0**	**F**	**>100**	**F**	**>100**	**F**
11. Factory Outlet Ave/Mercantile Way	OWSC	8.7	A	8.9	A	8.8	A	8.8	A

Notes: TS = traffic signal, OWSC = One-Way Stop Controlled
Bold indicates unacceptable LOS
Source: LL&G, 2010.

Background Plus Alternative B Roadway Segment Operations

Volume to capacity ratios and LOS for background plus Alternative B traffic conditions have been calculated for the study area roadway segments and are shown in **Table 4.7-10**. With implementation of Alternative B, all of the study roadway segments are projected to operate within an acceptable LOS under background plus Alternative B traffic conditions in the opening year 2013.

Background Plus Alternative B Freeway Segment Operations

Volume to capacity ratios and LOS for background plus Alternative B has been calculated for the study area freeway segments and is shown in **Table 4.7-11**. With implementation of Alternative B, all of the

study freeway segments are projected to operate within an acceptable LOS under background plus Alternative B traffic conditions in the opening year 2013.

TABLE 4.7-10
BACKGROUND PLUS ALTERNAITVE B ROADWAY SEGMENT CONDITIONS – OPENING YEAR 2013

Roadway	Segment	Number of Lanes	Maximum Capacity	V/C	LOS
Lenwood	I-15 NB Ramps to Mercantile Way	5D	33,000	0.60	B
Lenwood	Mercantile Way to Holiday Inn Driveway	3U	21,000	0.38	A
Lenwood	Holiday Inn Driveway to Outlet Center Drive	2U	14,000	0.27	A
Outlet Center Drive	Lenwood Road to I-15 NB Ramps	2U	14,000	0.25	A

Notes: D = divided roadway, U = undivided roadway
ADT = average daily trips
V/C = volume to capacity ratio
Source: LL&G, 2010.

TABLE 4.7-11
BACKGROUND PLUS ALTERNATIVE B FREEWAY SEGMENT CONDITIONS – OPENING YEAR 2013

Roadway Segments	Number of Lanes	Capacity	V/C		LOS	
			Mid-day	PM	Mid-day	PM
I-15 Northbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~425~~487	0.371	B	B
SR-58 to Lenwood Road	4	9,200	0.302	0.232	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.404	0.375	B	B
I-15 Southbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~499~~548	0.~~431~~465	B	B
SR-58 to Lenwood Road	3	6,900	0.454	0.387	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.482	0.409	B	B

Notes: V/C = volume to capacity ratio
Source: LL&G, 2011~~0~~.

Traffic Signal Warrant Analysis

For background plus Alternative B traffic conditions in the opening year 2013, the study area intersections have been evaluated to determine the need for installation of traffic signals as specified in the California MUTCD (FHWA, 2004). A traffic signal is anticipated to be warranted at the following study area intersection:

- Lenwood Road/Project Access

Ramp Diverge Operations

Tables 1, 3, and 14 of **Appendix Q** of the Final EIS/TEIR provide a ramp diverge operations analysis at I-15 NB/SB Off-Ramps to Lenwood Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour. The ramp diverge operations were determined to be greatest during the Sunday PM peak-hour. As shown in the Table 14 of **Appendix Q** of the Final EIS/TEIR, ramp diverge operations during the Sunday PM peak-hour would not exceed the County's significance threshold of LOS D; therefore, Alternative B would not have a significant adverse effect on ramp diverge operations at I-15 NB/SB Off-Ramps to Lenwood Road.

Intersection Queuing Operations

Tables 5, 7, and 16 of **Appendix Q** of the Final EIS/TEIR provide a queuing analysis at I-15 NB/SB Off-Ramps to Lenwood Road and at I-15 NB/SB Off-Ramps to Outlet Center Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour. Based on the project trip distribution, project trips were only added to the I-15 SB Off-Ramp/Lenwood Road southbound left-turn movement and the I-15 NB Off-Ramp/Lenwood Road northbound right-turn movement. As shown in the tables there is sufficient storage to accommodate the expected 50th and 95th percentile queues at the I-15/Lenwood Road northbound and southbound Off-Ramps with or without Alternatives A during the buildout year 2013 at the movements in which the project adds trips.

Tables 5, 7, and 16 of **Appendix Q** of the Final EIS/TEIR provide a queuing analysis at the Outlet Center Drive Off-Ramp location. Based on the project trip distribution, project trips are only added to the I-15 NB Off-Ramp/Outlet Center Drive northbound right-turn movement. As shown in these tables, sufficient capacity is available to serve the buildout year 2013 traffic queues with and without project traffic.

Alternative B would not have a significant adverse effect on traffic queuing at I-15 NB/SB Off-Ramps to Lenwood Road and at I-15 NB/SB Off-Ramps to Outlet Center Road.

Transit, Bicycle, and Pedestrian Facilities

Impacts to the Barstow Area Transit system and to bicycle and pedestrian circulation would be similar to Alternative A. Refer to **Subsection 4.7.2**.

Summary of Traffic Impacts

The increase in traffic generated by Alternative B would not contribute to unacceptable traffic operations at any of the study intersections other than the Lenwood Road / Project Access intersection. As with Alternative A, the Lenwood Road / Project Access intersection would operate at levels as low as LOS F and would potentially affect the ability of northbound vehicles to access existing business' driveways to the west (LL&G, 2010). Implementation of mitigation measures provided in **Section 5.7** would restore the intersection to satisfactory operations based City LOS standards; therefore, development of Alternative B would have minimum adverse effect on traffic and circulation.

4.7.4 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Site Access

The main access point to the project site would utilize the existing driveway located on Camino San Ignacio Road. This approach is assumed to continue to operate as a full movement driveway with no turn limitations.

Construction Traffic

Traffic generated by construction of Alternative C would be less than operational traffic, which, as discussed below, does not lead to a decrease in LOS below established thresholds. In addition, construction traffic is temporary; therefore, significant adverse effects associated with construction traffic would not occur.

Project Traffic

Trip Generation

The projected vehicle trip generation resulting from Alternative C is shown in **Table 4.7-12**. Methodology used to determine trip generation is described in detail in **Subsection 4.7.1**.

TABLE 4.7-12
ALTERNATIVE C PEAK HOUR TRIP GENERATION

Proposed Land Use	Weekday Mid-day			Weekday Evening			Saturday		
	In	Out	Total	In	Out	Total	In	Out	Total
Casino (25.0 KSF)									
Trip Rates	2.34	1.61	3.95	2.62	2.33	4.95	3.17	3.73	6.90
Trips Generated	59	40	99	66	58	124	79	93	172

Note: KSF = thousand square feet
Source: Kunzman, 2007.

Trip Distribution and Assignment

To determine the distribution of traffic generated by Alternative C, the existing directional distribution of traffic for areas in the vicinity of the project site was reviewed. The distribution of new trips generated by Alternative C is provided in the Kunzman TIA provided in **Appendix H** of the Draft EIS/TEIR.

Background Traffic Conditions Without Project

Background Project Traffic Volumes

To assess background traffic conditions, existing traffic (described in detail in **Section 3.7**) is combined with area-wide growth. To account for area-wide growth, background traffic volumes have been calculated using a conservative two percent annual growth rate of existing traffic volumes over a three-

year period. This growth rate for the Los Coyotes study area was obtained from the *Traffic Volumes on California State Highways* (Caltrans, 2005).

Background Intersection Operations

Table 4.7-13 shows the weekday and Saturday intersection delay and LOS for both the mid-day and evening peak hours at each of the Los Coyotes Site study intersections under background traffic conditions. As shown in the table, each of the study intersections would operate at an acceptable LOS under background traffic conditions. Weekday and Saturday peak hour turning volumes at each of the study intersections under background traffic conditions are provided within **Appendix H** of the Draft EIS/TEIR.

TABLE 4.7-13
BACKGROUND INTERSECTION CONDITION

Intersection	Traffic Control[1]	Peak Hour Delay-LOS			
		Weekday		Saturday	
		Mid-Day	Evening	Mid-Day	Evening
1. SR-79/Stage Road	CSS	8.8-A	8.8-A	9.8-A	9.6-A
2. SR-79/Camino San Ignacio Road	CSS	9.0-A	8.8-A	9.6-A	9.0-A
3. SR-79/San Felipe Road	CSS	9.8-A	9.5-A	10.2-B	9.7-A
4. SR-79/SR-76	CSS	9.8-A	9.8-A	11.5-B	10.7-B

Notes: 1. TS = traffic signal, CSS = cross street stop
Source: Kunzman, 2007.

Background Project Roadway Segment Operations

Volume to capacity ratios and LOS for background plus Alternative C have been calculated for the Los Coyotes study area roadway segments and are shown in **Table 4.7-14**. As shown in the table, the study roadway segment is projected to operate within an acceptable LOS under background traffic conditions.

TABLE 4.7-14
BACKGROUND ROADWAY SEGMENT CONDITION

Roadway	Segment	Number of Lanes[1]	Maximum Capacity (LOS D)	ADT[2]	V/C[3]	LOS
Camino San Ignacio Road	South of SR-79	2U	10,900	500	0.05	A

Notes: 1. U = undivided roadway
2. ADT = average daily trips
3. V/C = volume to capacity ratio
Source: Kunzman, 2007.

Traffic Conditions Plus Project

To assess the impacts of the project on transportation facilities in the study area, the projected number of trips generated by Alternative C was added to background traffic volumes.

Background Plus Alternative C Intersection Operations

Table 4.7-15 shows the weekday and Saturday intersection delay and LOS for both the mid-day and evening peak hours at each of the study intersections background plus Alternative C traffic conditions. Weekday and Saturday peak hour turning volumes at each of the study intersections under background plus Alternative C traffic conditions are provided in **Appendix H** of the Draft EIS/TEIR. With the addition of project-related traffic, all of the study intersections are projected to operate at an acceptable LOS.

TABLE 4.7-15
INTERSECTION LOS PLUS ALTERNATIVE C

Intersection	Traffic Control[1]	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		Evening		Mid-Day		Evening	
1. SR-79/Stage Road	CSS	9.0	A	9.2	A	10.4	A	10.2	A
2. SR-79/Camino San Ignacio Road	CSS	9.6	A	9.8	A	11.7	A	10.6	A
3. SR-79/San Felipe Road	CSS	10.2	B	9.9	A	10.9	B	10.3	A
4. SR-79/SR-76	CSS	10.2	B	10.3	B	12.7	B	11.5	B

Notes: 1. TS = traffic signal, CSS = cross street stop
Source: Kunzman, 2007.

Background Plus Alternative C Roadway Segment Operations

Volume to capacity ratios and LOS for background plus Alternative C have been calculated for the Los Coyotes study area roadway segments and are shown in **Table 4.7-16**. With implementation of Alternative C, the study roadway segment is projected to operate within an acceptable LOS under background plus Alternative C traffic conditions.

TABLE 4.7-16
ROADWAY SEGMENT LOS PLUS ALTERNATIVE C

Roadway	Segment	Number of Lanes[1]	Maximum Capacity (LOS D)	ADT[2]	V/C[3]	LOS
Camino San Ignacio Road	South of SR-79	2U	10,900	1,500	0.14	A

Notes: 1. U = undivided roadway
2. ADT = average daily trips
3. V/C = volume to capacity ratio
Source: Kunzman, 2007

Traffic Signal Warrant Analysis

For background plus Alternative C traffic conditions, the study area intersections have been evaluated to determine the need for installation of traffic signals as specified in the California MUTCD (FHWA, 2004). Traffic signals are not anticipated to be warranted at any of the study intersections.

Transit, Bicycle, and Pedestrian Facilities

The Los Coyotes study area is not currently served by the San Diego Metropolitan Transit System or any other public transportation system. Therefore, implementation of Alternative C would not impact public transportation systems. Additionally, designated bikeway facilities or pedestrian sidewalks do not exist in the vicinity of the Los Coyotes site. Therefore, Alternative C would not adversely impact bicycle or pedestrian facilities.

Summary of Traffic Impacts

The increase in traffic generated by Alternative C would not result in an unacceptable LOS or warrant a traffic signal. Therefore, development of Alternative C would not result in ~~signficant~~significant adverse effects on traffic and circulation.

4.7.5 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Site Access

The main access point to the project site would utilize the existing driveway located on Camino San Ignacio Road. This approach is assumed to continue to operate as a full movement driveway with no turn limitations.

Construction Traffic

Construction related traffic impacts would be similar or less than Alternative C. Refer to **Subsection 4.7.6**.

Project Traffic

Trip Generation

The projected vehicle trip generation resulting from Alternative D is shown in **Table 4.7-17**. Alternative D is projected to generate approximately 47 weekday morning peak hour trips and 87 weekday evening peak hour trips. The trip generation rates used to calculate Alternative D trips were provided by the ITE *Trip Generation Manual*, 8th Edition, 2009 land use code 416.

TABLE 4.7-17
ALTERNATIVE D PEAK HOUR TRIP GENERATION

Proposed Land Use	Weekday AM			Weekday PM		
	In	Out	Total	In	Out	Total
Campground (213 Campsites)						
Trip Rates	0.09	0.13	0.22	0.25	0.16	0.41
Trips Generated	19.7	27.2	46.9	54.1	33.2	87.3
Source: ITE Trip Generation Manual, 8th Edition, 2009.						

Trip Distribution and Assignment

To determine the distribution of traffic generated by Alternative D, the existing directional distribution of traffic for areas in the vicinity of the project site was reviewed. The distribution of new trips generated by Alternative D is identical to Alternative C and is shown in the Kunzman TIA provided in **Appendix H** of the Draft EIS/TEIR.

Background Traffic Conditions

Refer to **Subsection 4.7.6** for a description of background traffic conditions for the Los Coyotes study area.

Background Plus Alternative D Traffic Conditions

Alternative D is projected to generate 87 trips during the weekday evening peak hour (**Table 4.7-15**), as compared to 124 trips for Alternative C (**Table 4.7-15**). Because Alternative D would generate fewer trips, traffic related effects are projected to be similar to, or less than those resulting from Alternative C. Refer to **Subsection 4.7.6**.

Background Plus Alternative D Intersection Operations

With the implementation of Alternative D, all of the study intersections in the Los Coyotes study area are projected to operate at an acceptable LOS, similar to Alternative C. Refer to **Subsection 4.7.6**.

Background Plus Alternative D Roadway Segment Operations

With implementation of Alternative D, the study roadway segment is projected to operate within an acceptable LOS under background plus Alternative D traffic conditions, similar to Alternative C. Refer to **Subsection 4.7.6**.

Traffic Signal Warrant Analysis

For background plus Alternative D traffic conditions, traffic signals are not anticipated to be warranted at any of the study intersections, similar to Alternative C. Refer to **Subsection 4.7.6**.

Transit, Bicycle, and Pedestrian Facilities

Impacts to transit, bicycle, and pedestrian facilities would be similar to Alternative C. Refer to **Subsection 4.7.6**.

Summary of Traffic Impacts

The increase in traffic generated by Alternative D would not result in an unacceptable LOS or warrant a traffic signal. Therefore, development of Alternative D would not result in significant adverse effects on traffic and circulation.

4.7.6 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.8 LAND USE

This section identifies the direct effects to land use that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.8**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.8**.

Assessment Criteria

Adverse effects would occur if development would be incompatible with adjacent designated land uses, thereby impeding effective local and regional planning efforts.

4.8.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Alternative A would result in approximately 23.1 acres of land being removed from the City of Barstow's (City) land use jurisdiction and placed into federal trust for the Tribe. Once the property is taken into trust, the only applicable land use regulations would be federal or Tribal. However, the Tribal Government desires to work cooperatively with local and state authorities on land use matters.

In furtherance of that goal, the Tribe has entered into a Municipal Services Agreement (MSA) with the City in which they have agreed to develop tribal projects occurring on trust lands in a manner that is consistent with the Barstow Municipal Code and to adopt building standards and codes no less stringent than those adopted by the City prior to the use of any structure (**Appendix D** of the Draft EIS/TEIR).

Land Use Plans

City planning documents currently in effect for the Barstow site include the City of Barstow General Plan, Lenwood Specific Plan, City of Barstow Zoning Ordinance, and the applicable Redevelopment Plan. The project site is located in an area designated as Commercial-Recreational/Transition in the Lenwood Specific Plan Boundary. Construction of the casino, hotels and associated amenities would not conflict with the planned recreational intent of the area.

Development standards incorporated into Alternative A would not substantially conflict with the City's standards including permitted uses, parking standards, outdoor storage and loading area requirements, utilities and lighting requirements, sign standards, architectural/building standards, and guidelines for accessory structures. These development standards would be integrated by the final design phase of Alternative A. Buildings would be set back at least 50 feet from Lenwood Road. Light fixtures would not extend above 30 feet in height, and the lighting would be designed to confine direct rays to the premises. Signage would be architecturally compatible with the buildings, and would be of appropriate size and content, in accordance with the guidelines set forth in the Lenwood Specific Plan. As shown in the architectural rendering, it is anticipated that the design materials and colors would be visually

appealing, of a neutral tone, and blend with the surrounding environment. Development of Alternative A would be generally consistent with local land use plans.

Effects to Existing Land Uses

The Barstow site consists of vacant and undeveloped land and there are no uses that would be disrupted by the construction of a casino/hotel resort. An open space recreational area, owned and managed by the Bureau of Land Management, is located east of the Barstow site. This area, known as the Stoddard Valley Off-Highway Vehicle (OHV) area, is used primarily for off-road vehicle recreation with motorcycles, all-terrain vehicles, and four-wheel drive vehicles. This area is also used for competitive racing events. Alternative A would not severely impact the OHV area, as commercial development consisting of a retail outlet mall already exists along its western boundary. The hotel component of the development would benefit large events at the OHV area. The OHV area is a vast expanse of land. Operation of the proposed casino-hotel complex would not preclude its use as a recreation area. Because noise and nighttime lighting are generated by the OHV area, it would be unaffected by any noise or light emitted by development of Alternative A.

Development surrounding the Barstow site to the north and west consists of hotels, restaurants, and outlet malls primarily serving as highway-related commercial uses. Alternative A would be complementary to these existing commercial uses. Lands to the south are designated as Commercial-Recreational/ Transition and thus would be developed in the future with uses compatible with the Barstow site. Alternative A would not disrupt neighboring land uses, prohibit access to neighboring parcels, or otherwise conflict with neighboring land uses and thus would have a no adverse effects on existing land uses.

Agriculture

Alternative A is located on land designated for future commercial or recreational uses; it does not contain prime or unique farmlands, or farmland of statewide importance (**Appendix I** of the Draft EIS/TEIR). There are no issued or identified Williamson Act contracts on the Barstow site. Development of Alternative A would have no adverse effects on agriculture.

4.8.2 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

As with Alternative A, the Barstow site would be brought into trust and would not be subject to local land use jurisdiction; however, as described above the Tribe has agreed to develop tribal projects occurring on trust lands in a manner that is consistent with the Barstow Municipal Code and to adopt building standards and codes no less stringent than those adopted by the City prior to the use of any structure (MSA, **Appendix D** of the Draft EIS/TEIR). Like Alternative A, Alternative B would be located on the Barstow site and would consist of a casino-hotel resort development. Both alternatives are similar in use and design.

Land Use Plans

Due to the similarities between Alternatives A and B, the discussion under Alternative A regarding compatibility with the General Plan, Redevelopment Plan, and Zoning, apply to Alternative B. The Lenwood Specific Plan generally requires compatibility with the adjacent OHV areas and adequate provisions for water, sewer, electricity, gas, telephone, and storm drainage. With provision of public services discussed in **Section 4.9**, development of Alternative B would be generally consistent with local land use plans.

Effects to Existing Land Uses

Similar to Alternative A, Alternative B would have no adverse effects on existing land uses.

Agriculture

As discussed for Alternative A, the Barstow site does not contain designated farmland or Williamson Act contracts. Development of Alternative B would have no adverse effects on agriculture.

4.8.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

The Los Coyotes site is located on existing tribal trust property. It is not subject to San Diego County land use jurisdiction. The Tribal Council of the Los Coyotes Band of Cahuilla and Cupeño Indians has jurisdictional authority over land use matters on the Reservation.

Effects to Existing Land Uses

The Los Coyotes site is undeveloped and does not contain urban features or land uses which would be affected by development at the other sites. Surrounding the Los Coyotes site are undeveloped lands on the Los Coyotes Reservation. There is a considerable distance to both tribal and off-Reservation uses, the nearest of which are primarily rural residential. Alternative C would not disrupt neighboring land uses, prohibit access to neighboring parcels, or otherwise conflict with neighboring land uses. No adverse effects to existing land uses would occur.

Agriculture

As shown on the Farmland Conversion Impact Rating Form (Form AD-1006, **Appendix I** of the Draft EIS/TEIR), the Los Coyotes site contains 17 acres of prime farmland, unique farmland, or farmland of statewide or local importance and is subject to evaluation under the Farmland Protection Policy Act (FPPA). As indicated on the FCIR form, the Los Coyotes site has a combined land evaluation and site assessment score of 108. As discussed in the criteria developed pursuant to FPPA, "sites receiving a total score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated" (7 CFR §658.4). There are no lands under a Williamson Act contract or agricultural uses on the Los Coyotes site. As all development would occur within the boundaries of the Reservation, no off-Reservation agricultural/forest land would be converted to non-agricultural/forest use as a result of Alternative C. Development of Alternative C would have no adverse effects to agricultural resources.

4.8.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

As discussed for Alternative D, the Los Coyotes site is located on existing tribal trust property and is not subject to San Diego County land use jurisdiction. The Tribal Council of the Los Coyotes Band of Cahuilla and Cupeño Indians has jurisdictional authority over land use matters on the Reservation.

Effects to Existing Land Uses

The Los Coyotes site is undeveloped and does not contain urban features or land uses which would be affected by development of campgrounds under Alternative D. Alternative D would not disrupt neighboring land uses, would not prohibit access to neighboring parcels, or otherwise conflict with neighboring land uses. As with Alternative C, Alternative D would have no adverse effects on existing land uses.

Agriculture

As discussed above, the Los Coyotes was evaluated using the FCIR Form (Form AD-1006, **Appendix I** of the Draft EIS/TEIR). As indicated on the FCIR form, the Los Coyotes site has a combined land evaluation and site assessment score of 108; therefore, no further consideration is required. There are no lands under a Williamson Act contract or agricultural uses on the Los Coyotes site. As all development would occur within the boundaries of the Reservation, no off-Reservation agricultural/forest land would be converted to non-agricultural/forest use as a result of Alternative D. Development of Alternative D would have no adverse effects to agricultural resources.

4.8.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potential adverse effects identified for Alternatives A though D are anticipated to occur.

4.9 PUBLIC SERVICES

This section identifies the effects to public services that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.9**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects are presented in **Section 5.9**.

Assessment Criteria

An adverse effect would occur if project-related demands on public services would cause an exceedance of system capacities that result in significant effects to the physical environment. The water supply and wastewater analysis presented herein relies on data presented in **Chapter 2.0**.

4.9.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Water Supply

Water demand for Alternative A would be approximately 140 gallons per minute (gpm) or 201,310 gallons per day (gpd) (See **Table 2-2**). Potable water demand estimates are based on the ratio of average water demand to average wastewater flows at similar facilities.

In accordance with Section 8 of the Municipal Service Agreement (MSA) between the Tribe and the City of Barstow (City), the Tribe would obtain potable supply from Golden State Water Company (GSWC). The GSWC wells in the Barstow Customer Service Area have a capacity of 16,147 acre-feet per year (ac-ft/yr) and had an average pumping rate from 2000 to 2004 of 9,556 ac-ft/yr, with a surplus capacity of approximately 6,591 ac-ft/yr (GSWC, 2005). The Barstow Customer Service Area has adequate capacity for the estimated water demands of the Alternative A, which are equivalent to approximately 225 ac-ft/yr. An existing 16-inch-diameter line that runs along the west side of Lenwood Road would be extended from its current termination point and connected to the proposed facilities. For fire flow, a fire pump and jockey pump would be located on-site to help maintain static pressure, as recommended by the Barstow Fire Protection District. With these pumps, no on-site storage tanks would be required. As GSWC has adequate supply, service can be provided to Alternative A without affecting existing customers and without the need to construct improvements to the existing system. Alternative A would not result in adverse effects to municipal water supply systems.

Wastewater Service

Wastewater demand was assessed using square footage and is based on typical values for similar facilities (See **Table 2-2**). Peaking factors were applied based on information collected from other gaming resorts in California. Alternative A would have an estimated average daily wastewater flow of 179,200 gpd and a peak day wastewater flow of 358,400. The recommended wastewater treatment plant (WWTP) capacity to accommodate peak day flow and unusually heavy wastewater flows that may occur during special events would be 375,000 gpd.

Consistent with Section 7 of the MSA, wastewater service for Alternative A would be provided by the City's WWTP. Currently the WWTP plant serving the City has a treatment capacity of 4.5 million gallons per day (mgd) and a peak flow of approximately 2.7 mgd (Barbour, 2009). There is adequate surplus capacity to accommodate peak (0.35 mgd) wastewater flows from Alternative A (**Table 2-2**). The existing 10-inch-diameter sewer line would be extended from the intersection of Lenwood Road and Mercantile Way to the Barstow site. The Contract/Project Coordinator for the City's WWTP would determine if upgrades to sewer truck lines and/or pump stations would be required. In accordance with Section 7 of the MSA between the Tribe and the City, the~~The~~ Tribe would pay the cost of constructing sewer infrastructure, if needed, to serve the project. A discussion of the potential indirect effects of Alternative A is provided in **Section 4.14.1**. Alternative A would not result in adverse effects to municipal wastewater services.

Solid Waste Service

Construction

Construction of Alternative A would result in a temporary increase in waste generation. The waste stream would consist of excess construction materials and excavated fill. Waste that cannot be recycled would be disposed of at the Barstow Landfill, which accepts construction/demolition materials. Excavated fill material would be reused at other construction sites to the extent possible. In the most extreme case, no users would require the fill and it would be disposed of and used as cover for the Barstow Landfill. As discussed below, the Barstow landfill has sufficient capacity to accept the 71,296 cubic feet of excavated soil, which would represent 0.6 percent of the permitted daily intake. Construction of Alternative A would not result in significant adverse effects on solid waste services.

Operation

The California Integrated Waste Management Board (CIWMB) has established waste generation rates for the operation of different business types and residences. The rate is expressed as tons per employee per year. Alternative A is anticipated to have 1,309 full-time employees. Amusement and recreation developments are estimated to generate 0.9 tons per employee per year while hotels are estimated to generate 2.1 tons per employee per year (CIWMB, 2007a). As Alternative A would include both gaming and hotel uses, it is anticipated that the estimated amount of solid waste would be between these generation rates or between 1,178 and 2,748 tons per year (3.2 and 7.5 tons per day, respectively). Bins would be provided for recycling within the proposed facilities.

As discussed in Section 9 of the Tribe's MSA, the Tribe would utilize the City's contracted solid waste disposal company. The City's franchised solid waste collection company hauls waste to the Barstow Landfill (Barbour, 2006). Solid waste from Alternative A would represent approximately 0.42 percent - 1.00 percent of the landfill's current permitted daily intake. When the landfill is expanded, Alternative A would represent approximately 0.21 percent – 0.50 percent of the landfills expected permitted daily intake. Alternative A's projected solid waste generation is considered a small contribution to the waste stream and would not dramatically decrease the life expectancy of the landfill. Alternative A would not affect County diversion goals as waste generated on tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics (CIWMB, 2007b). Furthermore, as described in **Section**

5.3, a Solid Waste Management Plan (SWMP) shall be adopted by the Tribe that addresses recycling and solid waste reduction on-site. The plan shall have at least a 50 percent diversion goal, which includes reduction, recycling, and reuse measures. Operation of Alternative A would not result in significant adverse effects on solid waste services.

Energy

The Tribe has agreed in Section 8 of the MSA that there shall be no on-site generation of electricity except for emergency power purposes. Electricity would be obtained from Southern California Edison Company (SCE), which maintains electrical lines along the northern boundary of the Barstow site. The Tribe would pay a fair share of the upgrades needed to avoid affecting the service of existing customers and any infrastructure necessary to provide service to Alternative A.

Gas service would be provided by Southwest Gas Corporation, which maintains a 4-inch-diameter line along Lenwood Road (Merrell Engineering Company, 2003). This line may need to be upgraded to provide service to Alternative A. The Tribe would pay a fair share of the improvement costs necessary to service the Barstow site. Service to existing customers would not be affected as the Tribe would coordinate with Southwest Gas Corporation. Alternative A would not result in significant adverse effects on energy services.

Law Enforcement Services

An analysis of the impact of casino gambling on local crime rates is included in **Section 4.6**.
In accordance with Section 4 of the Tribe's MSA, the City would provide police services including but not limited to 24-hour patrol, response to emergency 911 calls, and general investigation for major crimes (**Appendix D** of the Draft EIS/TEIR). The police department would have the authority to enforce all non-gaming State criminal laws on the proposed trust lands pursuant to Public Law 280 and Section 4 of the MSA. Additionally, an increase in service demands to the State Highway Patrol may result from development of the project. However, payments to the State under the Tribal-State compact would offset any impacts to the State Highway Patrol. ~~Additionally,~~ ~~T~~the Tribe would employ security personnel and provide surveillance throughout the proposed facilities. As discussed in Section 4 of the MSA, security personnel would work cooperatively with the City Police Department. The Tribe would make payments to the City to cover the costs of impacts associated with increased police services. The Tribe has also agreed in Section 4 of the MSA, upon request of the City, to dedicate land for fire and police station use and pay for a portion of new fire and police stations. With implementation of the conditions of the MSA, as discussed in **Section 5.9**, development of Alternative A would not result in significant adverse effects on law enforcement services.

Fire Protection and Emergency Medical Services

Construction

During construction, equipment used for grading and construction activities may create sparks which could ignite dry grass. This risk is similar to those that are found at other construction sites.

Environmental protection measures like ensuring all dried vegetation is cleared away from staging and building areas where spark-producing equipment would be employed to reduce the potential risk of fire. Development of Alternative A would not result in significant adverse effects on fire protection and emergency medical services during construction. Specific BMPs presented in **Section 5.9** would further reduce identified adverse effects.

Operation

Alternative A would increase the number of visitors in the project area, which would result in the need for increased fire protection and emergency medical services. Most service calls generated from Alternative A would likely be emergency medical response calls, but could also include structure fires or hazardous materials response. The fire protection facilities on-site would be fitted with automatic fire sprinkler systems. Twenty-four-hour surveillance would afford timely detection of fires and early intervention of any fires. As recommended by the Barstow Fire Protection District (BFPD) a fire pump and jockey pump would be located on-site to help maintain static pressure.

As agreed upon in the Tribe's MSA with the City, BFPD would provide fire protection and emergency medical services to the Barstow site (**Appendix D** of the Draft EIS/TEIR). In accordance with Section 4(B)(1) of the MSA, the Tribe would compensate the City for the purchase of a fully equipped Emergency Medical Services Response Vehicle which shall be housed at Station 363 for the first two years of resort operations. To respond more effectively to high-rise emergencies at any structure on trust lands between one and four stories, the Barstow Fire Protection District has agreed to relocate its ladder fire truck from Station 361 to Station 363 for the first two years of resort operation, as identified in Section 4(B)(2) of the MSA. The Barstow Fire Protection District and the City have advised that a ladder truck is not typically used to fight fires on buildings more than four stories in height and that buildings over four stories in height require entry by Fire Department personnel and personal action at the burning site. If a structure exceeding four stories in height is constructed by the Tribe on trust lands, the Tribe has agreed to pay one half of the actual costs of training fire personnel. In Section 4(C) of the MSA, the Tribe has also agreed to dedicate or arrange for the dedication of two-acres of non-federal land near the project site owned or controlled by the Tribe or Barwest, LLC for fire or police station use. This dedicated land will be used by the City to construct new fire and police stations when, and if, deemed necessary by the City in its sole discretion.

The nearest emergency room is located at the Barstow Community Hospital at 555 South 7th Avenue in Barstow. Emergency medical services including ambulance transport and emergency room care are provided by private businesses and usually paid for by the person requiring emergency medical care. With implementation of the conditions of the MSA, as discussed in **Section 5.9**, development of Alternative A would not result in significant adverse effects on fire protection and emergency medical services.

4.9.2 ALTERNATIVE B – BARSTOW REDUCED CASINO- HOTEL COMPLEX

Water Supply

A water and wastewater feasibility study determined that the water demand for Alternative B would be approximately 92 gpm or 132,810 gpd (**Table 2-4**), approximately 34 percent less than Alternative A. Potable water demand estimates are based on the ratio of average water demand to average wastewater flows at similar facilities.

In accordance with Section 8 of the MSA between the Tribe and the City, the Tribe would obtain their potable supply from GSWC. The GSWC wells in the Barstow Customer Service Area have a surplus capacity of approximately 6,591 ac-ft/yr (GSWC, 2005). The Barstow Customer Service Area has adequate capacity for the estimated water demands of Alternative B, which are equivalent to approximately 148 ac-ft/yr. An existing 16-inch-diameter line that runs along the west side of Lenwood Road would be extended from the current termination point and connected to the proposed facilities. As with Alternative A, it is recommended that a fire pump and jockey pump are located on-site to help maintain static pressure. With these pumps, no on-site storage tank would be required. As GSWC has adequate supply, service can be provided to Alternative B without affecting existing customers and without the need to construct improvements to the existing system. Alternative B would not result in adverse effects to municipal water supply systems.

Wastewater Service

Wastewater demand was assessed using square footage and is based on typical values for similar facilities (**Table 2-4**). Alternative B would have an estimated average daily wastewater flow of 118,200 gpd and a peak day wastewater flow of 236,400 gpd. The recommended wastewater treatment capacity to accommodate peak day flow and unusually heavy wastewater flows that may occur during special events would be 250,000 gpd, approximately one third less than Alternative A.

Consistent with Section 7 of the MSA, wastewater service for Alternative B would be provided by the City's WWTP. The WWTP serving the City currently has a treatment capacity of 4.5 mgd. The daily wastewater flow is approximately 2.7 mgd with a peak flow of 3.2 mgd. There is adequate surplus capacity to accommodate peak (0.23 mgd) wastewater flows from Alternative B. The existing 10-inch-diameter sewer line would be extended from the intersection of Lenwood Road and Mercantile Way to the Barstow site. The City's planning department and engineering department would determine if upgrades to sewer truck lines and/or pump stations would be required. In accordance with Section 7 of the MSA between the Tribe and the City, ~~T~~the~~The~~ Tribe would pay the cost of constructing sewer infrastructure, if needed, to serve the project. As the City has adequate wastewater treatment capacity, they could provide service to Alternative B without affecting existing customers. Alternative B would not result in adverse effects on municipal wastewater services.

Solid Waste Service

Construction

Construction of Alternative B would result in a temporary increase in waste generation, to a lesser extent than Alternative A. Since there is no underground parking under Alternative B, there would be no excavated fill material to dispose of at the landfill or offsite locations. The waste stream would consist only of excess construction materials. Waste that cannot be recycled would be disposed of at the Barstow Landfill, which accepts construction/demolition materials. Construction of Alternative B would not result in significant adverse effects on solid waste services.

Operation

The CIWMB has established waste generation rates for the operation of different business types and residences. The rate is expressed as tons per employee per year. Alternative B is anticipated to have 1,038 full-time employees. Amusement and recreation developments are estimated to generate 0.9 tons per employee per year while hotels are estimated to generate 2.1 tons per employee per year (CIWMB, 2007a). As Alternative B would include both gaming and hotel uses, it is anticipated that the estimated amount of solid waste would be between these generation rates or between 934 and 2,179 tons per year (2.5 and 5.9 tons per day, respectively).

In accordance with Section 9 of the MSA, the Tribe would utilize the City's contracted solid waste disposal company. Waste would be hauled to the Barstow Landfill. As with other developments, bins would be provided for recycling. Solid waste from Alternative B would represent approximately 0.13 percent to 0.78 percent of the landfill's current permitted daily intake. When the landfill is expanded, Alternative B would represent approximately 0.16 percent to 0.39 percent of the expected permitted daily intake. Alternative B's projected solid waste generation is considered a small contribution to the waste stream and is not expected to dramatically decrease the life expectancy of the landfill. Alternative B would not affect County diversion goals as tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics (CIWMB, 2007b). Furthermore, as described in **Section 5.3**, a Solid Waste Management Plan (SWMP) shall be adopted by the Tribe that addresses recycling and solid waste reduction on-site. The plan shall have at least a 50 percent diversion goal, which includes reduction, recycling, and reuse measures. Operation of Alternative B would not result in significant adverse effects on solid waste service.

Energy

Consistent with the MSA, electricity for Alternative B would be obtained from SCE, which maintains electrical lines along the northern boundary of the Barstow site. The Tribe would pay a fair share of the upgrades needed to avoid affecting the service of existing customers and any infrastructure necessary to provide service to Alternative B.

Gas service would be provided by Southwest Gas Corporation, which maintains a 4-inch-diameter line along Lenwood Road (Merrell Engineering Company, 2003). This line may need to be upgraded to service Alternative B. The Tribe would pay a fair share of the improvement costs necessary to service the Barstow site. Service to existing customers would not be affected, as the Tribe would coordinate with

Southwest Gas Corporation. Alternative B would not result in significant adverse effects on energy services.

Law Enforcement Services

An analysis of the impact of casino gambling on local crime rates is included in **Section 4.6**. While there is no definitive link between casinos and crime it is anticipated that that the increased concentration of people that Alternative B would bring to the Barstow area would lead to an increase in the number of service calls for local law enforcement.

Impacts to law enforcement may include an increased need for services, including but not limited to 24-hour patrol, response to emergency 911 calls, and general investigation for major crimes. The Barstow site would be served by the City police department. The police department would have the authority to enforce all non-gaming State criminal laws on the proposed trust lands pursuant to Public Law 280 and Section 4 of the MSA. Security presence would deter some crimes and security personnel would work cooperatively with the City Police Department. As with Alternative A, the Tribe would make payments to the City to cover the costs of impacts associated with increased police services, and has agreed to dedicate or arrange for the dedication of two-acres of non-federal land near the project site owned or controlled by the Tribe or Barwest, LLC for fire or police station use. With implementation of the conditions of the MSA, as discussed in **Section 5.9**, development of Alternative B would not result in significant adverse effects on law enforcement services.

Fire Protection and Emergency Medical Services

Construction

During construction, equipment used for grading and construction activities may create sparks which could ignite dry grass. This risk is similar to those that are found at other construction sites. Environmental protection measures like ensuring all dried vegetation is cleared away from staging and building areas where spark-producing equipment would be employed to reduce the potential risk of fire. Development of Alternative B would not result in significant adverse effects on fire protection and emergency medical services during construction. Specific BMPs presented in **Section 5.9** would further reduce adverse effects to fire protection and emergency medical services.

Operation

Alternative B would increase the number of visitors in the area, which would result in the need for increased fire protection and emergency medical services. Most service calls generated from Alternative B would likely be emergency medical assists but could also include structure fires or hazardous materials response. The facilities would be fitted with automatic fire sprinkler systems. Twenty-four-hour surveillance would afford timely detection of fires and early intervention of any fires. A fire pump and jockey pump would be located on-site to help maintain static pressure as recommended by the BFPD.

In accordance with the MSA, the BFPD would provide fire protection and emergency medical services to Alternative B. In accordance with Section 4(B)(1) of the MSA, the Tribe would compensate the City for

the purchase of a fully equipped Emergency Medical Services Response Vehicle which shall be housed at Station 363 for the first two years of resort operations. To respond more effectively to high-rise emergencies at any structure on trust lands between one and four stories, the BFPD has agreed to relocate its ladder fire truck from Station 361 to Station 363 for the first two years of resort operation, as identified in Section 4(B)(2) of the MSA. The BFPD and the City have advised that a ladder truck is not typically used to fight fires on buildings more than four stories in height and that buildings over four stories in height require entry by Fire Department personnel and personal action at the burning site. If a structure exceeding four stories in height is constructed by the Tribe on trust lands, the Tribe has agreed to pay one half of the actual costs of training fire personnel. In Section 4(C) of the MSA, the Tribe has also agreed to dedicate or arrange for the dedication of two-acres of non-federal land near the project site owned or controlled by the Tribe or Barwest, LLC for fire or police station use. This dedicated land will be used by the City to construct new fire and police stations when, and if, deemed necessary by the City in its sole discretion.

The nearest emergency room is the Barstow Community Hospital. Emergency medical services including ambulance transport and emergency room care are provided by private businesses and usually paid for by the person requiring emergency medical care. With implementation of the conditions of the MSA, as discussed in **Section 5.9**, development of Alternative B would not result in significant adverse effects on fire protection and emergency medical services.

4.9.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Water Supply

A water and wastewater feasibility study determined that the water demand for Alternative C would be approximately 7 gpm (**Table 2-6**). Water would be supplied by a new well on the reservation. It is anticipated that groundwater would be encountered at 150 to 350 feet, and would be sufficient to supply the recommended 7 gpm for this alternative. Due to the amount of water used by Alternative C and adequate distance from municipal water systems, development of Alternative C would have no adverse effects on municipal water systems.

Wastewater Service

Wastewater demand for Alternative C was assessed using square footage and is based on typical values for similar facilities (**Table 2-6**). Alternative C would have an estimated average daily wastewater flow of 8,900 gpd and a peak day wastewater flow of 17,800 gpd. The recommended wastewater treatment capacity to accommodate peak day flow and unusually heavy wastewater flows that may occur during special events flows is 20,000 gpd. Since no municipal sewer service is available in the area, the Tribe proposes to construct an on-site membrane bioreactor (MBR) WWTP with a capacity of 20,000 gpd. Tertiary treatment utilizing an MBR would be used, so that the treated wastewater could be recycled. Wastewater would be disposed of through a subsurface disposal system that includes drip irrigation used in landscaping and a disposal area beneath the parking lot. As the Tribe would provide on-site wastewater treatment, development of Alternative C would have no adverse effects on municipal wastewater systems.

Solid Waste Service

Construction

Construction of Alternative C would result in a temporary increase in waste generation. The waste stream would consist of excess construction materials. Waste that cannot be recycled would most likely be disposed of at the Ramona Landfill, which accepts construction/demolition materials. Construction of Alternative C would not result in significant adverse effects on solid waste services.

Operation

The CIWMB has established waste generation rates for the operation of different business types and residences. The rate is expressed as tons per employee per year. Alternative C is anticipated to have 105 employees. Amusement and recreation developments are estimated to generate 0.9 tons per employee per year. The estimated disposal rate from Alternative C is 94.5 tons per year or 0.26 tons per day.

Under this alternative, the Tribe would contract with Ramona Disposal for solid waste collection. Waste is taken to the Ramona Landfill, the Otay Landfill, and the Sycamore Sanitary Landfill. The maximum permitted capacity of the landfills is 295, 5,830, and 3,965 tons per day, respectively. Solid waste from Alternative C would represent approximately 0.005 percent of Ramona Landfill's permitted daily intake, 0.00004 percent of the Otay Landfill's permitted daily intake, and 0.00006 percent of the Sycamore Sanitary landfill's permitted daily intake. As with other developments, bins would be provided for recycling. Alternative C's projected solid waste generation is considered a small contribution to the waste stream and is not expected to dramatically decrease the life expectancy of the landfills used by Ramona Disposal. Alternative C would not affect County diversion goals as tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics (CIWMB, 2007b). Furthermore, as described in **Section 5.3**, a Solid Waste Management Plan (SWMP) shall be adopted by the Tribe that addresses recycling and solid waste reduction on-site. The plan shall have at least a 50 percent diversion goal, which includes reduction, recycling, and reuse measures. Operation of Alternative C would not result in significant adverse effects on solid waste services.

Energy

Electricity would be obtained from San Diego Gas and Electric, which currently supplies the southwest portion of the Reservation. The Tribe would pay a fair share of the upgrades needed to avoid affecting the service of existing customers and any infrastructure necessary to provide service to Alternative C.

There is no natural gas service to the Reservation. Propane, which is distributed locally by several companies, would be utilized at the proposed facilities. The nearest distributors are located in Borrego Springs. Deliveries would be made once or twice per week, depending on the size of the on-site storage tank. Alternative C would not result in significant adverse effects on energy services.

Law Enforcement Services

An analysis of the impact of casino gambling on local crime rates is included in **Section 4.6**. While there is no definitive link between casinos and crime it is anticipated that that the increased concentration of people that Alternative C would bring to the Los Coyotes site would lead to an increase in the number of service calls for local law enforcement.

Impacts to law enforcement may include an increased need for services, including but not limited to 24-hour patrol, response to emergency 911 calls, and general investigation for major crimes. The Los Coyotes site would be served by the San Diego Sheriff's Department, which would have the authority to enforce all non-gaming State criminal laws on the proposed trust lands pursuant to Public Law 280. Security presence would deter some crimes and would work cooperatively with the Sheriff's Department. ~~Additional demands to law enforcement would not be offset by property tax or development fees and thus the Tribe should compensate the Department based on the level of service needed.~~ A development of this size is not likely to produce high equipment or personnel demand however it may affect the existing level of service. As discussed in **Subsection 2.2.3**, the Tribe would be willing to negotiate appropriate compensation to San Diego County for services provided to Alternative C. Mitigation within Section 5.9 would require that the Tribe make a good faith effort to enter into an agreement with San Diego County to address the increased demand on law enforcement services. With mitigation, ~~D~~development of Alternative C would not result in significant adverse effects on law enforcement services.

Fire Protection and Emergency Medical Services

Construction

During construction, equipment used for grading and construction activities may create sparks which could ignite dry grass. This risk is similar to those that are found at other construction sites. Environmental protection measures like ensuring all dried vegetation is cleared away from staging and building areas where spark-producing equipment would be employed to reduce the potential risk of fire. Development of Alternative C would not result in significant adverse effects on fire protection and emergency medical services during construction. Specific BMPs presented in **Section 5.9** would further reduce adverse effects.

Operation

As described in **Section 2.2.3**, all construction associated with Alternative C would be in accordance with the International Building Code, which includes fire prevention criteria. Alternative C would increase the number of visitors in the area, which would result in the need for increased fire protection and emergency medical services. Most service calls generated from Alternative C would likely be emergency medical assists but could also include structure fires, wild land fires or hazardous materials response. The Tribe would receive fire protection and emergency medical services from California Department of Forestry and Fire Protection (CDF) through an existing agreement with the BIA, and Sunshine Summit Volunteers. CDF would provide primary services and is located approximately 10 miles from the Los Coyotes site. Additional demands to fire protection and emergency medical services would not be offset by property tax or development fees. As described in **Section 5.9**, a technical report including a critical incident tasking/staffing analysis shall be conducted to ensure that the appropriate type and number of

equipment and trained personnel are available to provide fire services to the site. ~~t~~The Tribe would negotiate appropriate compensation to ~~CDF~~ San Diego County for services provided to the casino development based on the outcome of this study. A development of this size is not likely to produce high equipment or personnel demand however it may affect the existing level of service.

The nearest emergency room is Palomar Medical Center in Escondido, which is approximately 55 miles from the Los Coyotes site. Emergency medical services including ambulance transport and emergency room care are provided by private businesses and usually paid for by the person requiring emergency medical care. With the implementation of mitigation included in **Section 5.9**, d~~D~~evelopment of Alternative C would not result in significant adverse effects on fire protection and emergency medical services.

4.9.6~~4~~ ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Water Supply

A water and wastewater feasibility study determined that the water demand for Alternative D would be approximately 5 gpm (**Table 2-6**). Water would be supplied by a new well on the reservation. It is anticipated that groundwater would be encountered at 150 to 350 feet, and would be sufficient to supply the recommended 5 gpm for this alternative. Due to the amount of water used by Alternative D and adequate distance from municipal water systems, development of Alternative D would have no adverse effects on municipal water systems.

Wastewater Service

Wastewater demand for Alternative D was assessed using square footage and is based on typical values for similar facilities (**Table 2-6**). Alternative D would have an estimated average daily wastewater flow of 6,400 gpd and a peak day wastewater flow of 9,600 gpd. The recommended wastewater treatment capacity to accommodate flows is 10,000 gpd. Since no municipal sewer service is available in the area, the Tribe proposes to construct an on-site MBR WWTP with a capacity of 10,000 gpd. Tertiary treatment utilizing an MBR would be used, so that the treated wastewater could be recycled. Wastewater would be disposed of through a subsurface disposal system. As the Tribe would provide on-site wastewater treatment, development of Alternative D would have no adverse effects on municipal wastewater systems.

Solid Waste Service

Construction

Construction of a campground at the Los Coyotes site would result in a temporary increase in waste generation. The waste stream would consist of excess construction materials. Waste that cannot be recycled would most likely be disposed of at the Ramona Landfill, which accepts construction/demolition materials. Construction of Alternative D would not result in significant adverse effects on solid waste services.

Operation

The CIWMB has established waste generation rates for the operation of different business types and residences. The rate is expressed as tons per employee per year. Alternative D is anticipated to have 8 employees. Camping developments are estimated to generate 2.1 tons per employee per year. Alternative D has an estimated disposal rate of 16.8 tons per year or 0.05 tons per day.

Under this alternative, the Tribe would contract with Ramona Disposal for solid waste collection. Waste is taken to the Ramona Landfill, the Otay Landfill, and the Sycamore Sanitary Landfill. The maximum permitted capacity of the landfills is 295, 5,830, and 3,965 tons per day, respectively. Solid waste from Alternative D would represent approximately 0.0002 percent of Ramona Landfill's permitted daily intake, 0.000008 percent of the Otay Landfill's permitted daily intake, and 0.00001 percent of the Sycamore Sanitary landfill's permitted daily intake. Alternative D's projected solid waste generation is considered a small contribution to the waste stream and is not expected to dramatically decrease the life expectancy of the landfills used by Ramona Disposal. Alternative D would not affect County diversion goals as tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics (CIWMB, 2007b). Furthermore, as described in **Section 5.3**, a Solid Waste Management Plan (SWMP) shall be adopted by the Tribe that addresses recycling and solid waste reduction on-site. The plan shall have at least a 50 percent diversion goal, which includes reduction, recycling, and reuse measures. Operation of Alternative D would not result in significant adverse effects on solid waste service.

Energy

Electricity would be obtained from San Diego Gas and Electric, which currently supplies the southwest portion of the Reservation. Under this alternative, electricity would be provided to an office and restroom facility. It is anticipated that these facilities could be served by the existing electrical line on the Reservation.

There is no natural gas service to the Reservation. Propane, which is distributed locally by several companies, may be used to provide heat to the office,. The nearest distributors are located in Borrego Springs. Deliveries would be made as needed, depending on the size of the on-site storage tank. The use of propane would not affect municipal natural gas providers. Alternative D would not result in significant adverse effects on energy services.

Law Enforcement Services

Impacts to law enforcement would be minimal but may include increased patrol operations, response to emergency 911 calls, and general investigation for major crimes. The Los Coyotes site would be served by the San Diego Sheriff's Department, which would have the authority to enforce all non-gaming State criminal laws on the proposed trust lands pursuant to Public Law 280. It is anticipated that the Sheriff's Department could provide service to Alternative D with existing personnel and equipment. Alternative D would not result in significant adverse effects on law enforcement services. As discussed in **Subsection 2.2.4**, the Tribe would be willing to negotiate appropriate compensation to San Diego County for services provided to Alternative D.

Fire Protection and Emergency Medical Services

Construction

During construction, equipment used for grading and construction activities may create sparks which could ignite dry grass. This risk is similar to those that are found at other construction sites. Environmental protection measures like ensuring all dried vegetation is cleared away from staging and building areas where spark-producing equipment would be employed to reduce the potential risk of fire. Development of Alternative D would not result in significant adverse effects on fire protection and emergency medical services during construction. The aspects of overall project design and the specific BMPs presented in **Section 5.9** would further reduce adverse effects.

Operation

As described in **Section 2.2.3**, all construction associated with Alternative D would be in accordance with the International Building Code, which includes fire prevention criteria. Alternative D would increase the number of visitors in the area, which could result in the need for increased fire protection and emergency medical services. Most service calls generated from Alternative D would likely be emergency medical assists but could also include structure fires, wild land fires, or hazardous materials response. The Tribe would receive fire protection and emergency medical services from CDF through an existing agreement with the BIA and Sunshine Summit Volunteers. CDF would provide primary services and is located approximately 10 miles from the Los Coyotes site. As described in **Section 5.9**, a technical report including a critical incident tasking/staffing analysis shall be conducted to ensure that the appropriate type and number of equipment and trained personnel are available to provide fire services to the site. ~~t~~The Tribe would negotiate appropriate compensation to ~~CDF~~ San Diego County for services provided to Alternative D. Development of campgrounds is not likely to produce high equipment or personnel demand.

The nearest emergency room is Palomar Medical Center in Escondido, which is approximately 55 miles from the Los Coyotes site. Emergency medical services including ambulance transport and emergency room care are provided by private businesses and usually paid for by the person requiring emergency medical care. Development of Alternative D would not result in significant adverse effects on fire protection and emergency medical services. The aspects of overall project design and recommended measures presented in **Section 5.9** would further reduce adverse effects.

4.9.~~7~~5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.10 NOISE

This section identifies the direct effects to noise that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.10**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.10**.

Assessment Criteria

Adverse noise related effects would occur if implementation would result in a substantial permanent increase in the ambient noise environment, or if construction or operation would result in an increase in ambient noise level at sensitive receptor locations. See **Section 3.10** for a definition of sensitive receptors.

Federal Noise Abatement Criteria

The FHWA establishes Noise Abatement Criteria (NAC) for various land uses which have been categorized based upon activity. Land uses are categorized on the basis of their sensitivity to noise, as indicated in **Table 4.10-1**. **Table 4.10-1** provides standards which may be considered applicable to the project sites and alternatives. The standard for the Barstow site would fall under Activity Category E for exterior land uses, because the nearest sensitive noise receptor is a motel (refer to **Section 3.10**). The Los Coyotes site would fall under Activity Category A, because the land use surrounding the site is rural in nature.

State and Local Noise Standards

The Hazards Element of the City of Barstow's General Plan (General Plan, 1996) provides community noise equivalence level (CNEL) noise standards based on land use types. These noise standards have been incorporated into the City of Barstow Noise Ordinance, which determine noise violations within the City limits. The noise standards provided in the General Plan are derived from the *Guidelines for the Preparation and Content of Noise Elements of the General Plan*, California Department of Health, Office of Noise Control, February 1976. The state and local noise standard for a motel (nearest sensitive noise receptor) is 65 CNEL for the exterior and 45 CNEL for the interior of a motel.

Table 4.10-1

FEDERAL NOISE ABATEMENT CRITERIA HOURLY A-WEIGHTED SOUND LEVEL DECIBELS \1\[1]

Activity Category	Activity Criteria \2\[2] Leq (h), dBA[3]	Evaluation Location	Activity Category Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B \3\[4]	67	Exterior	Residential
C \3\[4]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E \3\[4]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, shipyards, utilities (water resources, water treatment, electricity), and warehousing.
G	--	--	Undeveloped lands that are not permitted

[1] \1\Either Leq(h) or L10(h) (but not both) may be used on a project.
[2] Hourly A-weighted sound level, decibels (dBA).
[3] \2\ The leq() and l10(h) Activity Criteria values are for impacts determination only, and are not design standards for noise abatement measures.
[4] \3\ Includes undeveloped lands permitted for this activity category.
Source: FHWA, 2010.

4.10.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Construction

During the construction phase of Alternative A, noise from construction would dominate the noise environment in the immediate area. Equipment used for construction would generate noise levels as

indicated in **Table 4.10-2**. Maximum noise levels from different types of equipment under different operating conditions could range from 70 to 90 decibels (dBA) at a distance of 50 feet. The most noticeable project-generated construction noise source would be truck traffic associated with transport of heavy materials, equipment, and export of excavated materials. Construction activities would be temporary in nature and would generally occur between the hours of 7:00 am and 6:00 pm. Mitigation is provided in **Section 5.10** which would limit the schedule of construction activities and provide engineering controls to reduce construction noise. Because of the temporary and intermittent nature of construction activities, and distance of major construction activities to the nearest sensitive noise receptor (a motel located approximately 600 feet to the west), with mitigation, Alternative A would not result in significant adverse effects associated with noise due to construction.

TABLE 4.10-2
TYPICAL CONSTRUCTION NOISE LEVELS

Type of Equipment	Maximum Noise Level, dBA at 50 feet
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoes	85
Pneumatic Tools	85
Source: BBA, 2004	

Operation

On-site Noise

Alternative A would result in onsite operational noise, primarily from parking lot activity, use of fans for heating, ventilation, and air conditioning (HVAC), truck loading and unloading, and tour bus idling and parking.

Parking

Noise due to traffic in parking lots is limited by low speeds and is not expected to represent a substantial source of noise. It is typical for a passing car in a parking lot to produce a maximum noise level of 60 to 65 dBA at a distance of 50 feet, which is comparable to the level of a raised voice. Human activity in parking lots can produce noise, including talking, yelling, and the opening and closing of car doors, car alarms, stereos, and trunks. Such activities can occur at any time, but frequently occur in the mid-day and evening peak hours. The noise levels associated with these activities cannot be precisely defined because of variables such as number of parking movements and the time of day.

The parking areas for Alternative A surround the proposed buildings. Maximum noise levels at the nearest noise receptors due to cars moving in the parking lot would range between 40 and 50 dBA. The average noise levels would be lower than the ambient noise level due to the distance to the nearest receptor. The increase in ambient noise level at the nearest sensitive receptor from parking activities would not be audible; thus, no adverse effect would occur.

HVAC

The greatest potential for noise impacts from HVAC equipment would occur if fans or similar equipment were located near sensitive receptors. The HVAC units would be situated on the roof of the facilities, over 600 feet from the nearest receptor, and at that distance would not be audible. Operation of the HVAC system would not result in any adverse effects on the ambient noise level.

Truck Loading and Unloading

Although delivery trucks would be moving at low speeds, engine noise from these trucks has the potential to be audible at nearby sensitive noise receptors. Loading/unloading activities can have an adverse effect if sensitive receptors are in close proximity to delivery trucks serving the proposed facilities. Loading docks would be located adjacent to the facilities, and would be more than 600 feet from the nearest noise-sensitive receptor. Maximum noise levels due to truck movements at the loading docks would be in the range of 48 to 53 dBA, without accounting for the shielding that would be provided by the proposed facilities. The facilities are surrounded by commercial and retail outlets, which receive truck deliveries daily. Noise exposure from deliveries to the facilities would not audibly increase ambient noise level of approximately 45 to 55 dBA. Truck loading and unloading would not result in a significant adverse effect on the ambient noise level.

Tour Buses

The noise level associated with the idling of a modern diesel bus can be as high as 65 dBA at 50 feet. Therefore, tour buses parked and idling on the Barstow site could be an additional source of noise if allowed to idle for long periods adjacent to noise receptors. However, mitigation measure provided in **Section 5.10** would prohibit lengthy idling time.

Tour buses in the parking lot would have a minimal adverse effect on the ambient noise level. Due to the distance of Alternative A to the nearest sensitive receptor, with proposed mitigation development of Alternative A would not result in significant adverse effects related to onsite operational noise.

Off-site Noise

Traffic

The level of traffic noise depends on three things: l) the volume of the traffic, 2) the speed of the traffic, and 3) the number of trucks in the flow of the traffic. It is not anticipated that speed in the vicinity of the project or the mix of trucks in the traffic would change; however, traffic volumes would increase as a result of the project. Because noise is measured on a logarithmic scale, 70 dBA plus 70 dBA does not equal 140 dBA. Instead, two sources of equal noise added together have been found to result in an increase of 3 dBA. Therefore, a doubling of the traffic volume would result in a 3 dBA increase in the ambient noise level, while a tripling of the traffic volume would result in a 5 dBA increase in the ambient noise level (Caltrans, 2009a).

The greatest project related increase in traffic relative to existing levels would occur on Lenwood Road. Other roadways would experience increases in traffic; however, the only noise sensitive receptors in the vicinity of the traffic increases are along Lenwood Road. Alternative A would add an estimated 2,960 daily trips along Lenwood Road from the project site to Outlet Center Drive, which has an existing daily volume of 1,610 vehicles (LLG, 2010). The noise level along Lenwood Road with the additional traffic attributable to Alternative A would increase approximately 4.5 Leq dBA to an ambient level of 69.5 Leq dBA at a distance of 50 feet from the centerline of the roadway (Caltrans, 2009a). Sensitive noise receptors on Lenwood Road consist of one motel located approximately 100 feet south of the roadway centerline. Ambient noise levels as a result of Alternative A traffic on Lenwood Road would not exceed the FHWA exterior noise threshold of 72 Leq, dBA for motel land uses.

Using Caltrans conversion factors, the ambient noise level would be 69.4 CNEL dBA at a distance of 50 feet from the centerline of the roadway (Caltrans, 2009a). Given that the nearest sensitive receptor is located 100 feet from the roadway centerline and traffic noise levels attenuate at a rate of 4 to 6 dBA per doubling of distance, and there is a brick wall surrounding the outdoor recreation area that would further attenuate noise levels, the CNEL at the nearest sensitive receptor would be approximately 64.4 CNEL dBA, which does not exceed the City of Barstow's noise standard of 65 CNEL. Therefore, traffic generated by Alternative A would not exceed the federal, state, or local noise standards. A less than significant adverse effect to the noise environment would occur.

4.10.2 ALTERNATIVE B – BARSTOW REDUCED CASINO- HOTEL COMPLEX

Construction

Construction under Alternative B would be similar to construction under Alternative A. Construction noise impacts could have an adverse effect if construction activities occurred at night; however, mitigation is provided in **Section 5.10** which would limit the schedule of construction activities and provide engineering controls on equipment noise. Because of the temporary and intermittent nature of construction activities and distance of major construction activities to the nearest sensitive noise receptor, with mitigation measures significant adverse effects due to construction of Alternative B would not occur.

Operation

On-site Noise

Alternative B would result in on-site operational noise, primarily from parking lot activity, use of fans for HVAC, truck loading or unloading, and tour bus idling. The onsite operational noise would be similar to Alternative A as land uses would be the same, though to a lesser extent due to the decreased intensity of Alternative B; therefore, significant adverse effects to ambient noise levels due to on-site noise sources would not occur.

Off-site Noise

Traffic

As discussed in Alternative A Lenwood Road would have the greatest increase in the ambient noise level. Alternative B would add estimated 2,140 daily trips along Lenwood Road from the project site to Outlet Center Drive, which has an existing daily volume of 1,610 vehicles (TIA, 2010). The noise level along Lenwood Road with the additional traffic attributable to Alternative B would be 68.7 Leq dBA 50 feet from the centerline of the roadway, an increase of 3.7 Leq dBA (Caltrans, 2009a). Ambient noise levels as a result of Alternative B traffic on Lenwood Road would not exceed the FHWA exterior noise threshold of 72 Leq, dBA for motel land uses.

Using Caltrans conversion factors, the ambient noise level would be 68.6 CNEL dBA at a distance of 50 feet from the centerline of the roadway (Caltrans, 2009a). Given that the nearest sensitive receptor is located 100 feet from the roadway centerline and traffic noise levels attenuate at a rate of 4 to 6 dBA per doubling of distance, and there is a brick wall surrounding the outdoor recreation area that would further attenuate noise levels, the CNEL at the nearest sensitive receptor would be approximately 63.6 CNEL dBA, which does not exceed the City of Barstow's noise standard of 65 CNEL. Therefore, traffic generated by Alternative B would not exceed the federal, state, or local noise standards. A less than significant adverse effect to the noise environment would occur.

4.10.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Construction

During the construction phase of Alternative C, noise from construction would dominate the noise environment in the immediate area. Equipment used for construction would generate noise levels as indicated in **Table 4.10-2**. Maximum noise levels from different types of equipment under different operating conditions could range from 70 to 90 dBA at a distance of 50 feet. The most noticeable project-generated construction noise source would be truck traffic associated with transport of heavy materials and equipment. Construction activities would be temporary in nature, typically occurring between the hours of 7:00 am and 6:00 pm. Because of the temporary nature of construction and the isolation of the project site, significant adverse effects on the ambient noise level would not occur.

Operation

On-site Noise

Alternative C would result in onsite operational noise, primarily from parking lot activity, use of fans for HVAC, truck loading or unloading areas, and tour bus parking.

Parking

Parking lot noise, including vehicle traffic and human activity, for Alternative C would be similar to Alternatives A. The parking areas for Alternative C surround the proposed facilities. There are no noise-

sensitive receptors within two miles of the project site. Significant adverse effects to the ambient noise level would not occur with the implementation of Alternative C.

HVAC

The greatest potential for noise impacts from HVAC equipment would occur if fans or similar equipment were located near sensitive receptors. The casino would be equipped with roof-mounted HVAC units. These would be located near the casino, which would be located at least two miles from the nearest noise receptor. There would be a minimal adverse effect to the ambient noise level with the implementation of Alternative C.

Truck Loading and Unloading

Although delivery trucks would be moving at low speeds, engine noise could be audible to people nearby. Loading/unloading activities can have an adverse effect if sensitive receptors are in close proximity to delivery trucks serving the proposed facilities. Loading docks would be located adjacent to the casino building, at least two miles from the nearest noise-sensitive receptors; therefore, loading dock noise would not be audible at the nearest noise-sensitive receptor. Significant adverse effects to the ambient noise level would not occur with the implementation of Alternative C.

Tour Buses

The noise level associated with the idling of a modern diesel bus can be as high as 65 dBA at 50 feet. Therefore, tour buses parked on the Los Coyotes site could be a source of noise if allowed to idle for long periods, causing noise levels to exceed normally acceptable limits. However, the nearest sensitive receptor is at least two miles away from the parking lot. The onsite operational noise would not be considered a significant adverse effect, due to the distance to the nearest sensitive receptor.

Off-site Noise

Traffic

Operation of the gaming facility would result in vehicle traffic to and from the Los Coyotes site. As identified in the TIA, vehicles would enter the site via Camino San Ignacio Road (**Appendix H** of the Draft EIS/TEIR). Camino San Ignacio Road connects directly to SR-79, which is the closest state highway to the project site. The closest ~~nearby~~ noise sensitive receptors are residences located ~~two miles~~approximately 50 feet from ~~the development area~~Camino San Ignacio Road. Noise levels due to increased traffic volumes have the potential to increase the ambient noise level in the vicinity of roadways. The greatest volume of traffic generated by Alternative C is on Camino San Ignacio Road (TIA, **Appendix H** of the Draft EIS/TEIR). Given the rural nature of the project vicinity, the ambient noise level is estimated to be 45 dBA (refer to **Section 3.10.3**, Los Coyotes Site). The existing volume of traffic on Camino San Ignacio Road near SR-76 is approximately 47 vehicles per peak-hour (TIA, **Appendix H** of the Draft EIS/TEIR). Project related traffic would approximately triple the existing traffic volume along Camino San Ignacio Road to 146 vehicles per hour; thus, increasing the ambient noise level by 5 dBA to 50 dBA (Caltrans, 2009). The ambient noise level as a result of Alternative C traffic on Camino San Ignacio Road would not exceed the FHWA exterior noise threshold of 67 Leq,

dBA for residential land uses. ~~At that distance, the increased traffic noise from vehicles arriving at the gaming facility would be negligible.~~ The project traffic would not have a significant adverse effect on the ambient noise level.

4.10.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Due to the isolated area of the Los Coyotes site, as well as the minimal construction requirements and low traffic volume associated with the development of a reservation campground, development of Alternative D noise emitting sources would be limited to human interaction and equipment, such as stereos and other noises associated with human gatherings. Noise associated with increased traffic on Camino San Ignacio Road would be less than would occur under Alternative C due to Alternative D generating less traffic. Implementation of Alternative D would not result in significant adverse effects to the surrounding ambient noise environment.

4.10.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.11 HAZARDOUS MATERIALS

This section identifies the direct effects to hazardous materials that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.11**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.11**.

Assessment Criteria

Adverse effects regarding hazardous materials management would occur if construction and operation would result in hazardous materials exposures to the population at large, increase the potential for hazardous materials incidents, or result in the release of hazardous materials to the environment.

4.11.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Construction

There is no known hazardous materials contamination on the project site. The possibility exists that undiscovered contaminated soil and/or groundwater exist on the site. Although not anticipated, construction staff could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. The unanticipated discovery of contaminated soil and/or groundwater could have an adverse effect. The recommended measures presented in **Section 5.11** would further minimize or eliminate adverse effects.

During grading and construction the use of hazardous materials would include substances such as gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. These materials would be used for the operation and maintenance of equipment, and directly in the construction of the facilities. Fueling and oiling of construction equipment would be performed daily. The most likely hazardous materials releases would consist of fuels, oil, and grease dripping from construction equipment. The small quantities of fuel, oil, and grease that could drip from construction equipment usually occur in relatively low toxicity and concentration. Typical construction Best Management Practices (BMPs) limit and often eliminate the effect of such accidental releases. Specific BMPs presented in **Section 5.11** would minimize the risk of inadvertent release and, in the event of a contingency, minimize adverse effects. With these measures, Alternative A would not result in significant adverse effects associated with hazardous materials during construction.

Operation

As described in **Chapter 2.0**, diesel fuel storage tanks would be needed for the operation of emergency generators at the casinos and fire pumps at the hotels. Fuel tanks would be housed above ground within the individual generator units. The storage tanks would have double walls with integrated leak detection systems. If a leak were to occur within the inner tank, the outer tank would contain the leak, while a pressure sensor would signal the leak on the indicator panel of the generator unit. Generator units would

be monitored by security personnel who would be on site at all times and trained in emergency response procedures. The generators would be located in areas easily accessed by maintenance and emergency personnel, near the service entrance/loading docks. These self-contained diesel fuel storage tanks would reduce the likelihood of release of a hazardous material.

During operation of the proposed facilities, the majority of waste produced would be non-hazardous. The small quantities of hazardous materials that would be utilized would include motor oil, hydraulic fluid, solvents, cleaners, lubricants, paint, and paint thinner. These materials would be utilized for the operation and maintenance of the casino, emergency generators, and other project facilities. The amount and type of hazardous materials that would be generated are common to commercial sites and do not pose unusual storage, handling, or disposal issues. Materials would be stored, handled, or disposed of according to state, federal, and manufacturer's guidelines.

As discussed in **Chapter 2.0**, BMPs have been incorporated into the project design to reduce the potential for inadvertent release of hazardous materials. The specific BMPs presented in **Section 5.11** would minimize the risk of inadvertent release and, in the event of a contingency, minimize adverse effects.

4.11.2 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

Construction

There is no known hazardous materials contamination on the project site. The possibility exists that undiscovered contaminated soil and/or groundwater exist on the site. Although not anticipated, construction staff could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. The unanticipated discovery of contaminated soil and/or groundwater could have an adverse effect. The recommended measures presented in **Section 5.11** would further minimize or eliminate adverse effects.

The amount and type of hazardous materials that would be stored, used, and generated during the construction of Alternative B are the same as those described under Alternative A. As discussed in **Subsection 4.11.1** above, BMPs for the storage and handling of hazardous materials are provided in **Section 5.11**. Adherence to these BMPs would minimize the risk of inadvertent release and, in the event of a contingency, minimize adverse effects. With these measures, Alternative B would not result in significant adverse effects associated with hazardous materials during construction.

Operation

The amount and type of hazardous materials that would be stored, used, and generated during operation of Alternative B are the same as those described under Alternative A. Refer to **Subsection 4.11.1**.

As discussed in **Subsection 4.11.1** above, BMPs have been incorporated into the project design to reduce the potential for inadvertent release of hazardous materials. The specific BMPs presented in **Section 5.11** would minimize the risk of inadvertent release and, in the event of a contingency, minimize adverse effects.

4.11.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Construction

There is no known hazardous materials contamination on the project site. The possibility exists that undiscovered contaminated soil and/or groundwater exist on the site. Although not anticipated, construction staff could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. The unanticipated discovery of contaminated soil and/or groundwater could have an adverse effect. The recommended measures presented in **Section 5.11** would minimize or eliminate adverse effects.

Hazardous materials used during construction would be similar to those described under Alternative A, although on a smaller scale due to the reduced size of this alternative. Refer to the discussion under **Subsection 4.11.1**.

Operation

The onsite wastewater treatment plant would require the delivery, storage, and use of hazardous materials, particularly the use of sodium hypochlorite (HSe, 2007). Sodium hypochlorite (bleach) is used in wastewater treatment, in household laundry detergents, and in photochemical and pulp and paper industries. Sodium hypochlorite ingestion can cause severe gastrointestinal corrosion. Inhalation can cause pulmonary edema. For the wastewater treatment plant, a weak (five percent strength) solution of sodium hypochlorite would be used to clean or inhibit biogrowth in the immersed membranes used to filter out solids. Sodium hypochlorite would be stored in a 55-gallon drum, within a chemical spill containment area inside the wastewater treatment plant building. The sodium hypochlorite would be pumped directly to a chemical dip tank when required for use.

Diesel fuel storage tanks would be needed for the operation of emergency generators at the casino. These tanks would be operated and maintained in a similar fashion to those for Alternative A. Refer to the diesel fuel storage tanks discussion under **Subsection 4.11.1**.

Hazardous materials that would be stored, used, and generated during operation of Alternative C would be similar to those described under Alternative A, although on a smaller scale due to the reduced size of this alternative. Refer to **Subsection 4.11.1**.

As discussed in **Subsection 4.11.1** above, BMPs have been incorporated into the project design to reduce the potential for inadvertent release of hazardous materials. The specific BMPs presented in **Section 5.11** would minimize the risk of inadvertent release and, in the event of a contingency, minimize adverse effects.

4.11.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Construction

There is no known hazardous materials contamination on the project site. The possibility exists that undiscovered contaminated soil and/or groundwater exists on the Alternative D site. Although not

anticipated, construction staff could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. The unanticipated discovery of contaminated soil and/or groundwater could have an adverse effect. The recommended measures presented in **Section 5.11** would further minimize or eliminate adverse effects.

Hazardous materials used during construction would be similar to those described under Alternative A, although on a smaller scale due to the reduced size and decreased intensity of this alternative. Refer to the hazardous materials discussion under **Subsection 4.11.1**.

Operation

The onsite wastewater treatment plant would be operated in a similar fashion to the one for Alternative C. Refer to the wastewater treatment discussion under **Subsection 4.11.3**.

Hazardous materials that would be stored, used, and generated during operation of Alternative D would be similar to those described under Alternative A, although on a smaller scale due to the reduced size of this alternative. Refer to **Subsection 4.11.1**.

As discussed in **Subsection 4.11.1** above, BMPs have been incorporated into the project design to reduce the potential for inadvertent release of hazardous materials. The specific BMPs presented in **Section 5.11** would minimize the risk of inadvertent release and, in the event of a contingency, minimize adverse effects.

4.11.5 -ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.12 AESTHETICS

This section identifies the direct effects associated with aesthetics that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.12**. Cumulative and indirect effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.12**.

Assessment Criteria

Adverse effects to local and regional aesthetic values would occur if implementation would result in the inability for adjacent parcels to comply with local policies, degrade or diminish the aesthetics of visual resources such as scenic vistas, or introduce lighting that would substantially increase nighttime lighting in the area of existing conditions.

4.12.1 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

Local Plans and Ordinances

According to the Municipal Services Agreement (MSA) between the City of Barstow and the Tribe, the Tribe shall adopt building standards and codes no less stringent than those adopted by the City. Development of Alternative A would generally conform to the guidelines contained in the Lenwood Specific Plan, as mandated by the MSA. Landscaping would be consistent with the climate and surroundings of the project area. Light fixtures would not extend above the roofline of the taller buildings, and the lighting would be designed to confine direct rays to the premises. Signage associated with Alternative A would be architecturally compatible with the buildings, and would be of appropriate size and content, in accordance with the guidelines set forth in the Lenwood Specific Plan. Development of Alternative A will be generally consistent with local plans and ordinances.

Visual Resources

An architectural rendering is provided as **Figure 2-5**. The development of Alternative A amidst the combination of commercial uses and undeveloped desert lands in the vicinity of the Barstow site would represent a change to the viewshed, and would be visible from several vantage points. The existing commercial/industrial development would serve to reduce the intensity of Alternative A's visual impact on the area, and as described above, the hotel and casino complex would be designed to create positive visual effects. Alternative A has been designed to avoid architectural features that may be especially incompatible with a non-urban setting. No local or state-designated scenic corridors would be affected by the implementation of Alternative A. Development of Alternative A would not result in significant adverse effects on visual resources.

SHADOW, LIGHT, AND GLARE

The existing commercial/industrial development adjacent to the site is a substantial source of light in the project area. Therefore, new lighting proposed under Alternative A would not result in significant adverse effects on shadow, light, and glare. Project design and recommended measures presented in **Section 5.12** would further minimize identified adverse effects.

4.12.2 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

Local Plans and Ordinances

As indicated under Alternative A, above, development of Alternative B would generally conform to the guidelines contained in the Lenwood Specific Plan.

Visual Resources

As with Alternative A, the existing commercial/industrial development would serve to reduce the intensity of Alternative B's visual impact on the area. Development of Alternative B would not have a significant adverse effect on visual resources.

Shadow, Light, and Glare

Potential adverse effects associated with shadow, light, and glare from Alternative B would be similar to Alternative A. Project design and recommended measures presented in **Section 5.12** would further minimize or eliminate all identified adverse effects.

4.12.3 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

Local Plans and Ordinances

Because aesthetic matters at the Los Coyotes site are under the jurisdiction of the Los Coyotes Tribal Council, development of Alternative C would have no adverse effects relating to local plans and ordinances.

Visual Resources

The development of Alternative C on the Los Coyotes site would represent a change to the viewshed. The only views of the casino would be from within the Los Coyotes Reservation. The casino would not be visible from other locations. No adverse effects to visual resources would occur.

Shadow, Light, and Glare

Alternative C would add a new source of light to the area, constituting moderate adverse effects on shadow, light, and glare. The aspects of overall project design and recommended measures presented in **Section 5.12** would further reduce identified adverse effects.

4.12.4 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

Local Plans and Ordinances

Because aesthetic matters at the Los Coyotes site are under the jurisdiction of the Los Coyotes Tribal Council, development of Alternative D would have no adverse effects relating to local plans and ordinances.

Visual Resources

The development of Alternative D on the Los Coyotes site would represent a change to the viewshed. The only views of the campground would be from within the Los Coyotes Reservation. The campground would not be visible from other locations. No adverse effects to visual resources would occur.

Shadow, Light, and Glare

Alternative D would add a new source of light to the area; however, the amount of light generated by the campground would be considerably less than for Alternative C. Alternative D would not result in significant adverse effects on shadow, light, and glare. The aspects of overall project design and recommended measures presented in **Section 5.12** would further minimize or eliminate all identified adverse effects.

4.12.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, a change in the current land use of the Barstow and Los Coyotes sites is not reasonably foreseeable. None of the potentially adverse effects identified for Alternatives A through D are anticipated to occur.

4.13 CUMULATIVE EFFECTS

4.13.1 INTRODUCTION

Cumulative effects are defined as effects to the environment resulting from the incremental effect of the Proposed Action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR §1508.7).

A cumulative effects analysis broadens the scope of analysis to include effects beyond those attributable solely to the implementation of the alternatives. The purpose of the cumulative effects analysis, as stated by the Council on Environmental Quality (CEQ) "is to ensure that federal decisions consider the full range of consequences" (CEQ, 1997a:3). The process of analyzing cumulative effects, or impacts, requires consideration of cumulative effects issues in each of the traditional components of the Environmental Impact Statement (EIS), including scoping, describing the affected environment, and determining environmental consequences. The incorporation of cumulative effects analysis also aids in the development of alternatives and appropriate mitigation measures.

The analysis in this section considers the incremental effects of the project alternatives on specific resources, ecosystems, and human communities that could occur in conjunction with other reasonably foreseeable actions, projects, and trends. As recommended by CEQ's *Considering Cumulative Effects,* only those potential cumulative effects that are considered to be relevant or consequential have been discussed in depth (CEQ, 1997a:12).

4.13.2 ALTERNATIVE A – BARSTOW CASINO-HOTEL COMPLEX

List of Potentially Cumulative Actions and Projects

Table 4.13-1 provides a list of the major development projects within the vicinity of the Barstow site that are under construction or reasonably foreseeable at the time of analysis. These projects were determined based on consultation with local government agencies, including the City of Barstow. **Figure 4.13-1** identifies the locations of these development projects in relation to the project site. The proposals total 4990 development units (du) and 1748.1 thousand square feet (ksf) of development.

Land Resources

The principal effects to land resources associated with countywide development would be localized topographical changes and soil attrition. Topographic changes may be cumulatively significant if the topography contributes significantly to the environmental quality with respect to drainage, habitat, or other values. Soil loss could be cumulatively considerable if the project alone would not result in significant loss of topsoil, but taken together with all other developments may result in significant depletion of available soils. Local permitting requirements for construction would address regional geotechnical and topographic conflicts, seismic hazards, and resource extraction availability. It is anticipated that approved developments will follow appropriate permitting procedures. As discussed in

TABLE 4.13-1
CUMULATIVE DEVELOPMENT IN BARSTOW

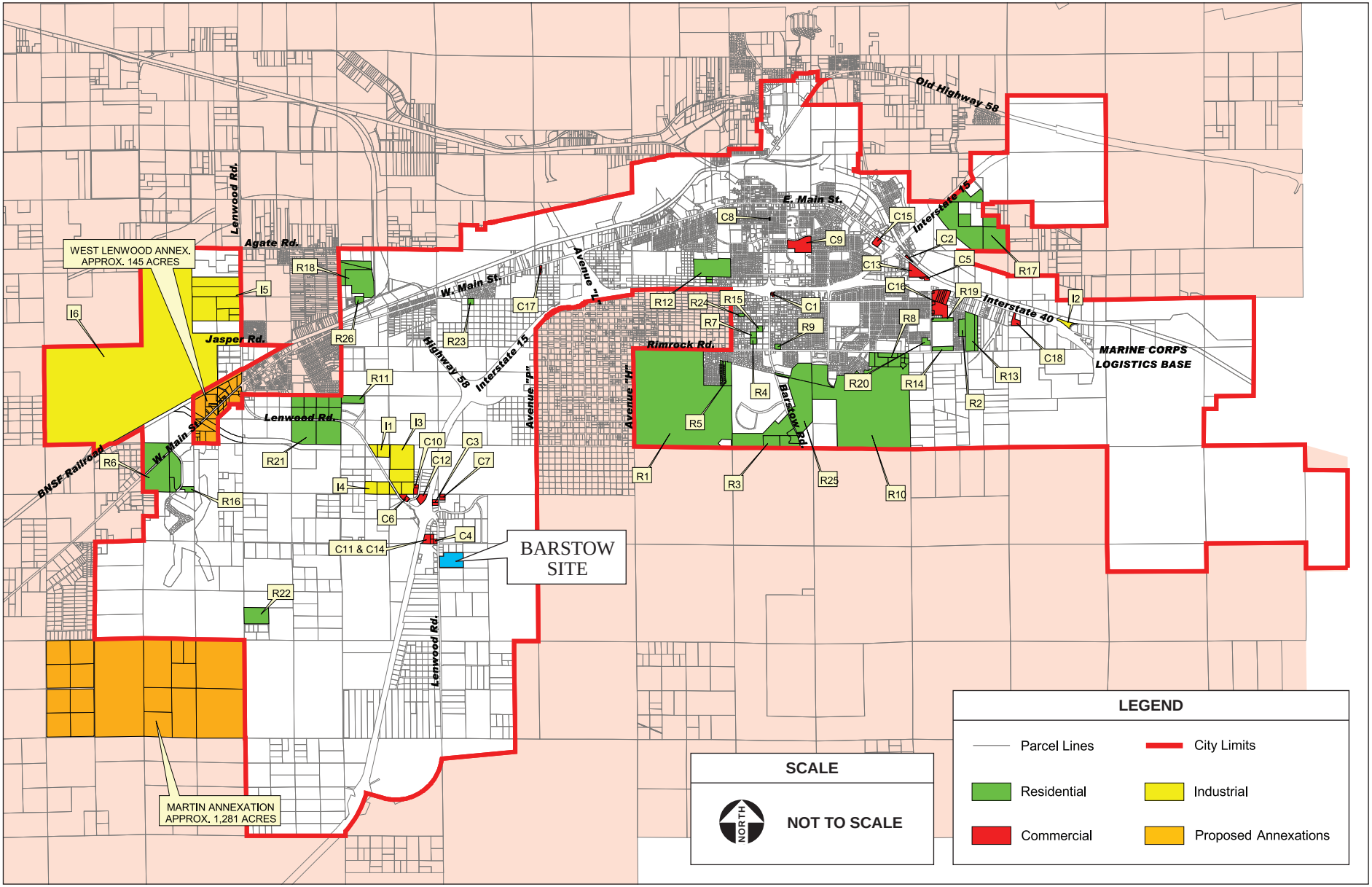
Index #	Development Proponent	Description	Total Development Units (DU)	Total Square Footage (SF)
R1	*Rimrock Ranch Specific Plan*	This 557-acre subdivision proposes to revise the Rimrock Specific Plan to allow for an increase from the approved maximum of 1,450 dwelling units to a maximum of 1,850 dwelling units. Within this proposal is the request for approval of approximately 360 single family units on approximately 557.64 acres. This development would be located east of Avenue "H," south of Rimrock Road, west of Agrita Avenue, and north of the City Limits.	1,850 DU	--
R2	*MGM Development*	This 7.75-acre proposal would develop approximately 44 single-family residential units. The development would be located south of Amory Road, north of Rimrock Road, east of Arbor Way and along the northerly extension of Granada Hills Avenue.	44 DU	--
R3	*A & A Surveying & Mapping/CF Properties*	This 76.64-acre proposal would develop approximately 20 acres into single- and multi-family residential units, with the balance a solar field. The development would be located west of Barstow Road, north of the City Limits, east of Agrita Avenue, and south of the Barstow Community College.	279 DU	--
R4	*Mark A. Nourse*	This 2.5-acre proposal would develop approximately 10 residential units. The development would be located along the south side of Cypress Street between Pine Avenue and Buckthorn Drive.	10 DU	--
R5	*The Highlands*	This 18.25-acre proposal would develop approximately 71 single-family residential units. The development would be located west of Agarita Avenue, east of Garnet Avenue, and south of Rimrock Road.	21 DU	--
R6	*Robert Merrit*	This 36.62-acre proposal would develop multi-family residential development, a condominium, and rental apartment subdivision of a planned seniors' community at the southwest and northwest corners of West Main Street and Country Club Drive		
R7	*Tim McCandless*	This 0.26-acre proposal would develop approximately 10 single-family residential units. The development would be located north of Cypress Street, east of Pine Avenue, and west of Buckthorn Drive.	10 DU	--
R8	*Rimrock Associates*	This 40.02-acre proposal would develop approximately 154 lots from five parcels for future single-family residential development. The development would be located south of Rimrock Road and west of the City Limits.	154 DU	--
R9	*Mark Heldreth*	This 2.13-acre proposal would develop approximately 8 single-family residential units. The development would be located at 561 Rimrock Road.	8 DU	--
R10	*Century Village*	This 478.79-acre proposal would develop approximately 450 residential units. The development would be located south of Zion Drive, east of Monterey Avenue, west of Opal Avenue, and north of Veterans Parkway.	450 DU	--

Index #	Development Proponent	Description	Total Development Units (DU)	Total Square Footage (SF)
R11	*Lynn Potter and Dianna Powell*	This 12.04-acre proposal would construct 29 single-family residential units. The development would be located north of Tortoise Road and west of Industrial Way. Proposed solar field may replace 24 proposed single-family residences.	29 DU	--
R12	*Corman-Leigh Communities, Inc.*	This 46.11-acre proposal would develop approximately 178 single-family residential units. The development would be located west of Mount Vernon Avenue, south of Thomson Elementary School, Henderson Elementary School, and north of Interstate 15.	178 DU	--
R13	*Desert Skys, LLC and Sun Ridge CA, LLC*	This 31.23-acre proposal would develop approximately 133 single-family residential units. The development would be located north of Rimrock Road, south of Armory Road, and east of Granada Hill Avenue.	133 DU	--
R14	*Reigel Properties*	This 5.26-acre proposal would add 45 spaces to an existing mobile home park. The development is located south of 701 Montara Road, west of Arbor Way, and north of Rimrock Road.	45 DU	--
R15	*Project Properties Number One, LLC*	This 2.5-acre proposal would develop approximately 11 single-family residential units. The development would be located south of Windy Pass, east of Buckthorn Avenue, west of Wisteria Avenue, and north of Cypress Street.	11 DU	--
R16	*Merrell-Johnson Engineering for Dennis Rasmussen*	This 3.86-acre proposal would develop 12 single-family residential units. The development would be located east of Country Club Drive, south of Sweeten Lane, and west of Gerrymander Road.	12 DU	--
R17	*Pacific Holt Corporation*	This 150.55-acre proposal would develop a 301 single-family residential subdivision. The development would be located south of Soapmine Road, west of Webster Road, east of Interstate 15, and north of the Mojave River.	301 DU	--
R18	*Stephen A Carter for Hillcrest Development*	This 68-86-acre proposal would develop 219 single-family residential units. The development would be located west of Jasper Road, east of Cedar Road, and south of Agate Road.	219 DU	--
R19	*Global Premier Development/AMG for Nouri Shahram*	This 4.97-acre proposal would develop a 73-unit apartment complex. The development would be located east of Montara Road and south of Armory Road. (Calico Apartments)	73 DU	--
R20	*Global Premier Development/AMG for Hank & Shirley Barto*	This 3.7-acre proposal would develop a 73-unit apartment complex. The development would be located west of Montara Road and north of Rimrock Road.	73 DU	--
R21	*Cambridge Homes, Inc. for Dora Land*	This 156-acre proposal would amend the Lenwood Specific Plan to allow for residential development. The development would be located west of Tortoise Road, north of San Bernardino County Flood Control Channel, south of 4th Street and east of Elizabeth Street.	456 DU	--

Index #	Development Proponent	Description	Total Development Units (DU)	Total Square Footage (SF)
R22	*Hall & Foreman Inc. for Nehemas Imperio et. Al.*	Subdivide one 26.7-acre parcel into four lots (for ownership purposes only – no development is proposed at this time). The parcel is located east of Melody Avenue, west of Cynthia Avenue, and north of Daniels Road	--	--
R23	*Project Property Number One*	Subdivide one 2.5 acre parcel into four lots. No development is proposed at this time. The parcel is at the southeast corner of Norwich Avenue and the logical extension of Woodhill Avenue.	--	--
R24	*Adrian Rodriguez*	Subdivide one 1.25 acre parcel into 3 lots. No development is proposed at this time. The parcel is on 1110 Madrona Drive	--	--
R25	*Harrison Development*	This 83-acre proposal would revise the General Plan land use designation of the project parcels from Neighborhood Residential (RN) and Neighborhood Residential/Specific Plan (RN/SP) to RN and Mixed Use (MU), to revise the zoning designation from Mixed Land Use (MU) to Single-Family Residential (RS-6) and MU. The proposal would also develop approximately 379 single-family residential units.	379 DU	--
R26	*Barstonian Apartments*	Expansion of an existing 96 unit apartment complex on a 4.07-acre parcel by an additional 60 units. The complex is located at 3325 Jasper Road north of Jasper Road and west of Citrine Road	60 DU	--
C1	*Anil Mohan*	This 0.91-acre proposal would develop a fast food restaurant with two drive through-lanes. The development would be located at Barstow Road and Deseret Avenue, south of Interstate 15.	--	3 KSF
C3	*Khurshid Chohan and Ashka Patel/Imran Patel*	This 2.12-acre proposal would develop an approximately 103-room hotel. The development would be located at 2600 Fisher Boulevard. (La Quinta Hotel)	103 DU	53.5 KSF
C4	*Ino Cruz and Larry Webster*	This proposal would develop two drive-through restaurants on an existing 2.97 acre parcel with an existing auto service center, gas station, convenience store, and car wash. The parcel is located at the northwest corner of Lenwood Road and Tanger Way.	--	5.8 KSF
C5	*HCP Engineering/DKN Hotels*	This proposal would construct one additional porte-cochere at an existing motel on a 1.68 acre parcel at 1984 East Main Street	--	--
C6	*Dan Plies*	This proposal would expand the existing gas station on the 1.1-acre parcel at 2596 Commerce Parkway to include a truck stop.	--	10.3 KSF

Index #	Development Proponent	Description	Total Development Units (DU)	Total Square Footage (SF)
C8	*Anthony Leonard*	This 0.30-acre proposal would develop a six unit office building. The development would be located at 307 Barstow Road.	--	6.4 KSF
C9	*Barstow Community Hospital*	This 19.7-acre proposal would develop a new hospital with a total of 118,400 square feet at buildout. The development would be located on the south side of East Mountain View Street and along the east side of South Seventh Street.	--	118.4 KSF
C10	*Dan Plies*	This 3.3-acre proposal would develop a 92-unit hotel. The development would be located at 2550 Commerce Parkway.	92 DU	58.5 KSF
C13	*KO Architects for TT Group, Inc.*	This proposal would demolish a portion of an existing mall to build a new 6.700 square foot retail building and renovate the existing buildings on the 13.74-acre parcel at 1876 E. Main Street. This would be a net reduction in square footage.	--	-15 KSF
C15	*JWDA Architect & May Garden and Associates, LLC*	This proposal would develop a new fast food restaurant (Yoshinoya's Drive-Thru Restaurant) with drive through. The development would be located at 1520 E. Main Street.	--	2.9 KSF
C16	*Walmart Real Estate Business Trust*	This proposal would subdivide 10 parcels into 9 different lots, a total of 28.23 acres, and expand an existing structure by 86,000 square feet.	--	86 KSF
C17	*Vito Valenti, III*	This proposal would expand the Barstow Motorcycle Center on the 1.1 acre parcel at 2380 West Main Street at LaVerne Avenue from 6,200 square feet to 13,496 square feet	--	7.3 KSF
C18	*Wayne & Diane Francis /Interstate Fleet Service*	This 4.25-acre proposal would develop a towing, storage, and impound yard with truck, automobile, and RV repair and sales, with a small proposal filling station and outside wash bay. The development would be located at 2460 E. Main Street.	--	10.8 KSF
I1	*Robert Gonzales*	This 18.16 acre proposal would allow for the phased construction of a facility that would manufacture and sell block, pavers, concrete products, and building services. The development would be located at 2995 Lenwood Road.	--	15.2 KSF
I2	*Rock Service Products*	This proposal would subdivide one 3.65 acre parcel into two lots north of Interstate 40 and south of the Burlington Northern/Santa Fe railroad right-of-way	--	--
I3	*Michael Gilman*	This 51-acre proposal would expand an existing truck terminal to include cold storage. The development proposes 66,963 SF of warehouse uses, and 18,038 SF of office uses at 2951 Lenwood Road (Old Yellow Freight Building)	--	85 KSF
I5	*Walmart Stores East c/o Lynn McAlexander Agent: GSNT c/o Robert Ritter, Esq.*	This 142-acre proposal would adopt the West Barstow Specific Plan #4 to develop a Walmart Distribution Center. The development would be located west of Lenwood Road, north of Jasper Road, and south of Agate Road.	--	900 KSF

Index #	Development Proponent	Description	Total Development Units (DU)	Total Square Footage (SF)
I8	*Master Planned Barstow Industrial Park*	This 1,185-acre proposal would require a General Plan Amendment and zone change to establish a Specific Plan for a Master Planned Industrial Park. The development would be located west of Lenwood Road and north of the Santa Fe Rail Lines.	Not Yet Established	400 KSF
Source: City of Barstow, 2010; AES, 2010				



SOURCE: City of Barstow, 8/1/2009; AES, 2011

Figure 4.13-1
Cumulative Development Projects

Section 5.0, the Tribe has agreed to enact laws applicable to the trust lands and shall require that all tribal development projects on the trust lands shall be used and developed in a manner that is consistent with the Barstow Municipal Code in effect at the time of any project development. In addition, the project must comply with the requirements of the Construction Stormwater General Permit, which requires BMPs be chosen and implemented to address water quality degradation by preventing erosion, as outlined in **Section 5.2**. Therefore, implementation of Alternative A would not result in significant adverse cumulative effects to land resources.

Water Resources

Surface Water and Flooding

Cumulative effects to surface water may take place as a result of increased stormwater flows from additional impervious surfaces constructed within the area. Approved projects in the vicinity of Alternative A would be required to follow the City of Barstow's General Plan (General Plan) policies and municipal code provisions. Specifically, projects would comply with the provisions of Section VI.8 Storm Drainage, which includes evaluating the impacts of all new development and expansion projects on storm runoff and requiring developers to pay the costs of any necessary upgrades to existing drainage facilities. As discussed in **Subsection 2.2.1**, drainage facilities have been incorporated into the project design to detain the increase in runoff on-site, maintaining the pre-development runoff rate to the Lenwood wash and minimizing impacts to site drainage from changes in topography. Therefore, development of Alternative A would not result in adverse cumulative effects on surface water features.

Additional development in combination with Alternative A could result in cumulative adverse effects to floodplain management if structures were to impede floodways or raise flood elevations. Approved projects would be required to follow the municipal code, Title 15 of which requires development permits within special flood hazard areas (see **Section 3.2**) and special construction provisions that would require that encroachments within special flood areas would not result in any increase in flood levels or impede floodplain management. Additionally, approved projects would be required to pay flood control channel development fees. Development of Alternative A would not result in significant adverse cumulative effects to floodplain management.

Groundwater

Groundwater effects of individual developments could result in cumulative adverse effects if the total water demand of approved projects, including Alternative A, exceeds pumping capacity of groundwater wells. It is assumed that approved projects in the vicinity of Alternative A would meet water demand through connection with the Golden State Water Company. Local projects would abide by Section II.1, Water Resources, of the City's General Plan, which requires new development and expansion projects outside of existing service areas to purchase additional water supplies to offset the potential burden to the existing system. Additional water would be provided by the California State Water Project and would offset the need for additional groundwater use. Alternative A would not result in significant adverse cumulative effects on groundwater resources.

Water Quality

Concurrent construction of Alternative A and other relevant projects identified above could result in temporary cumulative effects to water quality. Construction activities could result in erosion and sediment discharge to surface waters, potentially effecting water quality in downstream water bodies. In addition, construction equipment and materials have the potential to leak, thereby discharging oils, greases, and construction supplies into stormwater, potentially affecting both surface water and groundwater. To mitigate potential adverse effects, approved developments would be required to implement erosion control measures and construction BMPs via a site-specific SWPPP in compliance with the State of California General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). With the implementation of measures identified in **Section 5.2**, Alternative A would not result in adverse cumulative effects on water quality.

Air Quality

Air Pollutant Trends

Cumulative air quality effects are assessed by comparing the incremental emissions associated with Alternative A to San Bernardino County-wide emissions forecasted by the California Air Resources Board (CARB) for long-term cumulative conditions (2020, the farthest planning horizon for county-wide emission forecasts). The County's emissions trends from 1975 to 2020 are presented in **Table 4.13-2**.

Ozone precursors (ROG and NO_X) had a small jump between 1975 and 1990. Since 1990 emissions have decreased consistently and are projected to decrease further in the future. PM_{10} emissions increased slightly from 1975 to 1990, only to drop off in 1995; however, PM_{10} emissions are projected to increase slightly over the next 25 years. The three pollutants discussed above are governed by state implementation plans (SIP) and therefore should decrease in the future.

TABLE 4.13-2
SAN BERNARDINO COUNTY EMISSIONS TRENDS

Pollutants	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
	tons per day									
ROG	195	213	227	214	179	153	119	101	94	92
NO_x	248	319	267	288	254	259	214	183	162	152
PM_{10}	177	189	234	241	209	210	204	211	223	234
Source: CARB, 2009d.										

Operational (2030) Conditions

Operation of Alternative A during long-term 2030 conditions would result in the generation of criteria pollutants. **Table 4.13-3** shows operation and area emissions of Alternative A in year 2030, criteria pollutant emissions are ~~shown as a percentage of County total emissions~~compared to *de minimus* levels.

TABLE 4.13-3
ALTERNATIVE A LONG-TERM (2030) CONDITIONS

Source	ROG	NOx	PM_{10}
	tons per year		
Area	0.45	0.53	0.00
Mobile	13.98	14.10	60.05
Total Emissions	**14.43**	**14.63**	**60.05**
De Minimus Levels	*25*	*25*	*100*
Exceedance	No	No	No
Percentage of Countywide Emissions	***0.044***	***0.027***	***0.070***
Source: URBEMIS 2007 (**Appendix L** of the Draft EIS/TEIR).			

General Conformity Review

Past, present and future development projects, contribute to a regions air quality conditions on a cumulative basis; therefore by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of the National Ambient Air Quality Standards (NAAQS). If a project's individual emissions contribute toward exceedance of the NAAQS, then the project's cumulative impact on air quality would be significant. In developing attainment designations for criteria pollutants, the EPA considers the regions past, present and future emission levels. As stated in **Section 3.3** the project site and vicinity is in nonattainment for ozone and PM_{10}. Because project emissions are below the *de minimus* thresholds for these pollutants, air quality in the region is not cumulatively impacted.

Since no emission projections are available for San Bernardino County in 2030, 2020 emissions were used for comparison. **Table 4.13-3** shows that emissions associated with Alternative A ~~would not exceed 10~~are a relatively low percentage of San Bernardino County's emission inventory for ROG, NOx, and PM_{10} and project emissions do not exceed *de minimus* levels. When considered as a portion of the County's overall emissions, Alternative A makes a minimal contribution to regional air quality emissions. Furthermore, regional projects would be required to comply with the provisions of the Mohave Desert Air Quality Management District (MDAQMD) and implement dust controls in response to the provisions of Section II.4 of the General Plan. With the implementation of mitigation measures identified in **Section 5.3**, Alternative A would not result in adverse cumulative effects to air quality.

Climate Change

Climate change would not only have global impacts, such as more erratic weather patterns, more frequent droughts, and rising sea level, but climate change would cause regional and local impacts as well. Climate change has the potential to reduce the snow pack in the mountain regions, increase drought periods, and reduce water tables in California, potentially directly affecting the project site (CARB, 2007c).

Development of Alternative A would result in an increase in GHG emissions related to mobile sources (trips generated), area sources (components of Alternative A that directly emit GHG), and indirect sources related to electrical power generation.

Methodology

Two recent federal court decisions (*Massachusetts v. Environmental Protection Agency*, U.S., 1275 S.Ct. 1438, 1462 [2007] and *Center for Biological Diversity v. National Highway Safety Administration*, 508 F.3d 508 [9th Cir. 2007]) and slowly increasing scientific consensus have resulted in general guidance regarding appropriate GHG analysis (**Section 3.3**).

The approach used herein involves a combination of quantitative and qualitative analysis focusing on the project's impact on federal and California's efforts to reduce cumulative statewide GHG emissions. The following analysis is consistent with the CEQ's Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, released on February 18, 2010, which requires that a NEPA analysis of climate change quantify project-related GHG emissions and mitigate those emissions, particularly if the project is projected to directly emit greater than 25,000 metric tons (MT) per year of carbon dioxide equivalence (CO_2).

~~.~~

~~As noted in **Section 3.3**,~~ Climate change~~global warming~~ is a global issue that is not being caused by any single development project, but by global increases in atmospheric GHG concentrations. Thus, ~~global warming~~climate change is most effectively addressed on a global or regional level. California's global warming policies and legislation (most notably Executive Order S-3-05 and AB 32) are intended to be regional approaches to ensure that statewide emissions are reduced substantially in the future (to levels much lower than existing levels).

EPA and CARB approved URBEMIS 9.2.4 emissions modeling software was used to estimate area, construction, and mobile emissions resulting from the proposed alternatives. CH_4 and N_2O emissions from mobile sources were estimated using emission factors from the Local Government Operations Protocols (LGOP, 2008) and converted to CO_2e. Indirect emissions, which include electricity use, water conveyance, solid waste, and wastewater conveyance and treatment, were estimated using LGOP emission factors.

The CARB and the Climate Action Team (CAT) ~~have recently~~ identified approximately 126 strategies and measures that may be utilized by the state to meet its emissions reduction targets in 2010, 2020, and 2050. Most of these measures focus on statewide action meant to curb emissions by changes in statewide planning or policies rather than changes to individual development projects. However, some of the measures may be directly applicable to specific industries or individual commercial developments. Should a development alternative comply with all directly applicable measures, the alternative would support the State's efforts to significantly reduce its cumulative contribution to global climate change (to levels recommended by the International Panel on Climate Change (IPCC) and CARB's Climate Change Scoping Report [CARB, 2008]) and the associated impacts.

FThus, for the purposes of this analysis, cumulative contributions associated with a development alternative would be less than significant if after mitigation the project emits 25,000 MT or less of CO_2e per year and complies with the strategies currently identified by CARB or CAT to comply with Executive Order S-3-05 or AB 32, provided that the strategies can be applied to proposed development alternatives.

Carbon Dioxide Equivalent

Carbon dioxide equivalent (CO_2e) is a method by which GHGs other than CO_2 are converted to a CO_2-like emission value based on a heat-capturing ratio. As shown in **Table 4.13-4**, CO_2 is used as the base and is given a value of one. CH_4 has the ability to capture 21 times more heat than CO_2; therefore, CH_4 is given a CO_2e value of 21. Emissions are multiplied by the CO_2e value to achieve one GHG emission value. By providing and common measurement, CO_2e provides a means for presenting the relative overall effectiveness of emission reduction measures for various GHGs in reducing project contributions to global climate change.

TABLE 4.13-4
GREENHOUSE GAS CO_2 EQUIVALENT

Gas	CO_2e Value
CO_2	1
CH_4	21
N_2O	310
HFCs/PFCs[1]	6,500
SF_6[1]	23,900

Note: CO2e =Carbon dioxide equivalent
[1] High-global warming potential pollutants
CH4 = methane, N2O = nitrous oxide
HFCs/PFCs = hydroflourocarbons/perflourocarbons
SF6 = sulfur hexaflouride
Source: BAAQMD, 2006; AES, 2010.

Strategies and Emission Estimates

Estimated GHG emissions resulting from Alternative A are shown in **Table 4.13-5.** ~~EPA and CARB approved URBEMIS 2007 emissions modeling software was used to estimate operational emissions. GHGs emitted during construction of Alternative A would be 1,877 tons per year (tpy) of CO_2e. **Table 4.13-5** shows the estimated operational emissions. Once construction is completed, the project would emit approximately 36,315 tpy of CO_2 from mobile and area sources. CH_4 and N_2O emissions from mobile sources were estimated using emission factors from the Climate Change Action Registry and converted to CO_2e. CH_4 and N_2O emissions from mobile sources are estimated to be approximately 1,295 tpy CO_2e. Indirect emissions were estimated using Climate Change Action Registry emission factors and are estimated at 15 tpy CO_2e. Total annual emissions during operation of the project are estimated at approximately 37625 tpy of CO_2e.~~ The total annual project-related GHG emissions are estimated to be 38,949 MT per year of CO_2e. This includes direct emissions from construction and operational area sources, as well as indirect emissions from mobile sources (vehicles traveling to and from the site),

water/wastewater conveyance and processing, solid waste disposal and processing, and electricity use. Annual project GHG emissions would be approximately 0.~~0049~~ 0039 percent of California's predicted contribution to global GHG emissions in 2020. Project contributions to the annual global GHG emissions in 2020 would be approximately 0~~.0000031~~ 0000029 percent. While Alternative A's contributions to statewide and global emissions are miniscule, primarily because the Alternative A would not emit or result in the emission of high-global warming potential emissions (SF6, HFCs/PFCs, etc.), a potentially significant contribution to cumulative global emissions cannot be ruled out solely on the basis of a small percentage contribution. ~~This is due to the potentially serious impacts of climate change and the potential for even relatively minimal concentrations to lead to a "tipping point" beyond which impacts will be irreversible.~~

TABLE 4.13-5
PROJECT-RELATED GHG EMISSIONS

Alternative A	**GHGs**	**CO_2e Emissions (ST)**	**Conversion Factor (ST/MT)**	**GHG Emissions in CO_2e (MT)**
Direct				
Construction	CO_2	1,877	0.91	1,708
Area	CO_2	629	0.91	572
Subtotal Direct GHG Emissions				*2,280*
Indirect				
Mobile	CO_2	35,687	0.91	32,475
Mobile	CH_4/N_2O	389	0.91	354
Electricity Usage	CO_2			2,060
Water and Wastewater	CO2e			24
Solid Waste	CO2e			1,756
Subtotal Indirect GHG Emissions				*36,669*
Total Project-Related GHG Emissions				**38,949**
GHG Reductions from Mitigation				
Reduce Construction Equipment Idling (MM 5.3-30)				34
Install Low Flow Facilities (MM 5.3-32)				1
Reduce Waste Stream by 50% (MM 5.3-31)				878
Install Energy Efficient Lighting (MM 5.3-35)				618
Install Solar Water Heaters (MM 5.3-39)				412
Federal and State Mobile Emission Reduction Strategies				985
Purchase GHG Emissions Credits (MM 5.3-41)				11,021
Subtotal GHG Reductions				*13,949*
Total Mitigated Project-Related GHG Emissions				**25,000**

MM = mitigation measure.
Source: LGOP, 2008; URBEMIS, 2007, AES, 2011.

TABLE 4.13-5
ESTIMATED ALTERNATIVE A OPERATIONAL GHG EMISSIONS

CO_2 Emissions[1]					
Mobile Sources[1]		Area Sources[1]			Total CO_2e
Tons per year		Tons per year			Tons per year
35,686		629			36,315
CH_4 and N_2O Emission from Mobile Sources[2]					
Emission Factor (CO_2/CH_4/N_2O)	Miles Traveled	CH_4		N_2O	Total CO_2e
g/mile	miles/day	tons per year			
552.08/0.05/0.05	190,464	119		1,176	1,295
Indirect GHG emissions[2]					
Emission Factor (Kg of CO_2/CH_4/N_2O)	Estimated kW-hr Usage[3]	CO_2	CH_4	N_2O	Indirect CO_2e
lb/MW-hr	MW-hr/Year	Tons per year			
804.54/0.006/0.0037	75	15	0.00	0.00	15
Total Operation CO_2e tons per year					37,625

Note: CO_2= Carbon dioxide; GHG= Green House Gases; CO_2e= Carbon dioxide equivalent; CH_4= Methane; N_2O= Nitrous oxide; lb= pound; MW-h= megawatt-hour
[1] Estimated from USEPA and CARB approved URBEMIS air quality program (**Appendix L**)
[2] Emission factors from Climate Change Action Registry
[3] Estimated using 4,500 kilowatts-hours (kW-hr)/month of power used.
Source: URBEMIS, 2007; California Climate Action Registry, 2009.

As discussed above and in **Section 3.3**, California's strategies and measures would result in a reduction of statewide emissions, including emissions resulting from implementation of Alternative A, to levels below current background levels. Of the approximately 126 strategies and measures currently under consideration that would ensure a statewide reduction in GHG emissions, only three would apply to Alternative A (refer to **Table 4.13-6**). The other policies do not apply to Alternative A because they either apply to state entities, such as CARB, are planning-level measures, or they apply to particular industries, such as the auto repair industry. As shown in **Table 4.13-6**, Alternative A would not be in compliance with all three applicable state climate change strategies. Furthermore, direct and indirect CO_2e emissions would be above the CEQ's 25,000 MT per year of CO_2e reporting standard. T; therefore, this is a potentially significant cumulative impact effect and mitigation is recommended in **Section 5.3** which would reduce the potential for adverse cumulative effects associated with climate change.

TABLE 4.13-6
COMPLIANCE WITH STATE EMISSIONS REDUCTION STRATEGES

Exec Order S-3-05 / AB 32 Strategy	Project Compliance
Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Alternative A would be located on trust lands and thus not subject to CARB restrictions on on-site diesel-fueled commercial vehicle idling. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Achieve 50 percent statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	Solid waste services are expected to be provided by the City of Barstow or County of San Bernardino, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. Although the diversion stream will not be affected the waste stream would increase. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions	Alternative A would not be consistent with this strategy. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Note: AB= Assembly Bill~~; CARB= California Air Resource Board~~ Source: Climate Action Team, 2006	

Biological Resources

Wildlife and Habitats

Implementation of Alternative A in conjunction with additional local projects could result in cumulative adverse effects to biological resources if habitats for special-status species were destroyed. However, potential adverse effects from individual projects would be avoided through compliance with applicable federal and state regulations. Additionally, approved projects would follow the provisions of Section II.5, Biological Resources, of the General Plan, which requires site-specific studies prior to development activities to determine precise mitigation necessary to preserve and enhance biological resources. With the implementation of the mitigation measures outlined in **Section 5.4,** Alternative A would not result in adverse cumulative effects to biological resources.

Mojave Desert Tortoise

There are a number of large scale renewable energy projects proposed in the Mohave Desert that have the potential to result in adverse cumulative effects to the Mojave Desert tortoise or other sensitive habitat for special status species. These projects, if approved, -would result in the conversion of thousands of acres of potential habitat. The 16.51 acres of Mohave Creosote Brush Scrub habitat that would be converted

under Alternative A would be a miniscule contribution to this overall cumulative effect. Furthermore, the Barstow site is located within the city limits adjacent to existing commercial development and is subject to disturbances from adjacent land uses, including the off-road vehicle recreation area, and thus does not contain high quality habitat for this species. Mitigation has been recommended within Section 5.4 to avoid or minimize potential effects to Mohave Desert Tortoise. Therefore, given the relatively low area of land that would be impacted as a result of Alternative A, this is considered a less than significant cumulative effect.

Waters of the U.S.

As discussed in **Section 4.4**, implementation of Alternative A would not result in adverse effects to waters of the U.S. With the implementation of the mitigation measures outlined in **Section 5.4**, Alternative A would not contribute to adverse cumulative effects to waters of the U.S.

Cultural Resources

Cumulative effects to cultural resources typically occur when sites that contain cultural features or artifacts are disturbed by development. No significant cultural resources were identified within or adjacent to the Barstow site. However, the records search and archival research indicate that the study area is in a region moderately sensitive for both prehistoric/pre-contact resources and historic-period resources. Based on this sensitivity, Alternative A may affect previously unknown buried archaeological resources. As discussed in **Section 4.5**, direct effects to unknown cultural resources associated with Alternative A would be reduced to a minimal level with the implementation of mitigation measures specified in **Section 5.5**. Approved projects would be required to follow federal, state, and local regulations regarding cultural resources and inadvertent discoveries of cultural resources. With the implementation of the mitigation measures outlined in **Section 5.5**, Alternative A would not result in adverse cumulative effects to cultural resources.

Socioeconomic Conditions

Cumulative socioeconomic effects could occur in the project area as the result of developments that affect the lifestyle and economic well being of residents. When considered with other growth in San Bernardino County through 2030, there may be cumulative socioeconomic effects including impacts to the local labor market, housing availability, schools, increased costs due to problem gambling, and impacts to local government. These effects would occur as the region's economic and demographic characteristics change, as the population grows, and specific industries expand or contract. Alternative A would introduce new economic activity in the Barstow area, including jobs and revenues, which would be a beneficial effect to the region. Additionally, Alternative A would implement mitigation measures outlined in **Section 5.6** which would reduce the potential for adverse socioeconomic effects that could result from the project. Further, planning documents for the County will continue to designate land uses for businesses, industry, and housing, as well as plan public services which would anticipate and accommodate growth in the region. Therefore, with mitigation, Alternative A would not contribute to adverse~~no significant~~ cumulative socioeconomic effects~~ would result~~.

Transportation/Circulation

Methodologies

To assess the cumulative transportation effects of the project under cumulative traffic conditions, project traffic is combined with existing traffic, area-wide growth, and other foreseeable developments. The 2004 Regional Transportation Plan's (RTP) Socioeconomic forecast, adopted by the Southern California Association of Governments Regional Council in April, is the approved growth forecast at the subregional level. According to these growth estimates, a rate of approximately 2.45 percent per year would occur between the years 2005 and 2035. RTPs are the industry standard used to predict growth for freeways and major arterial roadways. Therefore, for this analysis a conservative 2.5 percent per year growth rate was used. The detailed analysis of traffic volumes generated by cumulative development is provided in **Appendix H** of the Draft EIS/TEIR. Refer to **Section 4.7** for a detailed description of the trip generation and trip distribution methodologies for Alternative A.

Cumulative Background Traffic Conditions

Cumulative Background Intersection Operations

Table 4.13-7 shows the weekday and Saturday intersection delay and LOS for both the mid-day and PM peak hours at each of the study intersections under cumulative background traffic conditions. As shown in the table, each of the study intersections would operate at an acceptable LOS under background traffic conditions. Weekday and Saturday peak hour turning volumes at each of the study intersections is provided in the TIA in **Appendix H** of the Draft EIS/TEIR.

TABLE 4.13-7
2035 CUMULATIVE BACKGROUND INTERSECTION CONDITIONS

Intersections	Traffic Controls	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		PM		Mid-Day		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lenwood Rd./SR-58	TS	14.6	B	14.4	B	14.9	B	14.9	B
2. Lenwood Rd./Main St.	TS	30.6	C	38.1	D	36.4	D	36.2	D
3. Main St./SR-58 EB Ramps	TS	3.7	A	4.1	A	3.5	A	3.5	A
4. Main St./SR-58 WB Ramps	TS	11.6	B	17.2	B	14.5	B	15.2	B
5. Lenwood Rd./I-15 SB Ramps	TS	12.5	B	13.0	B	14.1	B	12.1	B
6. Lenwood Rd./I-15 NB Ramps	TS	23.9	C	23.5	C	29.4	C	21.3	C
7. Outlet Center Dr./I-15 SB Ramps	OWSC	9.8	A	11.1	B	11.8	B	10.5	B
8. Outlet Center Dr./I-15 NB Ramps	OWSC	9.3	A	8.9	A	9.8	A	9.0	A
9. Lenwood Rd./Mercantile Way	TS	37.4	D	37.6	D	38.3	D	37.9	D
10. Lenwood Rd./Project Access	-	-	-	-	-	-	-	-	-
11. Factory Outlet Ave/Mercantile Way	OWSC	8.6	A	9.0	A	8.9	A	8.8	A

TS = traffic signal, OWSC = One-Way Stop Controlled
Bold denotes poor LOS.
Source: LL&G, 2010.

Cumulative Background Roadway Segments

Volume to capacity ratios and LOS for cumulative background conditions have been calculated for the study area roadway segments and are shown in **Table 4.13-8**. As shown in the table, all of the study roadway segments are projected to operate within an acceptable LOS under cumulative background traffic conditions without the project.

TABLE 4.13-8
CUMULATIVE BACKGROUND ROADWAY SEGMENT CONDITIONS

Roadway	Segment	Number of Lanes	Maximum Capacity	V/C	LOS
Lenwood	I-15 NB Ramps to Mercantile Way	5D	33,000	0.54	A
Lenwood	Mercantile Way to Holiday Inn Driveway	3U	21,000	0.27	A
Lenwood	Holiday Inn Driveway to Outlet Center Drive	2U	14,000	0.25	A
Outlet Center Drive	Lenwood Road to I-15 NB Ramps	2U	14,000	0.21	A

Notes: D = divided roadway, U = undivided roadway
ADT = average daily trips
V/C = volume to capacity ratio
Source: LL&G, 2010.

Cumulative Background Freeway Segments

Volume to capacity ratios and LOS for the cumulative background conditions have been calculated for the study area freeway segments and are shown in **Table 4.13-9**. As shown in the table, all of the study freeway segments are projected to operate within an acceptable LOS under cumulative background traffic conditions without the project.

TABLE 4.13-9
CUMULATIVE BACKGROUND FREEWAY SEGMENT CONDITIONS

Roadway Segments	Number of Lanes	Capacity	V/C		LOS	
			Mid-day	PM	Mid-day	PM
I-15 Northbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~862~~679	0.~~634~~513	~~D~~C	B~~C~~
SR-58 to Lenwood Road	4	9,200	0.415	0.313	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.788	0.583	C	B
I-15 Southbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~979~~762	0.~~862~~664	~~E~~C	~~D~~C
SR-58 to Lenwood Road	3	6,900	0.621	0.525	C	B
Outlet Center Drive to Hodge Road	3	6,900	0.898	0.788	D	C

Notes: V/C = volume to capacity ratio.
Bold denotes poor LOS.
Source: LL&G, 2010.

Cumulative Background Plus Alternative A Traffic Conditions

Cumulative Intersection Operations

Table 4.13-10 shows the weekday and Saturday intersection delay and LOS for both the mid-day and PM peak hours at each of the study intersections under cumulative background plus Alternative A traffic conditions. As shown in the table, each of the study intersections would operate at an acceptable LOS under background plus Alternative A traffic conditions, except for the following intersection:

- Lenwood Road at Project Access (Weekday and Saturday, Mid-Day and PM peak hours)

Mitigation provided in **Section 5.7** would reduce the project's impact to a less than significant effect. Weekday and Saturday cumulative peak hour turning volumes are provided in the TIA in **Appendix H** of the Draft EIS/TEIR.

TABLE 4.13-10
2035 CUMULATIVE BACKGROUND PLUS ALTERNATIVE A INTERSECTION CONDITIONS

Intersections	Traffic Controls	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		PM		Mid-Day		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lenwood Rd./SR-58	TS	14.6	B	14.4	B	15.7	B	15.1	B
2. Lenwood Rd./Main St.	TS	30.8	C	39.0	D	37.4	D	37.2	D
3. Main St./SR-58 EB Ramps	TS	4.2	A	4.6	A	4.2	A	4.2	A
4. Main St./SR-58 WB Ramps	TS	11.6	B	17.6	B	14.5	B	15.2	B
5. Lenwood Rd./I-15 SB Ramps	TS	12.5	B	14.8	B	21.0	C	13.4	B
6. Lenwood Rd./I-15 NB Ramps	TS	23.9	C	23.5	C	36.4	D	21.7	C
7. Outlet Center Dr./I-15 SB Ramps	OWSC	11.8	B	16.3	B	25.3	D	20.1	C
8. Outlet Center Dr./I-15 NB Ramps	OWSC	10.3	B	9.6	A	11.5	B	10.3	B
9. Lenwood Rd./Mercantile Way	TS	37.6	D	38.1	D	39.6	D	38.1	D
10. Lenwood Rd./Project Access.	OWSC	**>100**	**F**	**>100**	**F**	**>100**	**F**	**>100**	**F**
11. Factory Outlet Ave/Mercantile Way	OWSC	8.6	A	9.0	A	8.9	A	8.8	A

TS = traffic signal, OWSC = One-Way Stop Controlled
Bold denotes poor LOS.
Source: LL&G, 2010.

Cumulative Roadway Segments

Volume to capacity ratios and LOS for cumulative background plus Alternative A traffic conditions have been calculated for the study area roadway segments and are shown in **Table 4.13-11**. As shown in the table, all of the study roadway segments are projected to operate within an acceptable LOS under cumulative background plus Alternative A traffic conditions.

TABLE 4.13-11
2035 CUMULATIVE BACKGROUND PLUS ALTERNATIVE A ROADWAY SEGMENT CONDITIONS

Roadway	Segment	Number of Lanes	Maximum Capacity	V/C	LOS
Lenwood	I-15 NB Ramps to Mercantile Way	5D	33,000	0.75	B
Lenwood	Mercantile Way to Holiday Inn Driveway	3U	21,000	0.61	A
Lenwood	Holiday Inn Driveway to Outlet Center Drive	2U	14,000	0.46	A
Outlet Center Drive	Lenwood Road to I-15 NB Ramps	2U	14,000	0.42	A

Notes: D = divided roadway, U = undivided roadway
ADT = average daily trips
V/C = volume to capacity ratio
Source: LL&G, 2010.

Cumulative Freeway Segments

Volume to capacity ratios and LOS for cumulative background plus Alternative A traffic conditions have been calculated for the study area freeway segments and are shown in **Table 4.13-12**. As shown in the table, all of the study freeway segments are projected to operate within an acceptable LOS under cumulative background plus Alternative A traffic conditions.

TABLE 4.13-12
2035 CUMULATIVE BACKGROUND PLUS ALTERNATIVE A FREEWAY SEGMENT CONDITIONS

Roadway Segments	Number of Lanes	Capacity	V/C		LOS	
			Mid-day	PM	Mid-day	PM
I-15 Northbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~874~~685	0.~~651~~521	~~D~~C	~~C~~B
SR-58 to Lenwood Road	4	9,200	0.424	0.326	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.818	0.616	D	B
I-15 Southbound						
L Street to ~~Lenwood Road~~SR-58	3	6,900	0.~~996~~771	0.~~881~~654	~~E~~C	~~D~~C
SR-58 to Lenwood Road	3	6,900	0.638	0.544	C	B
Outlet Center Drive to Hodge Road	3	6,900	0.919	0.818	D	D

Notes: V/C = volume to capacity ratio.
Bold denotes poor LOS.
Source: LL&G, 2010~~1~~.

Ramp Diverge Operations

Tables 2, 4, and 15 of **Appendix Q** of the Final EIS/TEIR provide a ramp diverge operations analysis in the cumulative year 2035 at I-15 NB/SB off-ramps to Lenwood Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour. As shown in the tables, the diverge operations at the northbound and southbound off-ramps are calculated to operate at acceptable levels of service under cumulative year conditions both with and without each of the proposed project alternatives during the weekday peak hours, and Saturday peak hours, and Sunday AM peak hour. However, as shown in the

Table 15 of **Appendix Q** of the Final EIS/TEIR, ramp diverge operations during the Sunday PM peak-hour would exceed the County's significance threshold of LOS D at the I-15 southbound off-ramp in the cumulative year 2035 both with and without the addition of traffic generated by Alternative A. Mitigation measures provided in Section 5.7 would minimize Alternative A's contribution to this on-going cumulative adverse traffic condition. Therefore, with mitigation this cumulative effect is considered less than significant.

Intersection Queuing Operations

A queuing analysis at the I-15 NB/SB off-ramps to Lenwood Road and at I-15 NB/SB off-ramps to Outlet Center Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour for the cumulative year 2035 was conducted and is summarized in **Appendix Q** of the Final EIS/TEIR.

I-15 Off-Ramps/Lenwood Road

Based on the project trip distribution, project trips are only added to the I-15 SB Off-Ramp/Lenwood Road southbound left-turn movement and the I-15 NB Off-Ramp/Lenwood Road northbound right-turn movement. As shown in the tables, there is sufficient capacity to accommodate the expected 50th and 95th percentile queues at the I-15/Lenwood Road northbound and southbound off-ramps with or without Alternative A during the cumulative year 2035 at the movements in which the project adds trips, except during the following conditions:

- I-15 at Lenwood Road northbound right during the Saturday mid-day (95th Percentile) peak hour for the year 2035 without project traffic.
- I-15 at Lenwood Road northbound right during the Saturday mid-day (50th and 90th Percentile) peak hour for the year 2035 with Alternative A traffic.
- I-15 at Lenwood Road northbound right during the Sunday PM peak hour (50th and 95th Percentile) for the year 2035 with Alternative A traffic.

It should be noted that there are no federal, State, or local significance thresholds for queuing analysis. However, given that Alternative A would contribute to a traffic condition that could translate to level of service effects on the I-15 freeway, mitigation measures are provided in **Section 5.7** of the Final EIS/TEIR to minimize potential effects. Mitigation measures would redistribute an additional 30 percent of project traffic from I-15 at Lenwood Road off-ramps to the Outlet Center Drive off-ramps. With implementation these mitigation measures, the cumulative year 2035 Saturday mid-day 95th percentile and Sunday mid-day 95th percentile are still exceeded. However, there are ample capacity and queue storage lengths to accommodate the 50 percentile queues during the Saturday and Sunday mid-day peak hours.~~,~~ With mitigation, cumulative queuing effects as a result of Alternative A in the year 2035 at I-15 NB off-ramp at Lenwood Road would be considered less than significant.

I-15 Off-Ramps/Outlet Center Drive

Mitigation recommended within Section 5.7 of the Final EIS/TEIR to alleviate potential queuing effects at the I-15/Lenwood Road Interchange would result in the redirection of additional traffic to the I-15/Outlet Center Drive interchange. An analysis of the Outlet Center Drive interchange was conducted to

ensure that the interchange could accommodate the additional traffic which would use the interchange once mitigation was implemented.

The I-15/Outlet Center Road interchange is currently un-signalized. With the addition of project related traffic, the I-15/Outlet Center Drive intersection would operate at an LOS E/F, which is considered an adverse cumulative effect. Mitigation measures within Section 5.7 require that both ramps be signalized. Table B-2 provided in **Appendix Q** of the Final EIS/TEIR shows that the interchange would operate at LOS C or better under cumulative plus Alternative A mitigated traffic conditions, which is less than the County's LOS D threshold. Additionally, with the implementation of mitigation to signalization of the interchange, sufficient capacity is available to serve the cumulative year 2035 traffic queues with Alternative A traffic. Therefore, after mitigation, cumulative effects to traffic operations at the Outlet Center Drive Interchange are considered less than significant.

Land Use

Development in the City is guided by the General Plan, applicable Specific Plans, the City Zoning Ordinance, and Redevelopment Plans. Planned development projects within the City are consistent with these documents and policies, which prevent disorderly growth or incompatible land uses. While Alternative A would not be subject to local land use policies, as discussed in **Section 4.8**, the Tribe has agreed to develop tribal projects on the trust land in a manner that is consistent with the Barstow Municipal Code, pursuant to its Municipal Services Agreement (MSA) with the City of Barstow. Alternative A would not disrupt neighboring land uses, prohibit access to neighboring parcels, or otherwise conflict with neighboring land uses. Alternative A would not result in adverse cumulative effects to land use planning.

Agriculture

Agricultural production and viable land for agriculture are both limited in the area. The Barstow site is located in an area designated for commercial development and no agricultural activities exist in the project area. Alternative A would not result in adverse cumulative effects to agricultural lands.

Public Services

Water Supply

Water demands have been projected by Golden State Water Company (GSWC) through 2030. The estimated water demand for the Barstow system is 11,927 acre-feet/year (ac-ft/yr) in 2010, 15,388 ac-ft/yr in 2020, and 18,833 ac-ft/yr in 2030 (GSWC, 2005). GSWC intends to pursue multiple strategies to ensure long-term ability beyond 2025 to serve all future water demands within the Barstow system (GSWC, 2005). The GSWC wells in the Barstow Customer Service Area have a surplus capacity of approximately 6,591 ac-ft/yr (GSWC, 2005). The Barstow Customer Service Area has adequate capacity for the estimated water demands of the Alternative A (225 ac-ft/yr) and future development.

As discussed in the General Plan, improvements made to the water system, and the construction of facilities added to the system are financed through water rates charged to customers, and contributions

paid by developers. The Redevelopment Agency also has various funding mechanisms to upgrade the existing water systems in redevelopment areas (City of Barstow, 1997). Alternative A would not result in adverse cumulative effects to municipal water suppliers.

Wastewater Service

Currently the wastewater plant serving the City has a treatment capacity of 4.5 million gallons per day (mgd) and a daily flow of approximately 2.7 mgd with a peak flow of 3.2 mgd. There is adequate surplus capacity to accommodate the peak (0.35 mgd) wastewater flows from Alternative A and future development. Should upgrades to the WWTP be required in the future due to more stringent waste discharge requirements that may be issued by the Regional Water Quality Control Board, payments made to the City through the MSA would provide for the Tribe's fair share contribution to the improvements. The City requires that all new development provide evidence of ability to be served by the Barstow wastewater treatment facilities prior to occupancy (City of Barstow, 1997). Upgrades to and expansion of infrastructure would be funded through development fees. Alternative A would not result in adverse cumulative effects to municipal wastewater providers.

Solid Waste

The County Solid Waste Management Division is responsible for operation and management of solid waste disposal in the County. As described in **Section 3.9.3**, the landfill currently serving the Barstow is expected to be expanded and the estimated permitted daily limit is 1,500 tons per day (Barbour, 2009). Projected solid waste generation for Alternative A is considered a small contribution to the waste stream and is not expected to dramatically decrease the life expectancy of the landfill. The anticipated closure date of the expanded landfill based on anticipated growth is 2070. Alternative A would not result in adverse cumulative effects to solid waste services in the geographic area of the cumulative effects zone.

Energy

Individual projects would be responsible for paying development or user fees to receive electrical or natural gas services. The Tribe would pay a fair share of the upgrades needed to avoid affecting the service of existing customers and any infrastructure necessary to provide service to Alternative A. Therefore, Alternative A would not contribute to a potential for adverse cumulative effects to energy providers.

Law Enforcement Services

New development would fund City services including law enforcement through development fees and property tax. As required by the MSA, the Tribe would make payments to the City to cover the costs of increased demand for law enforcement services that may result from Alternative A. The Tribe has also agreed in Section 4 of the MSA, upon request of the City, to dedicate land for fire and police station use and pay for a portion of new fire and police stations. With implementation of the conditions of the MSA, as discussed in **Section 5.9**, development of Alternative A would not contribute to a potential for adverse cumulative effects to law enforcement services.

Fire Protection and Emergency Medical Services

New development would be required to fund City services including fire protection and emergency medical through development fees and property tax. Emergency medical costs are paid primarily by the individual requiring service. In accordance with Section 4(B)(1) of the MSA, the Tribe would compensate the City for the purchase of a fully equipped Emergency Medical Services Response Vehicle. Under the MSA, the Tribe has committed to pay one half of the actual costs of training fire personnel if the hotel/casino structure exceeds four stories. In Section 4(C) of the MSA, the Tribe has also agreed to dedicate or arrange for the dedication of two-acres of land near the project site for fire or police station use.

With implementation of the conditions of the MSA, as discussed in **Section 5.9**, Alternative A would not contribute to a potential for adverse effects on fire protection and emergency medical services.

Noise

Approved projects would be required to comply with the provisions of Section III.4, Noise, of the General Plan, which includes requirements for mitigation noise when levels exceed compatible use standards as outlined in Section III.4 of the General Plan. With the implementation of mitigation measures outlined in **Section 5.10**, Alternative A would not result in adverse cumulative effects to the ambient noise environment.

Hazardous Materials

As discussed in **Section 4.11**, with the incorporation of the BMPs outlined in **Section 5.11** implementation of Alternative A would result in minimal impacts regarding hazardous materials management. Approved projects would be required to follow applicable federal and state regulations concerning hazardous materials management, including the implementation of construction BMPs dealing with hazardous materials management through the NPDES permitting process. Approved projects would also be required to comply with the provisions of Section III.4, Emergency Management, of the General Plan, which includes requirements for businesses that use, store, or generate hazardous materials to file a business plan with the County Hazardous Materials Management Division. With the implementation of mitigation measures outlined in **Section 5.11**, Alternative A would not result in cumulative adverse impacts to hazardous materials management.

Aesthetics

Cumulative development that takes place would be consistent with local land use regulations, including associated design guidelines. Development of Alternative A would, for the most part, be consistent with the visual goals of local land use regulations. The project site is not located in a scenic corridor or an area of high aesthetic value. Substantial development is present to the north and west of the Barstow site. With the implementation of mitigation measures outlined in **Section 5.12**, Alternative A would not result in adverse cumulative impacts to aesthetic resources.

4.13.3 ALTERNATIVE B – BARSTOW REDUCED CASINO-HOTEL COMPLEX

List of Potentially Cumulative Actions and Projects

Alternative B would be constructed on the same parcel of land as Alternative A; therefore, the list of potentially cumulative actions and projects would be the same for Alternative B as that of Alternative A.

Land Resources

The principal effects to land resources associated with cumulative developments would be localized topographical changes and soil attrition. Topographic changes may be cumulatively significant if the topography contributes significantly to the environmental quality with respect to drainage, habitat, or other values. Soil loss could be cumulatively considerable if the project alone would not result in significant loss of topsoil, but taken together with all other developments may result in significant depletion of available soils. Alternative B would require minimal grading of existing topographic features, and soil disturbance would be significantly less than under Alternative A since there would be no subsurface parking under Alternative B. Local permitting requirements for construction would address regional geotechnical and topographical conflicts, and seismic hazards. It is anticipated that approved developments will follow the appropriate permitting procedures. As discussed in **Section 5.0**, the Tribe has agreed to enact laws applicable to the trust lands and shall require that all tribal development projects on the trust lands shall be used and developed in a manner that is consistent with the Barstow Municipal Code in effect at the time of any project development. In addition, the project must comply with the requirements of the Construction Stormwater General Permit, which requires BMPs be chosen and implemented to address water quality degradation by preventing erosion, as outlined in **Section 5.2**. Therefore, implementation of Alternative B would not contribute to cumulative effects to land resources.

Water Resources

Surface Water and Flooding

Cumulative effects to surface water may take place as a result of increased stormwater flows from additional impervious surfaces constructed within the area. Approved projects would be required to follow the General Plan policies and municipal code provisions, evaluate the impacts of all new development and expansion projects on storm runoff, and pay the costs of any necessary upgrades to existing drainage facilities. As discussed in **Subsection 2.2.1**, drainage facilities have been incorporated into the project design to detain the increase in runoff on-site, maintaining the pre-development runoff rate to the Lenwood wash and minimizing impacts to site drainage from changes in topography. Therefore, development of Alternative B would not result in cumulative effects to the drainage shed when considered with other development in the area.

Additional development in combination with Alternative B could result in cumulative adverse effects to floodplain management if structures were to impede floodways or raise flood elevations. Approved projects would be required to follow the municipal code, Title 15 of which requires development permits within special flood hazard areas (see **Section 3.2**) and special construction provisions that would require that encroachments within special flood areas would not result in any increase in flood levels or impede

floodplain management. Additionally, approved projects would be required to pay flood control channel development fees. Development of Alternative B would not result in cumulative effects to floodplain management.

Groundwater

Increased development could result in cumulative adverse effects if the total water demand of approved projects exceeds pumping capacity of groundwater wells or the total annual recharge of the basin. Local projects would abide by Section II.1, Water Resources, of the City's General Plan, which requires new development and expansion projects outside of existing service areas to purchase additional water supplies to offset the potential burden to the existing system. Under Alternative B, potable water would be supplied by the available capacity of the Golden State Water Company and would not require the use of on-site groundwater resources.

Water Quality

Construction activities could result in erosion and sediment discharge to surface waters, potentially effecting water quality in downstream water bodies. In addition, construction equipment and materials have the potential to leak, thereby discharging oils, greases, and construction supplies into stormwater, potentially affecting both surface water and groundwater. Concurrent construction of Alternative B and other relevant cumulative projects identified above could result in temporary cumulative effects to water quality. To mitigate potential adverse effects, approved developments including Alternative B would be required to implement erosion control measures and construction BMPs in a site-specific SWPPP in compliance with the Construction Stormwater General Permit. With the implementation of measures identified in **Section 5.2**, Alternative B would have minimal adverse cumulative effects on water quality.

Air Quality

Air Pollutant Trends

Air pollution trends for Alternative B would be the same as Alternative A due to the location of the two alternatives.

Operational (2030) Conditions

Operation of Alternative B during long-term 2030 conditions would result in the generation of criteria pollutants. **Table 4.13-13** shows operation and area emissions of Alternative B in year 2030, criteria pollutant emissions are ~~shown as a percentage of County total emissions (refer to **Table 4.13-2**)~~compared with *de minimus* levels.

General Conformity Review

Past, present and future development projects, contribute to a regions air quality conditions on a cumulative basis; therefore by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of the National Ambient Air Quality Standards (NAAQS). If a project's individual emissions contribute toward exceedance of the NAAQS,

then the project's cumulative impact on air quality would be significant. In developing attainment designations for criteria pollutants, the EPA considers the regions past, present and future emission levels. As stated in **Section 3.3** the project site and vicinity is in nonattainment for ozone and $PM_{10.}$ Because project emissions are below the *de minimus* thresholds for these pollutants, air quality in the region is not cumulatively impacted.

TABLE 4.13-13
ALTERNATIVE B LONG-TERM (2030) CONDITIONS

Source	ROG	NOx	PM_{10}
	tons per year		
Area	0.34	0.37	0.00
Mobile	10.31	10.44	44.44
Total Emissions	**10.65**	**10.81**	**44.44**
De Minimus Levels	*25*	*25*	*100*
Exceedance	No	No	No
Percentage of Countywide Emissions	***0.030***	***0.019***	***0.050***
Source: URBEMIS 2007.			

Since no emission projections are available for San Bernardino County in 2030, 2020 emissions were used for comparison. **Table 4.13-13** shows that emissions associated with Alternative B ~~would not exceed 10~~are a relatively low percentage of San Bernardino County's emission inventory for ROG, NOx, and PM_{10} and project emission do not exceed *de minimus* levels. When considered as a portion of the County's overall emissions, Alternative B would result in a minimal effect to regional air quality. Furthermore, regional projects would be required to comply with the provisions of the Mohave Desert Air Quality Management District (MDAQMD) and implement dust controls in response to the provisions of Section II.4 of the General Plan. With the implementation of mitigation measures identified in **Section 5.3**, Alternative B would not result in ~~minimal~~ adverse cumulative effects to air quality.

Climate Change

Methodology

Methodology for analyzing project related GHG emissions for Alternative B is the same as Alternative A. Refer to **Section 4.13.2**.

Strategies and Emission Estimates

~~EPA and CARB approved URBEMIS 2007 emissions modeling software was used to estimate operational emissions. GHG emitted during construction of Alternative B would be 1,706 tons per year (tpy) of CO_2. **Table 4.13-14** shows the estimated operational emissions.~~

~~Once construction is completed, the project would emit approximately 36,209 tpy of CO_2 from mobile and area sources. CH_4 and N_2O emissions from mobile sources were estimated using emission factors from the Climate Change Action Registry and converted to CO_2e. CH_4 and N_2O emissions from mobile~~

~~sources are estimated to be approximately 1,300 tpy CO_2e. Indirect emissions were estimated using Climate Change Action Registry emission factors and are estimated at 14 tpy CO_2e. Total annual emissions during operation of the project are estimated at approximately 37,523 tpy of CO_2e.~~

TABLE 4.13-14
PROJECT-RELATED GHG EMISSIONS

Alternative B	GHGs	CO_2e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO_2e (MT)
Direct				
Construction	CO_2	1,657	0.91	1,508
Area	CO_2	429	0.91	391
Subtotal Direct GHG Emissions				*1,899*
Indirect				
Mobile	CO_2	26,409	0.91	24,032
Mobile	CH_4/N_2O	196	0.91	178
Electricity Usage	CO_2			1,422
Water and Wastewater	CO2e			17
Solid Waste	CO2e			1,214
Subtotal Indirect GHG Emissions				*26,863*
Total Project-Related GHG Emissions				**28,762**
GHG Reductions from Mitigation				
Reduce Construction Equipment Idling (MM 5.3-30)				30
Install Low Flow Facilities (MM 5.3-32)				1
Reduce Waste Stream by 50% (MM 5.3-31)				607
Install Energy Efficient Lighting (MM 5.3-35)				426
Install Solar Water Heaters (MM 5.3-39)				284
Federal and State Mobile Emission Reduction Strategies				721
Purchase GHG Emissions Credits (MM 5.3-41)				1,693
Subtotal GHG Reductions				*3,762*
Total Mitigated Project-Related GHG Emissions				**25,000**

MM = mitigation measure.
Source: LGOP, 2008; URBEMIS, 2007, AES, 2011.

Estimated GHG emissions resulting from Alternative B are shown in **Table 4.13-14.** The total annual project-related GHG emissions are estimated to be 28,762 MT per year of CO_2e. This includes direct emissions from construction and operational area sources, as well as indirect emissions from mobile sources (vehicles traveling to and from the site), water/wastewater conveyance and processing, solid waste disposal and processing, and electricity use. Annual project GHG emissions would be approximately 0.0035~~50~~ percent of California's predicted contribution to global GHG emissions in 2020.

Project contributions to the annual global GHG emissions in 2020 would be approximately 0.00000263~~2~~ percent. While Alternative B's contributions to statewide and global emissions are miniscule, primarily because the Alternative B would not emit or result in the emission of high-global warming potential emissions (SF6, HFCs/PFCs, etc.), a potentially significant contribution to cumulative global emissions cannot be ruled out solely on the basis of a small percentage contribution. ~~This is due to the potentially serious impacts of climate change and the potential for even relatively minimal concentrations to lead to a "tipping point" beyond which impacts will be irreversible.~~

~~TABLE 4.13-14~~
~~ESTIMATED ALTERNATIVE B OPERATIONAL GHG EMISSIONS~~

~~CO_2 Emissions[1]~~					
~~Mobile Sources[1]~~		**~~Area Sources[1]~~**			**~~Total CO_2e~~**
~~Tons per year~~		**~~Tons per year~~**			**~~Tons per year~~**
~~35,780~~		~~429~~			~~36,209~~
~~CH_4 and N_2O Emission from Mobile Sources[2]~~					
~~Emission Factor (CH_4/N_2O)~~	**~~Miles Traveled~~**	**~~CH_4~~**		**~~N_2O~~**	**~~Total CO_2e~~**
~~g/mile~~	**~~miles/day~~**	**~~tons per year~~**			
~~0.05/0.05~~	~~191,068~~	~~122~~		~~1,178~~	~~1,300~~
~~Indirect GHG emissions[2]~~					
~~Emission Factor (Kg of CO_2/CH_4/N_2O)~~	**~~Estimated kW-hr Usage[3]~~**	**~~CO_2~~**	**~~CH_4~~**	**~~N_2O~~**	**~~Indirect CO_2e~~**
~~lb/MW-hr~~	**~~MW-hr/Year~~**	**~~Tons per year~~**			
~~804.54/0.006/0.0037~~	~~65~~	~~14~~	~~0.00~~	~~0.00~~	~~14~~
~~Total Operation CO_2e tons per year~~					**~~37,523~~**

~~Note: CO_2= Carbon dioxide; GHG= Green House Gases; CO_2e= Carbon dioxide equivalent; CH_4= Methane; N_2O= Nitrous oxide; lb= pound; MW-h= megawatt-hour~~
~~[1] Estimated from USEPA and CARB approved URBEMIS air quality program (**Appendix L**)~~
~~[2] Emission factors from Climate Change Action Registry~~
~~[3] Estimated using 4,500 kilowatts-hours (kW-hr)/month of power used.~~
~~Source: URBEMIS, 2007; California Climate Action Registry, 2009.~~

As discussed above and in **Section 3.3**, California's strategies and measures would result in a reduction of statewide emissions, including emissions resulting from implementation of Alternative B, to levels below current background levels. Of the approximately 126 strategies and measures currently under consideration that would ensure a statewide reduction in GHG emissions, only three would apply to Alternative B (refer to **Table 4.13-15**). The other policies do not apply to Alternative B because they either apply to state entities, such as CARB, are planning-level measures, or they apply to particular industries, such as the auto repair industry. As shown in **Table 4.13-15**, Alternative B would not be in compliance with all three applicable state climate change strategies. Further, direct and indirect CO_2e emissions would be above the CEQ's 25,000 MT per year of CO_2e reporting standard. T~~;~~ ~~t~~herefore, this

is a potentially significant cumulative ~~impact~~ effect and mitigation is recommended in **Section 5.3**, which would reduce the potential for adverse cumulative effects associated with climate change ~~result in a minimal adverse impact~~.

TABLE 4.13-15
COMPLIANCE WITH STATE EMISSIONS REDUCTION STRATEGES

Exec Order S-3-05 / AB 32 Strategy	Project Compliance
Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Alternative B would be located on trust lands and thus not subject to CARB restrictions on on-site diesel-fueled commercial vehicle idling. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Achieve 50 percent statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	Solid waste services are expected to be provided by the City of Barstow or County of San Bernardino, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. Although the diversion stream will not be affected the waste stream would increase. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions	Alternative B would not be consistent with this strategy. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Note: AB= Assembly Bill~~; CARB= California Air Resource Board~~. Source: Climate Action Team, 2006	

Biological Resources

Wildlife and Habitats

Implementation of Alternative B in conjunction with additional local projects could result in cumulative adverse effects to biological resources if habitats for special-status species were destroyed. However, potential adverse effects from individual projects would be avoided through compliance with applicable federal and state regulations. Additionally, approved projects would follow the provisions of Section II.5, Biological Resources, of the General Plan, which requires site-specific studies prior to development activities to determine precise mitigation necessary to preserve and enhance biological resources. With the implementation of the mitigation measures outlined in **Section 5.4**, Alternative B would not result in adverse cumulative effects to biological resources.

Mojave Desert Tortoise

There are a number of large scale renewable energy projects proposed in the Mohave Desert that have the potential to result in adverse cumulative effects to the Mojave Desert tortoise or other sensitive habitat for

special status species. These projects, if approved, would result in the conversion of thousands of acres of potential habitat. The 16.51 acres of Mohave Creosote Brush Scrub habitat that would be converted under Alternative B would be a miniscule contribution to this overall cumulative effect. Furthermore, the Barstow site is located within the city limits adjacent to existing commercial development and is subject to disturbances from adjacent land uses, including the off-road vehicle recreation area, and thus does not contain high quality habitat for this species. Mitigation has been recommended within Section 5.4 to minimize potential effects to Mohave Desert Tortoise. Therefore, given the relatively low area of land that would be impacted as a result of Alternative B, this is considered a less than significant cumulative effect.

Waters of the U.S.

As discussed in **Section 4.4**, implementation of Alternative B would not result in adverse effects to waters of the U.S. With the implementation of the mitigation measures outlined in **Section 5.4**, Alternative B would not contribute to adverse cumulative effects to waters of the U.S.

Cultural Resources

Cumulative effects to cultural resources typically occur when sites that contain cultural features or artifacts are disturbed by development. No significant cultural resources were identified within or adjacent to the Barstow site. However, the records search and archival research indicate that the study area is in a region moderately sensitive for both prehistoric/pre-contact resources and historic-period resources. Based on this sensitivity, Alternative B may affect previously unknown buried archaeological resources. As discussed in **Section 4.5**, direct effects to unknown cultural resources associated with Alternative B would be reduced to a minimal level with the implementation of mitigation measures specified in **Section 5.5**. Approved projects would be required to follow federal, state, and local regulations regarding cultural resources and inadvertent discoveries of cultural resources. With the implementation of the mitigation measures outlined in **Section 5.5**, Alternative B would not result in adverse cumulative effects to cultural resources.

Socioeconomic Conditions

Cumulative socioeconomic effects could occur in the project area as the result of developments that affect the lifestyle and economic well being of residents. When considered with other growth in San Bernardino County through 2030, there may be cumulative socioeconomic effects including impacts to the local labor market, housing availability, schools, increased costs due to problem gambling, and impacts to local government. These effects would occur as the region's economic and demographic characteristics change, as the population grows, and specific industries expand or contract. Alternative B would introduce new economic activity in the Barstow area, although to a lesser extent than Alternative A, which would be a beneficial effect to the region. Additionally, Alternative B would implement mitigation measures outlined in **Section 5.6** which would reduce the potential for adverse socioeconomic effects that could result from the project. Further, planning documents for the County will continue to designate land uses for businesses, industry, and housing, as well as plan public services which would anticipate and

accommodate growth in the region. Therefore, within mitigation, Alternative B would not contribute to adverse~~no significant~~ cumulative socioeconomic effects ~~would result~~.

Transportation/Circulation

Alternative B would have similar adverse effects to transportation/circulation as Alternative A, although to a lesser extent as fewer trips would be generated. With the implementation of the mitigation measure outlined in **Section 5.7**, Alternative B would not result in significant adverse cumulative effects to transportation/circulation resources.

Cumulative Background Conditions

Cumulative background conditions for Alternative B are the same as Alternative A. Refer to **Section 4.13.2.**

Cumulative Background Plus Alternative B Traffic Conditions

Cumulative Intersection Operations

Table 4.13-16 shows the weekday and Saturday intersection delay and LOS for both the mid-day and PM peak hours at each of the study intersections under cumulative background plus Alternative B traffic conditions. As shown in the table, each of the study intersections would operate at an acceptable LOS under background plus Alternative B traffic conditions, except for the following intersection:

- Lenwood Road at Project Access (Weekday and Saturday, Mid-Day and PM peak hours)

TABLE 4.13-16
2035 CUMULATIVE BACKGROUND PLUS ALTERNATIVE B INTERSECTION CONDITIONS

Intersections	Traffic Controls	Peak Hour Delay-LOS							
		Weekday				Saturday			
		Mid-Day		PM		Mid-Day		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lenwood Rd./SR-58	TS	14.6	B	14.4	B	15.7	B	15.1	B
2. Lenwood Rd./Main St.	TS	30.7	C	38.8	D	37.4	D	37.2	D
3. Main St./SR-58 EB Ramps	TS	4.1	A	4.5	A	4.2	A	4.2	A
4. Main St./SR-58 WB Ramps	TS	11.6	B	17.6	B	14.5	B	15.2	B
5. Lenwood Rd./I-15 SB Ramps	TS	12.5	B	14.2	B	21.0	C	13.4	B
6. Lenwood Rd./I-15 NB Ramps	TS	23.9	C	23.5	C	36.4	D	21.7	C
7. Outlet Center Dr./I-15 SB Ramps	OWSC	11.2	B	14.5	B	25.3	D	20.1	C
8. Outlet Center Dr./I-15 NB Ramps	OWSC	9.9	B	9.3	A	11.5	B	10.3	B
9. Lenwood Rd./Mercantile Way	TS	37.6	D	38.1	D	39.6	D	38.1	D
10. Lenwood Rd./Project Access.	OWSC	**>100**	**F**	**>100**	**F**	**>100**	**F**	**>100**	**F**
11. Factory Outlet Ave/Mercantile Way	OWSC	8.6	A	9.0	A	8.9	A	8.8	A

TS = traffic signal, OWSC = One-Way Stop Controlled
Bold denotes poor LOS.
Source: LL&G, 2010.

A mitigation measure is provided in **Section 5.7**, which would reduce project impact to a minimal adverse effect. Weekday and Saturday cumulative peak hour turning volumes are provided in the TIA in **Appendix H** of the Draft EIS/TEIR.

Cumulative Roadway Segments

Volume to capacity ratios and LOS for cumulative background plus Alternative A traffic conditions have been calculated for the study area roadway segments and are shown in **Table 4.13-17**. As shown in the table, all of the study roadway segments are projected to operate within an acceptable LOS under cumulative background plus Alternative B traffic conditions.

TABLE 4.13-17
2035 CUMULATIVE BACKGROUND PLUS ALTERNATIVE B ROADWAY SEGMENT CONDITIONS

Roadway	Segment	Number of Lanes	Maximum Capacity	V/C	LOS
Lenwood	I-15 NB Ramps to Mercantile Way	5D	33,000	0.70	B
Lenwood	Mercantile Way to Holiday Inn Driveway	3U	21,000	0.53	A
Lenwood	Holiday Inn Driveway to Outlet Center Drive	2U	14,000	0.40	A
Outlet Center Drive	Lenwood Road to I-15 NB Ramps	2U	14,000	0.36	A

Notes: D = divided roadway, U = undivided roadway
ADT = average daily trips
V/C = volume to capacity ratio
SOURCE: LL&G, 2010.

Cumulative Freeway Segments

Volume to capacity ratios and LOS for cumulative background plus Alternative B traffic conditions have been calculated for the study area freeway segments and are shown in **Table 4.13-18**. As shown in the table, all of the study freeway segments are projected to operate within an acceptable LOS under cumulative background plus Alternative B traffic conditions.

TABLE 4.13-18
2035 CUMULATIVE BACKGROUND PLUS ALTERNATIVE B FREEWAY SEGMENT CONDITIONS

Roadway Segments	Number of Lanes	Capacity	V/C		LOS	
			Mid-day	PM	Mid-day	PM
I-15 Northbound						
L Street to Lenwood Road	3	6,900	0.~~871~~684	0.~~647~~519	~~D~~C	B~~C~~
	4	9,200	0.424	0.326	B	B
Outlet Center Drive to Hodge Road	3	6,900	0.810	0.607	D	B
I-15 Southbound						
L Street to Lenwood Road	3	6,900	0.~~992~~769	0.~~876~~651	~~E~~C	C~~D~~
	3	6,900	0.638	0.544	C	B
Outlet Center Drive to Hodge Road	3	6,900	0.913	0.810	D	D

Notes: V/C = volume to capacity ratio.
Bold denotes poor LOS.
Source: LL&G, 2010.

Ramp Diverge Operations

Tables 2, 4, and 15 of **Appendix Q** of the Final EIS/TEIR provide a ramp diverge operations analysis in the cumulative year 2035 at I-15 NB/SB off-ramps to Lenwood Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour. As shown in the tables, the diverge operations at the northbound and southbound off-ramps are calculated to operate at acceptable levels of service under cumulative year conditions both with and without Alternative B traffic during the weekday peak hours, Saturday peak hours, and Sunday AM peak hour. However, as shown in the Table 15 of **Appendix Q** of the Final EIS/TEIR, ramp diverge operations during the Sunday PM peak-hour would exceed the County's significance threshold of LOS D at the I-15 southbound off-ramp in the cumulative year 2035 both with and without Alternative B traffic. Mitigation measures provided in Section 5.7 would minimize Alternative B's contribution to this on-going cumulative adverse traffic condition. Therefore, with mitigation this cumulative effect is considered less than significant.

Intersection Queuing Operations

A queuing analysis at the I-15 NB/SB off-ramps to Lenwood Road and at I-15 NB/SB off-ramps to Outlet Center Road for the weekday, and Saturday mid-day and PM peak-hour and Sunday PM peak-hour for the cumulative year 2035 was conducted and is summarized in **Appendix Q** of the Final EIS/TEIR.

I-15 Off-Ramps/Lenwood Road

Based on the project trip distribution, project trips are only added to the I-15 SB Off-Ramp/Lenwood Road southbound left-turn movement and the I-15 NB Off-Ramp/Lenwood Road northbound right-turn movement. As shown in the tables, there is sufficient capacity to accommodate the expected 50th and 95th percentile queues at the I-15/Lenwood Road northbound and southbound off-ramps with or without Alternative B during the cumulative year 2035 at the movements in which the project adds trips, except during the following conditions:

- I-15 at Lenwood Road northbound right during the Saturday mid-day (95th Percentile) peak hour for the year 2035 without project traffic.
- I-15 at Lenwood Road northbound right during the Saturday mid-day (50th and 90th Percentile) peak hour for the year 2035 with Alternative B traffic.
- I-15 at Lenwood Road northbound right during the Sunday PM peak hour (50th and 95th Percentile) for the year 2035 with Alternative B traffic.

It should be noted that there are no federal, State, or local significance thresholds for queuing analysis. However, given that Alternative B would contribute to a traffic condition that could translate to level of service effects on the I-15 freeway, mitigation measures are provided in **Section 5.7** of the Final EIS/TEIR to minimize potential effects. Mitigation measures would redistribute an additional 30 percent of project traffic from I-15 at Lenwood Road off-ramps to the Outlet Center Drive off-ramps. With implementation these mitigation measures, the cumulative year 2035 Saturday mid-day 95th percentile is still exceeded. However, there are ample capacity and queue storage lengths to accommodate the 50 percentile queues during the Saturday mid-day peak hour. With mitigation, cumulative queuing effects as

a result of Alternative B in the year 2035 at I-15 NB off-ramp at Lenwood Road would be considered less than significant.

I-15 Off-Ramps/Outlet Center Drive

Mitigation recommended within Section 5.7 of the Final EIS/TEIR to alleviate potential queuing effects at the I-15/Lenwood Road Interchange would result in the redirection of additional traffic to the I-15/Outlet Center Drive interchange. An analysis of the Outlet Center Drive interchange was conducted to ensure that the interchange could accommodate the additional traffic which would use the interchange once mitigation was implemented. The I-15/Outlet Center Road interchange is currently un-signalized. With the addition of project related traffic, the I-15/Outlet Center Drive intersection would operate at an LOS E/F, which is considered an adverse cumulative effect. Mitigation measures within Section 5.7 require that both ramps be signalized. Table B-2 provided in **Appendix Q** of the Final EIS/TEIR shows that the interchange would operate at LOS C or better under cumulative plus Alternative A mitigated traffic conditions, which is less than the LOS D threshold. Additionally, with the implementation of mitigation to signalization of the interchange, sufficient capacity is available to serve the cumulative year 2035 traffic queues with Alternative B traffic. Therefore, after mitigation, cumulative effects to traffic operations at the Outlet Center Drive Interchange are considered less than significant.

Land Use and Agriculture

Development in the City is guided by the General Plan, applicable Specific Plans, the City Zoning Ordinance, and Redevelopment Plans. Planned development projects within the City are consistent with these documents and policies, which prevent disorderly growth or incompatible land uses. While Alternative B would not be subject to local land use policies, as discussed in **Section 4.8**, the Tribe has agreed to develop tribal projects on the trust land in a manner that is consistent with the Barstow Municipal Code, pursuant to its MSA with the City of Barstow. Alternative B would not disrupt neighboring land uses, prohibit access to neighboring parcels, or otherwise conflict with neighboring land uses. Alternative B would not result in adverse cumulative effects to land use planning.

Agriculture

Agricultural production and viable land for agriculture are both limited in the area. The Barstow site is located in an area designated for commercial development and no agricultural activities exist in the project area. As with Alternative A, Alternative B would not result in adverse cumulative effects to agricultural lands.

Public Services

As Alternative B would consist of similar components as Alternative A, it would result in similar potential adverse effects to public services although to a lesser extent due to the reduced demand for public services from a smaller casino and hotel. The resources to service Alternative B would be provided through the MSA, similar to Alternative A; therefore development of Alternative B would not result in adverse cumulative effects to public services. Because Alternative B includes a smaller casino

and hotel, the water demands and wastewater generation would be decreased by one third compared to Alternative A, further reducing the possibility of cumulative effects.

Noise

Approved projects would be required to comply with the provisions of Section III.4, Noise, of the General Plan, which includes requirements for mitigation noise when levels exceed compatible use standards as outlined in Section III.4 of the General Plan. The potential for Alternative B to result in significant adverse cumulative effects associated with noise would be similar to Alternative A, although to a lesser extent as less traffic noise would be generated. With the implementation of mitigation measures outlined in **Section 5.10**, Alternative B would not contribute to adverse cumulative effects to the ambient noise environment.

Hazardous Materials

As discussed in **Section 4.11**, with the incorporation of the BMPs outlined in **Section 5.11** implementation of Alternative B would result in minimal impacts regarding hazardous materials management. Approved projects would be required to follow applicable federal and state regulations concerning hazardous materials management, including the implementation of construction BMPs dealing with hazardous materials management through the NPDES permitting process. Approved projects would also be required to comply with the provisions of Section III.4, Emergency Management, of the General Plan, which includes requirements for businesses that use, store, or generate hazardous materials to file a business plan with the County Hazardous Materials Management Division. With the implementation of mitigation measures outlined in **Section 5.11**, Alternative B would not result in cumulative adverse impacts to hazardous materials management.

Aesthetics

Cumulative development that takes place would be consistent with local land use regulations, including associated design guidelines. As with Alternative A, development of Alternative B would, for the most part, be consistent with the visual goals of local land use regulations. The project site is not located in a scenic corridor or an area of high aesthetic value. Substantial development is present to the north and west of the Barstow site. With the implementation of mitigation measures outlined in **Section 5.12**, Alternative B would not result in adverse cumulative impacts to aesthetic resources.

4.13.4 ALTERNATIVE C – LOS COYOTES RESERVATION CASINO

List of Potentially Cumulative Actions and Projects

Alternative C would be located on the Los Coyotes ~~Rancheria~~Reservation. This section analyzes the potential~~ly~~ cumulative~~ly considerable adverse~~ effects of Alternative C ~~when compared to~~when added to other reasonably foreseeable growth and projects ~~potential development~~ within and outside of the ~~Rancheria~~Reservation. Within the reservation, cumulative projects include the on-going operations of the Eagle Rock Military Training Facility (MTF). The lease agreement between the Tribe and Eagle Rock Training Center (ERTC) specifies that uses permitted at the Eagle Rock MTF are limited to firearms and

on-and off-road driver training for law enforcement, military personnel, and/or permitted civilians. Beyond the Reservation boundaries, cumulative projects include those approved by local jurisdictions or tribal governments.

Land Resources

The potential cumulatively considerable adverse effects to land resources associated with countywide development would be localized topographical changes and soil attrition. Any ground disturbance greater than one acre on the Reservation would require a NPDES General Permit. Accordingly, a SWPPP would be developed prior to any ground disturbance greater than one acre, which would include, but would not be limited to, implementation of the BMP's listed within **Section 5.2**. Permitting requirements for the construction of projects within the County's jurisdiction would address regional geotechnical, seismic, and mining hazards. It is anticipated that approved developments will follow appropriate permitting procedures; therefore, with the implementation of measures identified in **Section 5.0**, ~~implementation of~~ Alternative C would result in minimal adverse cumulative effects to land resources.

Water Resources

Surface Water and Flooding

Cumulative effects to surface water may take place as a result of increased stormwater flows from additional impervious surfaces constructed within the area. Approved projects ~~in the vicinity of Alternative C~~ on federal lands would be required to follow federal ~~and state~~ standards. Additionally, local projects within the jurisdiction of San Diego County would comply with the Conservation Element of the County of San Diego's General Plan (General Plan), which includes policies to ensure storm water runoff is planned and managed to minimize water degradation and reduce the effect of erosion. Alternative C would therefore result in minimal cumulatively considerable adverse effects on surface water features. The project site for Alternative C is not located within designated 100- or 500-year flood plain. Implementation of Alternative C would not result in adverse cumulative effects to floodplain management.

Groundwater

Groundwater effects of individual developments could result in cumulatively considerable adverse effects if the total water demand of approved projects, including Alternative C exceeds pumping capacity of the groundwater table. However, as stated above, approved projects within the jurisdiction of San Diego County would be required to comply with the Conservation Element of the General Plan, which include requirements to assure growth is limited to areas where adequate public facilities exist or can be efficiently provided. Projects on federal lands would be required to follow federal standards. Therefore, implementation of Alternative C would result in minimal adverse cumulative effects on groundwater resources.

Water Quality

~~To mitigate p~~Potential adverse effects to water quality, approved developments would be required to implement erosion control measures and construction BMPs via a site-specific SWPPP in compliance

with the State of California General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). Additionally, ~~local~~ projects within the County's jurisdiction would comply with water quality provisions outlined within the Conservation Element of the General Plan. With the implementation of measures identified in **Section 5.2**, Alternative C would have minimal adverse cumulative effects on water quality.

Air Quality

Air Pollutant Trends

Cumulative air quality effects are assessed by comparing the incremental emissions associated with Alternative C to San Diego County-wide emissions forecasted by the California Air Resources Board (CARB) for long-term cumulative conditions (2020, the farthest planning horizon for county-wide emission forecasts). The County's emissions trends from 1975 to 2020 are presented in **Table 4.13-19**. Ozone precursor (ROG and NO_X) had a small jump between 1975 and 1990, but since 1990 emissions decreased consistently, and are projected to drop off in the future. The two pollutants discussed above are governed by state implementation plans (SIP) and therefore should decrease in the future.

Table 4.13-19
San ~~d~~Diego County Emissions Trends

Pollutants	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
	tons per day									
ROG	845	879	902	798	680	576	530	538	557	581
NO_x	293	285	299	331	283	246	206	177	156	160
SOURCE: CARB, 2009d.										

Operational (2030) Conditions

Operation of Alternative C during long-term 2030 conditions would result in the generation of criteria pollutants. **Table 4.13-~~15~~20** shows operation and area emissions of Alternative C in year 2030, criteria pollutant emissions are ~~shown as a percentage of County total emissions~~compared to *de minimus* levels.

General Conformity Review

Past, present and future development projects contribute to a regions air quality conditions on a cumulative basis; therefore by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of the National Ambient Air Quality Standards (NAAQS). If a project's individual emissions contribute toward exceedance of the NAAQS, then the project's cumulative impact on air quality would be significant. In developing attainment designations for criteria pollutants, the EPA considers the regions past, present and future emission levels. As stated in **Section 3.3** the project site and vicinity is in nonattainment for ozone. Because project

emissions are below the *de minimus* thresholds for these pollutants, air quality in the region is not cumulatively impacted.

Since no emission projections are available for San Diego County in 2030, 2020 emissions were used for comparison. **Table 4.13-20** shows that emissions associated with Alternative C ~~would not exceed 10 percent~~ are a relatively low percentage of San Diego County's emission inventory for ROG and NOx and project emissions do not exceed de minimus levels. When considered as a portion of the County's overall emissions, Alternative C makes a minimal contribution to regional air quality. With the implementation of mitigation measures identified in **Section 5.3**, Alternative C would not result in ~~minimal~~ adverse cumulative effects to air quality.

TABLE 4.13-20
ALTERNATIVE C (2030) EMISSIONS

Sources	Criteria Pollutants	
	ROG	NOx
	tons per day	
Area	0.05	0.03
Mobile	3.76	4.49
Total Emissions	**3.81**	**4.52**
De Minimus Levels	100	100
Exceedance	No	No
~~***Percentage of Countywide Emissions***~~	~~***0.0018***~~	~~***0.0077***~~
Source: URBEMIS, 2007; CARB, 2009d		

Climate Change

Methodology

Methodology and significance thresholds for analyzing project related GHG emissions for Alternative C is the same as Alternative A.

Strategies and Emission Estimates

Estimated GHG emissions resulting from Alternative C are shown in **Table 4.13-21.** The total annual project-related GHG emissions are estimated to be 12,316 MT per year of CO_2e. This includes direct emissions from construction and operational area sources, as well as indirect emissions from mobile sources (vehicles traveling to and from the site), water/wastewater conveyance and processing, solid waste disposal and processing, and electricity use. Annual project GHG emissions would be approximately 0.0009 percent of California's predicted contribution to global GHG emissions in 2020. Project contributions to the annual global GHG emissions in 2020 would be approximately 0.0000009 percent. While Alternative C's contributions to statewide and global emissions are miniscule, primarily because the Alternative C would not emit or result in the emission of high-global warming potential

emissions (SF6, HFCs/PFCs, etc.), a potentially significant contribution to cumulative global emissions cannot be ruled out solely on the basis of a small percentage contribution.

TABLE 4.13-21
PROJECT-RELATED GHG EMISSIONS

Alternative C	GHGs	CO_2e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO_2e (MT)
Direct				
Construction	CO_2	268	0.91	244
Area	CO_2	37	0.91	34
Subtotal Direct GHG Emissions				*278*
Indirect				
Mobile	CO_2	12,792	0.91	11,641
Mobile	CH_4/N_2O	141	0.91	128
Electricity Usage	CO_2			144
Water and Wastewater	CO2e			2
Solid Waste	CO2e			123
Subtotal Indirect GHG Emissions				*12,038*
Total Project-Related GHG Emissions				**12,316**

MM = mitigation measure.
Source: LGOP, 2008; URBEMIS, 2007, AES, 2011.

As discussed above and in **Section 3.3**, California's strategies and measures would result in a reduction of statewide emissions, including emissions resulting from implementation of Alternative C, to levels below current background levels. Of the approximately 126 strategies and measures currently under consideration that would ensure a statewide reduction in GHG emissions, only three would apply to Alternative C (refer to **Table 4.13-22**). The other policies do not apply to Alternative C because they either apply to state entities, such as CARB, are planning-level measures, or they apply to particular industries, such as the auto repair industry. As shown in **Table 4.13-22**, Alternative C would not be in compliance with all three applicable state climate change strategies. Although, direct and indirect CO_2e emissions would be below the CEQ's 25,000 MT per year of CO_2e reporting standard, this is a potentially significant cumulative effect and mitigation is recommended in **Section 5.3**, which would reduce the potential for adverse cumulative effects associated with climate change.

~~As with Alternative A, the greatest emitters of GHG for Alternative C would be automobiles, although to a lesser extent than Alternative A. With the scheduled emissions reductions by the State of California, including reduced automobile emissions and mitigation measures provided in **Section 5.3**; implementation of Alternative C would result in minimal adverse cumulative effects to climate change.~~

TABLE 4.13-22
COMPLIANCE WITH STATE EMISSIONS REDUCTION STRATEGES

Exec Order S-3-05 / AB 32 Strategy	Project Compliance
Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Alternative C would be located on trust lands and thus not subject to CARB restrictions on on-site diesel-fueled commercial vehicle idling. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Achieve 50 percent statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	The development would not affect County diversion goals as waste from tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. Although the diversion stream will not be affected the waste stream would increase. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions	Alternative C would not be consistent with this strategy. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Note: AB= Assembly Bill. Source: Climate Action Team, 2006	

Biological Resources

Wildlife and Habitats

Implementation of Alternative C in conjunction with additional local projects could result in cumulatively considerable adverse effects to biological resources if habitats for special-status species were destroyed. Potential adverse effects from individual projects would be avoided through compliance with applicable federal and state regulations. Additionally, approved projects within the jurisdiction of San Diego County would follow the provisions of the San Diego County General Plan (General Plan), which require measures to reduce impacts to habitats for special-status species to the extent possible. With the implementation of the mitigation measures outlined in **Section 5.4,** Alternative C would result in minimal adverse cumulative effects to biological resources.

Waters of the U.S.

As discussed in **Section 4.4**, implementation of Alternative C would not result in adverse effects to waters of the U.S. Approved projects would be required to apply for permits from the USACE prior to disturbing waters of the U.S. With the implementation of the mitigation measures outlined in **Section 5.4**, Alternative C would result in minimal adverse cumulative effects to waters of the U.S.

Cultural Resources

Cumulative effects to cultural resources typically occur when sites that contain cultural features or artifacts are disturbed by development. No significant cultural resources were identified within or adjacent to the Los Coyotes site. However, the records search and archival research indicate that the study area is in a region moderately sensitive for both prehistoric/pre-contact resources and historic-period resources. Based on this sensitivity, Alternative C may affect previously unknown buried archaeological resources. As discussed in **Section 4.5**, direct effects to unknown cultural resources associated with Alternative C would be reduced to a minimal level with the implementation of mitigation measures specified in **Section 5.5**. Approved projects would be required to follow federal, state, and local regulations regarding cultural resources and inadvertent discoveries of cultural resources. Alternative C would therefore result in minimal adverse cumulative effects to cultural resources.

Socioeconomic Conditions

Alternative C would introduce a new source of economic activity in the San Diego area. The creation of jobs and revenues that would result from the project is considered to be a beneficial effect. When considered with other growth in San Diego County through 2030 there may be cumulative socioeconomic effects including impacts to the local labor market, housing availability, schools, increased costs due to problem gambling, and impacts to local government. However, these effects would occur as the region's economic and demographic characteristics change, as the population grows, and specific industries expand or contract. Planning documents for the County will continue to designate land uses within the jurisdiction of San Diego County for businesses, industry, and housing, as well as plan public services which would anticipate growth in the region. Impacts to local governments from activities on federal lands would be regulated by federal standards. Therefore, no significant cumulative socioeconomic effects would result. An analysis of growth-inducing effects is provided in **Section 4.14.2**.

Transportation/Circulation

Methodologies

To assess the cumulative transportation effects of the project under the cumulative year traffic conditions, project traffic is combined with existing traffic and area-wide growth. Horizon year 2030 traffic volumes for the Los Coyotes site study area have been calculated based on a conservative two percent annual growth rate of existing traffic volumes over a 24-year period. This growth rate for the Los Coyotes site study area was obtained from the *Traffic Volumes on California State Highways* published by Caltrans. While the TIA included in Appendix H of the Draft EIS/TEIR did not specifically consider traffic generated by the Eagle Rock MTF, the operation of the Eagle Rock MTF would generate trips during the early mornings (5:00 to 7:00 AM) and evenings (5:30 to 7:00 PM). Due to the nature of the operations at the Eagle Rock MTF, significant trips will not be added to the peak hours associated with the operations of Alternative C, mid-day (12:00 to 2:00 PM) and evenings (4:00 to 6:00 PM) and, therefore, do not significantly contribute towards the cumulative effects discussed below.

Cumulative Traffic Conditions

Intersection Operations

Table 4.13-2~~1~~3 shows the weekday and Saturday intersection delay and LOS for both the mid-day and evening peak hours at each of the Los Coyotes site study intersections under 2030 traffic conditions. Weekday and Saturday cumulative peak hour turning volumes at the Los Coyotes site are provided in the TIA in **Appendix H** of the Draft EIS/TEIR. As shown in the table, each of the study intersections would operate at an acceptable LOS of C or better under 2030 traffic conditions without the project, and with the addition of project-related traffic. As shown in the table, each of the study intersections would operate at an acceptable LOS of C or better under 2030 traffic conditions without the project, and with the addition of project-related traffic.

TABLE 4.13-2~~1~~3
CUMULATIVE BACKGROUND PLUS ALTERNATIVE C INTERSECTION CONDITION

Intersection	Traffic Control	No Project - Peak Hour Delay-LOS				Alternative E - Peak Hour Delay-LOS			
		Weekday		Saturday		Weekday		Saturday	
		Mid-Day	Evening	Mid-Day	Evening	Mid-Day	Evening	Mid-Day	Evening
1. SR-79/Stage Road	CSS	9.0-A	9.1-A	10.7-B	10.5-B	9.3-A	9.5-A	11.5-B	11.1-B
2. SR-79/Camino San Ignacio Road	CSS	9.4-A	9.1-A	10.5-B	9.4-A	10.2-B	10.3-B	13.5-B	11.4-B
3. SR-79/San Felipe Road	CSS	10.9-B	10.2-B	11.8-B	10.7-B	11.4-B	10.7-B	12.9-B	11.5-B
4. SR-79/SR-76	CSS	10.9-B	10.9-B	16.5-C	13.1-B	11.5-B	11.6-B	19.8-C	14.6-B

Notes: **Bold** indicates unacceptable LOS; CSS = cross street stop.
Source: Kunzman, 2007.

Roadway Segment Operations

Volume to capacity ratios and LOS for the cumulative year have been calculated for the study area roadway segments and are shown in **Table 4.13-2~~2~~4**. This table shows volume to capacity ratios and LOS, both with and without the addition of project-related traffic. As shown in the table, the study roadway
segment is projected to operate at an acceptable LOS under cumulative conditions with implementation of Alternative C.

TABLE 4.13-2~~2~~4
CUMULATIVE BACKGROUND PLUS ALTERNATIVE C ROADWAY SEGMENT CONDITION

Roadway	Segment	No. of Lanes[1]	Maximum Capacity (LOS E)	2030 No Project			2030 with Alternative E		
				ADT[2]	V/C[3]	LOS	ADT	V/C	LOS
Camino San Ignacio Road	South of SR-79	2U	10,900	800	0.07	A	1,800	0.17	A

Notes: **Bold** indicates unacceptable traffic operations; 1. D = divided roadway; U undivided roadway. 2. ADT = average daily trips 3. V/C = volume to capacity ratio.
Source: Kunzman, 2007c.

Traffic Signal Warrant Analysis

Under year 2030 with Alternative C traffic conditions, none of the study intersections would warrant a traffic signal.

Effect Summary

Because the increase in traffic generated by Alternative C would not result in an unacceptable LOS or warrant a traffic signal, Alternative C would result in a minimal adverse cumulative effect to the transportation and circulation networks.

Land Use

The Tribal Council of the Los Coyotes Band of Cahuilla and Cupeño Indians has jurisdictional authority over land use matters within the ~~Rancheria~~Reservation. Use of the Los Coyotes site as a casino/hotel resort would not preclude the use of surrounding lands for recreational purposes. The San Diego County General Plan guides development in the surrounding area. Future development surrounding the ~~Rancheria~~ Reservation would be required to be consistent with the zoning requirements of the General Plan. Furthermore, disorderly growth, or incompatible uses are not anticipated for the area surrounding the Reservation~~ancheria~~. Alternative C would result in minimal adverse cumulative effects to land use management.

Agriculture

The ~~Rancheria~~ Reservation has not been used for agricultural activities and land in the vicinity is mostly desert. Alternative C would result in minimal adverse cumulative effects to agricultural lands.

Public Services

The aspects of overall project design and recommended measures presented in **Section 4.9** will minimize or eliminate all identified adverse effects. Future development would be required to pay for increased demand on public services through development fees and taxes. Alternative C would result in minimal adverse cumulative effects to public services.

Noise

With the implementation of mitigation measures outlined in **Section 5.10** in conjunction with the regulatory requirements for local projects, Alternative C would result in minimal adverse cumulative effects to the ambient noise environment.

Hazardous Materials

As discussed in **Section 4.11**, with the incorporation of the BMPs outlined in **Section 5.11** implementation of Alternative C would result in minimal impacts regarding hazardous materials management. ~~a~~Approved projects would be required to follow applicable federal and state regulations concerning hazardous materials management, including the implementation of construction BMPs dealing

with hazardous materials management through the NPDES permitting process. With the implementation of mitigation measures outlined in **Section 5.11**, Alternative C would result in minimal adverse cumulative impacts to hazardous materials management.

Aesthetics

Any cumulative development occurring within San Diego County's jurisdiction would be consistent with local land use regulations, including associated design guidelines. Development of Alternative C would occur on land under the jurisdiction of the Tribal Council of the Los Coyotes Band of Cahuilla and Cupeño Indians. The Los Coyotes site, which is located in a remote area of the Los Coyotes Reservation, is not visible from any off-reservation location. With the implementation of mitigation measures outlined in **Section 5.12**, Alternative C would result in minimal adverse cumulative effects to aesthetic resources.

4.13.5 ALTERNATIVE D – LOS COYOTES RESERVATION CAMPGROUND

List of Potentially Cumulative Actions and Projects

Alternative D would be constructed on the same parcel on land as Alternative C; therefore, the ~~list~~ summary of potentially cumulative actions and projects would be the same ~~for~~ as Alternative ~~D~~C.

Land Resources

Potential cumulatively adverse effects to land resources for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to land resources.

Water Resources

Potential cumulatively adverse effects to water resources for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to water resources.

Air Quality

Air Pollutant Trends

Air pollution trends for Alternative D would be the same as Alternative C due to the location of the two alternatives.

Operational (2030) Conditions

Operation of Alternative D during long-term 2030 conditions would result in the generation of criteria pollutants. **Table 4.13-~~18~~25** shows operation and area emissions of Alternative D in year 2030, criteria

pollutant emissions are compared with de minimus levels ~~shown as a percentage of County total emissions (refer to **Table 3.13-7**)~~.

General Conformity Review

Past, present and future development projects, such as the Eagle Rock MTS contribute to a regions air quality conditions on a cumulative basis; therefore by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of the National Ambient Air Quality Standards (NAAQS). If a project's individual emissions contribute toward exceedance of the NAAQS, then the project's cumulative impact on air quality would be significant. In developing attainment designations for criteria pollutants, the EPA considers the regions past, present and future emission levels. As stated in **Section 3.3** the project site and vicinity is in nonattainment for ozone. Because project emissions are below the *de minimus* thresholds for these pollutants, air quality in the region is not cumulatively impacted.

Since no emission projections are available for San Diego County in 2030, 2020 emissions were used for comparison. **Table 4.13-2~~3~~5** shows that emissions associated with Alternative D ~~would not exceed 10 percent~~ are a relatively low percentage of San Diego County's emission inventory for ROG and NOx and project emissions do not exceed de minimus levels. When considered as a portion of the County's overall emission, Alternative D makes a minimal contribution to regional air quality. With the implementation of mitigation measures identified in **Section 5.3**, Alternative D would not result in ~~minimal~~ adverse cumulative effects to air quality.

TABLE 4.13-2~~3~~5
ALTERNATIVE D (2030) EMISSIONS

Sources	Criteria Pollutants	
	ROG	NOx
	tons per day	
Area	0.02	0.00
Mobile	5.93	6.98
Total Emissions	**5.95**	**6.98**
De Minimus Levels	100	100
Exceedance	No	No
Percentage of Countywide Emissions	***0.0028***	***0.012***
Source: URBEMIS, 2007; CARB, 2009d.		

~~*Greenhouse Gas Emissions*~~Climate Change

Methodology

Methodology and significance thresholds for analyzing project related GHG emissions for Alternative D are the same as Alternative A.

Strategies and Emission Estimates

Estimated GHG emissions resulting from Alternative D are shown in **Table 4.13-246.** The total annual project-related GHG emissions are estimated to be 18,516 MT per year of CO_2e. This includes direct emissions from construction and operational area sources, as well as indirect emissions from mobile sources (vehicles traveling to and from the site), water/wastewater conveyance and processing, solid waste disposal and processing, and electricity use. Annual project GHG emissions would be approximately 0.0012 percent of California's predicted contribution to global GHG emissions in 2020. Project contributions to the annual global GHG emissions in 2020 would be approximately 0.0000010 percent. While Alternative D's contributions to statewide and global emissions are miniscule, primarily because the Alternative D would not emit or result in the emission of high-global warming potential emissions (SF6, HFCs/PFCs, etc.), a potentially significant contribution to cumulative global emissions cannot be ruled out solely on the basis of a small percentage contribution.

TABLE 4.13-246
PROJECT-RELATED GHG EMISSIONS

Alternative D	GHGs	CO_2e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO_2e (MT)
Direct				
Construction	CO_2	215	0.91	196
Area	CO_2	1	0.91	1
Subtotal Direct GHG Emissions				*197*
Indirect				
Mobile	CO_2	19,901	0.91	18,110
Mobile	CH_4/N_2O	219	0.91	199
Electricity Usage	CO_2e			1
Water and Wastewater	CO_2e			4
Solid Waste	CO_2e			5
Subtotal Indirect GHG Emissions				*18,319*
Total Project-Related GHG Emissions				**18,516**

MM = mitigation measure.
Source: LGOP, 2008; URBEMIS, 2007, AES, 2011.

As discussed above and in **Section 3.3**, California's strategies and measures would result in a reduction of statewide emissions, including emissions resulting from implementation of Alternative D, to levels below current background levels. Of the approximately 126 strategies and measures currently under consideration that would ensure a statewide reduction in GHG emissions, only three would apply to Alternative D (refer to **Table 4.13-257**). The other policies do not apply to Alternative D because they either apply to state entities, such as CARB, are planning-level measures, or they apply to particular industries, such as the auto repair industry. As shown in **Table 4.13-257**, Alternative D would not be in compliance with all three applicable state climate change strategies. Although, direct and indirect CO_2e emissions would be below the CEQ's 25,000 MT per year of CO_2e reporting standard, this is a potentially significant cumulative effect and mitigation is recommended in **Section 5.3**, which would reduce the potential for adverse cumulative effects associated with climate change.

TABLE 4.13-257
COMPLIANCE WITH STATE EMISSIONS REDUCTION STRATEGES

Exec Order S-3-05 / AB 32 Strategy	Project Compliance
Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Alternative D would be located on trust lands and thus not subject to CARB restrictions on on-site diesel-fueled commercial vehicle idling. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Achieve 50 percent statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	The development would not affect County diversion goals as waste from tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. Although the diversion stream will not be affected the waste stream would increase. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions	Alternative D would not be consistent with this strategy. Mitigation measures are provided in **Section 5.3**, which would make the project consistent with this strategy.
Note: AB= Assembly Bill. Source: Climate Action Team, 2006	

~~As with Alternative A, the greatest emitters of GHGs for Alternative D would be automobiles, however to a much lesser extent based on the differing land uses. With the scheduled emissions reductions by the State of California, including reduced automobile emissions; implementation of Alternative D would result in minimal adverse cumulative effects to climate change.~~

Biological Resources

Potential cumulatively adverse effects to biological resources for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to biological resources.

Cultural Resources

Potential cumulatively significant adverse effects to land resources for Alternative D would be similar to those for Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to cultural resources.

Socioeconomic Conditions

Potential cumulatively significant adverse effects to land resources for Alternative D would be similar to those for Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to socioeconomic conditions.

Transportation/Circulation

Potential cumulatively adverse effects to transportation/circulation resources for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to transportation/circulation resources.

Land Use

Potential cumulatively adverse effects to land use for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to land use.

Public Services

Potential cumulatively adverse effects to public services for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to public services.

Noise

Potential cumulatively adverse effects to ambient noise environment for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to ambient noise environment.

Hazardous Materials

Potential cumulatively adverse effects to hazardous materials management for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to hazardous materials management.

Aesthetics

Potential cumulatively adverse effects to aesthetics for Alternative D would be similar to those of Alternative C, albeit to a lesser extent due to the reduced scope of development. Therefore, implementation of Alternative D would also result in minimal adverse cumulative effects to aesthetics.

4.13.6 ALTERNATIVE E – NO ACTION

Under the No Action Alternative no changes in land use on the Barstow site are reasonably foreseeable. None of the adverse or beneficial effects identified for Alternatives A and B are anticipated to occur.

4.14 INDIRECT AND GROWTH INDUCING EFFECTS

The Council on Environmental Quality (CEQ) Regulations for Implementing the National Environmental Policy Act (NEPA) (Section 1508.8) defines indirect effects as impacts caused by an action that are later in time or farther removed in distance, but are a reasonably foreseeable result of the action. Direct impacts - caused by the action and occur at the same time and place at the action - have been discussed in **Sections 4.1** to **4.12**. In the event of ambiguity, or when it was determined the level and clarity of analysis would benefit, indirect effects of issue areas are addressed in **Sections 4.1** to **4.12** of this EIS/TEIR. Cumulative impacts measured in conjunction with other reasonably foreseeable projects, whether past, present, or future, are addressed in **Section 4.13** of the EIS/TEIR. The issues discussed below are those in which potential impacts would clearly occur later in time or are geographically removed from the project alternatives. Potential indirect effects associated with proposed alternatives would be minimized to a less than significant level though project design and recommended measures presented in **Chapter 5.0**.

The potential indirect effects of off-site traffic mitigation and utility/infrastructure improvements integral to the development of Alternative A through Alternative D are discussed independently in **Section 4.14.1** as they are distinctively separated in time and space from the proposed alternatives. Growth inducing effects are also discussed independently in **Section 4.14.2** since they are a distinct subset of indirect effects. Growth-inducing effects are defined as effects that result from economic or population growth, or the construction of additional housing as a result of the implementation of the proposed alternatives.

4.14.1 INDIRECT EFFECTS FROM OFF-SITE INFRASTRUCTURE IMPROVEMENTS

Improvements

Implementation of Alternative A or Alternative B at the Barstow site would require construction of roadway and utility improvements and public service structures off-site. Impacts associated with Alternatives A and B would be mitigated through the construction of additional turn lanes within the surrounding roadway network, installation of signage, signalization of various intersections, and the installation of a traffic signal adjacent to the access point to the Barstow site. Public utilities would need to be upgraded and extended to the project site, with the longest distance being the extension of the 10-inch diameter wastewater and water lines that currently terminate at the intersection of Lenwood Road and Mercantile Way. This extension would require the construction of approximately 800 feet of trench adjacent to Lenwood Road. Upgrades to the utility systems entail the expansion of the line system capacity and corresponding lift station capacities. Additionally, in Section 4(C) of the MSA, the Tribe has agreed to dedicate, or arrange for the dedication of, two-acres of non-federal land near the project site for fire and police station use. Off-site improvements are conceptual at this time. Design and construction plans would be prepared after an alternative has been selected for development and would be developed in accordance with City input.

Implementation of Alternatives C and Alternative D would result in potential extension of existing utility lines. The extension of these lines would occur on the Reservation and would be constructed within

existing roadbeds. All construction activities would comply with the Tribe's and USEPA's environmental policies. Utility line extensions are not anticipated to result in adverse environmental effects.

Environmental Consequences

The following section identifies the potential indirect environmental effects of construction of the offsite improvements for Alternatives A and B. The identified improvements are common to both alternatives and the nature and scope of effects would be similar. Off-site projects would require obtaining approvals and permits from the City and may be subject to the California Environmental Quality Act (CEQA), which requires additional environmental review prior to project approval. Implementation of permitting and CEQA requirements would further reduce the potential for significant adverse effects from off-site construction projects.

Land Resources

The construction of roadway and utility improvements would require grading and the introduction of fill material to extend existing road shoulders and roadbed and install sewer/water lines. Potential impacts include physical impacts to the transportation network from geological hazards and increased potential for soil erosion due to the increase of impervious surfaces and additional earthwork needed to construct the improvements.

Impacts resulting from the construction of additional turn lanes and off-site infrastructure would be minimal, as the projects would not cross any known geological hazards. As discussed in **Section 3.1**, the soils on the project site are not expansive, corrosive, or susceptible to subsidence. The soil types and geological hazards identified at the sites for off-site traffic mitigation and utility improvements are the same as that analyzed for the Barstow site (**Figures 3.1-3** and **3.1-4**). Therefore, the impact associated with the construction of off-site traffic mitigation would be the same as those for Alternatives A and B, although to a lesser extent, as a smaller area of disturbance would be required. The shaking potential for the new turnouts and extended pipelines associated with seismic hazards and the regional location of seismically active faults would be similar to the conditions of the existing roadway and pipeline. Under the jurisdiction of the City of Barstow, the project would require the use of stable fill material, engineered embankments, and erosion control features to reduce the potential for adverse impacts to land resources. Construction of most of the roadway improvements over one acre would be required to comply with the NPDES General Construction Permit Program.

Impacts resulting from the construction of the two-acre public service facility (police and/or fire facility as indicated in the MSA) would depend on the selected site. As discussed above, under the jurisdiction of the City of Barstow, the project would require the use of best management practices to reduce the potential for adverse impacts to land resources. Should construction of the public service facility be over one acre, compliance with the NPDES General Construction Permit Program would be required. Implementation of Alternatives A and B would not result in significant adverse indirect effects associated with land resources. Incorporation of the legal requirements and industry standards (i.e., best management practices) would further reduce potential impacts from off-site construction projects to a less than ~~signficant~~significant level.

Water Resources

The development of the off-site improvements could affect water resources due to grading and construction activities and an increase in impervious surfaces. Potential adverse effects include increased surface runoff and increased erosion that could adversely affect surface water quality due to increases in sediment and roadway pollutant discharge.

Construction activities over one acre would be required to comply with the NPDES General Construction Permit Program. To comply with the program, a Stormwater Pollution Prevention Plan (SWPPP) would be developed that would include soil erosion and sediment control practices to reduce the amount of exposed soil, prevent runoff from flowing across disturbed areas, slow runoff from the site, and remove sediment from the runoff.

The effects to runoff volumes resulting from the increase in impervious roadways are expected to be minimal due to the limited extent of the improvements in comparison to the existing roadways. Curb and gutters, inlets, and other drainage facilities would be reconstructed to provide adequate facilities to direct stormwater runoff into the existing system. With incorporation of these drainage features and compliance with the soil erosion and sediment control practices identified in the SWPPP, significant adverse effects to water resources would not occur.

Impacts resulting from the construction of the public service facility would depend on the site chosen for the structures. With the incorporation of site appropriate drainage features and compliance with the soil erosion and sediment control practices identified in the SWPPP, significant adverse effects to water resources would not occur. Development of Alternatives A and B would not result in significant adverse indirect effects associated with water resources. Incorporation of best management practices and compliance with legal requirements would further reduce potential impacts from off-site construction projects to a less than ~~signficant~~significant level.

Air Quality

Construction of the off-site improvements would result in short-term construction-related air pollution emissions. The construction phase would produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of soil movement. Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced onsite as the equipment is used. Construction of improvements would be limited in scope and duration. In addition, off-site construction projects over 0.5 acres would have to comply with the Mojave Desert Air Quality Management District (MDAQMD) air quality control rules, including Rule 403.2, Fugitive Dust Control for the Mojave Desert Planning Area, which includes the City. These include watering the exposed soil to reduce dust, reducing dirt track-out from construction sites, and preventing grading operations during high wind conditions. Implementation of MDAQMD requirements for pollution controls at construction projects would reduce potential emissions from the construction projects. Construction projects under 0.5 acres are not regulated in regards to the implementation of air quality control measures, as they are considered to have minimum potential adverse effects to the regional air quality. Implementation of Alternatives A and B would not result in significant adverse indirect effects associated with air quality. Compliance with the Federal Clean Air Act and California Clean Air

Act would further reduce potential air quality impacts from off-site construction projects to a less than significant level.

Biological Resources

Construction of the roadway improvements would result in loss of some existing vegetation and/or modification of drainage channels. Most of the habitat that exists in the areas of proposed roadway improvements is highly disturbed and consists of roadsides and moderately disrupted desert scrub habitats. Due to the degraded condition of the roadside areas, habitat quality is generally low, and it is unlikely that construction of the roadway improvements would result in any adverse effects to sensitive plant or animal species. As such, less than significant impacts are expected from the proposed roadway improvements.

Construction of utility improvements would not result in the loss of habitat or impacts to special-status species because the utility lines either already exist or are located under existing roadways. Due to the limited nature of the improvements along existing roadways and the degraded condition of existing habitat, significant adverse effects from the construction of utility improvements would not occur.

Impacts resulting from the construction of the public service facility would depend on the selected site. Compliance with the Endangered Species Act (ESA) and California Endangered Species Act (CESA) would minimize indirect effects. Implementation of Alternatives A and B would not result in significant adverse indirect effects to biological resources.

Cultural Resources

The construction of off-site improvements has the potential to disturb archaeological resources. Grading roadsides to add traffic lanes or expanding intersections may disturb previously unknown sites. Due to prior grading of the existing roadways and occasional traffic on roadsides it is likely that any resources would lack integrity, thus diminishing their significance. Impacts resulting from the construction of the public service facility would depend on the selected site. Archaeological and historic resources are afforded special legal protections designed to reduce the adverse effects of development. Potential Off-site improvement projects would be subject to the protection of cultural resources afforded by the CEQA Guidelines Section 15064.5 and related provisions of the Public Resources Code. In addition, projects with federal involvement would be subject to Section 106 of the National Historic Preservation Act. Implementation of Alternatives A and B would not result in significant adverse indirect effects to cultural resources.

Transportation and Circulation

Construction of off-site improvements would result in short term inconveniences and minor delays due to constricted traffic movements. The intersection improvements are not expected to result in long-term disruption of access to surrounding land uses. Construction activities would occur off the major roadways and would not impede traffic to businesses. Implementation of Alternatives A and B would not result in significant adverse indirect effects associated with socioeconomics.

Land Use

Construction of roadway improvements would occur within existing right-of-ways and would not conflict with surrounding land uses. Surrounding land uses will be taken into consideration when designating a site for the two-acre public service facility. Implementation of Alternatives A and B would not result in significant adverse indirect effects to land use.

Public Services

Construction of the intersection improvements may require the relocation of utilities located within and near the existing roadways. Relocation could result in a temporary disruption in service. Such disruptions are common when upgrading and maintaining utility services and local jurisdictions have standard procedures for minimizing effects. Construction of the public service facility will increase the availability of law enforcement and/or fire and emergency medical services. No effects to solid waste services are expected. Implementation of Alternatives A and B would not result in significant adverse indirect effects to public services.

Noise

Construction activities associated with the off-site improvements would result in short-term increases in local ambient noise. Because construction activities are expected to occur during normal daytime hours and the closest receptors are businesses, significant adverse effects to the ambient noise environment would not occur. Implementation of Alternatives A and B would not result in significant adverse indirect effects associated with noise.

Hazardous Materials

The accidental release of hazardous materials used during grading and construction activities could pose a hazard to construction employees and the environment. Additionally equipment used during grading and construction activities could ignite dry grasses and weeds on the project sites. These hazards, which are common to construction activities, would be minimized with adherence to best management practices (BMPs) as outlined by the SWPPP prepared in response to the NPDES general permit for construction, if required. These BMPs include refueling in designated areas, storing hazardous materials in approved containers, and clearing dried vegetation. Implementation of Alternatives A and B would not result in significant adverse indirect effects associated with hazardous materials.

Aesthetics

Off-site improvement plans would be developed in accordance with City design standards. Therefore, implementation of Alternative A and Alternative B would not result in significant adverse indirect effects associated with aesthetics.

4.14.2 GROWTH-INDUCING EFFECTS

NEPA requires that an EIS analyze "growth inducing effects" (40 C.F.R. §1502.16 (b), 40 C.F.R. §1508.8 (b)). A growth inducing effect is defined as one that fosters economic or population growth, or the construction of additional housing. Growth inducement could result if a project established substantial

new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it would remove obstacles to population growth (e.g., expansion of a wastewater treatment plant that could allow more construction in the service area). Direct growth inducement is possible if a project contains a component that by definition would lead to "growth," such as the construction of new housing. None of the project alternatives includes direct growth inducement. This section assesses the potential for indirect growth inducement for each development alternative.

Alternative A – Barstow Casino-Hotel Complex

Development of Alternative A would result in one-time employment opportunities from construction and permanent employment opportunities from operation. These opportunities would result from direct as well as indirect and induced effects. Construction opportunities would be temporary in nature, and would not be anticipated to result in the permanent relocation of employees into San Bernardino County. Operational employment opportunities would potentially include employees that relocate to San Bernardino from outside of the county.

Subsection 4.6.1 determined that the employment impact would result in an annual total of approximately 1,562 employment opportunities, including direct, indirect, and induced opportunities. Of these, the majority of positions are anticipated to be filled with people already residing within the region and would, therefore, not require new housing. As discussed in **Subsection 4.6.1**, there are anticipated to be approximately 84,212 vacant housing units in San Bernardino County in 2014~~,~~ and approximately 1,852 vacant housing units in Barstow in 2014. Therefore, based on regional housing stock projections, and current trends in San Bernardino County housing market data, there are anticipated to be more than enough vacant homes to support potential impacts to the regional labor market under Alternative A. As such, Alternative A is not expected to stimulate regional housing development. A significant adverse impact to the housing market would not occur.

The potential for commercial growth resulting from the development of Alternative A would result from fiscal output generated throughout San Bernardino County. Under Alternative A, this output would be generated from direct, indirect, and induced economic activity. Construction and operation activities would result in direct output to the industries discussed in **Subsection 4.6.1**. Businesses in these sectors would generate growth in the form of indirect output resulting from expenditures on goods and services at other area businesses. In addition, employees from Alternative A would generate growth from induced output resulting from expenditures on goods and services at other area businesses. Indirect and induced output could create further demand for growth; however, such demand would be diffuse and distributed among a variety of different sectors and businesses in San Bernardino County. As such, a significant adverse impact to regional commercial growth would not be anticipated to occur.

Development in Barstow or other cities within San Bernardino County would be subject to the constraints of their general plans, local ordinances, and other planning documents. New projects resulting from any induced effect would be subject to appropriate project-level environmental analysis. As discussed above, the minimal impact to San Bernardino County as a result of potential growth inducement would be considered less than significant.

Alternative B – Barstow Reduced Casino-Hotel Complex

Development of Alternative B would generate new employment opportunities that could result in additional housing and commercial demand. **Subsection 4.6.2** determined that the employment impact would result in an annual total of approximately 1,085 employment opportunities, including direct, indirect, and induced opportunities. Similar to Alternative A, the majority of positions are anticipated to be filled with people already residing within the region and would, therefore, not require new housing. The effect of housing and potential commercial growth would be comparable but to a lesser extent than Alternative A, since Alternative B is reduced in size and scope. Similar to Alternative A, based on regional housing stock projections, and current trends in San Bernardino County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Alternative B. As such, Alternative B is not expected to stimulate regional housing development and a significant adverse impact to the housing market would not occur.

Development in Barstow or other cities within San Bernardino County would be subject to the constraints of that general plans, local ordinances, and other planning documents. New projects resulting from any induced effect would be subject to appropriate project-level environmental analysis. As discussed above, the minimal impact to San Bernardino County as a result of potential growth inducement would be considered less than significant.

Alternative C – Los Coyotes Reservation Casino

Subsection 4.6.3 determined that the employment impact of Alternative C would result in an annual total of approximately 108 employment opportunities, including direct, indirect, and induced opportunities. Of these, the majority of positions are anticipated to be filled with people already residing within the region and would, therefore, not require new housing. As discussed in **Subsection 4.6.3**, there are anticipated to be approximately 53,420 vacant housing units in San Diego County in 2014. Therefore, based on regional housing stock projections, and current trends in San Diego County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Alternative C. As such, Alternative C is not expected to stimulate regional housing development. A significant adverse impact to the housing market would not occur. Due to the limited scope of Alternative C, a significant adverse impact to regional commercial growth would not be anticipated to occur.

Alternative D – Los Coyotes Reservation Campground

Development of Alternative D would generate new employment opportunities that could result in additional housing and commercial demand in San Diego County. **Subsection 4.6.4** determined that given the small magnitude of employment opportunities generated from Alternative D, Alternative D would result in a negligible, if any, impact to the housing market, and would be considered less than significant.

Alternative E – No Action

Under the No Action Alternative, a change in the current land use of the Barstow site is not reasonably foreseeable. None of the adverse or beneficial effects identified for the Proposed Project would be anticipated to occur.